UNITED STATES Coast Pilot® 7

Pacific Coast: California, Oregon, Washington, Hawaii, and Pacific Islands

2009 (41st) Edition

This edition has been corrected through: 11th Coast Guard District Local Notice to Mariners No. 40/08, 13th Coast Guard District Local Notice to Mariners No. 42/08 and the 14th Coast Guard District Local Notice to Mariners No. 40/08.

Changes 1 through 18 to the previous edition (40th Edition, 2008) have been entered into this edition.

Changes to this edition will be published in the Eleventh Coast Guard District Local Notice to Mariners, the Thirteenth Coast Guard District Local Notice to Mariners, the Fourteenth Coast Guard District Local Notice to Mariners, and the National Geospatial-Intelligence Agency (NGA) Notice to Mariners. The changes are also on the internet at http://nauticalcharts.noaa.gov/nsd/cpdownload.htm.

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Limits of United States Coast Pilot Series

- 1 Eastport, ME to Cape Cod, MA
- 2 Cape Cod, MA to Sandy Hook, NJ
- 3 Sandy Hook, NJ to Cape Henry, VA
- 4 Cape Henry, VA to Key West, FL
- 5 Gulf of Mexico, Puerto Rico, and Virgin Islands
- 6 Great Lakes and their connecting waterways
- 7 California, Oregon, Washington, Hawaii, and Pacific Islands
- 8 Alaska: Dixon Entrance to Cape Spencer
- 9 Alaska: Cape Spencer to Beaufort Sea

Preface

The United States Coast Pilot is published by the National Ocean Service (NOS), National Oceanic and Atmospheric Administration (NOAA), pursuant to the Act of 6 August 1947 (33 U.S.C. 883a and b), and the Act of 22 October 1968 (44 U.S.C. 1310).

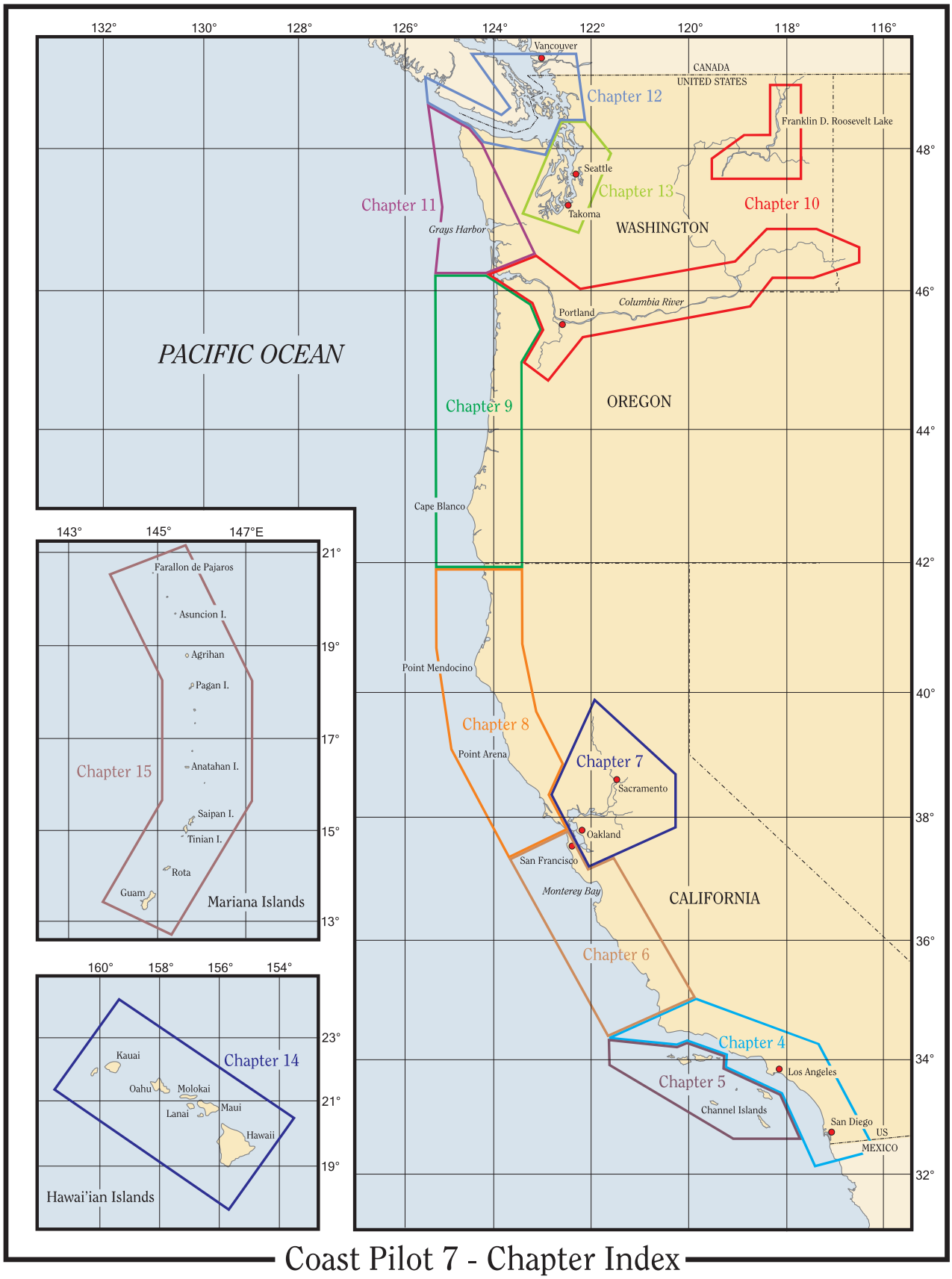
The Coast Pilot supplements the navigational information shown on the nautical charts. The sources for updating the Coast Pilot include but are not limited to field inspections conducted by NOAA, information published in Notices to Mariners, reports from NOAA Hydrographic vessels and field parties, information from other Government agencies, State and local governments, maritime and pilotage associations, port authorities, and mariners.

This volume of Coast Pilot 7, Pacific Coast, California, Oregon, Washington, and Hawaii, cancels the 40th Edition.

Notice.–Amendments are issued to this publication through U.S. Coast Guard Local Notices to Mariners. A subscription to the Local Notice to Mariners is available upon application to the appropriate Coast Guard District Commander (Aids to Navigation Branch). Consult the appendix for addresses. All amendments are also issued in National Geospatial-Intelligence Agency Notices to Mariners. Mariners may also download and print amendments from the Internet at http://nauticalcharts.noaa.gov/nsd/cpdownload.htm.

Mariners, and others, are urged to report errors, omissions, or differing conditions to those found in the Coast Pilot, or shown on the charts, in order that they may be fully investigated and corrections made. A Coast Pilot Report form is included in the back of this book and a Marine Information Report form is published in the National Geospatial-Intelligence Agency Notice to Mariners for your convenience. These reports, and/or suggestions for increasing the usefulness of the Coast Pilot, should be sent to:

Chief, Coast Pilot Branch (N/CS51)
Office of Coast Survey
National Ocean Service, NOAA
1315 East-West Highway
Silver Spring, MD 20910-3282.



Coast Pilot 7 - Chapter Index

Record of Changes

Change Number*	From LNM No.	Entered By	Date Entered	Change Number*	From LNM No.	Entered By	Date Entered

* Corrections are also available on the Internet at http://nauticalcharts.noaa.gov/nsd/cpdownload.htm.

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General Information

UNITED STATES COAST PILOT

(1) The United States Coast Pilot, published by the National Oceanic and Atmospheric Administration (NOAA), in conjunction with the Federal Aviation Administration (FAA), is a series of nine nautical books (volumes) that cover a wide variety of information important to navigators of U.S. coastal and intracoastal waters, and the waters of the Great Lakes. Most of Coast Pilot information cannot be shown graphically on the standard nautical charts, and is not readily available elsewhere. The topics in the Coast Pilot include, but are not limited to, channel descriptions, anchorages, bridge and cable clearances, currents, tide and water levels, prominent features, pilotage, towage, weather, ice conditions, wharf descriptions, dangers, routes, traffic separation schemes, small-craft facilities, and Federal regulations applicable to navigation.

(2) **Amendments (NMRs)** to this publication are available on the **NOAA website http://nauticalcharts.noaa.gov/nsd/cpdownload.htm, U.S. Coast Guard (USCG) Local Notices to Mariners website http://www.navcen.uscg.gov/lnm/default.htm, and National Geospatial-Intelligence Agency (NGA) Notices to Mariners website http://pollux.nss.nga.mil/untm/**. Also, hard copies are published in the USCG and NGA weekly Notices to Mariners.

Bearings

(3) These are true, and expressed in degrees from **000°** (north) to **359°**, measured clockwise. **General bearings** are expressed by initial letters of the points of the compass (e.g., **N, NNE, NE,** etc.). Whenever **precise bearings** are intended, degrees are used. **Light-sector bearings** are toward the light.

Bridges and cables

(4) Vertical clearances of bridges and overhead cables are in feet above mean high water unless otherwise stated; clearances of drawbridges are for the closed position, although the open clearances are also given for vertical-lift bridges. Whenever a bridge span over a channel does not open fully to an unlimited clearance position, a minimum clearance for the sections over the channel should be given; the same guidelines apply to swing and pontoon bridges with openings less than 50 feet horizontally. Clearances given in the Coast Pilot are those approved for nautical charting, and are supplied by the U.S. Coast Guard (bridges) and U.S. Army Corps of Engineers (cables); they may be as-built (verified by actual inspection after completion of structures) or authorized (design values specified in the permit issued prior to construction). No differentiation is made in the Coast Pilot between as-built and authorized clearances. (See charts for horizontal clearances of bridges, as these are given in the Coast Pilot only when they are less than 50 feet (15 meters). Although, there are exceptions in two Coast Pilot books; they are Coast Pilot 6 and 7, in areas where **tables** are used **all horizontal clearances** are listed.) Submarine cables are rarely mentioned.

Cable ferries

(5) Cable ferries are guided by cables fastened to shore and sometimes propelled by a cable rig attached to the shore. Generally, the cables are suspended during crossings and dropped to the bottom when the ferries dock. Where specific operating procedures are known they are mentioned in the text. Since operating procedures vary, mariners are advised to exercise extreme caution and seek local knowledge. **DO NOT ATTEMPT TO PASS A MOVING CABLE FERRY.**

Courses

(6) These are true and are given in degrees clockwise from **000°** (north) to **359°**. The courses given are the courses to be made good.

Currents

(7) Stated current velocities are the averages at strength. Velocities are in knots, which are nautical miles per hour. Directions are the true directions to which the currents set (see Chapter 3, this book).

Depths

(8) Depth is the vertical distance from the chart datum to the bottom and is expressed in the same units (feet, meters or fathoms) as soundings on the applicable chart. (See Chart Datum this chapter for further detail.) The **controlling depth** of a channel is the least depth within the limits of the channel; it restricts the safe use of the channel to drafts of less than that depth.

The **centerline controlling depth** of a channel (rarely used when transiting waterways) applies only to the channel centerline or close proximity; lesser depths may exist in the remainder of the channel. The **midchannel controlling depth** of a channel is the controlling depth of only the middle half of the channel. **Federal project depth** is the design dredging depth of a channel constructed by the U.S. Army Corps of Engineers; the project depth may or may not be the goal of maintenance dredging after completion of the channel, and, for this reason, project depth must not be confused with controlling depth. **Depths alongside wharves** usually have been reported by owners and/or operators of the waterfront facilities, and have not been verified by Government surveys; since these depths may be subject to change, local authorities should be consulted for the latest controlling depths.

(9) In general, the Coast Pilot gives the project depths for deep-draft ship channels maintained by the U.S. Army Corps of Engineers. The latest controlling depths are usually shown on the charts and published in the Notices to Mariners. For other channels, the latest controlling depths are available at the time of publication. **In all cases, however, mariners are advised to consult with pilots, port and local authorities, and Federal and State authorities for the latest channel controlling depths.**

Under-keel clearances

(10) It is becoming increasingly evident that economic pressures are causing mariners to navigate through waters of barely adequate depth, with under-keel clearances being finely assessed from the charted depths, predicted tide levels, and depths recorded by echo sounders.

(11) It cannot be too strongly emphasized that even charts based on modern surveys may not show all sea-bed obstructions or the shoalest depths, and actual tide levels may be appreciably lower than those predicted.

(12) In many ships an appreciable correction must be applied to shoal soundings recorded by echo sounders due to the horizontal distance between the transducers. This separation correction, which is the amount by which recorded depths therefore exceed true depths, increases with decreasing depths to a maximum equal to half the distance apart of the transducers; at this maximum the transducers are aground. Ships whose transducers are more than 6 feet (1.8 meters) apart should construct a table of true and recorded depths using the Traverse Tables. (Refer to the topic on echo soundings elsewhere in chapter 1.)

(13) Other appreciable corrections, which must be applied to many ships, are for settlement and squat. These corrections depend on the depth of water below the keel, the hull form and speed of the ship.

(14) Settlement causes the water level around the ship to be lower than would otherwise be the case. It will always cause echo soundings to be less than they would otherwise be. Settlement is appreciable when the depth is less than seven times the draft of the ship, and increases as the depth decreases and the speed increases.

(15) Squat denotes a change in trim of a ship underway, relative to her trim when stopped. It usually causes the stern of a vessel to sit deeper in the water. However, it is reported that in the case of mammoth ships squat causes the bow to sit deeper. Depending on the location of the echo sounding transducers, this may cause the recorded depth to be greater or less than it ought to be. **Caution and common sense are continuing requirements for safe navigation.**

Distances

(16) These are in nautical miles unless otherwise stated. A nautical mile is one minute of latitude, or approximately 2,000 yards, and is about 1.15 statute miles.

Heights

(17) These are in feet (meters) above the tidal datum used for that purpose on the charts, usually mean high water. However, the heights of the decks of piers and wharves are given in feet (meters) above the chart datum for depths.

Light and fog signal characteristics

(18) These are not described in the Coast Pilot. Also, light sectors and visible ranges are generally not fully described. This information can be found in U.S. Coast Guard Light Lists.

Obstructions

(19) Wrecks and other obstructions are mentioned only if they are relatively permanent and in or near normal traffic routes.

Radio aids to navigation

(20) These are seldom described. (See United States Coast Guard Light Lists, and National Geospatial-Intelligence Agency Radio Navigational Aids.)

Ranges

(21) These are not fully described. "**A 339°** Range" means that the rear structure bears **339°** from the front structure. (See United States Coast Guard Light Lists.)

Reported information

(22) Information received by NOAA from various sources concerning depths, dangers, currents, facilities, and other topics, which has not been verified by Government surveys or inspections, is often included in the Coast Pilot; such **unverified information** is qualified as "reported," and should be regarded with caution.

Time

(23) Unless otherwise stated, all times are given in local standard time in the 24-hour system. (Noon is 1200, 2:00 p.m. is 1400, and midnight is 0000.)

Winds

(24) Directions are the true directions from which the winds blow, however, sometimes (rarely) compass points are used. Unless otherwise indicated, speeds are given in knots, which are nautical miles per hour.

NAUTICAL CHARTS

Chart symbols and abbreviations

(25) NOAA's Nautical Charts are a graphic portrayal of the marine environment showing the nature and form of the coast, the general configuration of the sea bottom, including water depths, locations of dangers to navigation, locations and characteristics of man-made aids to navigation, and other features useful to the mariner.

(26) The standard symbols and abbreviations approved for use on all regular nautical charts are in **Chart No. 1**, United States of America **Nautical Chart Symbols and Abbreviations**. This product, maintained by the National Geospatial-Intelligence Agency and NOAA, is available on the internet website address, http://nauticalcharts.noaa.gov/mcd/chartno1.htm.

(27) On certain foreign charts reproduced by the United States, and on foreign charts generally, the symbols and abbreviations used may differ from U.S. approved standards. It is therefore recommended that navigators who acquire and use foreign charts and reproductions procure the symbol sheet or Chart No. 1 produced by the same foreign agency.

(28) Mariners are warned that the buoyage systems, shapes, and colors used by other countries often have a different significance than the U.S. system.

Chart Projections

(29) The **Mercator projection** used on most nautical charts has straight-line meridians and parallels that intersect at right angles. On any particular chart the distances between meridians are equal throughout, but distances between parallels increase progressively from the Equator toward the poles, so that a straight line between any two points is a rhumb line. This unique property of the Mercator projection is one of the main reasons why it is preferred by the mariner.

Chart Datum

(30) Chart Datum is the particular tidal datum to which soundings and depth curves on a nautical chart or bathymetric map are referred. The tidal datum of **Mean Lower Low Water** is used as Chart Datum along the east, west and Gulf coasts, including the coasts of Alaska, Hawaii, the West Indies and other United States and United Nations islands of the Pacific.

(31) Mean Lower Low Water is defined as the arithmetic mean of the lower low water height of each tidal day (24.84 hours) observed over the National Tidal Datum Epoch. The National Tidal Datum Epoch is the specific 19-year period adopted by NOAA, as the official time segment over which tide observations are taken and reduced to obtain mean values for tidal datums. The present Epoch is 1983 through 2001. See http://co-ops.nos.noaa.gov/datum_options.html.

Horizontal Datum

(32) Nautical charts are constructed based on one of a number of horizontal datums which are adopted to best represent individual regions around the world. Note that the terms horizontal datum, horizontal geodetic datum, and horizontal control datum are synonymous.

(33) The exact placement of lines of latitude and longitude on a nautical chart is dependent on the referenced horizontal datum. Charts of the United States are currently referenced primarily to the North American Datum of 1983 (NAD 83), and the World Geodetic System 1984 (WGS 84). WGS 84 is equivalent to the NAD 83 for charting purposes.

(34) NAD 83 and WGS 84 have replaced the North American Datum of 1927 and other regional datums as the primary horizontal datum to which NOAA charts are referenced. Since many geographic positions are still referenced to the older datums, NOAA has included notes on charts which show the amount to shift those positions in latitude and longitude to fit the chart's NAD 83 or WGS 84 projection.

(35) It should be noted that there are still a few nautical charts that have not been converted to the new datums. The mariner should check each chart's title block to determine the horizontal datum.

(36) It should be further noted that the physical shift between positions on older datums and NAD 83/WGS 84 was significant. The mariner should always be certain the positions they are plotting on a nautical chart are on the same datum as the chart.

Accuracy of a nautical chart

(37) The value of a nautical chart depends upon the accuracy of the surveys on which it is based. The chart reflects what was found by field surveys and what has been reported to NOAA Headquarters. The chart represents general conditions at the time of surveys or reports and does not necessarily portray present conditions. Significant changes may have taken place since the date of the last survey or report.

(38) Each sounding represents an actual measure of depth and location at the time the survey was made, and each bottom characteristic represents a sampling of the surface layer of the sea bottom at the time of the sampling. Areas where sand and mud prevail, especially the entrances and approaches to bays and rivers exposed to strong tidal current and heavy seas, are subject to continual change.

(39) In coral regions and where rocks and boulders abound, it is always possible that surveys may have failed to find every obstruction. Thus, when navigating such waters, customary routes and channels should be followed, and areas avoided where irregular and sudden changes in depth indicate conditions associated with pinnacle rocks, coral heads, or boulders.

(40) Information charted as "reported" should be treated with caution when navigating the area, because the actual conditions have not been verified by government surveys.

Source diagrams

(41) The Office of Coast Survey has committed to adding a source diagram to all charts 1:500,000 scale and larger. This diagram is intended to provide the mariner with additional information about the density and adequacy of the sounding data depicted on the chart. The adequacy with which sounding data depicts the configuration of the bottom depends on the following factors:

(42) •Survey technology employed (sounding and navigation equipment).

(43) •Survey specifications in effect (prescribed survey line spacing and sounding interval).

(44) •Type of bottom (e.g., rocky with existence of submerged pinnacles, flat sandy, coastal deposits subject to frequent episodes of deposition and erosion).

(45) Depth information on nautical charts is based on soundings from the latest available hydrographic survey, which in many cases may be quite old. The age of hydrographic surveys supporting nautical charts varies. Nearly half of all inshore hydrography was acquired by **leadline** (pre-1940) sounding technology.

(46) Prior to 1940, the majority of survey data acquired consisted of leadline soundings which were positioned using horizontal sextant angles. This positioning method is considered to be accurate for near shore surveys. A deficiency with pre-1940 data exists in the leadline sounding method because it represents discrete single-point sampling. Depths of areas between or outside of leadline sounding points can only be inferred or estimated leaving the possibility of undetected features, especially in areas of irregular relief.

(47) From 1940 to the present, the majority of survey data consisted of soundings resulting in **partial bottom coverage**. This type of sounding data is typically acquired using continuous-recording **single-beam echo sounders** as stand-alone survey systems. This survey method originally yielded a graphic record of the entire sounding line from which soundings were recorded at regular intervals. Using this graphic record, features which fell between the recorded soundings could be inserted into the data set. Since approximately 2001, single beam echo sounder data has been recorded digitally to automatically include all soundings in the data set. Although the sampling is continuous along the track of the sounding vessel, features such as discreet objects or small area shoals between sounding lines may not have been detected. Positioning of the sounding vessel in this period has progressed from horizontal sextant angles, through land-based electronic positioning systems, to differentially corrected Global Positioning System (DGPS) satellite fixes.

(48) From 1990 to the present, most surveys were conducted using either **multibeam sonar systems** or a combination of **side scan sonar** and single beam echo sounder systems to achieve **full bottom coverage**. The term full bottom coverage refers to survey areas in which the field party has acquired continuously recorded, high-resolution sonar data in overlapping swaths. This sonar data, either multibeam bathymetry or side scan imagery, have been analyzed in an attempt to locate all hazards to navigation within the survey's limits; all position data has been determined using DGPS. NOAA began utilizing airborne **light detection and ranging systems** (LIDAR) for near shore bathymetric surveying in the late 1990s. This type of survey method provided sounding data at a lower resolution than sonar systems, thus making small obstructions and hazards difficult to identify. Although LIDAR systems provide continuously recorded swath data, the resulting sounding resolution is not dense enough for the survey to be considered full bottom coverage. However, LIDAR surveys in which significant anomalies have been further investigated using multibeam sonar are considered adequate for the full bottom coverage designation. Stand alone LIDAR surveys are depicted on the Source Diagram as partial bottom coverage areas.

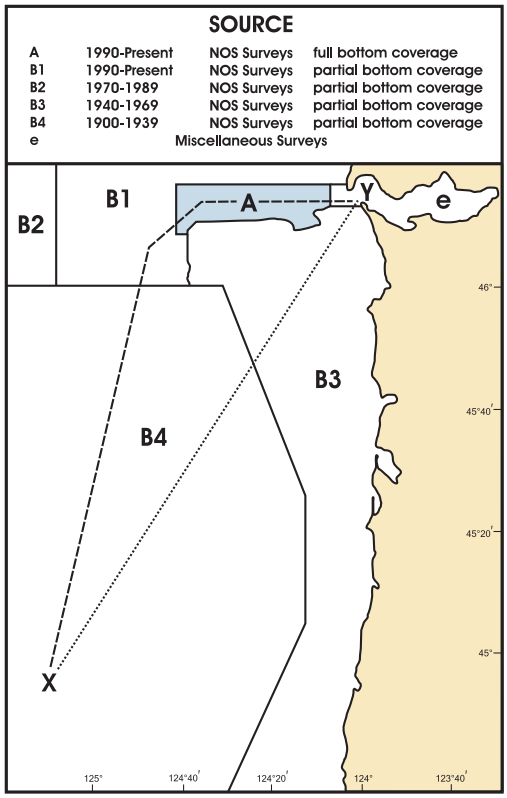
(49) Although full bottom coverage surveys are not feasible in all areas, this method is typically preferred over

Source Diagrams

Referring to the accompanying sample Source Diagram below and the previous discussion of survey methods over time, transiting from Point X to Point Y, along the track indicated by the dotted line, would have the following information available about the relative quality of the depth information shown on the chart.

• Point X lies in an area surveyed by NOAA within the 1900-1939 time period. The sounding data would have been collected by leadline. Depths between sounding points can only be inferred, and undetected features might exist between the sounding points in areas of irregular relief. Caution should be exercised.

• The transit then crosses an area surveyed by NOAA within the 1940-1969 time period. The sounding data would have been collected by continuous recording single beam echo sounder. It is possible that features could have been missed between sounding lines, although echo sounders record all depths along a sounding line with varying beam widths.



• The transit ends in an area charted from miscellaneous surveys. These surveys may be too numerous to depict or may vary in age, reliability, origin or technology used. No inferences about the fitness of the data can be made in this area from the diagram.

Referring again to the accompanying sample Source Diagram, and the previous discussion of survey methods over time, a mariner could choose to transit from Point X to Point Y, along the track shown with a dashed line.

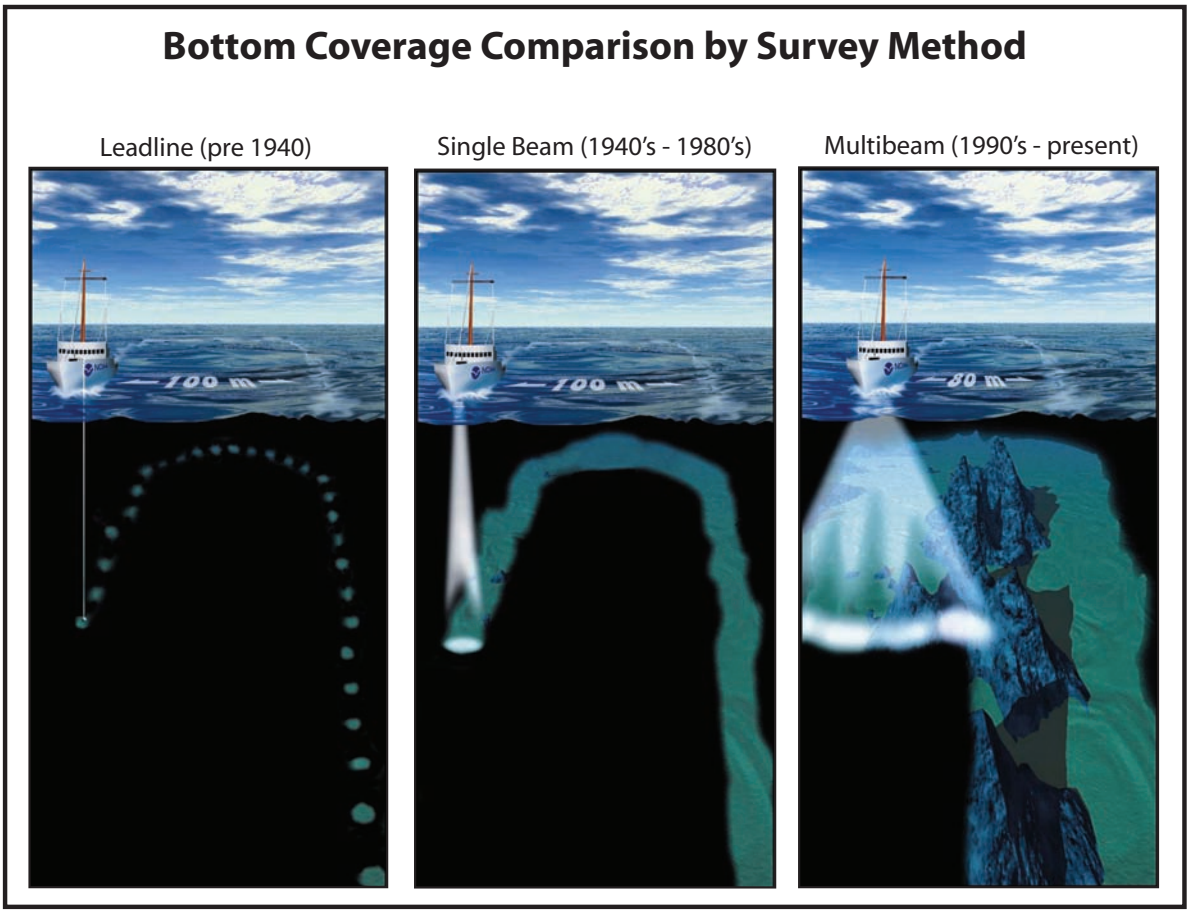
• The transit starts again in an area surveyed by NOAA within the 1900-1939 time period. The sounding data would have been collected by leadline. Depths between sounding points can only be inferred, and undetected features might still exist between the sounding points in areas of irregular relief. Caution should be exercised.

• The transit then crosses an area surveyed by NOAA within the 1990 - present time period, with partial bottom coverage. The data is collected in metric units and acquired by continuous recording single beam echo sounder. It is possible that features could have been missed between the sounding lines, although echo sounders record all depths along a sounding line with varying beam widths.

• The transit then crosses into an area surveyed by NOAA within the 1990 - present time period, having full bottom coverage. This area of the charted diagram is shaded with a blue screen to draw attention to the fact that full bottom coverage has been achieved. The data would have been collected in metric units and acquired by side scan sonar or multibeam sonar technology. Undetected features in this area, at the time of the survey, would be unlikely.

• The transit ends in an area charted from miscellaneous surveys. These surveys may be too numerous to depict or may vary in age, reliability, origin or technology used. No inferences about the fitness of the data can be made in this area from the diagram.

By choosing to transit along the track shown by the dashed line, the mariner would elect to take advantage of more recent survey information collected with more modern technology.



leadline, single beam echo sounder, and LIDAR technologies. Full bottom coverage surveys typically extend inshore to depths of 4-8 meters (13-26 feet). Due to scaling factors, a full bottom coverage survey area may appear to extend further inshore once depicted on the Source Diagram. Sounding data in water depths of approximately 4-6 meters (13-19½ feet) or less (8 meters (26 feet) or less in Alaskan waters) has typically been acquired using a partial bottom coverage method. Caution and prudent seamanship should be used when transiting these near shore areas.

(50) The spacing of sounding lines required to survey an area using a single beam echo sounder depends on several factors; such as water depths, bottom configuration, survey scale, general nature of the area, and the purpose of the survey. For example, a 1:10,000-scale survey conducted in an estuary will typically have 100-meter line spacing requirements, but may be reduced to 50 meters or less to adequately develop an irregular bottom, shoal, or some other feature that may present a hazard to navigation. Also, hydrographic project instructions for surveys may have required line spacing that deviates from these general specifications.

Corrections to charts

(51) It is essential for navigators to keep charts corrected through information published in the notices to mariners.

(52) NOAA's "Nautical Chart Update" website allows the mariner to update their nautical charts from one database that includes information from NOAA, NGA Notice to Mariners, U.S. Coast Guard Local Notice to Mariners, and the Canadian Coast Guard Notice to Mariners. The internet address for the Chart Update website is http://chartmaker.ncd.noaa.gov.

Print On Demand Nautical Charts

(53) Print On Demand (POD) Charts are updated weekly by NOAA with the most current U.S. Coast Guard Local Notice to Mariners, National Geospatial-Intelligence Agency Notice to Mariners, and critical safety information known to NOAA. They are available to the mariner five to eight weeks before the conventional chart is printed. POD charts are printed upon request and shipped overnight to the mariner under a partnership between NOAA and OceanGrafix, LLC. For POD information and a list of participating POD chart agents, see

Internet websites http:nauticalcharts.noaa.gov/pod and http://www.oceangraphix.com. Print on Demand charts are certified by NOAA for navigational use.

Caution in using small-scale charts

(54) Dangers to navigation cannot be shown with the same amount of detail on small-scale charts as on those of larger scale. Therefore, the largest scale chart of an area should always be used.

(55) The **scales of nautical charts** range from 1:2,500 to about 1:5,000,000. Graphic scales are generally shown on charts with scales of 1:80,000 or larger, and numerical scales are given on smaller scale charts. NOS charts are classified according to scale as follows:

(56) **Sailing charts,** scales 1:600,000 and smaller, are for use in fixing the mariner's position approaching the coast from the open ocean, or for sailing between distant coastwise ports. On such charts the shoreline and topography are generalized and only offshore soundings, principal lights, outer buoys, and landmarks visible at considerable distances are shown.

(57) **General charts,** scales 1:150,000 to 1:600,000, are for coastwise navigation outside of outlying reefs and shoals.

(58) **Coast charts,** scales 1:50,000 to 1:150,000, are for inshore navigation leading to bays and harbors of considerable width and for navigating large inland waterways.

(59) **Harbor charts,** scales larger than 1:50,000, are for harbors, anchorage areas, and the smaller waterways.

(60) **Special charts**, various scales, cover the Intracoastal waterways and miscellaneous small-craft areas.

U.S. Nautical Chart Numbering System

(61) This chart numbering system, adopted by NOAA and National Geospatial-Intelligence Agency, provides for a uniform method of identifying charts published by both agencies. Nautical charts published by the National Geospatial-Intelligence Agency and by the Canadian Hydrographic Service are identified in the Coast Pilot by an asterisk preceding the chart number.

Blue tint in water areas

(62) A blue tint is shown in water areas on many charts to accentuate shoals and other areas considered dangerous for navigation when using that particular chart. Since the danger curve varies with the intended purpose of a chart a careful inspection should be made to determine the contour depth of the blue tint areas.

Caution on bridge and cable clearances

(63) For bascule bridges whose spans do not open to a full vertical position, unlimited overhead clearance is not available for the entire charted horizontal clearance when the bridge is open, due to the inclination of the drawspans over the channel.

(64) The charted clearances of overhead cables are for the lowest wires at mean high water unless otherwise stated. **Vessels with masts, stacks, booms, or antennas should allow sufficient clearance under power cables to avoid arcing.**

(65) **Submarine cables and submerged pipelines** cross many waterways used by both large and small vessels, but all of them may not be charted. For inshore areas, they usually are buried beneath the seabed, but, for offshore areas, they may lie on the ocean floor. Warning signs are often posted to warn mariners of their existence.

(66) The installation of submarine cables or pipelines in U.S. waters or the Continental Shelf of the United States is under the jurisdiction of one or more Federal agencies, depending on the nature of the installation. They are shown on the charts when the necessary information is reported to NOAA and they have been recommended for charting by the responsible agency. The chart symbols for submarine cable and pipeline areas are usually shown for inshore areas, whereas, chart symbols for submarine cable and pipeline routes may be shown for offshore areas. Submarine cables and pipelines are not described in the Coast Pilots.

(67) In view of the serious consequences resulting from damage to submarine cables and pipelines, vessel operators should take special care when anchoring, fishing, or engaging in underwater operations near areas where these cables or pipelines may exist or have been reported to exist. Mariners are also warned that the areas where cables and pipelines were originally buried may have changed and they may be exposed; extreme caution should be used when operating vessels in depths of water comparable to the vessel's draft.

(68) Certain cables carry high voltage, while many pipelines carry natural gas under high pressure or petroleum products. Electrocution, fire, or explosion with injury, loss of life, or a serious pollution incident could occur if they are broached.

(69) Vessels fouling a submarine cable or pipeline should attempt to clear without undue strain. Anchors or gear that cannot be cleared should be slipped, but no attempt should be made to cut a cable or a pipeline.

Artificial obstructions to navigation

(70) **Disposal areas** are designated by the U.S. Army Corps of Engineers for depositing dredged material where existing depths indicate that the intent is not to cause sufficient shoaling to create a danger to surface navigation. The areas are charted without blue tint, and soundings and depth curves are retained.

(71) **Disposal Sites** are areas established by Federal regulation (**40 CFR 220 through 229**) in which dumping of dredged and fill material and other nonbuoyant objects is allowed with the issuance of a permit. Dumping of dredged and fill material is supervised by the Corps of Engineers and all other dumping by the Environmental Protection Agency (EPA). (See U.S. Army Corps of Engineers and Environmental Protection Agency, this chapter, and Appendix A for office addresses.)

(72) **Dumping Grounds** are also areas that were established by Federal regulation (**33 CFR 205**). However, these regulations have been revoked and the use of the areas discontinued. These areas will continue to be shown on nautical charts until such time as they are no longer considered to be a danger to navigation.

(73) Disposal Sites and Dumping Grounds are rarely mentioned in the Coast Pilot, but are shown on nautical charts. **Mariners are advised to exercise caution in and in the vicinity of all dumping areas.**

(74) **Spoil areas** are for the purpose of depositing dredged material, usually near and parallel to dredged channels; they are usually a hazard to navigation. Spoil areas are usually charted from survey drawings from U.S. Army Corps of Engineers after-dredging surveys, though they may originate from private or other Government agency surveys. Spoil areas are tinted blue on the charts and labeled, and all soundings and depth curves are omitted. Navigators of even the smallest craft should avoid crossing spoil areas.

(75) **Fish havens** are established by private interests, usually sport fishermen, to simulate natural reefs and wrecks that attract fish. The reefs are constructed by intentional placement of assorted secondary-use materials and designated fishery habitat, ranging from old trolley cars and barges to scrap building material in areas which may be of very small extent or may stretch a considerable distance along a depth curve; old automobile bodies are a commonly used material. The Corps of Engineers must issue a permit, specifying the location and depth over the reef, before such a reef may be built. However, the reefbuilders' adherence to permit specifications can be checked only with a wire drag. Fish havens are outlined and labeled on the charts and show the minimum authorized depth when known. Fish havens are tinted blue if they have a minimum authorized depth of 11 fathoms or less or if the minimum authorized depth is unknown and they are in depths greater than 11 fathoms but still considered a danger to navigation. Navigators should be cautious about passing over fish havens or anchoring in their vicinity.

(76) **Fishtrap areas** are areas established by the U.S. Army Corps of Engineers, or State or local authority, in which traps may be built and maintained according to established regulations. The fish stakes which may exist in these areas are obstructions to navigation and may be dangerous. The limits of fishtrap areas and a cautionary note are usually charted. Navigators should avoid these areas.

Local magnetic disturbances

(77) If measured values of magnetic variation differ from the expected (charted) values by several degrees, a magnetic disturbance note will be printed on the chart. The note will indicate the location and magnitude of the disturbance, but the indicated magnitude should not be considered as the largest possible value that may be encountered. Large disturbances are more frequently detected in the shallow waters near land masses than on the deep sea. Generally, the effect of a local magnetic disturbance diminishes rapidly with distance, but in some locations there are multiple sources of disturbances and the effects may be distributed for many miles.

Compass roses on charts

(78) Each compass rose shows the date, magnetic variation, and the annual change in variation. Prior to the new edition of a nautical chart, the compass roses are reviewed. Corrections for annual change and other revisions may be made as a result of newer and more accurate information. On some general and sailing charts, the magnetic variation is shown by isogonic lines in addition to the compass roses.

Echo soundings

(79) Ship's echo sounders may indicate small variations from charted soundings; this may be due to the fact that various corrections (instrument corrections, settlement and squat, draft, and velocity corrections) are made to echo soundings in surveying which are not normally made in ordinary navigation, or to observational errors in reading the echo sounder. Instrument errors vary between different equipment and must be determined by calibration aboard ship. Most types of echo sounders are factory calibrated for a velocity of sound in water of 800 fathoms per second, but the actual velocity may differ from the calibrated velocity by as much as 5 percent, depending upon the temperature and salinity of the waters in which the vessel is operating; the highest velocities are found in warm, highly saline water, and the lowest in icy freshwater. Velocity corrections for these variations are determined and applied to echo soundings during hydrographic surveys. All echo soundings must be corrected for the vessel's draft, unless the draft observation has been set on the echo sounder.

(80) Observational errors include misinterpreting false echoes from schools of fish, seaweed, etc., but the most

serious error which commonly occurs is where the depth is greater than the scale range of the instrument; a 400–fathom scale indicates 15 fathoms when the depth is 415 fathoms. Caution in navigation should be exercised when wide variations from charted depths are observed.

Electronic Navigational Chart (NOAA ENC®)

(81) The NOAA Electronic Navigational Charts (ENCs) are vector-based digital files that give information about individual charted features. NOAA ENC®s are composed of information layers that can be viewed separately such as aids to navigation, soundings and shoreline. They are intended for use in electronic charting systems (ECS) as well as Electronic Chart Display and Information Systems (ECDIS). NOAA ENC®s are available free of charge on the NOAA internet website, http://nauticalcharts.noaa.gov/mcd/enc/index.htm, as well as additional NOAA ENC® information.

NOTICES TO MARINERS

(82) **Notices to Mariners** are published by Federal agencies to advise operators of vessels of marine information affecting the safety of navigation. The notices include changes in aids to navigation, depths in channels, bridge and overhead cable clearances, reported dangers, and other useful marine information. They should be used routinely for updating the latest editions of nautical charts and related publications.

(83) **Local Notice to Mariners** is issued by each Coast Guard District Commander for the waters under his jurisdiction. (See Appendix A for Coast Guard district(s) covered by this volume.) These notices are usually published weekly and may be obtained without cost by making application to the appropriate District Commander, or by contacting the Coast Guard internet website address, **http://www.navcen.uscg.gov/lnm**.

(84) **Notice to Mariners,** published weekly by the National Geospatial-Intelligence Agency, is prepared jointly with NOAA and the Coast Guard. These notices contain selected items from the Local Notices to Mariners and other reported marine information required by oceangoing vessels operating in both **foreign** and **domestic** waters. Special items covering a variety of subjects and generally not discussed in the Coast Pilot or shown on nautical charts are published annually in Notice to Mariners No. 1. These items are important to the mariner and should be read for future reference. These notices may be obtained by operators or oceangoing vessels, without cost by making application to **National Geospatial-Intelligence Agency** (see National Geospatial-Intelligence Agency Procurement Information in Appendix A).

(85) All active Notice to Mariners affecting Tide and/or Tidal Current Predictions at the date of printing are published in the Tide Table and the Tidal Current Tables annually.

(86) Notices and reports of **improved channel depths** are also published by district offices of the U.S. Army Corps of Engineers (see Appendix A for districts covered by this volume). Although information from these notices/reports affecting NOAA charts and related publications is usually published in the Notices to Mariners, the local district engineer office should be consulted where depth information is critical.

(87) **Marine Broadcast Notices to Mariners** are made by the Coast Guard through Coast Guard, Navy, and some commercial radio stations to report deficiencies and important changes in aids to navigation. (See Radio Navigation Warnings and Weather, this chapter.)

(88) Vessels operating within the limits of the Coast Guard districts can obtain information affecting NOAA charts and related publications from the Local Notices to Mariners. Small craft using the Intracoastal Waterway and other waterways and small harbors within the United States that are not normally used by oceangoing vessels will require the Local Notices to Mariners to keep charts and related publications up-to-date.

AIDS TO NAVIGATION

Reporting of defects in aids to navigation

(89) Promptly notify the nearest Coast Guard District Commander if an aid to navigation is observed to be missing, sunk, capsized, out of position, damaged, extinguished, or showing improper characteristics.

(90) Radio messages should be prefixed “Coast Guard” and transmitted directly to any U.S. Government shore radio station for relay to the Coast Guard District Commander. Merchant ships may send messages relating to defects noted in aids to navigation through commercial facilities only when they are unable to contact a U.S. Government shore radio station. Charges for these messages will be accepted “collect” by the Coast Guard.

(91) It is unlawful to establish or maintain any aid similar to those maintained by the U.S. Coast Guard without first obtaining permission from the Coast Guard District Commander. In the Great Lakes, applications should be submitted through the Cleveland District Office. The licensed officer in command of a vessel which collides with any aid must report the fact promptly to the nearest Marine Safety Office or Marine Inspection Office, U.S. Coast Guard.

Lights

(92) The range of visibility of lights as given in the Light Lists and as shown on the charts is the **Nominal range,** which is the maximum distance at which a light may be seen in clear weather (meteorological visibility of 10 nautical miles) expressed in nautical miles. The Light Lists give the Nominal ranges for all Coast Guard lighted aids except range and directional lights.

(93) **Luminous range** is the maximum distance at which a light may be seen under the existing visibility conditions. By use of the diagram in the Light Lists, Luminous range may be determined from the known Nominal range, and the existing visibility conditions. Both the Nominal and Luminous ranges do not take into account elevation, observer's height of eye, or the curvature of the earth.

(94) **Geographic range** is a function of only the curvature of the earth and is determined solely from the heights above sea level of the light and the observer's eye; therefore, to determine the actual Geographic range for a height of eye, the Geographic range must be corrected by a distance corresponding to the height difference, the distance correction being determined from a table of "distances of visibility for various heights above sea level." (See Light List or Appendix B.)

(95) The maximum distances at which lights can be seen may at times be increased by abnormal atmospheric refraction and may be greatly decreased by unfavorable weather conditions such as fog, rain, haze, or smoke. All except the most powerful lights are easily obscured by such conditions. In some conditions of the atmosphere white lights may have a reddish hue. During weather conditions which tend to reduce visibility, colored lights are more quickly lost to sight than are white lights. Navigational lights should be used with caution because of the following conditions that may exist;

(96) A light may be extinguished and the fact not reported to the Coast Guard for correction, or a light may be located in an isolated area where it will take time to correct.

(97) In regions where ice conditions prevail the lantern panes of unattended lights may become covered with ice or snow, which will greatly reduce the visibility and may also cause colored lights to appear white.

(98) Brilliant shore lights used for advertising and other purposes, particularly those in densely populated areas, make it difficult to identify a navigational light.

(99) At short distances flashing lights may show a faint continuous light between flashes.

(100) The distance of an observer from a light cannot be estimated by its apparent intensity. The characteristics of lights in an area should always be checked in order that powerful lights visible in the distance will not be mistaken for nearby lights showing similar characteristics at low intensity such as those on lighted buoys.

(101) The apparent characteristic of a complex light may change with the distance of the observer, due to color and intensity variations among the different lights of the group. The characteristic as charted and shown in the Light List may not be recognized until nearer the light.

(102) Motion of a vessel in a heavy sea may cause a light to alternately appear and disappear, and thus give a false characteristic.

(103) Where lights have different colored sectors, be guided by the correct bearing of the light; do not rely on being able to accurately observe the point at which the color changes. On either side of the line of demarcation of colored sectors there is always a small arc of uncertain color.

(104) On some bearings from the light, the range of visibility of the light may be reduced by obstructions. In such cases, the obstructed arc might differ with height of eye and distance. When a light is cut off by adjoining land and the arc of visibility is given, the bearing on which the light disappears may vary with the distance of the vessel from which observed and with the height of eye. When the light is cut off by a sloping hill or point of land, the light may be seen over a wider arc by a ship far off than by one close to.

(105) Arcs of circles drawn on charts around a light are not intended to give information as to the distance at which it can be seen, but solely to indicate, in the case of lights which do not show equally in all directions, the bearings between which the variation of visibility or obscuration of the light occurs.

(106) Lights of equal candlepower but of different colors may be seen at different distances. This fact should be considered not only in predicting the distance at which a light can be seen, but also in identifying it.

(107) Lights should not be passed close aboard, because in many cases riprap mounds are maintained to protect the structure against ice damage and scouring action.

(108) Many prominent towers, tanks, smokestacks, buildings, and other similar structures, charted as landmarks, display flashing and/or fixed red aircraft obstruction lights. Lights shown from landmarks are charted only when they have distinctive characteristics to enable the mariner to positively identify the location of the charted structure.

Articulated lights

(109) An articulated light is a vertical pipe structure supported by a submerged buoyancy chamber and attached by a universal coupling to a weighted sinker on the seafloor. The light, allowed to move about by the universal coupling, is not as precise as a fixed aid.

However, it has a much smaller watch circle than a conventional buoy, because the buoyancy chamber tends to force the pipe back to a vertical position when it heels over under the effects of wind, wave, or current.

(110) Articulated lights are primarily designed to mark narrow channels with greater precision than conventional buoys.

Daybeacons

(111) Daybeacons are unlighted aids affixed to stationary structures. They are marked with dayboards for daytime identification. The dayboards aid navigation by presenting one of several standard shapes and colors which have navigational significance. Dayboards are sometimes referred to as daymarks.

(112) Daybeacons are found on-shore and in shallow water. They are frequently used to mark channel edges.

Articulated daybeacons

(113) Articulated daybeacons are similar to articulated lights, described above, except they are unlighted.

Buoys

(114) The aids to navigation depicted on charts comprise a system consisting of fixed and floating aids with varying degrees of reliability. Therefore, prudent mariners will not rely solely on any single aid to navigation, particularly a floating aid.

(115) The approximate position of a buoy is represented by the dot or circle associated with the buoy symbol. The approximate position is used because of practical limitations in positioning and maintaining buoys and their sinkers in precise geographical locations. These limitations include, but are not limited to, inherent imprecisions in position fixing methods, prevailing atmospheric and sea conditions, the slope of and the material making up the seabed, the fact that buoys are moored to sinkers by varying lengths of chain, and the fact that buoy body and/or sinker positions are not under continuous surveillance, but are normally checked only during periodic maintenance visits which often occur more than a year apart. The position of the buoy body can be expected to shift inside and outside of the charting symbol due to the forces of nature. The mariner is also cautioned that buoys are liable to be carried away, shifted, capsized, sunk, etc. Lighted buoys may be extinguished or sound signals may not function as a result of ice, running ice or other natural causes, collisions, or other accidents.

(116) For the foregoing reasons, a prudent mariner must not rely completely upon the charted position or operation of floating aids to navigation, but will also utilize bearings from fixed objects and aids to navigation on shore. Further, a vessel attempting to pass close aboard always risks collision with a yawing buoy or with the obstruction the buoy marks.

(117) Buoys may not always properly mark shoals or other obstructions due to shifting of the shoals or of the buoys. Buoys marking wrecks or other obstructions are usually placed on the seaward or channelward side and not directly over a wreck. Since buoys may be located some distance from a wreck they are intended to mark, and since sunken wrecks are not always static, extreme caution should be exercised when operating in the vicinity of such buoys.

Large navigational buoys (LNB)

(118) Courses should invariably be set to pass these aids with sufficient clearance to avoid the possibility of collision from any cause. Errors of observation, current and wind effects, other vessels in the vicinity, and defects in steering gear may be, and have been the cause of actual collisions, or imminent danger thereof, needlessly jeopardizing the safety of these facilities and their crews, and of all navigation dependent on these important aids to navigation.

(119) Experience shows that offshore light stations cannot be safely used as leading marks to be passed close aboard, but should always be left broad off the course, whenever sea room permits. When approaching fixed offshore light structures and large navigational buoys (LNB) on radio bearings, the risk of collision will be avoided by ensuring that radio bearing does not remain constant.

(120) It should be borne in mind that most large buoys are anchored to a very long scope of chain and, as a result, the radius of their swinging circle is considerable. The charted position is the location of the anchor. Furthermore under certain conditions of wind and current, they are subject to sudden and unexpected sheers which are certain to hazard a vessel attempting to pass close aboard.

Bridge lights and clearance gages

(121) The Coast Guard regulates marine obstruction lights and clearance gages on bridges across navigable waters. Where installed, clearance gages are generally vertical numerical scales, reading from top to bottom, and show the actual vertical clearance between the existing water level and the lowest point of the bridge over the channel; the gages are normally on the right-hand pier or abutment of the bridge, on both the upstream and downstream sides.

(122) Bridge lights are fixed red or green, and are privately maintained; they are generally not charted or described in the text of the Coast Pilot. All bridge piers (and their protective fenders) and abutments which are in or adjacent to a navigation channel are marked on all

channel sides by red lights. On each channel span of a fixed bridge, there is a range of two green lights marking the center of the channel and a red light marking both edges of the channel, except that when the margins of the channel are confined by bridge piers, the red lights on the span are omitted, since the pier lights then mark the channel edges; for multiplespan fixed bridges, the main-channel span may also be marked by three white lights in a vertical line above the green range lights.

(123) On all types of drawbridges, one or more red lights are shown from the drawspan (higher than the pier lights) when the span is closed; when the span is open, the higher red lights are obscured and one or two green lights are shown from the drawspan, higher than the pier lights. The number and location of the red and green lights depend upon the type of drawbridge.

(124) Bridges and their lighting, construction and maintenance are set forth in **33 CFR 114, 115, 116, and 118,** (not carried in this Coast Pilot). Aircraft obstruction lights prescribed by the Federal Aviation Administration may operate at certain bridges.

Fog signals

(125) Caution should be exercised in the use of sound fog signals for navigation purposes. They should be considered solely as warning devices.

(126) Sound travels through the air in a variable manner, even without the effects of wind; and, therefore, the hearing of fog signals cannot be implicitly relied upon.

(127) Experience indicates that distances must not be judged only by the intensity of the sound; that occasionally there may be areas close to a fog signal in which it is not heard; and that fog may exist not far from a station, yet not be seen from it, so the signal may not be operating. It is not always possible to start a fog signal immediately when fog is observed.

Caution, channel markers

(128) Lights, daybeacons, and buoys along dredged channels do not always mark the bottom edges. Due to local conditions, aids may be located inside or outside the channel limits shown by dashed lines on a chart. The Light List tabulates the offset distances for these aids in many instances.

(129) Aids may be moved, discontinued, or replaced by other types to facilitate dredging operations. Mariners should exercise caution when navigating areas where dredges with auxiliary equipment are working.

(130) Temporary changes in aids are not included on the charts.

Uniform State Waterway Marking System

(131) Many bodies of water used by boatmen are located entirely within the boundaries of a State. The Uniform State Waterway Marking System (USWMS) has been developed to indicate to the small-boat operator hazards, obstructions, restricted or controlled areas, and to provide directions. Although intended primarily for waters within the state boundaries, USWMS is suited for use in all water areas, since it supplements and is generally compatible with the Coast Guard lateral system of aids to navigation. The Coast Guard is gradually using more aids bearing the USWMS geometric shapes described below.

(132) Two categories of waterway markers are used. Regulatory markers, buoys, and signs use distinctive standard shape marks to show regulatory information. The signs are white with black letters and have a wide orange border. They signify speed zones, Fish havens, danger areas, and directions to various places. Aids to navigation on State waters use red and black buoys to mark channel limits. Red and black buoys are generally used in pairs. The boat should pass between the red buoy and its companion black buoy. If the buoys are not placed in pairs, the distinctive color of the buoy indicates the direction of dangerous water from the buoy. White buoys with red tops should be passed to the south or west, indicating that danger lies to the north or east of the buoy. White buoys with black tops should be passed to the north or east. Danger lies to the south or west. Vertical red and white striped buoys indicate a boat should not pass between the buoy and the nearest shore. Danger lies inshore of the buoy.

Light List

(133) **Light Lists,** published by the Coast Guard, describe aids to navigation, consisting of lights, fog signals, buoys, lightships, daybeacons, and electronic aids, in United States (including Puerto Rico and U.S. Virgin Islands) and contiguous Canadian waters. Light Lists are for sale by the Government Printing Office (see Appendix A for address) and by sales agents in the principal seaports. Light Lists are also available to view on the USCG Navigation Center internet site at http://www.navcen.uscg.gov/pubs/lightlists/lightlists.htm. Mariners should refer to these publications for detailed information regarding the characteristics and visibility of lights, and the descriptions of light structures, lightships, buoys, fog signals, and electronic aids.

ELECTRONIC POSITIONING SYSTEMS

Global Positioning System (GPS)

(134) GPS permits land, sea, and airborne users to determine their three dimensional position, velocity, and time, 24 hours a day in all weather, anywhere in the world. The basic system is defined as a constellation of satellites, the navigation payloads which produce the GPS signals, ground stations, data links, and associated command and control facilities which are operated and maintained by the Department of Defense. The satellites operate in circular 20,200 km (10,900 nm) orbits at an inclination angle, relative to the equator, of 55° and with a 12-hour period. The satellites are spaced in orbit so that at any time, a minimum of six satellites are observable from any position on earth, providing instantaneous position and time information. The system provides two levels of service for position determination, **Standard Positioning Service (SPS)** and the encoded **Precise Positioning Service (PPS)**; SPS is for general public use and PPS is primarily intended for use by the Department of Defense. Please report GPS problems or anomalies at http://www.navcen.uscg.gov/gps/ or contact the USCG Navigation Information Service at 703-313-5900.

(135) **Differential GPS (DGPS):**

(136) The U.S. Coast Guard Navigation Center (NAVCEN) operates the Coast Guard Maritime Differential GPS (DGPS) Service, consisting of two control centers and over 60 remote broadcast sites. The Service broadcasts correction signals on marine radiobeacon frequencies to improve the accuracy of and integrity to GPS-derived positions. The Coast Guard DGPS Service provides 10-meter accuracy in all established coverage areas. Typically, the positional error of a DGPS position is 1 to 3 meters, greatly enhancing harbor entrance and approach navigation. The System provides service for coastal coverage of the continental U.S., the Great Lakes, Puerto Rico, portions of Alaska and Hawaii, and a greater part of the Mississippi River Basin.

LORAN-C

(137) LORAN, an acronym for LOng RAnge Navigation, is an electronic aid to navigation consisting of shore-based radio transmitters. The LORAN system enables users equipped with a LORAN receiver to determine their position quickly and accurately, day or night, in practically any weather.

(138) LORAN-C was originally developed to provide radio navigation service for U.S. coastal waters and was later expanded to include complete coverage of the continental U.S. as well as most of Alaska. Twenty-four U.S. LORAN-C stations work in partnership with Canadian and Russian stations to provide coverage in Canadian waters and in the Bering Sea. LORAN-C provides better than 0.25 nautical mile absolute accuracy for suitably equipped users within the published areas.

(139) Users can return to previously determined positions with an accuracy of 50 meters or better using LORAN-C in the time difference repeatable mode. Advances in technology have allowed greater automation of LORAN-C operations. New technology has allowed the Coast Guard to establish centralized control of the continental U.S. LORAN-C system at two locations. The application of new receiver technology has improved the usability of the system.

(140) LORAN-C provides coverage for maritime navigation in U.S. coastal areas. It provides navigation, location, and timing services for both civil and military air, land and marine users. LORAN-C is approved as an en route supplemental air navigation system for both Instrument Flight Rule (IFR) and Visual Flight Rule (VFR) operations. The LORAN-C system serves the 48 continental states, their coastal areas, and parts of Alaska.

(141) In coastal waters, LORAN-C should not be relied upon as the only aid to navigation. A prudent navigator will use radar, fathometer and any other aid to navigation, in addition to the LORAN-C receiver.

(142) **LORAN-C Charts and Publications**

(143) Navigational charts overprinted with LORAN-C lines of position are available from FAA, National Aeronautical Charting Office, AVN-530. (See Appendix A for address).

(144) A general source of LORAN-C information is the LORAN-C User Handbook written by the U.S. Coast Guard. This publication can be viewed and downloaded at http://www.navcen.uscg.gov/loran/handbook/h-book.htm or purchased from the Government Printing Office, Washington, DC (see Appendix A for address).

DISTRESS: COMMUNICATION PROCEDURES

Coast Guard search and rescue operations

(145) The Coast Guard conducts and/or coordinates search and rescue operations for surface vessels or aircraft that are in distress or overdue. Search and Rescue vessels and aircraft have special markings, including a wide slash of red-orange and a small slash of blue on the forward portion of the hull or fuselage. Other parts of aircraft, normally painted white, may have other areas painted red to facilitate observation. The cooperation of vessel operators with Coast Guard helicopters, fixed-wing aircraft, and vessels may mean the difference between life and death for some seaman or aviator; such cooperation is greatly facilitated by the prior knowledge on the part of vessel operators of the

operational requirements of Coast Guard equipment and personnel, of the international distress signals and procedures, and of good seamanship.

(146) **Note:** Distress and other calls to Coast Guard communication stations may be made on any of the following HF single sideband radiotelephone channels: 424(4134 kHz), 601(6200 kHz), 816(8240 kHz), or 1205(12242 kHz).

International distress signals

(147) (1) A signal made by radiotelegraphy or by any other signaling method consisting of the group "SOS" in Morse Code.

(148) (2) A signal sent by radiotelephony consisting of the spoken word "MAYDAY."

(149) (3) The International Flag Code Signal of NC.

(150) (4) A signal consisting of a square flag having above or below it a ball or anything resembling a ball.

(151) (5) Flames on the craft (as from a burning oil barrel, etc.)

(152) (6) A rocket parachute flare or hand flare showing a red light.

(153) (7) Rockets or shells, throwing red stars fired one at a time at short intervals.

(154) (8) Orange smoke, as emitted from a distress flare.

(155) (9) Slowly and repeatedly raising and lowering arms outstretched to each side.

(156) (10) A gun or other explosive signal fired at intervals of about 1 minute.

(157) (11) A continuous sounding of any fog-signal apparatus.

(158) (12) The radiotelegraph alarm signal.

(159) (13) The radiotelephone alarm signal.

(160) (14) Signals transmitted by emergency position-indicating radiobeacons.

(161) (15) A piece of orange-colored canvas with either a black square and circle or other appropriate symbol (for identification from the air).

(162) (16) A dye marker.

Radio distress procedures

(163) Distress calls are made on 2182 kHz or VHF-FM channel 16 (MAYDAY). For less serious situations than warrant the distress procedure, the urgency signal PAN-PAN (PAHN-PAHN, spoken three times), or the safety signal SECURITY (SAY-CURITAY, spoken three times), for radiotelephony, are used as appropriate. Since radiotelegraph transmissions are normally made by professional operators, and urgency and safety situations are less critical, only the distress procedures for voice radiotelephone are described. For complete information on emergency radio procedures, see **47 CFR 80** or NGA Pub. 117. **(See Appendix A for a list of Coast Guard Stations which guard 2182 kHz and 156.80 MHz.)** Complete information on distress guards can be obtained from Coast Guard District Commanders.

(164) Distress calls indicate a vessel or aircraft is threatened by grave and imminent danger and requests immediate assistance. They have absolute priority over all other transmissions. All stations which hear a distress call must immediately cease any transmission capable of interfering with the distress traffic and shall continue to listen on the frequency used for the emission of the distress call. This call shall not be addressed to a particular station, and acknowledgment of receipt shall not be given before the distress message which follows it is sent.

Radiotelephone distress communications

(165) (1) The **radiotelephone alarm signal** (if available): The signal consists of two audio tones, of different pitch, transmitted alternately; its purpose is to attract the attention of persons on radio watch or to actuate automatic alarm devices. It may only be used to announce that a distress call or message is about to follow.

(166) (2) The **distress call**, consisting of:–

(167) the distress signal MAYDAY (spoken three times);

(168) the words THIS IS (spoken once);

(169) the call sign or name of the vessel in distress (spoken three times).

(170) (3) The **distress message** follows immediately and consists of:

(171) the distress signal MAYDAY;

(172) the call sign and name of the vessel in distress;

(173) particulars of its position (latitude and longitude, or true bearing and distance from a known geographical position);

(174) the nature of the distress;

(175) the kind of assistance desired;

(176) the number of persons aboard and the condition of any injured;

(177) present seaworthiness of vessel;

(178) description of the vessel (length; type; cabin; masts; power; color of hull, superstructure, trim; etc.);

(179) any other information which might facilitate the rescue, such as display of a surface-to-air identification signal or a radar reflector;

(180) your listening frequency and schedule;

(181) THIS IS (call sign and name of vessel in distress) OVER.

(182) (4) **Acknowledgment of receipt of a distress message:** If a distress message is received from a vessel which is definitely in your vicinity, immediately acknowledge receipt. If it is not in your vicinity, allow a short interval of time to elapse before acknowledging, in order to allow vessels nearer to the vessel in distress

to acknowledge receipt without interference. However, in areas where reliable communications with one or more shore stations are practicable, all vessels may defer this acknowledgment for a short interval so that a shore station may acknowledge receipt first. The acknowledgment of receipt of a distress is given as follows:

(183) the call sign or name of the vessel sending the distress (spoken three times);

(184) the words THIS IS;

(185) the call sign or name of acknowledging vessel (spoken three times);

(186) The words RECEIVED MAYDAY.

(187) After the above acknowledgment, allow a momentary interval of listening to insure that you will not interfere with another vessel better situated to render immediate assistance; if not, with the authority of the person in charge of the vessel, transmit:

(188) the word MAYDAY;

(189) the call sign and name of distressed vessel;

(190) the words THIS IS;

(191) the call sign and name of your vessel;

(192) your position (latitude and longitude, or true bearing and distance from a known geographical position);

(193) the speed you are proceeding towards, and the approximate time it will take to reach, the distressed vessel. OVER.

(194) (5) **Further distress messages and other communications:** Distress communications consist of all messages relating to the immediate assistance required by the distressed vessel. Each distress communication shall be preceded by the signal MAYDAY. The vessel in distress or the station in control of distress communications may **impose silence** on any station which interferes. The procedure is:—the words SEELONCE MAYDAY (Seelonce is French for silence). Silence also may be imposed by nearby mobile stations other than the vessel in distress or the station in control of distress communications. The mobile station which believes that silence is essential may request silence by the following procedure:—the word SEELONCE, followed by the word DISTRESS, and its **own** call sign.

(195) (6) **Transmission of the distress procedure by a vessel or shore station not itself in distress:** A vessel or a shore station which learns that a vessel is in distress shall transmit a distress message in any of the following cases:

(196) (a) When the vessel in distress is not itself able to transmit the distress message.

(197) (b) When a vessel or a shore station considers that further help is necessary.

(198) (c) When, although not in a position to render assistance, it has heard a distress message that has not been acknowledged.

(199) In these cases, the transmission shall consist of:

(200) the radiotelephone alarm signal (if available);

(201) the words MAYDAY RELAY (spoken three times);

(202) the words THIS IS;

(203) the call sign and name of vessel (or shore station), spoken three times.

(204) When a vessel transmits a distress under these conditions, it shall take all necessary steps to contact the Coast Guard or a shore station which can notify the Coast Guard.

(205) (7) **Termination of distress:** When distress traffic has ceased, or when silence is no longer necessary on the frequency used for the distress traffic, the station in control shall transmit on that frequency a message to all stations as follows:

(206) the distress signal MAYDAY;

(207) the call TO ALL STATIONS, spoken three times;

(208) the words THIS IS;

(209) the call sign and name of the station sending the message;

(210) the time;

(211) the name and call sign of the vessel in distress;

(212) the words SEELONCE FEENEE (French for silence finished).

Optimize Radar Profile

(213) Operators of disabled wooden craft and persons adrift in rubber rafts or boats that are, or may consider themselves to be, the object of a search, should hoist on a halyard or otherwise place aloft as high as possible any metallic object that would assist their detection by radar. Coast Guard cutters and aircraft are radar equipped and thus are able to continue searching in darkness and during other periods of low visibility. It is advisable for coastal fishing boats, yachts, and other small craft to have efficient radar reflectors permanently installed aboard the vessel.

File cruising schedules

(214) Small-craft operators should prepare a cruising plan before starting on extended trips and leave it ashore with a yacht club, marina, friend, or relative. It is advisable to use a checking-in procedure by telephone for each point specified in the cruising plan. Such a trip schedule is vital for determining if a boat is overdue and will assist materially in locating a missing craft in the event search and rescue operations become necessary.

DISTRESS: ASSISTANCE PROCEDURES

Surface ship procedures for assisting distressed surface vessels

(215) (1) The following immediate action should be taken by each ship on receipt of a distress message:

(216) (a) Acknowledge receipt and, if appropriate, retransmit the distress message;

(217) (b) Immediately try to take D/F bearings during the transmission of the distress message and maintain a D/F watch on 2182 kHz;

(218) (c) Communicate the following information to the ship in distress:

(219) (i) identity;

(220) (ii) position;

(221) (iii) speed and estimated time of arrival (ETA);

(222) (iv) when available, true bearing of the ship in distress.

(223) (d) Maintain a continuous listening watch on the frequency used for the distress. This will normally be:

(224) (i) 2182 kHz (radiotelephone).

(225) (e) Additionally, maintain watch on VHF-FM channel 16 as necessary;

(226) (f) Operate radar continuously;

(227) (g) If in the vicinity of the distress, post extra lookouts.

(228) (2) The following action should be taken when proceeding to the area of distress:

(229) (a) Plot the position, course, speed, and ETA of other assisting ships.

(230) (b) Know the communication equipment with which other ships are fitted. This information may be obtained from the International Telecommunication Union's List of Ship Stations.

(231) (c) Attempt to construct an accurate "picture" of the circumstances attending the casualty. The important information needed is included under Distress Signals and Communication Procedures, this chapter. Should the ship in distress fail to transmit this information, a ship proceeding to assist should request what information is needed.

(232) (3) The following on-board preparation while proceeding to the distress area should be considered:

(233) (a) A rope (guest warp) running from bow to quarter at the waterline on each side and secured by lizards to the ship's side to assist boats and rafts to secure alongside;

(234) (b) A derrick rigged ready for hoisting on each side of the ship with a platform cargo sling, or rope net, secured to the runner to assist the speedy recovery of exhausted or injured survivors in the water;

(235) (c) Heaving lines, ladders, and scramble net placed ready for use along both sides of the ship on the lowest open deck and possibly crew members suitably equipped to enter the water and assist survivors;

(236) (d) A ship's liferaft made ready for possible use as a boarding station;

(237) (e) Preparations to receive survivors who require medical assistance including the provision of stretchers;

(238) (f) When own lifeboat is to be launched, any means to provide communications between it and the parent ship will prove to be of very great help;

(239) (g) A line throwing appliance with a light line and a heavy rope, ready to be used for making connection either with the ship in distress or with survival craft.

Aircraft procedures for directing surface craft to scene of distress incident

(240) The following procedures performed in sequence by an aircraft mean that the aircraft is directing a surface craft toward the scene of a distress incident,

(241) (a) Circling the surface craft at least once.

(242) (b) Crossing the projected course of the surface craft close ahead at low altitude, rocking the wings, opening and closing the throttle, or changing the propeller pitch.

(243) (c) Heading in the direction in which the surface craft is to be directed. The surface craft should acknowledge the signal by changing course and following the aircraft. If, for any reason, it is impossible to follow, the surface craft should hoist the international code flag NOVEMBER, or use any other signaling means available to indicate this.

(244) The following procedures performed by an aircraft mean that the assistance of the surface craft is no longer required:

(245) (a) Crossing the wake of the surface craft close astern at a low altitude, rocking the wings, opening and closing the throttle or changing the propeller pitch.

(246) Since modern jet-engined aircraft cannot make the characteristic sound associated with opening and closing the throttle, or changing propeller pitch, ships should be alert to respond to the signals without the sounds, when jets or turboprop aircraft are involved.

Surface ship procedures for assisting aircraft in distress

(247) 1. When an aircraft transmits a distress message by radio, the first transmission is generally made on the designated air/ground enroute frequency in use at the time between the aircraft and aeronautical station. The aircraft may change to another frequency, possibly another enroute frequency or the aeronautical emergency frequencies of 121.50 MHz or 243 MHz. In an emergency, it may use any other available frequency to establish contact with any land, mobile, or direction-finding station.

(248) 2. There is liaison between Coast Radio Stations aeronautical units, and land–based search and rescue organizations. Merchant ships will ordinarily be informed of aircraft casualties at sea by broadcast messages from Coast Radio Stations, made on the international distress frequency of 2182 kHz. Ships may, however, become aware of the casualty by receiving:

(249) (a) An SOS message from an aircraft in distress which is able to transmit on radiotelephone on 2182 kHz.

(250) (b) A message from a SAR aircraft.

(251) 3. For the purpose of emergency communications with aircraft, special attention is called to the possibility of conducting direct communications on 2182 kHz, if both ship and aircraft are so equipped.

(252) 4. An aircraft in distress will use any means at its disposal to attract attention, make known its position, and obtain help, including some of the signals prescribed by the applicable Navigation Rules.

(253) 5. Aircraft usually sink quickly (e.g. within a few minutes). Every endeavor will be made to give ships an accurate position of an aircraft which desires to ditch. When given such a position, a ship should at once consult any other ships in the vicinity on the best procedure to be adopted. The ship going to the rescue should answer the station sending the broadcast and give her identity, position, and intended action.

(254) 6. If a ship should receive a distress message direct from an aircraft, she should act as indicated in the immediately preceding paragraph and also relay the message to the nearest Coast Radio Station. Moreover, a ship which has received a distress message direct from an aircraft and is going to the rescue should take a bearing on the transmission and inform the Coast Radio Station and other ships in the vicinity of the call sign of the distressed aircraft and the time at which the distress message was received, followed by the bearing and time at which the signal ceased.

(255) 7. When an aircraft decides to ditch in the vicinity of a ship, the ship should:

(256) (a) Transmit homing bearings to the aircraft, or (if so required) transmit signals enabling the aircraft to take its own bearings.

(257) (b) By day, make black smoke.

(258) (c) By night, direct a searchlight vertically and turn on all deck lights. Care must be taken not to direct a searchlight toward the aircraft, which might dazzle the pilot.

(259) 8. Ditching an aircraft is difficult and dangerous. A ship which knows that an aircraft intends to ditch should be prepared to give the pilot the following information:

(260) (a) Wind direction and force.

(261) (b) Direction, height, and length of primary and secondary swell systems.

(262) (c) Other pertinent weather information.

(263) The pilot of an aircraft will choose his own ditching heading. If this is known by the ship, she should set course parallel to the ditching heading. Otherwise the ship should set course parallel to the main swell system and into the wind component, if any.

(264) 9. A land plane may break up immediately on striking the water, and liferafts may be damaged. The ship should, therefore, have a lifeboat ready for launching, and if possible, boarding nets should be lowered from the ship and heaving lines made ready in the ship and the lifeboat. Survivors of the aircraft may have bright colored lifejackets and location aids.

(265) 10. The method of recovering survivors must be left to the judgment of the master of the ship carrying out the rescue operation.

(266) 11. It should be borne in mind that military aircraft are often fitted with ejection seat mechanisms. Normally, their aircrew will use their ejection seats, rather than ditch. Should such an aircraft ditch, rather than the aircrew bail out, and it becomes necessary to remove them from their ejection seats while still in the aircraft, care should be taken to avoid triggering off the seat mechanisms. The activating handles are invariably indicated by red and or black/yellow coloring.

(267) 12. A survivor from an aircraft casualty who is recovered may be able to give information which will assist in the rescue of other survivors. Masters are therefore asked to put the following questions to survivors and to communicate the answers to a Coast Radio Station. They should also give the position of the rescuing ship and the time when the survivors were recovered.

(268) (a) What was the time and date of the casualty?

(269) (b) Did you bail out or was the aircraft ditched?

(270) (c) If you bailed out, at what altitude?

(271) (d) How many others did you see leave the aircraft by parachute?

(272) (e) How many ditched with the aircraft?

(273) (f) How many did you see leave the aircraft after ditching?

(274) (g) How many survivors did you see in the water?

(275) (h) What flotation gear had they?

(276) (i) What was the total number of persons aboard the aircraft prior to the accident?

(277) (j) What caused the emergency?

Helicopter evacuation of personnel

(278) Helicopter evacuation, usually performed by the Coast Guard, is a hazardous operation to the patient and to the flight crew, and should only be attempted in event of very serious illness or injury. Provide the doctor on

shore with all the information you can concerning the patient, so that an intelligent evaluation can be made concerning the need for evacuation. Most rescue helicopters can proceed less than 150 miles offshore (a few new helicopters can travel 250 to 300 miles out to sea), dependent on weather conditions and other variables. If an evacuation is necessary, the vessel must be prepared to proceed within range of the helicopter, and should be familiar with the preparations which are necessary prior to and after its arrival.

(279) **When requesting helicopter assistance:**

(280) (1) Give the accurate position, time, speed, course, weather conditions, sea conditions, wind direction and velocity, type of vessel, and voice and CW frequency for your ship.

(281) (2) If not already provided, give complete medical information including whether or not the patient is ambulatory.

(282) (3) If you are beyond helicopter range, advise your diversion intentions so that a rendezvous point may be selected.

(283) (4) If there are changes to any items reported earlier, advise the rescue agency immediately. Should the patient die before the arrival of the helicopter, be sure to advise those assisting you.

(284) **Preparations prior to the arrival of the helicopter:**

(285) (1) Provide continuous radio guard on 2182 kHz or specified voice frequency, if possible. The helicopter normally cannot operate CW.

(286) (2) Select and clear the most suitable hoist area, preferably aft on the vessel with a minimum of 50 feet (15.2 meters) radius of clear deck. This must include the securing of loose gear, awnings, and antenna wires. Trice up running rigging and booms. If hoist is aft, lower the flag staff.

(287) (3) If the hoist is to take place at night, light the pickup areas as well as possible. Be sure you do not shine any lights on the helicopter, so that the pilot is not blinded. If there are any obstructions in the vicinity, put a light on them so the pilot will be aware of their positions.

(288) (4) Point searchlight vertically to aid the flight crew in locating the ship and turn them off when the helicopter is on the scene.

(289) (5) Be sure to advise the helicopter of the location of the pickup area on the ship before the helicopter arrives, so that the pilot may make his approach to aft, amidships, or forward, as required.

(290) (6) There will be a high noise level under the helicopter, so voice communications on deck are almost impossible. Arrange a set of hand signals among the crew who will assist.

(291) **Hoist operations:**

(292) (1) If possible, have the patient moved to a position as close to the hoist area as his condition will permit–**time is important.**

(293) (2) Normally, if a litter (stretcher) is required, it will be necessary to move the patient to the special litter which will be lowered by the helicopter. Be prepared to do this as quickly as possible. Be sure the patient is strapped in, face up, and with a life jacket on (if his condition will permit).

(294) (3) Be sure that the patient is tagged to indicate what medication, if any, was administered to him and when it was administered.

(295) (4) Have patient's medical record and necessary papers in an envelope or package ready for transfer with the patient.

(296) (5) Again, if the patient's condition permits, be sure he is wearing a life jacket.

(297) (6) Change the vessel's course to permit the ship to ride as easily as possible with the wind on the bow, preferably on the port bow. Try to choose a course to keep the stack gases clear of the hoist area. Once established, maintain course and speed.

(298) (7) Reduce speed to ease ship's motion, but maintain steerageway.

(299) (8) If you do not have radio contact with the helicopter, when you are in all respects ready for the hoist, signal the helicopter in with a "come on" with your hand, or at night by flashlight signals.

(300) (9) **Allow basket or stretcher to touch deck prior to handling to avoid static shock.**

(301) (10) If a trail line is dropped by the helicopter, guide the basket or stretcher to the deck with the line; keep the line free at all times. This line will not cause shock.

(302) (11) Place the patient in basket, sitting with his hands clear of the sides, or in the litter, as described above. Signal the helicopter hoist operator when ready for the hoist. Patient should signal by a nodding of the head if he is able. Deck personnel give thumbs up.

(303) (12) If it is necessary to take the litter away from the hoist point, unhook the hoist cable and keep it free for the helicopter to haul in. **Do not secure cable or trail line to the vessel or attempt to move stretcher without unhooking.**

(304) (13) When patient is strapped into the stretcher, signal the helicopter to lower the cable, attach cable to stretcher sling (bridle), then signal the hoist operator when the patient is ready to hoist. Steady the stretcher so it will not swing or turn.

(305) (14) If a trail line is attached to the basket or stretcher, use it to steady the patient as he is hoisted. Keep your feet clear of the line, and keep the line from becoming entangled.

Medical advice and/or evacuation

(306) In the event a master of a vessel requires medical advice and/or there is a potential of evacuation the following should be volunteered by the master:

(307) Vessel's name and call sign.

(308) Vessel's position and time at position.

(309) Vessel's course, speed and next port and estimated time of arrival (ETA).

(310) Patient's name, nationality, age, race and sex.

(311) Patient's respiration, pulse and temperature.

(312) Patient's symptoms and nature of illness.

(313) Any known history of similar illness.

(314) Location and type of pain.

(315) Medical supplies carried on board vessel.

(316) Medication given to patient.

(317) Weather.

(318) Communication schedule and frequency.

Coast Guard droppable, floatable pumps

(319) The Coast Guard often provides vessels in distress with emergency pumps by either making parachute drops, by lowering on helicopter hoist, or by delivering by vessel. The most commonly used type of pump comes complete in a sealed aluminum drum about half the size of a 50-gallon oil drum. One single lever on top opens it up. Smoking is cautioned against due to the possible presence of gas fumes inside the can. The pump will draw about 90 gallons per minute. There should be a waterproof flashlight on top of the pump for night use. Operating instructions are provided inside the pump container.

(320) **Preparations for being towed by Coast Guard:**

(321) (1) Clear the forecastle area as well as you can.

(322) (2) If a line-throwing gun is used, keep everyone out of the way until line clears the boat. The Coast Guard vessel will blow a police whistle or otherwise warn you before firing.

(323) (3) Have material ready for chafing gear.

Medical advice

(324) Free medical advice is furnished to seamen by radio through the cooperation of Governmental and commercial radio stations whose operators receive and relay messages prefixed **RADIOMEDICAL** from ships at sea to the U.S. Coast Guard and/or directly to a hospital and then radio the medical advice back to the ships. (See Appendix A for list of radio stations that provide this service.)

EMERGENCY POSITION INDICATING RADIOBEACONS (EPIRB)

(325) Emergency Position Indicating Radiobeacons (EPIRBs), are designed to save your life if you get into trouble by alerting rescue authorities and indicating your location. EPIRB types are described in the accompanying table.

EPIRB Types

Type	Frequency	Description
Cat I	406/121.5 MHz	Float-free, automatically activated EPIRB. Detectable by satellite anywhere in the world. Recognized by the Global Maritime and Distress Safety System (GMDSS).
Cat II	406/121.5 MHz	Similar to Category I, except is manually activated. (Some models are also water activated).

(326) **406 MHz EPIRBs (Category I, II):** The 406 MHz EPIRB was designed to operate with satellites. The signal frequency (406 MHz) has been designated internationally to be used only for distress. Other communications and interference are not allowed on this frequency. Its signal allows a satellite local user terminal to accurately locate the EPIRB and identify the vessel (the signal is encoded with the vessel's identity) anywhere in the world (there is no range limitation). These devices are detectable not only by COSPAS-SARSAT satellites which are polar orbiting, but also by geostationary GOES weather satellites. EPIRBs detected by the GEOSAR system, consisting of GOES and other geostationary satellites, send rescue authorities an instant alert, but without location information unless the EPIRB is equipped with an integral GPS receiver. EPIRBs detected by COSPAS-SARSAT (e.g. TIROS N) satellites provide rescue authorities location of distress, but location and sometimes alerting may be delayed as much as an hour or two. These EPIRBs also include a 121.5 MHz homing signal, allowing aircraft and rescue craft to quickly find the vessel in distress. These are the only type of EPIRB which must be certified by Coast Guard approved independent laboratories before they can be sold in the United States.

(327) A new type of 406 MHz EPIRB, having an integral GPS navigation receiver, became available in 1998. This EPIRB will send accurate location as well as identification information to rescue authorities immediately upon activation through both geostationary (GEOSAR) and polar orbiting satellites. These types of EPIRB are the best you can buy.

(328) 406 MHz emergency locating transmitters (ELTs) for aircraft are currently available and 406 MHz personnel locating beacons (PLBs) are also available.

(329) The Coast Guard recommends you purchase a 406 MHz EPIRB, preferably one with an integral GPS navigation receiver. A Cat I EPIRB should be purchased if it can be installed properly.

(330) Proper registration of your 406 MHz EPIRB is intended to save your life, and is mandated by Federal Communications Commission regulations; the Coast Guard is enforcing this FCC registration rule.

(331) If you purchase a new or a used 406 MHz EPIRB, you MUST register it with NOAA. If you change your boat, your address, or your primary phone number, you MUST re-register your EPIRB with NOAA. If you sell your EPIRB, make sure the purchaser re-registers the EPIRB, or you may be called by the Coast Guard if it later becomes activated. An FCC ship station license is no longer required to purchase or carry an EPIRB. Download or request 406 MHz EPIRB registration forms from www.sarsat.noaa.gov/beacon.html, and mail or fax completed forms to:

(332) Beacon Registration
(333) NOAA/NESDIS
(334) NSOF, E/SP3
(335) 4231 Suitland Road
(336) Suitland, MD 20746
(337) (fax: 301-817-4565)
(338) or call toll free at **1-888-212-SAVE** (1-888-212-7283) for further information or a copy of the registration form. From outside the U.S., call: 1-301-457-5430 or fax: 301-568-8649 for further information. Forms may be requested by phone or fax, or downloaded by computer (above). There is no charge for this service. IT MAY SAVE YOUR LIFE.

The COSPAS-SARSAT system

(339) COSPAS: Space System for Search of Distress Vessels (a Russian acronym); SARSAT: Search and Rescue Satellite-Aided Tracking. COSPAS-SARSAT is an international satellite system designed to provide distress alert and location data to assist search and rescue (SAR) operations, using satellites and ground facilities to detect and locate the signals of distress beacons operating on 121.5 and 406 MHz (Megahertz). The system provides distress alert and location data to Rescue Coordination Centers for 121.5 MHz beacons within the coverage area of ground stations (Local User Terminals–LUTs), and for 406 MHz beacons activated anywhere in the world. The goal of the system is to support all organizations in the world with responsibility for SAR operations.

Testing EPIRBs

(340) The Coast Guard urges those owning EPIRBs to periodically examine them for water tightness, battery expiration date and signal presence. FCC rules allow Class A, B, and S EPIRBs to be turned on briefly (for three audio sweeps, or one second only) during the first five minutes of each hour. Signal presence can be detected by an FM radio tuned to 99.5 MHz, or an AM radio tuned to any vacant frequency and located close to an EPIRB. 406 MHz EPIRBs can be tested through its self-test function, which is an integral part of the device.

(341) **Radar beacons (Racons)** are low-powered radio transceivers that operate in the marine radar X-band frequencies. When activated by a vessel's radar signal, **Racons** provide a distinctive visible display on the vessel's radarscope from which the range and bearing to the beacon may be determined. (See Light List and NGA Pub. 117 for details.)

RADIO: NAVIGATION WARNINGS, INFORMATION AND WEATHER

(342) Marine radio warnings and weather are disseminated by many sources and through several types of transmissions. Morse code radiotelegraph broadcasts of navigational warnings and other advisories are not described, since these transmissions are normally copied only by professional radio operators. U.S. Coast Guard NAVTEX, high-frequency (HF) narrow-band direct printing (radio telex), HF radiofacsimile, and radiotelephone broadcasts of maritime safety information are summarized here. (For complete information on radio warnings and weather see NGA Pub. 117 and the joint National Weather Service/Navy publication **Selected Worldwide Marine Weather Broadcasts**.)

Coast Guard radio stations

(343) Coast Guard radio stations provide urgent, safety, and scheduled marine information broadcasts with virtually complete coverage of the approaches and coastal waters of the United States, Puerto Rico, and the U.S. Virgin Islands.

(344) **Urgent and safety radiotelephone broadcasts** of important Notice to Mariners items, storm warnings, and other vital marine information are transmitted upon receipt, and urgent broadcasts are repeated 15 minutes later; additional broadcasts are made at the discretion of the originator. **Urgent** broadcasts are preceded by the urgent signal PAN-PAN (PAHN-PAHN, spoken three times). **Both the urgent signal and message are transmitted on 2182 kHz and/or VHF-FM channel 16. Safety** broadcasts are preceded by the

Areas of Coverage for the Cospas-Sarsat Low-altitude Earth Orbit System for Search and Rescue (LEOSAR)

1	Ouargla, Algeria	15	Hong Kong, China	29	Callao, Peru
2	Parana, Argentina	16	Toulouse, France	30	Arkhangelsk, Russia
3	Rio Grande, Argentina	17	Bangalore, India	31	Nakhodka, Russia
4	Albany, Australia	18	Lucknow, India	32	Jeddah, Saudi Arabia
5	Bundaberg, Australia	19	Jakarta, Indonesia	33	Singapore
6	Brasilia, Brazil	20	Bari, Italy	34	Cape Town, South Africa
7	Recife, Brazil	21	Keelung, ITDC	35	Maspalomas, Spain
8	Churchill, Canada	22	Yokohama, Japan	36	Bangkok, Thailand
9	Edmonton, Canada	23	Daejeon, Korea	37	Combe Martin, UK
10	Goose Bay, Canada	24	Wellington, New Zealand	38	Alaska, USA
11	Easter Island, Chile	25	Abuja, Nigeria	39	California, USA
12	Punta Arenas, Chile	26	Tromsoe, Norway	40	Florida, USA
12	Santiago, Chile	27	Spitsbergen, Norway	41	Guam
14	Beijing, China	28	Lahore, Pakistan	42	Hawaii, USA
				43	Haiphong, Vietnam

safety signal SECURITY (SAY-CURITAY, spoken three times). **The Safety signal is given on 2182 kHz and/or VHF-FM channel 16, and the message is given on 2670 kHz and/or VHF-FM channel 22A.**

(345) Scheduled radiotelephone broadcasts include routine weather, small-craft advisories, storm warnings, navigational information, and other advisories. Short-range broadcasts are made on **2670 kHz** and/or **VHF-FM channel 22A,** following a preliminary call on **2182 kHz** and/or **VHF-FM channel 16.** (See Appendix A for a list of stations and their broadcast frequencies and times for the area covered by this Coast Pilot.)

(346) Weather information is not normally broadcast by the Coast Guard on VHF-FM channel 22A in areas where NOAA Weather Radio service is available. See note below regarding VHF-FM channel 22A.

(347) HF single-sideband broadcasts of high seas weather information is available on the (carrier) frequencies 4428.7, 6506.4, 8765.4, 13113.2, and 17307.3 kHz from Portsmouth, VA and San Francisco, CA.

(348) Narrow-band direct printing (radio telex or sitor) broadcasts of NAVAREA and other navigational warnings are transmitted on the following assigned frequencies:

(349) Atlantic ice reports: 5320, 8502, and 12750 kHz.

(350) Other Atlantic warnings: 8490, 16968.8 kHz.

(351) Pacific: 8710.5, 8714.5, 8718, 13077, 13084.5, 17203, 22567, and 22574.5 kHz.

(352) HF radiofacsimile broadcasts of weather and ice charts are made on the following frequencies:

(353) Atlantic: 3242, 7530, 8502 (ice only), 12750 (ice only) kHz.

(354) Pacific: 4298 (Kodiak), 4336, 8459 (Kodiak), 8682, 12730, 17151.2 kHz.

National Standard Abbreviations for Broadcasts

(355) A listing of Standard Abbreviations for Textual Maritime Safety Broadcasts is contained in Appendix B. These abbreviations were jointly approved by the U.S. Coast Guard, National Weather Service, National Geospatial-Intelligence Agency, and the Radio Technical Commission for Maritime Services. In addition to appearing in radio broadcasts of the U.S. Coast Guard and National Weather Service, they appear in Notices to Mariners of the U.S. Coast Guard and National Geospatial-Intelligence Agency, and in NAVTEX.

Coast Guard VHF-FM Channel 22A Broadcast Warnings

(356) The Coast Guard broadcasts urgent and routine maritime safety information to ships on channel 22A (157.10 MHz), the ship station transmit frequency portion of channel 22, of Appendix 18 of the International Telecommunications Union (ITU) Radio Regulations. This simplex use of channel 22A is not compatible with the international duplex arrangement of the channel (coast transmit 161.70 MHz, ship transmit 157.10 MHz). As a result, many foreign flag vessels having radios tuned to the international channel 22 can not receive these maritime safety broadcasts. A 1987 Coast Guard survey of foreign vessels in U.S. waters indicated that half of foreign vessels in U.S. waters did not have equipment on board capable of receiving channel 22A broadcasts.

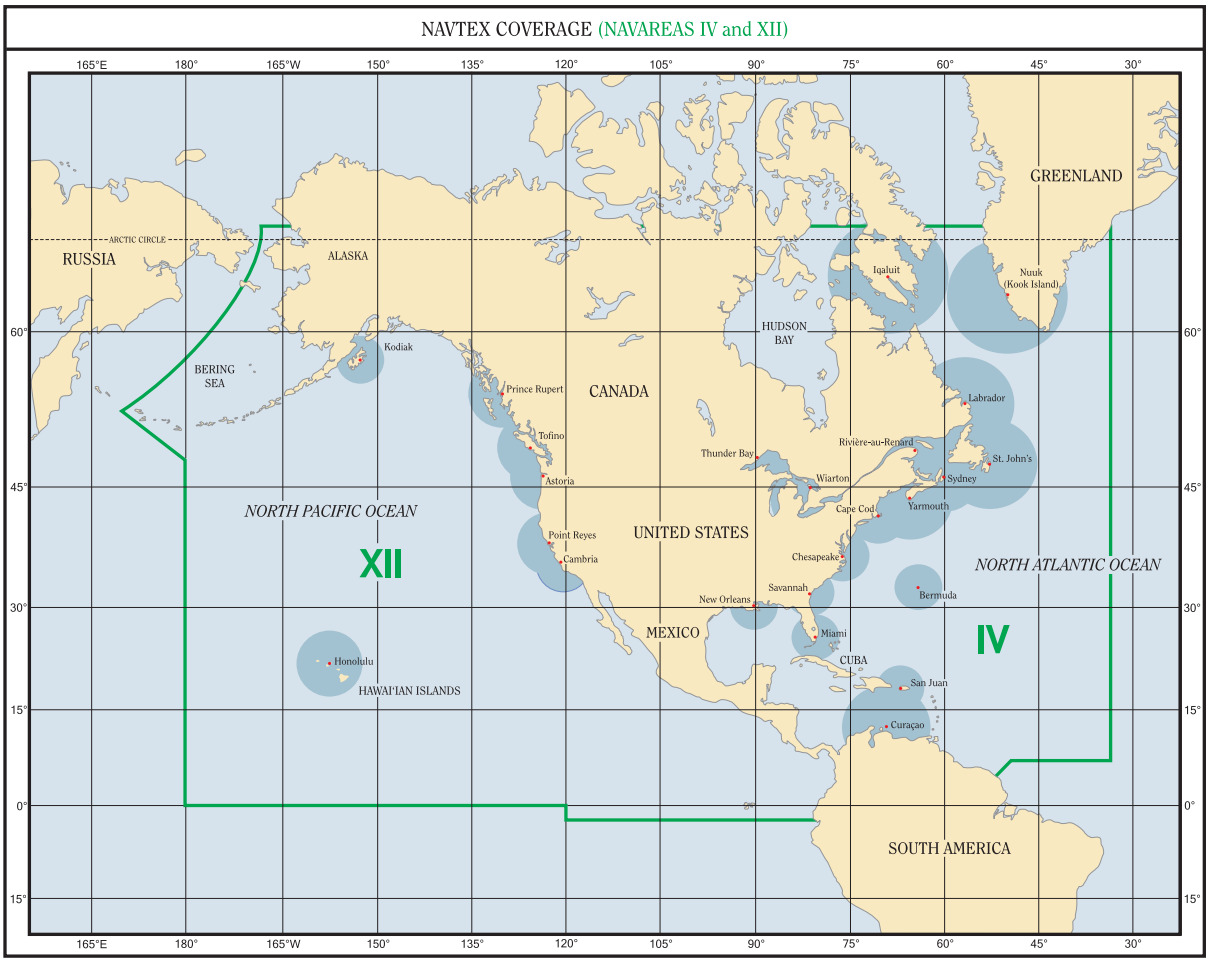
(357) Operators of vessels which transit U.S. waters and who do not have VHF-FM radios tunable to USA channel 22A are urged to either obtain the necessary equipment, to monitor the radiotelephone frequency 2182 kHz and tune to 2670 kHz when a broadcast is announced, or to carry a NAVTEX receiver.

NAVTEX Marine Information Broadcasts

(358) NAVTEX is a maritime radio warning system consisting of a series of coast stations transmitting radio teletype (CCIR Recommendation 476 standard narrow band direct printing, sometimes called Sitor or ARQ/FEC) safety messages on the international standard medium frequency 518 kHz. Coast stations transmit during preset time slots so as to minimize interference with one another. Routine messages are normally broadcast four to six times daily. Urgent messages are broadcast upon receipt, provided that an adjacent station is not transmitting. Since the broadcast uses the medium frequency band, a typical station service radius ranges from 100-500 NM day and night. Interference from or receipt of stations farther away occasionally occurs at night.

(359) Each NAVTEX message broadcast contains a four-character header describing identification of station (first character), message content (second character), and message serial number (third and fourth characters). This header allows the microprocessor in the shipborne receiver to screen messages, selecting only those stations relevant to the user, messages of subject categories needed by the user, and messages not previously received by the user. Selected messages are printed on a roll of paper as received, to be read by the mariner at his convenience. Unwanted messages are suppressed. Suppression of unwanted messages is more and more important to the mariner as the number of messages, including rebroadcasts, increases yearly. With NAVTEX, a mariner will no longer find it necessary to listen to, or sift through, a large number of irrelevant data to obtain the information necessary for safe navigation.

(360) Vessels regulated by the Safety of Life at Sea (SOLAS) Convention, as amended in 1988 (cargo vessels over 300 tons and passenger vessels, on international



voyages), and operating in areas where NAVTEX service is available, have been required to carry NAVTEX receivers since 1 August 1993. The USCG discontinued broadcasts of safety information over MF Morse frequencies on that date.

(361) The USCG voice broadcasts (Ch. 22A), often of more inshore and harbor information, will remain unaffected by NAVTEX. With NAVTEX, mariners who do not have the knowledge of Morse code necessary to receive safety messages, or who have difficulty receiving them on a timely basis, should find a significant advantage in owning a NAVTEX receiver. Mariners not able to man a radio on a 24-hour basis in order to hear critical warning messages (e.g. commercial fishermen) should also find a significant advantage in owning a NAVTEX receiver.

(362) See Appendix A, U.S. NAVTEX Transmitting Stations, for a list of NAVTEX broadcast stations (Atlantic and Pacific Oceans) and message content.

NOAA Weather Radio

(363) NOAA Weather Radio provides continuous broadcasts of the latest weather information directly from NWS offices. In addition to general weather information, marine weather is provided by stations along the sea coasts and the Great Lakes. During severe weather, NWS forecasters can interrupt the regular broadcasts and substitute special warning messages. The forecasters can also activate specially designed warning receivers. These receivers either sound an alarm alerting the listener to the forthcoming broadcast or, when operated in a muted mode, automatically turn on so that the warning message is heard.

(364) NOAA Weather Radio taped messages are repeated every 4 to 6 minutes and are routinely revised every 1 to 3 hours, or more frequently if necessary. The stations operate 24 hours daily. The broadcasts are made on seven **VHF-FM frequencies, 162.40, to 162.55 MHz. The 162.475 MHz frequency** is only used in special cases where needed to avoid channel interference. A number of manufacturers offer special weather radios

to operate on these frequencies, with or without emergency warning alarm, and many AM/FM radios on the market now offer the "weather band" as an added feature. The broadcasts can usually be heard as far as 40 miles from the antenna site, sometimes more. The effective range depends on many factors, including the height of the broadcast antenna, terrain, quality of the receiver, and the type of receiving antenna. As a general rule, listeners close to or perhaps beyond the 40 mile range should have a good quality receiver system to get reliable reception. (See Appendix A for a list of these stations in the area covered by this Coast Pilot.)

Marine Weather Services Charts (MSC)

(365) Marine Weather Services Charts (MSC), published by the National Weather Service, list frequencies and schedules of broadcasts of stations giving weather forecasts and warnings. The charts are available from FAA, National Aeronautical Charting Office, AVN-530. (See Appendix A for address.)

Commercial radiotelephone coast stations

(366) Broadcasts of coastal weather and warnings are made by some commercial radiotelephone coast stations (marine operators) on the normal transmitting frequencies of the stations. Vessels with suitable receivers and desiring this service may determine the frequencies and schedules of these broadcasts from their local stations, from Selected Worldwide Marine Weather Broadcasts, or from the series of Marine Weather Services Charts published by NWS.

Local broadcast-band radio stations

(367) Many local radio stations in the standard AM and FM broadcast band give local marine weather forecasts from NWS on a regular schedule. These stations are listed on the series of Marine Weather Services Charts published by NWS.

Reports from ships

(368) The master of every U.S. ship equipped with radio transmitting apparatus, on meeting with a tropical cyclone, dangerous ice, subfreezing air temperatures with gale force winds causing severe ice accretion on superstructures, derelict, or any other direct danger to navigation, is required to cause to be transmitted a report of these dangers to ships in the vicinity and to the appropriate Government agencies.

(369) During the West Indies hurricane season, June 1 to November 30, ships in the Gulf of Mexico, Caribbean Sea area, southern North Atlantic Ocean, and the Pacific waters west of Central America and Mexico are urged to cooperate with NWS in furnishing these special reports in order that warnings to shipping and coastal areas may be issued.

Time Signals

(370) The **National Institute of Standards and Technology (NIST)** broadcasts time signals continuously, day and night, from its radio stations **WWV,** near Fort Collins, Colorado, (40°49'49"N., 105°02'27"W.) on frequencies of 2.5, 5, 10, 15, and 20 MHz, and **WWVH,** Kekaha, Kauai, Hawaii (21°59'26"N., 159°46'00"W.) on frequencies 2.5, 5, 10, and 15 MHz. Services include time announcements, standard time intervals, standard audio frequencies, Omega Navigation System status reports, geophysical alerts, BCD (binary coded decimal) time code, UT1 time corrections, and high seas storm information.

(371) Time announcements are made every minute, commencing at 15 seconds before the minute by a female voice and at 7½ seconds before the minute by a male voice, from WWVH and WWV, respectively. The time given is in Coordinated Universal Time (UTC) and referred to the time at Greenwich, England, i.e., Greenwich Mean Time.

(372) **NIST Time and Frequency Dissemination Services, Special Publication 432**, gives a detailed description of the time and frequency dissemination services of the **National Institute of Standards and Technology.** Single copies may be obtained upon request from the National Institute of Standards and Technology, Time and Frequency Division, Boulder, CO 80303. Quantities may be obtained from the Government Printing Office (see Appendix A for address).

CAUTIONARY INFORMATION

Destructive Waves

(373) Unusual sudden changes in water level can be caused by tsunamis or violent storms. These two types of destructive waves have become commonly known as **tidal waves,** a name which is technically incorrect as they are not the result of tide-producing forces.

(374) **Tsunamis (seismic sea waves)** are caused by sea-bottom earthquakes. Many such seismic disturbances do not produce sea waves and others produce small sea waves, but the occasional large waves can be very damaging to shore installations and dangerous to ships in harbors.

(375) These waves travel great distances and can cause tremendous damage on coasts far from their source. The wave of April 1, 1946, which originated in the Aleutian Trench, demolished nearby Scotch Cap Lighthouse and caused damages of 25 million dollars in the Hawaiian Islands 2,000 miles away. The wave of May

22-23, 1960, which originated off Southern Chile, caused widespread death and destruction in islands and countries throughout the Pacific. A more recent tsunami, the result of a December 26, 2004 earthquake off the island of Sumatra, Indonesia, caused widespread damage throughout the Indian Ocean. Damage was heavy as far away as the east coast of Africa. It caused over 200,000 deaths (as far away as South Africa) and 13 billion dollars worth of damage

(376) The speed of tsunamis varies with the depth of the water, reaching 300 to 500 knots in the deep water of the open ocean. In the open sea they cannot be detected from a ship or from the air because their length is so great, sometimes a hundred miles, as compared to their height, which is usually only a few feet (a meter or 2). The waves only build to disastrous proportions when they approach shore.

(377) There are usually a series of waves with crests 10 to 40 minutes apart, and the highest may occur several hours after the first wave. Sometimes the first noticeable part of the wave is the trough which causes a recession of the water from shore, and people who have gone out to investigate this unusual exposure of the beach have been engulfed by the oncoming crest. Such an unexplained withdrawal of the sea should be considered as nature's warning of an approaching wave.

(378) Improvements have been made in the quick determination and reporting of earthquake epicenters, but no method has yet been perfected for determining whether a sea wave will result from a given earthquake. NOAA's Pacific Tsunami Warning Center in Hawaii has deployed a warning system which has field reporting stations (seismic and tidal) in most countries around the Pacific. When a warning is broadcast, waterfront areas should be vacated for higher ground, and ships in the vicinity of land should head for the deep water of the open sea.

Storm surge

(379) A considerable rise or fall in the level of the sea along a particular coast may result from strong winds and sharp change in barometric pressure. In cases where the water level is raised, higher waves can form with greater depth and the combination can be destructive to low regions, particularly at high stages of tide. Extreme low levels can result in depths which are considerably less than those shown on nautical charts. This type of wave occurs especially in coastal regions bordering on shallow waters which are subject to tropical storms.

(380) **Seiche** is a stationary vertical wave oscillation with a period varying from a few minutes to an hour or more, but somewhat less than the tidal periods. It is usually attributed to external forces such as strong winds, changes in barometric pressure, swells, or tsunamis disturbing the equilibrium of the water surface. Seiche is found both in enclosed bodies of water and superimposed upon the tides of the open ocean. When the external forces cause a short-period horizontal oscillation on the water, it is called **surge**.

(381) The combined effect of seiche and surge sometimes makes it difficult to maintain a ship in its position alongside a pier even though the water may appear to be completely undisturbed, and heavy mooring lines have been parted repeatedly under such conditions. Pilots advise taut lines to reduce the effect of the surge.

Immersion Hypothermia

(382) Immersion hypothermia is the loss of heat when a body is immersed in water. With few exceptions, humans die if their core temperature of approximately 99.7° F drops below 78.6° F. Cardiac arrest is the most common direct cause of death. During prolonged immersion, the main threat to life is cold or cold and drowning combined.

(383) The length of time that a human survives in water depends on the water temperature, and to a lesser extent, on the person's behavior and body type. The table below shows approximate human survival time in the sea. Body type can cause deviations, as small people become hypothermic more rapidly than large people. The cooling rate can be slowed by the person's behavior and insulated gear. The Heat Escape Lessening Posture (HELP) was developed for those in the water alone and the Huddle for small groups. Both require a PFD (personal flotation device), or life preserver. HELP involves holding the arms close to the body, keeping the thighs together, and raising the knees to protect the groin area. In the Huddle, people face each other and keep their bodies as close together as possible. These positions improve survival time to approximately two times that of a swimmer and one and a half times that of a person in the passive position.

(384) Near-drowning victims in cold water (less than 70° F) are revivable for much longer periods than usual. Keys to a successful revival are immediate cardiopulmonary resuscitation (CPR) and administration of pure oxygen. Total re-warming is not necessary at first. The whole revival process may take hours and require medical help.

Survival Time Versus Water Temperature

Water Temperature	Exhaustion or Unconsciousness	Expected Time of Survival
32°F	15 min.	15–45 min.
32°–41°F	15–30 min.	30–90 min.
41°–50°F	30–60 min.	1–3 hrs.

Survival Time Versus Water Temperature

Water Temperature	Exhaustion or Unconsciousness	Expected Time of Survival
50°–59°F	1–2 hrs.	1–6 hrs.
59°–68°F	2–7 hrs.	2–40 hrs.
68°–77°F	3–12 hrs.	3 hrs–indef.
77°F and above	indefinite	indefinite

Wind Chill and Frostbite

(385) When the body is warmer than its surroundings, it begins to lose heat. The rate of loss depends on barriers such as clothing and insulation, the speed of air movement and air temperature. Heat loss increases dramatically in moving air that is colder than skin temperature (91.4° F). Even a light wind increases heat loss, and a strong wind can lower the body temperature if the rate of loss is greater than the body's heat replacement rate.

(386) When skin temperature drops below 50° F, there is a marked constriction of blood vessels, leading to vascular stagnation, oxygen want and cellular damage. The first indication that something is wrong is a painful tingling. Swelling of varying extent follows, provided freezing has not occurred. Excruciating pain may be felt if the skin temperature is lowered rapidly, but freezing of localized portions of the skin may be painless when the rate of change is slow. Possible effects of cold include cold allergy (welts), chilblains, which appear as reddened, warm, itching, swollen patches on the fingers and toes, and trench foot and immersion foot, which present essentially the same picture. Both result from exposure to cold and lack of circulation. Wetness can add to the problem as water and wind soften the tissues and accelerate heat loss.

(387) Frostbite usually begins when the skin temperature falls within the range of 14° to 4° F. Ice crystals form in the tissues and small blood vessels. The rate of heat loss determines the rate of freezing, which is accelerated by wind, wetness, extreme cold and poor blood circulation. Parts of the body susceptible to freezing are those with surfaces large in relation to their volume, such as toes, fingers, ears, nose, chin and cheeks.

(388) Injuries from the cold may, to a large extent, be prevented by maintaining natural warmth through the use of proper footgear and adequate, dry clothing, by avoiding cramped positions and constricting clothing and by active exercise of the hands, legs and feet.

MARINE POLLUTION

The Federal Water Pollution Control Act or Clean Water Act

(389) The Federal Water Pollution Control Act (FWPCA) or Clean Water Act (CWA) was passed to restore and maintain the chemical, physical and biological integrity of our nation's waters.

No-Discharge Zones

(390) Section 312 of the FWPCA gives the Environmental Protection Agency (EPA) and States the authority to designate certain areas as No-Discharge Zones (NDZ) for vessel sewage. Freshwater lakes, freshwater reservoirs, or other freshwater impoundments whose entrances and exits prohibit traffic by regulated vessels (vessels with installed toilets) are, by regulation, NDZs. Rivers that do not support interstate navigation vessel traffic are also NDZs by regulation. Water bodies that can be designated as NDZs by States and EPA include: the Great Lakes and their connecting waterways, freshwater lakes and impoundments accessible through locks, and other flowing waters that support interstate navigation by vessels subject to regulation.

(391) Inside No-Discharge Zone waters, discharge of any sewage, whether treated or untreated, is completely prohibited.

(392) Discharge of sewage in waters not designated as No-Discharge Zones is regulated by the Marine Sanitation Device Standard (see **40 CFR 140** in Chapter 2.)

(393) (Additional information concerning the regulations may be obtained from the Environmental Protection Agency (EPA) website: http://www.epa.gov/owow/oceans/regulatory/vessel_sewage/.)

Oil Pollution

(394) The FWPCA also prohibits the discharge of quantities of either oil or hazardous substance which may be harmful into or upon the navigable waters of the United States. This prohibition also applies to adjoining shorelines, waters of the contiguous zone, activities connected with the Outer Continental Shelf Lands Act (OSLA) and Deepwater Port Act of 1974, and such discharges which may affect natural resources belonging to the United States or under its exclusive management authority, including those resources under the Fishery Conservation and Management Act of 1976. In the event a spill does occur in violation of the Act the person in charge of a vessel or onshore or offshore facility is required to notify the Coast Guard as soon as he has knowledge of the spill. Such notification is to be by the most rapid means available to the National

Response Center (1-800-424-8802, nationwide 24 hour number).

The Act to Prevent Pollution from Ships

(395) The Act to Prevent Pollution from Ships (33 U.S.C. 1901) implements into U.S. law the International Convention for the Prevention of Pollution from Ships, as modified by the Protocol of 1978 (MARPOL 73/78). Annex I of MARPOL 73/78 deals with oil and oily waste, Annex II with hazardous chemicals and other substances referred to as Noxious Liquid Substances (NLS), and Annex V deals with the prevention of marine pollution by plastics and other garbage produced during vessel operations.

(396) Annex I of MARPOL 73/78 is applicable to oceangoing tankers over 150 gross tons and all other oceangoing ships over 400 gross tons. The MARPOL 73/78 requirements include oily waste discharge limitations, oily-water separating equipment, monitoring and alarm systems for discharges from cargo areas, cargo pump rooms and machinery space bilges. Ships to which Annex I MARPOL 73/78 is applicable are also required to have an International Oil Pollution Prevention (IOPP) Certificate verifying that the vessel is in compliance with the requirements of MARPOL 73/78 and that any required equipment is on board and operational. Vessels must also maintain an Oil Record Book recording all oil transfers and discharges. The Oil Record Book is available from USCG Supply Center Baltimore or any local Captain of the Port.

(397) Annex II of MARPOL 73/78 is applicable to oceangoing vessels and non-self propelled oceangoing ships which carry Noxious Liquid Substances (NLS) in bulk. The Annex II requirements include discharge restrictions for various classes of cargo residues; the maintenance of a Cargo Record Book for recording all NLS cargo and residue transfers and discharges; and a Procedures and Arrangements Manual describing the correct procedures for off loading and prewashing cargo tanks.

(398) Annex II NLS cargoes are classified in one of four categories, A, B, C, or D. Category A is the most hazardous to the environment. Category A and other substances which tend to solidify in tanks must be prewashed in port under the supervision of a Prewash Surveyor prior to departure from the off loading terminal. Vessel discharges must be underwater when discharge at sea is allowed. Tanks which carry Category B and C NLS must be tested to ensure that after tank stripping only a minimal amount of residues will remain. Reception facilities must be able to assist in cargo stripping operations by reducing back pressure during the final stages of off loading.

(399) Terminals and ports receiving oceangoing tankers, or any other oceangoing ships of 400 GT or more, carrying residues and mixtures containing oil, or receiving oceangoing ships carrying NLSs, are required to provide adequate reception facilities for the wastes generated. Coast Guard Captains of the Port issue a Certificate of Adequacy to terminals or ports to show that they are in compliance with federal reception facility requirements. An oceangoing tanker or any other oceangoing ship of 400 GT or more required to retain oil or oily residues and mixtures on board and an oceangoing ship carrying a Category A, B or C NLS cargo or NLS residue in cargo tanks that are required to be prewashed, may not enter any port or terminal unless the port or terminal holds a valid Certificate of Adequacy or unless the ship is entering under force majeure.

(400) Annex V is applicable to all recreational, fishing, uninspected and inspected vessels, and foreign flag vessels on the navigable waters and all other waters subject to the jurisdiction of the United States, out to and including the Exclusive Economic Zone (200 miles).

(401) Annex V prohibits the disposal of any and all plastic material from any vessel anywhere in the marine environment. Dunnage, lining and packing materials which float may be disposed of beyond 25 miles from the nearest land. Other garbage that will not float may be disposed of beyond 12 miles of land, except that garbage which can pass through a 25mm mesh screen (approximately 1 square inch) may be disposed of beyond 3 miles. Dishwater is not to be considered garbage within the meaning of Annex V when it is the liquid residue from the manual or automatic washing of dishes or cooking utensils. More restrictive disposal regimes apply in waters designated "Special Areas." This Annex requires terminals to provide reception facilities at ports and terminals to receive plastics and other garbage from visiting vessels.

(402) The civil penalty for each violation of MARPOL 73/78 is not more than $25,000. The criminal penalty for a person who knowingly violates the MARPOL Protocol, or the regulations (**33 CFR 151, 155, 157, and 158**), consists of a fine of not more than $250,000 and/or imprisonment for not more than 5 years; U.S. law also provides criminal penalties up to $500,000 against organizations which violate MARPOL.

Packaged Marine Pollutants

(403) On October 1, 1993, new regulations under the Hazardous Materials Transportation Act (HMTA) took effect, implementing MARPOL Annex III in the United States. MARPOL Annex III deals with the prevention of marine pollution by harmful substances in packaged form.

(404) Annex III of MARPOL 73/78 applies to all ships carrying harmful substances in packaged form. Annex III provides standards for stowage, packing, labeling, marking, and documentation of substances identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code). On 5 November 1992, the U.S. Research and Special Programs Administration (RSPA) amended the Hazardous Materials Regulations (HMR, 49 CFR 100-177) to list and regulate these marine pollutants in all modes of transportation.

(405) Marine pollutants are divided into two classes: marine pollutants and severe marine pollutants. A solution or mixture containing 10% or more of any marine pollutant falls into the class of "marine pollutant." The "severe marine pollutant" class consists of those materials that contain 1% or more of any specified "severe marine pollutant" substance. Marine pollutants that do not meet the criteria for any other hazard class are transported as an environmentally hazardous substance.

Ocean Dumping

(406) The Marine Protection Research and Sanctuaries Act of 1972, as amended (33 USC 1401 et seq.), regulates the dumping of all material, except fish waste, into ocean waters. Radiological, chemical and biological warfare agents and other high level radioactive wastes are expressly banned from ocean disposal. The U.S. Army Corps of Engineers issues permits for the disposal of dredged spoils; the Environmental Protection Agency is authorized to issue permits for all other dumping activities. Surveillance and enforcement to prevent unlawful transportation of material for dumping or unlawful dumping under the Act has been assigned to the U.S. Coast Guard. The Act provides civil penalties of up to $50,000 and criminal penalties of up to $50,000 and/or one year imprisonment.

MINECLEARING: CAUTION

Keep Clear of Mineclearance Vessels (COLREGS 1972)

(407) (a) United States vessels engaged in mineclearing operations or exercises are hampered to a considerable extent in their maneuvering powers.

(408) (b) With a view to indicating the nature of the work on which they are engaged, these vessels will show the signals hereinafter mentioned. For the public safety, all other vessels, whether steamers or sailing craft, must endeavor to keep out of the way of vessels displaying these signals and not approach them inside the distances mentioned herein, especially remembering that it is dangerous to pass between the vessels of a pair or group sweeping together.

(409) (c) All vessels towing sweeps are to show:

(410) **BY DAY**–A black ball at the fore mast and a black ball at the end of each fore yard.

(411) **BY NIGHT**–All around green lights instead of the black balls, and in a similar manner.

(412) (d) Vessels or formations showing these signals are not to be approached nearer than 1,000 meters. Under no circumstances is a vessel to pass through a formation of minesweepers.

(413) (e) Mineclearance vessels should be prepared to warn merchant vessels which persist in approaching too close by means of any of the appropriate signals from the International Code of Signals.

(414) (f) In fog, mist, falling snow, heavy rainstorms, or any other conditions similarly restricting visibility, whether by day or night, mineclearance vessels while towing sweeps when in the vicinity of other vessels will sound signals for a vessel towing (1 prolonged blast followed by 2 short blasts).

Helicopters Conducting Mineclearance Operations

(415) (g) The United States is increasingly employing helicopters to conduct mineclearance operations or exercises. When so engaged, helicopters, like vessels, are considerably hampered in their ability to maneuver. Accordingly, surface craft approaching helicopters engaged in mineclearance operations should take safety precautions similar to those described in (b) and (d) above with respect to mineclearance vessels.

(416) (h) Helicopters towing mineclearance gear and accompanying surface escorts, if any, will use all available means to warn approaching ships of the operations or exercises being conducted. Also, measures will be taken where practicable to mark or light the gear or objects being towed.

(417) (i) Mineclearance helicopters are equipped with a rotating beacon which has selectable red and amber modes. The amber mode is used during towing operations to notify/warn other vessels that the helicopter is towing. While towing, the helicopter's altitude varies from 15 to 95 meters above the water and speeds vary from 0 to 30 knots.

(418) (j) General descriptions and approximate dimensions for towed mineclearance gear currently being used in conjunction with helicopters are as follows:

(419) (1) Mechanical sweep gear consisting, in part, of large lengths of submerged cables and explosive cutters. The only items normally visible on the surface are three to five international orange floats, depending upon the quantity of gear in use, which generally define the dimensions of the tow. The maximum width is 100

meters and the maximum distance behind the helicopter is 600 meters.

(420) (2) Acoustical sweep device weighing approximately 70 pounds (32 kg). This device is towed behind the helicopter on a 250-meter orange polypropylene tow cable. When dead in the water, the gear will rise to the surface, supported by a yellow float.

(421) (3) A hydrofoil platform containing equipment used for magnetic influence sweeping. The platform is towed on the end of a 140-meter cable and trails electrodes in the water which extend 185 meters behind the platform. Very often, the aforementioned acoustical sweep device is towed in conjunction with this platform by attaching it to the end of one of the electrodes by a 30-meter polypropylene tow line. In this configuration, the total length of the tow is 215 and 350 meters, respectively, behind the hydrofoil platform and helicopter. Special care must be exercised when crossing astern of the hydrofoil platform as the towed cable is barely visible, and the attached acoustic device is submerged just beneath the surface and is not visible to surface vessels.

(422) (k) Helicopters employed in mineclearance operations and their tows may function at night as well as day, and in various types of weather conditions. The major danger to any surface vessel is getting the various cables wrapped in its screws. Small craft also are subject to the risk of collision with the hydrofoil platform.

Submarine Emergency Identification Signals and Hazard to Submarines

(423) U.S. submarines are equipped with signal ejectors which may be used to launch identification signals, including emergency signals. Two general types of signals may be used: smoke floats and flares or stars. A combination signal which contains both smoke and flare of the same color may also be used. The smoke floats, which burn on the surface, produce a dense, colored smoke for a period of fifteen to forty-five seconds. The flares or stars are propelled to a height of three hundred to four hundred feet (90 to 120 meters) from which they descend by small parachute. The flares or stars burn for about twenty-five seconds. The color of the smoke or flare/star has the following meaning:

(424) (a) **GREEN OR BLACK**–Used under training exercise conditions only to indicate that a torpedo has been fired or that the firing of a torpedo has been simulated.

(425) (b) **YELLOW**–Indicates that submarine is about to come to periscope depth from below periscope depth. Surface craft terminate antisubmarine counter-attack and clear vicinity of submarine. Do not stop propellers.

(426) (c) **RED**–Indicates an emergency condition within the submarine and that it will surface immediately, if possible. Surface ships clear the area and stand by to give assistance after the submarine has surfaced. In case of repeated red signals, or if the submarine fails to surface within reasonable time, she may be assumed to be disabled. Buoy the location, look for submarine buoy and attempt to establish sonar communications. Advise U.S. Naval authorities immediately.

(427) (d) **WHITE**–Two white flares/smoke in succession indicates that the submarine is about to surface, usually from periscope depth (non-emergency surfacing procedure). Surface craft should clear the vicinity of the submarine.

(428) A Submarine Marker Buoy consists of a cylindrically shaped object about 3 feet by 6 feet with connecting structure and is painted international orange. The buoy is a messenger buoy with a wire cable to the submarine; this cable acts as a downhaul line for a rescue chamber. The buoy may be accompanied by an oil slick release to attract attention. A submarine on the bottom in distress and unable to surface will, if possible, release this buoy. If an object of this description is sighted, it should be investigated and U.S. Naval Authorities advised immediately.

(429) Transmission of the International Distress Signal (SOS) will be made on the submarine's sonar gear independently or in conjunction with the red emergency signal as conditions permit. Submarines may employ any or all of the following additional means to attract attention and indicate their position while submerged:

(430) Release of dye marker.

(431) Release of air bubble.

(432) Ejection of oil.

(433) Pounding on the hull.

(434) United States destroyer-type vessels in international waters will, on occasion, stream a towed underwater object at various speeds engaged in naval maneuvers. All nations operating submarines are advised that this underwater object in the streamed condition constitutes a possible hazard to submerged submarines.

Vessels Constrained by their Draft

(435) International Navigation Rules, Rule 28, states that a vessel constrained by her draft may, in addition to the lights prescribed for power-driven vessels in Rule 23, exhibit where they can best be seen three all-around red lights in a vertical line, or a cylinder.

Special signals for surveying vessels

(436) Vessels engaged in survey operations and limited in their ability to maneuver because of the work being performed (handling equipment over-the-side such as water sampling or conductivity-temperature-density

Channel	Ship Frequency (MHz)		Channel Usage
	Transmit	Receive	
1A	156.050	156.050	Port Operations and commercial (see footnote 2)
5A	156.250	156.250	Port Operations (see footnote 1)
6	156.300	156.300	Intership safety
7A	156.350	156.350	Commercial
8	156.400	156.400	Commercial (ship-to-ship only)
9	156.450	156.450	Boater Calling Commercial/Non-commercial
10	156.500	156.500	Commercial
11	156.550	156.550	Commercial. VTS in selected areas.
12	156.600	156.600	Port Operations. VTS in areas.
13	156.650	156.650	Intership Navigation (Bridge-to-bridge). (see footnote 4)
14	156.700	156.700	Port Operations. VTS in selected areas.
15	----------	156.750	Environmental (Receive only). Used by Class C EPIRBs.
16	156.800	156.800	International Distress, Safety and Calling. (see footnote 5)
17	156.850	156.850	State control
18A	156.900	156.900	Commercial
19A	156.950	156.950	Commercial
20	157.000	161.600	Port Operations (duplex)
20A	157.000	157.000	Port Operations
21A	157.050	157.050	U.S. Coast Guard only
22A	157.100	157.100	Coast Guard Liaison/Maritime Safety Information Broadcasts. (Channel 15)
23A	157.150	157.150	U.S. Coast Guard only
24	157.200	161.800	Public Correspondence (Marine Operator)
25	157.250	161.850	Public Correspondence (Marine Operator)
26	157.300	161.900	Public Correspondence (Marine Operator)
27	157.350	161.950	Public Correspondence (Marine Operator)
28	157.400	162.000	Public Correspondence (Marine Operator)
63A	156.175	156.175	Port Operations and Commercial, VTS. (see footnote 2)
65A	156.275	156.275	Port Operations
66A	156.325	156.325	Port Operations
67	156.375	156.375	Commercial. (see footnote 3)
68	156.425	156.425	Non-Commercial
69	156.475	156.475	Non-Commercial
70	156.525	156.525	Digital Selective Calling (voice communications not allowed)
71	156.575	156.575	Non-Commercial
72	156.625	156.625	Non-Commercial (Intership only)
73	156.675	156.675	Port Operations
74	156.725	156.725	Port Operations
77	156.875	156.875	Port Operations (ship-to-ship, to and from pilots docking ships)
78A	156.925	156.925	Non-Commercial
79A	156.975	156.975	Commercial. Non-Commercial in Great Lakes only
80A	157.025	157.025	Commercial. Non-Commercial in Great Lakes only
81A	157.075	157.075	U.S. Government only-Environmental protection operations
82A	157.125	157.125	U.S. Government only
83A	157.175	157.175	U.S. Coast Guard only
84	157.225	161.825	Public Correspondence (Marine Operator)
85	157.275	161.875	Public Correspondence (Marine Operator)
86	157.325	161.925	Public Correspondence (Marine Operator)
87	157.375	161.975	Public Correspondence (Marine Operator)
88	157.425	162.025	Public Correspondence only near Canadian border.
88A	157.425	157.425	Commercial, Intership only.

Footnotes to table:

1. Houston, New Orleans and Seattle areas.
2. Available only in New Orleans/Lower Mississippi area.
3. Used for bridge-to-bridge communications in Lower Mississippi River. Intership only.
4. Ships>20m in length maintain a listening watch on this channel in US waters.
5. Ships required to carry radio, USCG, and most coast stations maintain a listening watch on this channel.

(CTD) casts, towed gear, bottom samplers, etc., and divers working on, below or in proximity of the vessel) are required by Navigation Rules, International-Inland, Rule 27, to exhibit:

(437) (b)(i) three all-round lights in a vertical line where they can best be seen. The highest and lowest of these lights shall be red and the middle light shall be white;

(438) (ii) three shapes in a vertical line where they can best be seen. The highest and lowest of these shapes shall be balls and the middle one a diamond;

(439) (iii) when making way through the water, masthead lights, sidelights and a sternlight, in addition to the lights prescribed in subparagraph (b)(i); and

(440) (iv) when at anchor, in addition to the lights or shapes prescribed in subparagraphs (b)(i) and (ii) the light, lights or shapes prescribed in Rule 30, Anchored Vessels and Vessels Aground.

(441) A vessel engaged in hydrographic survey operations (making way on a specific trackline while sounding the bottom) is not restricted in its ability to maneuver and therefore exhibits at night only those lights required for a power-driven vessel of its length.

(442) **Warning signals for Coast Guard vessels while handling or servicing aids to navigation** are the same as those prescribed for surveying vessels.

VHF-FM Radiotelephone

(443) VHF-FM channel 16 (156.800 MHz) is the international distress, urgency, safety, calling and reply frequency for vessels and public and private coastal stations. In 1992, the Federal Communications Commission (FCC) designated VHF-FM channel 9 (156.450 MHz) for use as a general purpose calling frequency for non-commercial vessels, such as recreational boats. This move was designed to relieve congestion on VHF-FM channel 16. Non-commercial vessels are encouraged to use VHF-FM channel 9, for routine communications but distress, urgency, and safety calls should continue to be initially made on VHF-FM channel 16.

(444) The following table provides the frequency equivalents and general usage of selected VHF-FM channels which appear in the Coast Pilot. The letter "A" appended to a channel number indicates that U.S. operation of the particular channel is different than the international operation, i.e., U.S. stations transmit and receive on the same frequency and international stations use different frequencies.

(445) All channels given in the table (later in this chapter) are designated for both ship-to-ship and ship-to-coast communications except as noted.

SELECT NAVIGATION RULES

Improper use of searchlights

(446) No person shall flash or cause to be flashed the rays of a searchlight or other blinding light onto the bridge or into the pilothouse of any vessel underway. The International Code Signal "PG2" may be made by a vessel inconvenienced by the glare of a searchlight in order to apprise the offending vessel of the fact.

Use of Radar

(447) Navigation Rules, International-Inland, Rule 7, states, in part, that every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist. Proper use shall be made of radar equipment if fitted and operational, including long-range scanning to obtain early warning of risk of collision and radar plotting or equivalent systematic observation of detected objects.

(448) This rule places an additional responsibility on vessels which are equipped and manned to use radar to do so while underway during periods of reduced visibility without in any way relieving commanding officers of the responsibility of carrying out normal precautionary measures.

(449) Navigation Rules, International-Inland, Rules 6, 7, 8, and 19 apply to the use of radar.

Danger signal

(450) Navigation Rules, International-Inland, Rule 34(d), states that when vessels in sight of one another are approaching each other and from any cause either vessel fails to understand the intentions or actions of the other, or is in doubt whether sufficient action is being taken by the other to avoid collision, the vessel in doubt shall immediately indicate such doubt by giving at least five short and rapid blasts on the whistle. Such signal may be supplemented by a light signal of at least five short and rapid flashes.

Narrow channels

(451) Navigation Rules, International-Inland, Rule 9(b) states: A vessel of less than 65.6 feet (20 meters) in length or a sailing vessel shall not impede the passage of a vessel that can safely navigate only within a narrow channel or fairway.

Control of shipping in time of emergency or war

(452) In time of war or national emergency, merchant vessels of the United States and those foreign flag vessels, which are considered under effective U.S. control,

will be subject to control by agencies of the U.S. Government. The allocation and employment of such vessels, and of domestic port facilities, equipment, and services will be performed by appropriate agencies of the War Transport Administration. The movement, routing, and diversion of merchant ships at sea will be controlled by appropriate naval commanders. The movement of merchant ships within domestic ports and dispersal anchorages will be coordinated by the U.S. Coast Guard. The commencement of naval control will be signaled by a general emergency message. (See NGA Pub. 117 for emergency procedures and communication instructions.)

Homeland Security Advisory System

(453) The **Homeland Security Advisory System** is a comprehensive and effective means to disseminate information regarding the risk of terrorist acts to Federal, State, and local authorities and to the American people. The system is designed to guide our protective measures when specific information to a particular sector or geographic region is received. It combines threat information with vulnerability assessments and provides communications to public safety officials and the public. This communication is achieved through threat advisories, information bulletins, and a color-coded threat level system.

U.S. Coast Guard Maritime Security (MARSEC) Levels

(454) The U.S. Coast Guard has a three-tiered system of **Maritime Security (MARSEC) Levels** consistent with the Department of Homeland Security's Homeland Security Advisory System (HSAS). MARSEC levels are designed to provide a means to easily communicate pre-planned scalable responses to increased threat levels. The Commandant of the U.S. Coast Guard sets MARSEC levels commensurate with the HSAS. Because of the unique nature of the maritime industry, the HSAS threat conditions and MARSEC levels will align closely, though they will not directly correlate.

(455) **MARSEC Level 1** – the level for which minimum appropriate security measures shall be maintained at all times. MARSEC 1 generally applies when HSAS Threat Condition Green, Blue, or Yellow are set.

(456) **MARSEC Level 2** – the level for which appropriate additional protective security measures shall be maintained for a period of time as a result of heightened risk of a transportation security incident. MARSEC 2 generally corresponds to HSAS Threat Condition Orange.

(457) **MARSEC Level 3** – the level for which further specific protective security measures shall be maintained for a limited period of time when a transportation security incident is probable, imminent, or has occurred, although it may not be possible to identify the specific target. MARSEC 3 generally corresponds to HSAS Threat Condition Red.

REGULATED WATERS

Traffic Separation Schemes (Traffic Lanes)

(458) To increase the safety of navigation, particularly in converging areas of high traffic density, routes incorporating traffic separation have been adopted by the IMO in certain areas of the world. In the interest of safe navigation, it is recommended that through traffic use these schemes, as far as circumstances permit, by day and by night and in all weather conditions.

(459) The International Maritime Organization (IMO) is recognized as the only international body responsible for establishing and recommending measures on an international level concerning ships' routing. In deciding whether or not to adopt or amend a traffic separation scheme, IMO will consider whether the scheme complies with the design criteria for traffic separation schemes and with the established methods of routing. IMO also considers whether the aids to navigation proposed will enable mariners to determine their position with sufficient accuracy to navigate the scheme in accordance with Rule 10 of the International Regulations for Preventing Collisions at Sea (72 COLREGS).

(460) General principles for navigation in Traffic Separation Schemes are as follows:

(461) 1. A ship navigating in or near a traffic separation scheme adopted by IMO shall in particular comply with Rule 10 of the 72 COLREGS to minimize the development of risk of collisions with another ship. The other rules of the 72 COLREGS apply in all respects, and particularly the steering and sailing rules if risk of collision with another ship is deemed to exist.

(462) 2. Traffic separation schemes are intended for use by day and by night in all weather, ice-free waters or under light ice conditions where no extraordinary maneuvers or assistance by icebreaker(s) is required.

(463) 3. Traffic separation schemes are recommended for use by all ships unless stated otherwise. Bearing in mind the need for adequate underkeel clearance, a decision to use a traffic separation scheme must take into account the charted depth, the possibility of changes in the seabed since the time of last survey, and the effects of meteorological and tidal conditions on water depths.

(464) 4. A deep water route is an allied routing measure primarily intended for use by ships which require the use of such a route because of their draft in relation to the available depth of water in the area concerned. Through traffic to which the above consideration does not apply should, if practicable, avoid following deep water routes. When using a deep water route mariners should be aware of possible changes in the indicated depth of water due to meteorological or other effects.

(465) 5. The arrows printed on charts merely indicate the general direction of traffic; ships should not set their courses strictly along the arrows.

(466) 6. Vessels should, so far as practicable, keep clear of a traffic separation line or separation zone.

(467) 7. Vessels should avoid anchoring in a traffic separation scheme or in the area near its termination.

(468) 8. The signal "YG" meaning "You appear not to be complying with the traffic separation scheme" is provided in the International Code of Signals for appropriate use.

(469) **Note**–Several governments administering Traffic Separation Schemes have expressed their concern to IMO about the large number of infringements of Rule 10 of the 72 COLREGS and the dangers of such contraventions to personnel, vessels and environment. Several governments have initiated surveillance of traffic separation schemes for which they are responsible and are providing documented reports of vessel violations to flag states. As in the past, the U.S. Coast Guard will investigate these reports and take appropriate action. Mariners are urged to comply at all times with the 72 COLREGS.

(470) 9. Notice of temporary adjustments to traffic separation schemes for emergencies or for accommodation of activities which would otherwise contravene Rule 10 or obstruct navigation may be made in Notices to Mariners. Temporary adjustments may be in the form of a precautionary area within a traffic lane, or a shift in the location of a lane.

(471) 10. The IMO approved routing measures which affect shipping in or near U.S. waters are:

(472) In the Approaches to Portland, Maine

(473) In the Approaches to Boston, Massachusetts

(474) In the Approaches to Narragansett Bay, Rhode Island and Buzzards Bay, Massachusetts

(475) Off New York

(476) Off Delaware Bay

(477) In the Approaches to Chesapeake Bay

(478) In the Approaches to Cape Fear River

(479) In the Approaches to Galveston Bay

(480) Off San Francisco

(481) In the Santa Barbara Channel

(482) In the Approaches to Los Angeles-Long Beach

(483) In the Strait of Juan de Fuca

(484) In Puget Sound and its Approaches

(485) In Prince William Sound, Alaska

(486) When approved or established, traffic separation scheme details are announced in Notice to Mariners, and later depicted on appropriate charts and included in the U.S. Coast Pilot.

Territorial Sea

(487) The 12 nautical mile territorial sea was established by Presidential Proclamation 5928, December 27, 1988, and is also the outer limit of the **U.S. contiguous zone** for the application of domestic law.**The 3 nautical mile line (charted), previously identified as the outer limit of the territorial sea, is retained because the proclamation states that it does not alter existing State or Federal law. The 9 nautical mile natural resources boundary** off Texas, the Gulf coast of Florida, and Puerto Rico, and the 3 nautical mile line elsewhere remain the inner boundary of the Federal fisheries jurisdiction and limit of states' jurisdiction under the Submerged Lands Act (P.L. 83-31; 67 Stat. 29, March 22, 1953). These maritime limits are subject to modification, as represented on future charts. The lines shown on the most recent chart edition take precedence.

Exclusive Economic Zone of the United States

(488) Established by a Presidential Proclamation on March 10, 1983, the Exclusive Economic Zone (EEZ) of the United States is **a zone contiguous to the territorial sea, including zones contiguous to the territorial sea of the United States, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands (to the extent consistent with the Covenant and**

the United Nations Trusteeship Agreement), and United States overseas territories and possessions. The EEZ extends to a distance 200 nautical miles from the baseline from which the breadth of the territorial sea is measured. In cases where the maritime boundary with a neighboring state remains to be determined, the boundary of the EEZ shall be determined by the United States and other state concerned in accordance with equitable principles.

(489) Within the EEZ, the United States has asserted, to the extent permitted by international law, (a) sovereign rights for the purpose of exploring, exploiting, conserving and managing natural resources, both living and nonliving, of the seabed and subsoil and the superjacent waters and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds; and (b) jurisdiction with regard to the establishment and use of artificial islands, and installations and structures having economic purposes, and the protection and preservation of the marine environment.

(490) Without prejudice to the sovereign rights and jurisdiction of the United States, the EEZ remains an area beyond the territory and territorial sea of the United States in which all states enjoy the high seas freedoms of navigation, overflight, the laying of submarine cables and pipelines, and other internationally lawful uses of the sea.

(491) This Proclamation does not change existing U.S. policies concerning the continental shelf, marine mammals and fisheries, including highly migratory species of tuna that are not subject to U.S. jurisdiction and require international agreements for effective management.

(492) The United States will exercise these sovereign rights and jurisdiction in accordance with the rules of international law.

(493) The seaward limit of the EEZ is shown on the nautical chart as a line interspersed periodically with EXCLUSIVE ECONOMIC ZONE. **The EEZ boundary is coincidental with that of the Fishery Conservation Zone.** (See **Fishery Conservation Zone**, and **territorial sea**, this chapter.)

U.S. Fishery Conservation Zone (FCZ)

(494) The United States exercises exclusive fishery management authority over all species of fish, except tuna, within the fishery conservation zone, **whose seaward boundary is 200 miles from the baseline from which the U.S. territorial sea is measured;** all anadromous species which spawn in the United States throughout their migratory range beyond the fishery conservation zone, except within a foreign country's equivalent fishery zone as recognized by the United States; all U.S. Continental Shelf fishery resources beyond the fishery conservation zone. Such resources include American lobster and species of coral, crab, abalone, conch, clam, and sponge, among others.

(495) No foreign vessel may fish, aid, or assist vessels at sea in the performance of any activity relating to fishing including, but not limited to, preparation, supply, storage, refrigeration, transportation, or processing, within the fishery conservation zone, or fish for anadromous species of the United States or Continental Shelf fishery resources without a permit issued in accordance with U.S. law. These permits may only be issued to vessels from countries recognizing the exclusive fishery management authority of the United States in an international agreement. The owners or operators of foreign vessels desiring to engage in fishing off U.S. coastal waters should ascertain their eligibility from their own flag state authorities. Failure to obtain a permit prior to fishing, or failure to comply with the conditions and restrictions established in the permit may subject both vessel and its owners or operators to administrative, civil, and criminal penalties. (Further details concerning foreign fishing are given in **50 CFR 611**.)

(496) Reports of foreign fishing activity within the fishery conservation zone should be made to the U.S. Coast Guard. Immediate reports are particularly desired, but later reports by any means also have value. Reports should include the activity observed, the position, and as much identifying information (name, number, homeport, type, flag, color, size, shape, etc.) about the foreign vessel as possible, and the reporting party's name and address or telephone number.

(497) An article similar to the above is carried annually in NGA Notice to Mariners No. 1.

(498) The seaward limit of the FCZ is shown on the nautical chart as a line interspersed periodically with a symbol of a fish. The **FCZ boundary is coincidental with that of the Exclusive Economic Zone**. (See **Exclusive Economic Zone** and **territorial sea**, this chapter.)

U.S. GOVERNMENT AGENCIES PROVIDING ADDITIONAL MARITIME SERVICES

DEPARTMENT OF AGRICULTURE

Animal and Plant Health Inspection Service

(499) The Animal and Plant Health Inspection Service is responsible for protecting the Nation's animal population, food and fiber crops, and forests from invasion by foreign pests. They administer agricultural quarantine

and restrictive orders issued under authority provided in various acts of Congress. The regulations prohibit or restrict the importation or interstate movement of live animals, meats, animal products, plants, plant products, soil, injurious insects, and associated items that may introduce or spread plant pests and animal diseases which may be new to or not widely distributed within the United States or its territories. Inspectors examine imports at ports of entry as well as the vessel, its stores, and crew or passenger baggage.

(500) The Service also provides an inspection and certification service for exporters to assist them in meeting the quarantine requirements of foreign countries. (See Appendix A for a list of ports where agricultural inspectors are located and inspections conducted.)

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration (NOAA)

(501) The National Oceanic and Atmospheric Administration (NOAA) conducts research and gathers data about the global oceans, atmosphere, space, and sun, and applies this knowledge to improve our understanding and stewardship of the environment.

(502) NOAA provides services to the nation and the public through five major organizations: the National Ocean Service, the National Weather Service, the National Marine Fisheries Service, the National Environmental Satellite, Data and Information Service, and NOAA Research; and numerous special program units. In addition, NOAA research and operational activities are supported by the Nation's seventh uniformed service, the NOAA Corps, a commissioned officer corps of men and women who operate NOAA ships and aircraft, and serve in scientific and administrative positions.

National Ocean Service (NOS)

(503) The National Ocean Service produces nautical charts, the Coast Pilot, and related publications for safe navigation of marine commerce, and provides basic data for engineering and scientific purposes and other commercial and industrial needs. The principal facilities of NOS are located in Silver Spring, MD, Norfolk, VA (Atlantic Marine Center), and Seattle, WA (Pacific Marine Center). NOAA ships are based at the marine centers. (See Appendix A for addresses.)

(504) **Sales agents** for NOAA nautical charts and the Coast Pilot are located in many U.S. ports and in some foreign ports. Catalogs showing the limits of NOAA nautical charts are available free from: FAA/National Aeronautical Charting Office, AVN-530. (See Appendix A for address, or call 1-800-638-8972.) Local authorized sales agents can be located using the query form at http://www.naco.faa.gov/Agents.asp. This form is used to locate aeronautical and nautical sales agents so the "Nautical Agents" button must be selected.

(505) **Nautical charts** are published primarily for the use of the mariner, but serve the public interest in many other ways. They are compiled principally from NOAA basic field surveys, supplemented by data from other Government organizations.

(506) **Tides and Currents**. The **Center for Operational Oceanographic Products and Services (CO-OPS)** collects and distributes observations and predictions of water levels and currents to ensure safe, efficient and environmentally sound maritime commerce.

(507) Water level, tides, and current observations and predictions are available on the Internet at http://tidesandcurrents.noaa.gov. From this Home Page, users can choose a variety of information, including water level, tidal predictions, observed water level data, tides online (including a listing of all water level stations currently in storm surge mode), sea levels online, Great Lakes online, and PORTS.

(508) **PORTS (Physical Oceanographic Real-Time System)** is a centralized data acquisition and dissemination system that provides real-time water levels, currents, and other oceanographic and meteorological data from bays and harbors. This information is provided via telephone voice response (for most ports) and the Internet. Accurate real-time water level information allows U.S. port authorities and maritime shippers to make sound decisions regarding loading of tonnage (based on available bottom clearance), maximizing loads, and limiting passage times, without compromising safety.

(509) There are PORTS systems in 18 major ports in the United States. The table below lists the ports and the telephone number for voice access to the PORTS data.

Port or Waterway	Voice Access Phone Number
Anchorage, Port of, Alaska	1-866-257-6787
Cherry Point, Washington	not available
Chesapeake Bay	1-866-247-6787
Columbia River, Lower	1-888-537-6787
Delaware River and Bay	1-866-307-6787
Gulfport, Mississippi	1-888-257-1858
Houston/Galveston	1-866-447-6787
Los Angeles/Long Beach	not available
Mobile Bay, Alabama	1-877-847-6787
Narragansett Bay, Rhode Island	1-866-757-6787
New Haven, Connecticut	1-888-807-6787
New York/New Jersey Harbor	1-866-217-6787

Port or Waterway	Voice Access Phone Number
Pascagoula, Mississippi	1-888-257-1857
Sabine Neches	1-888-257-1859
San Francisco Bay	1-866-727-6787
Soo Locks, Michigan	301-713-9596 (toll)
Tacoma, Washington	1-888-607-6787
Tampa Bay, Florida	1-866-827-6787

(510) **Tide Tables** and **Tidal Current Tables** are no longer published by NOAA. Many local publishers and printers throughout the country publish regional and localized tide and tidal current predictions in booklet, calendar, and other formats. The data printed in these local and regional publications is, in many cases, obtained directly from NOAA. For availability of localized prediction tables consult marinas and marine supply companies in your area. Two publishing firms are printing complete east and west coast tide and tidal current predictions for US ports and coastal areas–

(511) **ProStar Publications**

(512) (http://www.prostarpublications.com)

(513) **International Marine Division of McGraw Hill**

(514) (http://books.mcgraw-hill.com).

(515) **Caution**.–When using the Tide Tables, slack water should not be confused with high or low water. For ocean stations there is usually little difference between the time of high or low water and the beginning of ebb or flood currents; but for places in narrow channels, landlocked harbors, or on tidal rivers, the time of slack current may differ by several hours from the time of high or low water. The relation of the times of high or low water to the turning of the current depends upon a number of factors, so that no simple general rule can be given.

(516) **Tidal Current Charts** are not being maintained or reprinted by NOAA.

National Weather Service (NWS)

National Data Buoy Center Meteorological Buoys

(517) The National Data Buoy Center (NDBC) deploys moored meteorological buoys which provide weather data directly to the mariner as well as to marine forecasters. In 1998, a disproportionate number of these buoys have had mooring failures due to abrasion of the nylon mooring line by trawls, tow lines, etc.

(518) These buoys have a watch circle radius (WCR) of 2,000 to 4,000 yards from assigned position (AP). In addition, any mooring in waters deeper than 1,000 feet will have a floating "loop" or catenary that may be as little as 500 feet below the surface. This catenary could be anywhere within the buoy's WCR. Any underwater activity within this radius may contact the mooring causing a failure.

(519) To avoid cutting or damaging a moor, mariners are urged to exercise extreme caution when navigating in the vicinity of meteorological buoys and to remain well clear of the watch circle. If a mooring is accidentally contacted or cut, please notify NDBC at (228) 688-2835 or (228) 688-2436.

(520) For further information relating to these buoys consult the NDBC home page (**http://seaboard.ndbc.noaa.gov**).

Marine Weather Forecasts

(521) The National Weather Service provides marine weather forecasts and warnings for the U.S. coastal waters, the Great Lakes, offshore waters, and high seas areas. Scheduled marine forecasts are issued four times daily from **National Weather Service Offices** with local areas of responsibility, around the United States, Guam, American Samoa, and Puerto Rico. (See Appendix A for National Weather Service Offices located in the area covered by this Coast Pilot.)

(522) Typically, the forecasts contain information on wind speed and direction, wave heights, visibility, weather, and a general synopsis of weather patterns affecting the region. The forecasts are supplemented with special marine warnings and statements, radar summaries, marine observations, small-craft advisories, gale warnings, storm warnings and various categories of tropical cyclone warnings e.g., tropical depression, tropical storm and hurricane warnings. Specialized products such as coastal flood, seiche, and tsunami warnings, heavy surf advisories, low water statements, ice forecasts and outlooks, and lake shore warnings and statements are issued as necessary. (For further information, go to **http://weather.gov/om/marine/home.htm.)**

(523) The principal means of disseminating marine weather services and products in coastal areas is **NOAA Weather Radio**. This network of more than 900 transmitters, covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories, is operated by the NWS and provides continuous broadcasts of weather information for the general public. These broadcasts repeat recorded messages every 4 to 6 minutes. Messages are updated periodically, usually every 2-3 hours and amended as required to include the latest information. When severe weather threatens, routine transmissions are interrupted and the broadcast is devoted to emergency warnings. (See Appendix A for NOAA Weather Radio Stations covered by this Coast Pilot.)

(524) In coastal areas, the programming is tailored to the needs of the marine community. Each coastal marine

forecast covers a specific area. For example, "Cape Henlopen to Virginia Beach, out 20 miles." The broadcast range is about 40 miles from the transmitting antenna site, depending on terrain and quality of the receiver used. When transmitting antennas are on high ground, the range is somewhat greater, reaching 60 miles or more. Some receivers are equipped with a warning alert device that can be turned on by means of a tone signal controlled by the NWS office concerned. This signal is transmitted for 13 seconds preceding an announcement of a severe weather warning.

(525) NWS marine weather products are also disseminated to marine users through the broadcast facilities of the Coast Guard, Navy, and commercial marine radio stations. Details on these broadcasts including times, frequencies, and broadcast content are listed on the NWS internet site, **Marine Product Dissemination Information**, (http://www.nws.noaa.gov/om/marine/home.htm). For marine weather services in the coastal areas, the NWS publishes a series of Marine Weather Services Charts showing locations of NOAA Weather Radio stations, sites, telephone numbers of recorded weather messages and NWS offices, and other useful marine weather information.

(526) Ships of all nations share equally in the effort to report weather observations. These reports enable meteorologists to create a detailed picture of wind, wave, and weather patterns over the open waters that no other data source can provide and upon which marine forecasts are based. The effectiveness and reliability of these forecasts and warnings plus other services to the marine community are strongly linked to the observations received from mariners. There is an especially urgent need for ship observations in the coastal waters, and the NWS asks that these be made and transmitted whenever possible. Many storms originate and intensify in coastal areas. There may be a great difference in both wind direction and speed between the open sea, the offshore waters, and on the coast itself.

(527) Information on how ships, commercial fishermen, offshore industries, and others in the coastal zone may participate in the marine observation program is available from **National Weather Service Port Meteorological Officers (PMOs)**. Port Meteorological Officers are located in major U.S. port cities where they visit ships in port to assist masters and mates with the weather observation program, provide instruction on the interpretation of weather charts, calibrate barometers and other meteorological instruments, and discuss marine weather communications and marine weather requirements affecting the ships' operations. (For further information on the Voluntary Observing Ship Program and Port Meteorological Officers, go to www.vos.noaa.gov.)

Space Environment Center (SEC)

(528) The Space Environment Center disseminates space weather alerts and forecasts (information concerning solar activity, radio propagation, etc.).

(529) For general information, see Appendix A for address and phone number.

National Environmental Satellite, Data, and Information Service (NESDIS)

(530) Among its functions, NESDIS archives, processes, and disseminates the non-realtime meteorological and oceanographic data collected by government agencies and private institutions. Marine weather observations are collected from ships at sea on a voluntary basis. About one million observations are received annually at NESDIS's National Climatic Center. They come from vessels representing every maritime nation. These observations, along with land data, are returned to the mariners in the form of climatological summaries and atlases for coastal and ocean areas. They are available in such NOAA publications as the **U.S. Coast Pilot, Mariners Weather Log**, and **Local Climatological Data, Annual Summary**. They also appear in the National Geospatial-Intelligence Agency's **Pilot Chart Atlases** and **Sailing Directions Planning Guides**.

DEPARTMENT OF DEFENSE

National Geospatial-Intelligence Agency (NGA)

(531) The National Geospatial-Intelligence Agency provides hydrographic, navigational, topographic, and geodetic data, charts, maps, and related products and services to the Armed Forces, other Federal Agencies, the Merchant Marine and mariners in general. Publications include Sailing Directions, List of Lights, Distances Between Ports, Radio Navigational Aids, International Code of Signals, American Practical Navigator (Bowditch), and Notice to Mariners. (See National Geospatial-Intelligence Agency Procurement Information in Appendix A.)

U.S. Army Corps of Engineers (USACE)

(532) The U.S. Army Corps of Engineers has charge of the improvement of the rivers and harbors of the United States and of miscellaneous other civil works which include the administration of certain Federal laws enacted for the protection and preservation of navigable waters of the United States; the establishment of regulations for the use, administration, and navigation of navigable waters; the establishment of harbor lines; the removal of sunken vessels obstructing or endangering navigation; and the granting of permits for structures

or operations in navigable waters, and for discharges and deposits of dredged and fill materials in these waters.

(533) **Restricted areas** in most places are defined and regulations governing them are established by the U.S. Army Corps of Engineers. The regulations are enforced by the authority designated in the regulations, and the areas are shown on the large-scale charts of NOS. Copies of the regulations may be obtained at the District offices of the U.S. Army Corps of Engineers. The regulations also are included in the appropriate Coast Pilot.

(534) Information concerning the various ports, improvements, channel depths, navigable waters, and the condition of the Intracoastal Waterways in the areas under their jurisdiction may be obtained direct from the District Engineer Offices. (See Appendix A for addresses.)

Fishtraps

(535) The U.S. Army Corps of Engineers has general supervision of location, construction, and manner of maintenance of all traps, weirs, pounds, or other fishing structures in the navigable waters of the United States. Where State and/or local controls are sufficient to regulate these structures, including that they do not interfere with navigation, the U.S. Army Corps of Engineers leaves such regulation to the State or local authority. (See **33 CFR 330** (not carried in this Pilot) for applicable Federal regulations.) Construction permits issued by the Engineers specify the lights and signals required for the safety of navigation.

(536) **Fish havens**, artificial reefs constructed to attract fish, can be established in U.S. coastal waters only as authorized by a U.S. Army Corps of Engineers permit; the permit specifies the location, extent, and depth over these mounds of rubble.

U.S. Naval Observatory

(537) The U.S. Naval Observatory (USNO) provides the following services: automated data services for Loran-C, GPS and NAVSAT information: data service (menu driven) parameters - 8 bit, no parity, 1 stop, 1200 to 2400 BAUD, access password CESIUM133. Time service: 900-410-8463 or 202-762-1401. General information: 202-762-1467.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration (FDA)

(538) Under the provisions of the Control of Communicable Diseases Regulations (**21 CFR 1240**) and Interstate Conveyance Sanitation Regulations (**21 CFR 1250**), vessel companies operating in interstate traffic shall obtain potable water for drinking and culinary purposes only at watering points found acceptable to the Food and Drug Administration. Water supplies used in watering point operations must also be inspected to determine compliance with applicable Interstate Quarantine Regulations (**42 CFR 72**). These regulations are based on authority contained in the Public Health Service Act (PL 78–410). Penalties for violation of any regulation prescribed under authority of the Act are provided for under Section 368 (42 USC 271) of the Act.

Vessel Watering Points

(539) FDA annually publishes a list of Acceptable Vessel Watering Points. This list is available from most FDA offices or from Interstate Travel Sanitation Subprogram Center for Food Safety and Applied Nutrition, FDA (HFF-312), 200 C Street SW., Washington, D.C. 20204. Current status of watering points can be ascertained by contacting any FDA office. (See Appendix A for addresses.)

Public Health Service

(540) The Public Health Service administers foreign quarantine procedures at U.S. ports of entry.

(541) All vessels arriving in the United States are subject to public health inspection. Vessels subject to routine boarding for quarantine inspection are only those which have had on board during the 15 days preceding the date of expected arrival or during the period since departure (whichever period of time is shorter) the occurrence of any death or ill person among passengers or crew (including those who have disembarked or have been removed). The master of a vessel must report such occurrences immediately by radio to the quarantine station at or nearest the port at which the vessel will arrive.

(542) In addition, the master of a vessel carrying 13 or more passengers must report by radio 24 hours before arrival the number of cases (including zero) of diarrhea in passengers and crew recorded in the ship's medical log during the current cruise. All cases that occur after the 24 hour report must also be reported not less than 4 hours before arrival.

(543) "Ill person" means person who:

(544) 1. Has a temperature of 100°F (or 38°C) or greater, accompanied by a rash, glandular swelling, or jaundice, or which has persisted for more than 48 hours; or

(545) 2. Has diarrhea, defined as the occurrence in a 24 hour period of three or more loose stools or of a greater than normal (for the person) amount of loose stools.

(546) Vessels arriving at ports under control of the United States are subject to sanitary inspection to determine

whether measures should be applied to prevent the introduction, transmission, or spread of communicable disease.

(547) Specific public health laws, regulations, policies, and procedures may be obtained by contacting U.S. Quarantine Stations, U.S. Consulates or the Chief Program Operations, Division of Quarantine, Centers for Disease Control, Atlanta, Ga. 30333. (See Appendix A for addresses of U.S. Public Health Service Quarantine Stations.)

DEPARTMENT OF HOMELAND SECURITY

U.S. Citizenship and Immigration Services

(548) The Immigration and Naturalization Service administers the laws relating to admission, exclusion, and deportation of aliens, the registration and fingerprinting of aliens, and the naturalization of aliens lawfully resident in the United States.

(549) The designated ports of entry for aliens are divided into three classes. Class A is for all aliens. Class B is only for aliens who at the time of applying for admission are lawfully in possession of valid resident aliens' border-crossing identification cards or valid nonresident aliens' border-crossing identification cards or are admissible without documents under the documentary waivers contained in **8 CFR 212.1(a)**. Class C is only for aliens who are arriving in the United States as crewmen as that term is defined in Section 101(a) (10) of the Immigration and Nationality Act. (The term "crewman" means a person serving in any capacity on board a vessel or aircraft.) No person may enter the United States until he has been inspected by an immigration officer. A list of the offices covered by this Coast Pilot is given in Appendix A.

U.S. Coast Guard

(550) The Coast Guard has among its duties the enforcement of the laws of the United States on the high seas and in coastal and inland waters of the U.S. and its possessions; enforcement of navigation and neutrality laws and regulations; establishment and enforcement of navigational regulations upon the Inland Waters of the United States, including the establishment of a demarcation line separating the high seas from waters upon which U.S. navigational rules apply; administration of the Oil Pollution Act of 1961, as amended; establishment and administration of vessel anchorages; approval of bridge locations and clearances over navigable waters; administration of the alteration of obstructive bridges; regulation of drawbridge operations; inspection of vessels of the Merchant Marine; admeasurement of vessels; documentation of vessels; preparation and publication of merchant vessel registers; registration of stack insignia; port security; issuance of Merchant Marine licenses and documents; search and rescue operations; investigation of marine casualties and accidents, and suspension and revocation proceedings; destruction of derelicts; operation of aids to navigation; publication of Light Lists and Local Notices to Mariners; and operation of ice-breaking facilities.

(551) The Coast Guard, with the cooperation of coast radio stations of many nations, operates the **Automated Mutual-assistance Vessel Rescue System (AMVER).** It is an international maritime mutual assistance program which provides important aid to the development and coordination of search and rescue (SAR) efforts in many offshore areas of the world. Merchant ships of all nations making offshore passages are encouraged to voluntarily send movement (sailing) reports and periodic position reports to the AMVER Center at Coast Guard New York via selected radio stations. Information from these reports is entered into an electronic computer which generates and maintains dead reckoning positions for the vessels. Characteristics of vessels which are valuable for determining SAR capability are also entered into the computer from available sources of information.

(552) A worldwide communications network of radio stations supports the AMVER System. Propagation conditions, location of vessel, and traffic density will normally determine which station may best be contacted to establish communications. To ensure that no charge is applied, all AMVER reports should be passed through specified radio stations. Those stations which currently accept AMVER reports and apply no coastal station, ship station, or landline charge are listed in each issue of the "AMVER Bulletin" publication. Also listed are the respective International radio call signs, locations, frequency bands, and hours of operation. The "AMVER Bulletin" is available from AMVER Maritime Relations, U.S. Coast Guard, Battery Park Building New York, NY 10004, TEL: 212-668-7764, FAX 212-668-7684. Although AMVER reports may be sent through nonparticipating stations, the Coast Guard cannot reimburse the sender for any charges applied.

(553) Information concerning the predicted location and SAR characteristics of each vessel known to be within the area of interest is made available upon request to recognized SAR agencies of any nation or vessels needing assistance. Predicted locations are only disclosed for reasons related to marine safety.

(554) Benefits of AMVER participation to shipping include: (1) improved chances of aid in emergencies, (2) reduced number of calls for assistance to vessels not favorably located, and (3) reduced time lost for vessels

responding to calls for assistance. An AMVER participant is under no greater obligation to render assistance during an emergency than a vessel who is not participating.

(555) All AMVER messages should be addressed to **Coast Guard New York** regardless of the station to which the message is delivered, except those sent to Canadian stations which should be addressed to **AMVER Halifax** or **AMVER Vancouver** to avoid incurring charges to the vessel for these messages.

(556) Instructions guiding participation in the AMVER System are available in the following languages: Chinese, Danish, Dutch, English, French, German, Greek, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, and Swedish. The AMVER Users Manual is available from: AMVER Maritime Relations; Commander, Atlantic Area, U.S. Coast Guard, Federal Building, 431 Crawford Street, Portsmouth, VA 23704-5004; Commander, Pacific Area, U.S. Coast Guard, Coast Guard Island, Alameda, CA. 94501-5100; and at U.S. Coast Guard District Offices, Marine Safety Offices, Marine Inspection Offices, and Captain of the Port Offices in major U.S. ports. Requests for instructions should state the language desired if other than English.

(557) For AMVER participants bound for U.S. ports there is an additional benefit. AMVER participation via messages which include the necessary information is considered to meet the requirements of 33 CFR 160. (See **160.201,** chapter 2, for rules and regulations.)

(558) **AMVER Reporting Required.** U.S. Maritime Administration regulations effective August 1, 1983, state that certain U.S. flag vessels and foreign flag "War Risk" vessels must report and regularly update their voyages to the AMVER Center. This reporting is required of the following: (a) U.S. flag vessels of 1,000 gross tons or greater, operating in foreign commerce; (b) foreign flag vessels of 1,000 gross tons or greater, for which an Interim War Risk Insurance Binder has been issued under the provisions of Title XII, Merchant Marine Act, 1936.

(559) Details of the above procedures are contained in the AMVER Users Manual. The system is also published in NGA Pub. 117.

(560) Search and Rescue Operation procedures are contained in the International Maritime Organization (IMO) SAR Manual (MERSAR). U.S. flag vessels may obtain a copy of MERSAR from local Coast Guard Marine Safety Offices and Marine Inspection Offices or by writing to U.S. Coast Guard (G-OSR), Washington, D.C. 20593-0001. Other flag vessels may purchase MERSAR directly from IMO.

(561) The Coast Guard conducts and/or coordinates **search and rescue** operations for surface vessels and aircraft that are in distress or overdue. (See Distress Signals and Communication Procedures this chapter.)

(562) **Documentation** (issuance of certificates of registry, enrollments, and licenses), admeasurements of vessels, and administration of the various navigation laws pertaining thereto are functions of the Coast Guard. Yacht commissions are also issued, and certain undocumented vessels required to be numbered by the Federal Boat Safety Act of 1971 are numbered either by the Coast Guard or by a State having an approved numbering system (the latter is most common). Owners of vessels may obtain the necessary information from any Coast Guard District Commander, Marine Safety Office, or Marine Inspection Office. Coast Guard District Offices, Coast Guard Sector Offices, Coast Guard Stations, Marine Safety Offices, Captain of the Port Offices, Marine Inspection Offices, and Documentation Offices are listed in Appendix A. (Note: A Marine Safety Office performs the same functions as those of a Captain of the Port and a Marine Inspection Office. When a function is at a different address than the Marine Safety Office, it will be listed separately in Appendix A.)

U.S. Customs and Border Protection

(563) The U.S. Customs and Border Protection administers certain laws relating to:

(564) • entry and clearance of vessels and permits for certain vessel movements between points in the United States

(565) • prohibitions against coastwise transportation of passengers and merchandise

(566) • salvage

(567) • dredging and towing by foreign vessels

(568) • certain activities of vessels in the fishing trade

(569) • regular and special tonnage taxes on vessels

(570) • landing and delivery of foreign merchandise (including unlading, appraisement, lighterage, drayage, warehousing, and shipment in bond)

(571) • collection of customs duties, including duty on imported pleasure boats and yachts and 50% duty on foreign repairs to American vessels engaged in trade

(572) • customs treatment of sea and ship's stores while in port and the baggage of crewmen and passengers

(573) • illegally imported merchandise

(574) • remission of penalties or forfeiture if customs or navigation laws have been violated.

(575) The Customs Service also cooperates with many other Federal agencies in the enforcement of statutes they are responsible for. Customs districts and ports of entry, including customs stations, are listed in Appendix A.

(576) The Customs and Border Protection office may issue, without charge, a **cruising license**, normally valid

for one year, to a yacht of a foreign country which has a reciprocal agreement with the United States. A foreign yacht holding a cruising license is exempt from having to undergo formal entry and clearance procedures such as filing manifests and obtaining permits to proceed as well as from payment of tonnage tax and entry and clearance fees at all but the first port of entry. These vessels shall not engage in trade, violate the laws of the United States, visit a vessel not yet inspected by a Customs Agent and does, within 24 hours of arrival at each port or place in the United States, report the fact of arrival to the nearest customhouse. Countries which have reciprocal agreements granting these privileges to U.S. yachts are:

Argentina	Honduras
Australia	Ireland
Austria	Italy
Bahama Islands	Jamaica
Belgium	Liberia
Bermuda	Marshall Islands
Canada	Netherlands
Denmark	New Zealand
Finland	Norway
France	Sweden
Germany	Switzerland
Great Britain	Turkey
Greece	

(577) Further information concerning cruising licenses may be obtained from the headquarters port for the customs district in which the license is desired or at www.cbp.gov. U.S. yacht owners planning cruises to foreign ports may contact the nearest customs district headquarters as to customs requirements.

ENVIRONMENTAL PROTECTION AGENCY (EPA)

(578) The U.S. Environmental Protection Agency provides coordinated governmental action to assure the protection of the environment by abating and controlling pollution on a systematic basis. The ocean dumping permit program of the Environmental Protection Agency provides that except when authorized by permit, the dumping of any material into the ocean is prohibited by the "Marine Protection, Research, and Sanctuaries Act of 1972, Public Law 92–532," as amended (33 USC 1401 et seq.).

(579) Permits for the **dumping of dredged material** into waters of the United States, including the territorial sea, and into ocean waters are issued by the U.S. Army Corps of Engineers. Permits for the dumping of fill material into waters of the United States, including the territorial sea, are also issued by the U.S. Army Corps of Engineers. Permits for the dumping of other material in the territorial sea and ocean waters are issued by the Environmental Protection Agency.

(580) U.S. Army Corps of Engineers regulations relating to the above are contained in **33 CFR 323-324**; Environmental Protection Agency regulations are in **40 CFR 220-229**. (See Disposal Sites, this chapter.)

(581) Persons or organizations who want to file for an application for an ocean dumping permit should write the Environmental Protection Agency Regional Office for the region in which the port of departure is located. (See Appendix A for addresses of regional offices and States in the EPA coastal regions.)

(582) The letter should contain the name and address of the applicant; name and address of person or firm; the name and usual location of the conveyance to be used in the transportation and dumping of the material involved; a physical description where appropriate; and the quantity to be dumped and proposed dumping site.

(583) Everyone who writes EPA will be sent information about a final application for a permit as soon as possible. This final application is expected to include questions about the description of the process or activity giving rise to the production of the dumping material; information on past activities of applicant or others with respect to the disposal of the type of material involved; and a description about available alternative means of disposal of the material with explanations about why an alternative is thought by the applicant to be inappropriate.

FEDERAL COMMUNICATIONS COMMISSION (FCC)

(584) The Federal Communications Commission controls non-Government radio communications in the United States, Guam, Puerto Rico, and the Virgin Islands. Commission inspectors have authority to board ships to determine whether their radio stations comply with international treaties, Federal Laws, and Commission regulations. The commission has field offices in the principal U.S. ports. (See Appendix A for addresses.) Information concerning ship radio regulations and service documents may be obtained from the Federal Communications Commission, Washington, D.C. 20554, or from any of the field offices.

Navigation Regulations

(1) This chapter contains extracts from **Code of Federal Regulations** (CFR) that are of importance to mariners in the area covered by this Coast Pilot. Sections of little value to the mariner are sometimes omitted. Omitted sections are signified by the following [...]

(2) Extracts from the following titles are contained in this chapter.

Title 15 (15 CFR): Commerce and Foreign Trade

(3) Part 922–National Marine Sanctuary Program Regulations

Title 33 (33 CFR): Navigation and Navigable Waters

(4) Part 26–Vessel Bridge-to-Bridge Radiotelephone Regulations

(5) Part 70–Interference with or Damage to Aids to Navigation

(6) Part 80–COLREGS Demarcation Lines

(7) Part 110–Anchorage Regulations

(8) Part 117–Drawbridge Operation Regulations

(9) Part 147–Safety Zones

(10) Part 157–Rules for the Protection of the Marine Environment Relating to Tank Vessels Carrying Oil in Bulk

(11) Part 160–Ports and Waterways Safety-General

(12) Part 161–Vessel Traffic Management

(13) Part 162–Inland Waterways Navigation Regulations

(14) Part 164–Navigation Safety Regulations (in part)

(15) Part 165–Regulated Navigation Areas and Limited Access Areas

(16) Part 166–Shipping Safety Fairways

(17) Part 167–Offshore Traffic Separation Schemes

(18) Part 168–Escort Requirements for Certain Tankers

(19) Part 169–Ship Reporting Systems

(20) Part 207–Navigation Regulations

(21) Part 334–Danger Zones and Restricted Area Regulations

Title 40 (40 CFR): Protection of Environment

(22) Part 140–Marine Sanitation Device Standard

Title 46 (46 CFR): Shipping

(23) Part 15–Manning Requirements

Title 50 (50 CFR): Wildlife and Fisheries

(24) Part 224–Endangered Marine and Anadromous Species

(25) Part 404–Northwestern Hawaiian Islands Marine National Monument

Note

(26) These regulations can only be amended by the enforcing agency or other authority cited in the regulations. Accordingly, requests for changes to these regulations should be directed to the appropriate agency for action. In those regulations where the enforcing agency is not cited or is unclear, recommendations for changes should be directed to the following Federal agencies for action:

(27) **National Oceanic and Atmospheric Administration:** (15 CFR 922);

(28) **U.S. Coast Guard:** (33 CFR 26, 80, 110, 117, 147, 157, 160, 161, 162, 164, 165, 166, 167, and 168; 46 CFR 15);

(29) **U.S. Army Corps of Engineers:** (33 CFR 207 and 334).

(30) **Environmental Protection Agency:** (40 CFR 140).

TITLE 15–COMMERCE AND FOREIGN TRADE

Part 922–National Marine Sanctuary Program Regulations

Subpart A–General

§922.1 Applicability of regulations.

(31) Unless noted otherwise, the regulations in subparts A, D and E apply to all thirteen National Marine Sanctuaries for which site-specific regulations appear in Subparts F through R, respectively. Subparts B and C apply to the site evaluation list and to the designation of future Sanctuaries.

§922.2 Mission, goals, and special policies.

(32) (a) In accordance with the standards set forth in title III of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended, also known as the National Marine Sanctuaries Act (Act) the mission of the National Marine Sanctuary program (Program) is to identify, designate and manage areas of the marine environment of special national, and in some cases international, significance due to their conservation, recreational, ecological, historical, research, educational, or aesthetic qualities.

(33) (b) The goals of the Program are to carry out the mission to:

(34) (1) Identify and designate as National Marine Sanctuaries areas of the marine environment which are of special national significance;

(35) (2) Provide authority for comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner which complements existing regulatory authorities;

(36) (3) Support, promote, and coordinate scientific research on, and monitoring of, the resources of these marine areas, especially long-term monitoring and research of these areas:

(37) (4) Enhance public awareness, understanding, appreciation, and wise use of the marine environment;

(38) (5) Facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities;

(39) (6) Develop and implement coordinated plans for the protection and management of these areas with appropriate Federal agencies, State and local governments, Native American tribes and organizations, international organizations, and other public and private interests concerned with the continuing health and resilience of these marine areas;

(40) (7) Create models of, and incentives for, ways to conserve and manage these areas;

(41) (8) Cooperate with global programs encouraging conservation of marine resources; and

(42) (9) Maintain, restore, and enhance living resources by providing places for species that depend upon these marine areas to survive and propagate.

(43) (c) To the extent consistent with the policies set forth in the Act, in carrying out the Program's mission and goals:

(44) (1) Particular attention will be given to the establishment and management of marine areas as National Marine Sanctuaries for the protection of the area's natural resource and ecosystem values; particularly for ecologically or economically important or threatened species or species assemblages, and for offshore areas where there are no existing special area protection mechanisms;

(45) (2) The size of a National Marine Sanctuary, while highly dependent on the nature of the site's resources, will be no larger than necessary to ensure effective management;

(46) (d) Management efforts will be coordinated to the extent practicable with other countries managing marine protected areas;

(47) (e) Program regulations, policies, standards, guidelines, and procedures under the Act concerning the identification, evaluation, registration, and treatment of historical resources shall be consistent, to the extent practicable, with the declared national policy for the protection and preservation of these resources as stated in the National Historic Preservation Act of 1966, 16 U.S.C. 470 et seq., the Archeological and Historical Preservation Act of 1974, 16 U.S.C. 469 et seq., and the Archeological Resources Protection Act of 1979 (ARPA), 16 U.S.C. 470aa et seq. The same degree of regulatory protection and preservation planning policy extended to historical resources on land shall be extended, to the extent practicable, to historical resources in the marine environment within the boundaries of designated National Marine Sanctuaries. The management of historical resources under the authority of the Act shall be consistent, to the extent practicable, with the Federal archeological program by consulting the Uniform Regulations, ARPA (43 CFR part 7) and other relevant Federal regulations. The Secretary of the Interior's Standards and Guidelines for Archeology may also be consulted for guidance. These guidelines are available from the Office of Ocean and Coastal Management at (301) 713-3125.

§922.3 Definitions.

(48) *Act* means title III of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended, 16 U.S.C. 1431 et seq., also known as the National Marine Sanctuaries Act.

(49) *Active Candidat*e means a site selected by the Secretary from the Site Evaluation List for further consideration for possible designation as a National Marine Sanctuary.

(50) *Assistant Administrator* means the Assistant Administrator for Ocean Services and Coastal Zone Management, National Oceanic and Atmospheric Administration (NOAA), or designee.

(51) *Benthic community* means the assemblage of organisms, substrate, and structural formations found at or near the bottom that is periodically or permanently covered by water.

(52) *Commercial fishing* means any activity that results in the sale or trade for intended profit of fish, shellfish, algae, or corals.

(53) *Conventional hook and line gear* means any fishing apparatus operated aboard a vessel and composed of a single line terminated by a combination of sinkers and hooks or lures and spooled upon a reel that may be hand or electrically operated, hand-held or mounted. This term does not include bottom longlines.

(54) *Cultural resources* means any historical or cultural feature, including archaeological sites, historic structures, shipwrecks, and artifacts.

(55) *Director* means, except where otherwise specified, the Director of the Office of Ocean and Coastal Resource Management, NOAA, or designee.

(56) *Exclusive economic zone* means the exclusive economic zone as defined in the Magnuson Fishery Conservation and Management Act, 16 U.S. 1801 et seq.

(57) *Fish wastes* means waste materials resulting from commercial fish processing operations.

(58) *Historical resource* means a resource possessing historical, cultural, archaeological or paleontological significance, including sites, structures, districts, and objects significantly associated with or representative of earlier people, cultures and human activities and events. Historical resources also include "historical properties", as defined in the National Historic Preservation Act, as amended 16 U.S.C. 470 et seq., and its implementing regulations, as amended.

(59) *Indian tribe* means any American Indian tribe, band, group, or community recognized as such by the Secretary of the Interior.

(60) *Injure* means to change adversely, either in the long or short term, a chemical, biological or physical attribute of, or the viability of. This includes, but is not limited to, to cause the loss of or destroy.

(61) *Lightering* means at-sea transfer of petroleum-based products, materials or other matter from vessel to vessel.

(62) *Marine* means those areas of coastal and ocean waters, the Great Lakes and their connecting waters, and submerged lands over which the United States exercises jurisdiction, including the exclusive economic zone, consistent with international law.

(63) *Mineral* means clay, stone, sand, gravel, metalliferous ore, non-metalliferous ore, or any other solid material or other matter of commercial value.

(64) *National historic landmark* means a district, site, building, structure or object designated as such by the Secretary of the Interior under the National Historic Landmarks Program (36 CFR part 65).

(65) *National Marine Sanctuary* means an area of the marine environment of special national significance due to its resource or human-use values, which is designated as such to ensure its conservation and management.

(66) *Person* means any private individual, partnership, corporation or other entity; or any officer, employee, agent, department, agency or instrumentality of the Federal Government, of any State or local unit of government, or of any foreign government.

(67) *Regional Fishery Management Council* means any fishery council established under section 302 of the Magnuson Fishery Conservation and Management Act, 16 U.S.C. 1801 et seq.

(68) *Sanctuary quality* means any particular and essential characteristic of a Sanctuary, including, but not limited to, water, sediment, and air quality.

(69) *Sanctuary resource* means any living or non-living resource of a National Marine Sanctuary that contributes to the conservation, recreational, ecological, historical, research, educational, or aesthetic value of the Sanctuary, including, but not limited to, the substratum of the area of the Sanctuary, other submerged features and the surrounding seabed, carbonate rock, corals and other bottom formations, coralline algae and other marine plants and algae, marine invertebrates, brine-seep biota, phytoplankton, zooplankton, fish, seabirds, sea turtles and other marine reptiles, marine mammals and historical resources.

(70) *Secretary* means the Secretary of the United States Department of Commerce, or designee.

(71) *Shunt* means to discharge expended drilling cuttings and fluids near the ocean seafloor.

(72) *Site Evaluation List (SEL)* means a list of selected natural and historical resource sites selected by the Secretary as qualifying for further evaluation for possible designation as National Marine Sanctuaries.

(73) *State* means each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, American Samoa, the United States Virgin Islands, Guam, and any other commonwealth, territory, or possession of the United States.

(74) *Subsistence use* means the customary and traditional use by rural residents of areas near or in the marine environment for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles; and for barter, if for food or non-edible items other than money, if the exchange is of a limited and non-commercial nature.

(75) *Take or taking* means:

(76) (1) For any marine mammal, sea turtle, or seabird listed as either endangered or threatened pursuant to the Endangered Species Act, to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect or injure, or to attempt to engage in any such conduct;

(77) (2) For any other marine mammal, sea turtle, or seabird, to harass, hunt, capture, kill, collect or injure, or to attempt to engage in any such conduct.

(78) For the purpose of both (1) and (2) of this definition, this includes, but is not limited to, to collect any dead or injured marine mammal, sea turtle or seabird, or any part thereof; to restrain or detain any marine mammal, sea turtle or seabird, or any part thereof, no matter how temporarily; to tag any sea turtle, marine mammal or seabird; to operate a vessel or aircraft or to do any other act that results in the disturbance or molestation of any marine mammal, sea turtle or seabird.

(79) *Tropical fish* means fish or minimal sport and food value, usually brightly colored, often used for aquaria purposes and which lives in a direct relationship with live bottom communities.

(80) *Vessel* means a watercraft of any description capable of being used as a means of transportation in/on the waters of the Sanctuary.

§922.4 Effect of National Marine Sanctuary designation.

(81) The designation of a National Marine Sanctuary, and the regulations implementing it, are binding on any person subject to the jurisdiction of the United States. Designation does not constitute any claim to territorial jurisdiction on the part of the United States for designated sites beyond the U.S. territorial sea, and the regulations implementing the designation shall be applied in accordance with generally recognized principles of international law, and in accordance with treaties, conventions, and other agreements to which the United States is a party. No regulation shall apply to a person who is not a citizen, national, or resident alien of the United States, unless in accordance with:

(82) (a) Generally recognized principles of international law;

(83) (b) An agreement between the United States and the foreign state of which the person is a citizen; or

(84) (c) An agreement between the United States and the flag state of the foreign vessel, if the person is a crew member of the vessel.

Subpart D–Management Plan Development and Implementation

§922.30 General.

(85) (a) The Secretary shall implement each management plan, and applicable regulations, including carrying out surveillance and enforcement activities and conducting such research, monitoring, evaluation, and education programs as are necessary and reasonable to carry out the purposes and policies of the Act.

(86) (b) Consistent with Sanctuary management plans, the Secretary shall develop and implement site-specific contingency and emergency-response plans designed to protect Sanctuary resources. The plans shall contain alert procedures and actions to be taken in the event of an emergency such as a shipwreck or an oil spill.

§922.31 Promotion and coordination of Sanctuary use.

(87) The Secretary shall take such action as is necessary and reasonable to promote and coordinate the use of National Marine Sanctuaries for research, monitoring, and education purposes. Such action may include consulting with Federal agencies, or other persons to promote use of one or more Sanctuaries for research, monitoring and education, including coordination with the National Estuarine Research Reserve System.

Subpart E–Regulations of General Applicability

§922.40 Purpose.

(88) The purpose of the regulations in this Subpart and in Subparts F through R is to implement the designations of the thirteen National Marine Sanctuaries for which site specific regulations appear in Subparts F through R, respectively, by regulating activities affecting them, consistent with their respective terms of designation in order to protect, preserve and manage and thereby ensure the health, integrity and continued availability of the conservation, ecological, recreational, research, educational, historical and aesthetic resources and qualities of these areas. Additional purposes of the regulations implementing the designation of the Florida Keys and Hawai‘ian Islands Humpback Whale National Marine Sanctuaries are found at §§922.160, and 922.180, respectively.

§922.41 Boundaries.

(89) The boundary for each of the thirteen National Marine Sanctuaries covered by this part is described in Subparts F through R, respectively.

§922.42 Allowed Activities.

(90) All activities (e.g., fishing, boating, diving, research, education) may be conducted unless prohibited or otherwise regulated in Subparts F through R, subject to any emergency regulations promulgated pursuant to §§922.44, 922.111(c), 922.165, 922.186, or 922.196, subject to all prohibitions, regulations, restrictions, and conditions validly imposed by any Federal, State, or local authority of competent jurisdiction, including Federal and State fishery management

authorities, and subject to the provisions of section 312 of the National Marine Sanctuaries Act (NMSA), (16 U.S.C. 1431 et seq.). The Assistant Administrator may only directly regulate fishing activities pursuant to the procedure set forth in section 304(a)(5) of the NMSA.

§922.43 Prohibited or otherwise regulated activities.

(91) Subparts F through R set forth site-specific regulations applicable to the activities specified therein.

§922.44 Emergency Regulations.

(92) Where necessary to prevent or minimize the destruction of, loss of, or injury to a Sanctuary resource or quality, or minimize the imminent risk of such destruction, loss, or injury, any and all such activities are subject to immediate temporary regulation, including prohibition. The provisions of this section do not apply to the Cordell Bank, Florida Keys, Hawai'ian Islands Humpback Whale, and Thunder Bay National Marine Sanctuaries. See §§922.111(c), 922.165, 922.186, and 922.196, respectively, for the authority to issue emergency regulations with respect to those sanctuaries.

§922.45 Penalties.

(93) (a) Each violation of the NMSA or FKNMSPA, any regulation in this part, or any permit issued pursuant thereto, is subject to a civil penalty of not more than $100,000. Each day of a continuing violation constitutes a separate violation.

(94) (b) Regulations setting forth the procedures governing administrative proceedings for assessment of civil penalties, permit sanctions, and denials for enforcement reasons, issuance and use of written warnings, and release or forfeiture of seized property appear at 15 CFR part 904.

§922.46 Response costs and damages.

(95) Under section 312 of the Act, any person who destroys, causes the loss of, or injures any Sanctuary resource is liable to the United States for response costs and damages resulting from such destruction, loss or injury, and any vessel used to destroy, cause the loss of, or injure any Sanctuary resource is liable in rem to the United States for response costs and damages resulting from such destruction, loss or injury.

§922.47 Pre-existing authorizations or rights and certifications of pre-existing authorizations or rights.

(96) (a) Leases, permits, licenses, or rights of subsistence use or access in existence on the date of designation of any National Marine Sanctuary shall not be terminated by the Director. The Director may, however, regulate the exercise of such leases, permits, licenses, or rights consistent with the purposes for which the Sanctuary was designated.

(97) (b) The prohibitions listed in Subparts F through P, and Subpart R do not apply to any activity authorized by a valid lease, permit, license, approval or other authorization in existence on the effective date of Sanctuary designation, or in the case of the Florida Keys National Marine Sanctuary the effective date of the regulations in Subpart P, and issued by any Federal, State or local authority of competent jurisdiction, or by any valid right of subsistence use or access in existence on the effective date of Sanctuary designation, or in the case of the Florida Keys National Marine Sanctuary the effective date of the regulations in Subpart P, provided that the holder of such authorization or right complies with certification procedures and criteria promulgated at the time of Sanctuary designation, or in the case of the Florida Keys National Marine Sanctuary the effective date of the regulations in Subpart P, and with any terms and conditions on the exercise of such authorization or right imposed by the Director as a condition of certification as the Director deems necessary to achieve the purposes for which the Sanctuary was designated.

§922.48 National Marine Sanctuary permits–application procedures and issuance criteria.

(98) (a) A person may conduct an activity prohibited by Subparts F through O, if conducted in accordance with the scope, purpose, terms and conditions of a permit issued under this section and Subparts F through O, as appropriate. For the Florida Keys National Marine Sanctuary, a person may conduct an activity prohibited by Subpart P if conducted in accordance with the scope, purpose, terms and conditions of a permit issued under §922.166. For the Thunder Bay National Marine Sanctuary and Underwater Preserve, a person may conduct an activity prohibited by Subpart R in accordance with the scope, purpose, terms and conditions of a permit issued under §922.195.

(99) (b) Applications for permits to conduct activities otherwise prohibited by Subparts F through O should be addressed to the Director and sent to the address specified in Subparts F through O, or Subpart R, as appropriate. An application must include:

(100) (1) A detailed description of the proposed activity including a timetable for completion:

(101) (2) The equipment, personnel and methodology to be employed;

(102) (3) The qualifications and experience of all personnel;

(103) (4) The potential effects of the activity, if any, on Sanctuary resources and qualities; and

(104) (5) Copies of all other required licenses, permits, approvals or other authorizations.

(105) (c) Upon receipt of an application, the Director may request such additional information from the applicant as he or she deems necessary to act on the application and may seek the views of any persons or entity, within or outside the Federal government, and may hold a public hearing, as deemed appropriate.

(106) (d) The Director, at his or her discretion, may issue a permit, subject to such terms and conditions as he or she deems appropriate, to conduct a prohibited activity, in accordance with the criteria found in Subparts F through O, or Subpart R, as appropriate. The Director shall further impose, at a minimum, the conditions set forth in the relevant subpart.

(107) (e) A permit granted pursuant to this section is nontransferable.

(108) (f) The Director may amend, suspend, or revoke a permit issued pursuant to this section for good cause. The Director may deny a permit application pursuant to this section, in whole or in part, if it is determined that the permittee or applicant has acted in violation of the terms and conditions of a permit or of the regulations set forth in this section or Subparts F through O, Subpart R or for other good cause. Any such action shall be communicated in writing to the permittee or applicant by certified mail and shall set forth the reason(s) for the action taken. Procedures governing permit sanctions and denials for enforcement reasons are set forth in subpart D of 15 CFR part 904.

§922.49 Notification and review of applications for leases, licenses, permits, approvals or other authorizations to conduct a prohibited activity.

(109) (a) A person may conduct an activity prohibited by Subparts L through P, or Subpart R, if such activity is specifically authorized by any valid Federal, State, or local lease, permit, license, approval, or other authorization issued after the effective date of Sanctuary designation, or in the case of the Florida Keys National Marine Sanctuary after the effective date of the regulations in Subpart P provided that:

(110) (1) The applicant notifies the Director, in writing, of the application for such authorization (and of any application for an amendment, renewal, or extension of such authorization) within fifteen (15) days of the date of filing of the application or the effective date of Sanctuary designation, or in the case of the Florida Keys National Marine Sanctuary the effective date of the regulations in Subpart P of this part, whichever is later;

(111) (2) The applicant complies with the other provisions of this §922.49;

(112) (3) The Director notifies the applicant and authorizing agency that he or she does not object to issuance of the authorization (or amendment, renewal or extension); and

(113) (4) The applicant complies with any terms and conditions the Director deems reasonably necessary to protect Sanctuary resources and qualities.

(114) (b) Any potential applicant for an authorization described in Paragraph (a) of this section may request the Director to issue a finding as to whether the activity for which an application is intended to be made is prohibited by Subparts L through P, or Subpart R, as appropriate.

(115) (c) Notification of filings of applications should be sent to the Director, Office of Ocean and Coastal Resource Management at the address specified in Subparts L through P, or Subpart R as appropriate. A copy of the application must accompany the notification.

(116) (d) The Director may request additional information from the applicant as he or she deems reasonably necessary to determine whether to object to issuance of an authorization described in Paragraph (a) of this section, or what terms and conditions are reasonably necessary to protect Sanctuary resources and qualities. The information requested must be received by the Director within 45 days of the postmark date of the request. The Director may seek the views of any persons on the application.

(117) (e) The Director shall notify, in writing, the agency to which application has been made of his or her pending review of the application and possible objection to issuance. Upon completion of review of the application and information received with respect thereto, the Director shall notify both the agency and applicant, in writing, whether he or she has an objection to issuance and what terms and conditions he or she deems reasonably necessary to protect Sanctuary resources and qualities, and reasons therefor.

(118) (f) The director may amend the terms and conditions deemed reasonably necessary to protect Sanctuary resources and qualities whenever additional information becomes available justifying such an amendment.

(119) (g) Any time limit prescribed in or established under this §922.49 may be extended by the Director for good cause.

(120) (h) The applicant may appeal any objection by or terms or conditions imposed by the Director, to the Assistant Administrator in accordance with the procedures set forth in §922.50.

§922.50 Appeals of administrative action.

(121) (a)(1) Except for permit actions taken for enforcement reasons (see subpart D of 15 CFR part 904 for applicable procedures), an applicant for, or a holder of, a National Marine Sanctuary permit; an applicant for, or a holder of, a Special Use permit pursuant to section 310 of the Act; a person requesting certification of an existing lease, permit, license or right of subsistence use or access under §922.47; or, for those Sanctuaries described in Subparts L through P and Subpart R, an applicant for a lease, permit, license or other authorization issued by any Federal, State, or local authority of competent jurisdiction (hereinafter appellant) may appeal to the Assistant Administrator:

(122) (i) The granting, denial, conditioning, amendment, suspension or revocation by the Director of a National Marine Sanctuary or Special Use permit;

(123) (ii) The conditioning, amendment, suspension or revocation of a certification under §922.47; or

(124) (iii) For those Sanctuaries described in Subparts L through P and Subpart R, the objection to issuance of the imposition of terms and conditions on a lease, permit, license or other authorization issued by any Federal, State, or local authority of competent jurisdiction.

(125) (2) For those National Marine Sanctuaries described in subparts F through K, any interested person may also appeal the same actions described in §922.50(a)(1)(i) and (ii). For appeals arising from actions taken with respect to these National Marine Sanctuaries, the term "appellant" includes any such interested persons.

(126) (b) An appeal under Paragraph (a) of this section must be in writing, state the action(s) by the Director appealed and the reason(s) for the appeal, and be received within 30 days of receipt of notice of the action by the Director. Appeals should be addressed to the Assistant Administrator for Ocean Services and Coastal Zone Management, NOAA 1305 East-West Highway, 13th Floor, Silver Spring, MD 20910.

(127) (c)(1) The Assistant Administrator may request the appellant to submit such information as the Assistant Administrator deems necessary in order for him or her to decide the appeal. The information requested must be received by the Assistant Administrator within 45 days of the postmark date of the request. The Assistant Administrator may seek the views of any other persons. For the Monitor National Marine Sanctuary, if the appellant has request a hearing, the Assistant Administrator shall grant an informal hearing. For all other National Marine Sanctuaries, the Assistant Administrator may determine whether to hold an informal hearing on the appeal. If the Assistant Administrator determines that an informal hearing should be held, the Assistant Administrator may designate an officer before whom the hearing shall be held.

(128) (2) The hearing officer shall give notice in the **Federal Register** of the time, place and subject matter of the hearing. The appellant and the Director may appear personally or by counsel at that hearing and submit such material and present such arguments as deemed appropriate by the hearing officer. Within 60 days after the record for the hearing closes, the hearing officer shall recommend a decision in writing to the Assistant Administrator.

(129) (d) The Assistant Administrator shall decide the appeal using the same regulatory criteria as for the initial decision and shall base the appeal decision on the record before the Director and any information submitted regarding the appeal, and, if a hearing has been held, on the record before the hearing officer and the hearing officer's recommended decision. The Assistant Administrator shall notify the appellant of the final decision and the reason(s) therefore in writing. The Assistant Administrator's decision shall constitute final agency action for the purpose of the Administrative Procedure Act.

(130) (e) Any time limit prescribed in or established under this section other than the 30-day limit for filing an appeal may be extended by the Assistant Administrator or hearing office for good cause.

Subpart G–Channel Islands National Marine Sanctuary

§§922.70 Boundary.

(131) The Channel Islands National Marine Sanctuary (Sanctuary) consists of an area of the waters off the coast of California of approximately 1,128 square nautical miles (nmi) adjacent to the following islands and offshore rocks: San Miguel, Santa Cruz Island, Santa Rosa Island, Anacapa Island, Santa Barbara Island, Richardson Rock, and Castle Rock (collectively the islands) extending seaward to a distance of approximately six nmi. The boundary coordinates are listed in appendix A to this subpart.

§922.71 Definitions.

(132) In addition to those definitions found at §922.3, the following definitions apply to this subpart:

(133) *Pelagic finfish* are defined as: northern anchovy (*Engraulis mordax*), barracudas (*Sphyraena spp.*), billfishes (family *Istiophoridae*), dolphinfish (*Coryphaene hippurus*), Pacific herring (*Clupea pallasi*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), salmon (*Oncorhynchus spp.*), Pacific sardine (*Sardinops sagax*), blue shark (*Prionace*

glauca), salmon shark (*Lamna ditropis*), shortfin mako shark (*Isurus oxyrinchus*), thresher sharks (*Alopias spp*.), swordfish (*Xiphias gladius*), tunas (*family Scombridae*), and yellowtail (*Seriola lalandi*).

(134) *Stowed and not available for immediate* use means not readily accessible for immediate use, e.g., by being securely covered and lashed to a deck or bulkhead, tied down, unbaited, unloaded, or partially disassembled (such as spear shafts being kept separate from spear guns).

§922.72 Prohibited or otherwise regulated activities.

(135) (a) Except as may be necessary for the national defense (subject to the terms and conditions of Article 5, Section 2 of the Designation Document) or to respond to an emergency threatening life, property, or the environment, or except as may be permitted by the Director in accordance with §922.48 and §922.72, the following activities are prohibited and thus are unlawful for any person to conduct or to cause to be conducted within the Sanctuary;

(136) (1) Exploring for, developing, and producing hydrocarbons except pursuant to leases executed prior to March 30, 1981, and except the laying of pipeline, if the following oil spill contingency equipment is available at the site of such operations:

(137) (i) 1,500 feet of open ocean containment boom and a boat capable of deploying the boom;

(138) (ii) One oil skimming device capable of open ocean use; and

(139) (iii) Fifteen bales of oil sorbent material, and subject to all prohibitions, restrictions and conditions imposed by applicable regulations, permits, licenses or other authorizations and consistency reviews including those issued by the Department of the Interior, the Coast Guard, the Corps of Engineers, the Environmental Protection Agency and under the California Coastal Management Program and its implementing regulations.

(140) (2) Discharging or depositing any material or other matter except;

(141) (i) Fish or fish parts and chumming materials (bait);

(142) (ii) Water (including cooling water) and other biodegradable effluents incidental to vessel use of the Sanctuary generated by:

(143) (A) Marine sanitation devices;

(144) (B) Routine vessel maintenance, e.g., deck wash down;

(145) (C) Engine exhaust; or

(146) (D) Meals on board vessels;

(147) (iii) Effluents incidental to hydrocarbon exploration and exploitation activities allowed by Paragraph (a)(1) of this section.

(148) (3) Except in connection with the laying of any pipeline as allowed by Paragraph (a)(1) of this section, within 2 NM of any Island:

(149) (i) Constructing any structure other than a navigation aid,

(150) (ii) Drilling through the seabed, or

(151) (iii) Dredging or otherwise altering the seabed in any way, other than

(152) (A) To anchor vessels, or

(153) (B) To bottom trawl from a commercial fishing vessel.

(154) (4) Except to transport persons or supplies to or from an island, operating within one NM of an Island any vessel engaged in the trade of carrying cargo, including, but not limited to, tankers and other bulk carriers and barges, or any vessel engaged in the trade of servicing offshore installations. In no event shall this section be construed to limit access for fishing (including kelp harvesting), recreational, or research vessels.

(155) (5) Disturbing seabirds or marine mammals by flying motorized aircraft at less than 1000 feet over the waters within one NM of any Island except:

(156) (i) For enforcement purposes;

(157) (ii) To engage in kelp bed surveys; or

(158) (iii) To transport persons or supplies to or from an Island.

(159) (6) Removing or damaging any historical or cultural resource.

(160) (b) All activities currently carried out by the Department of Defense within the Sanctuary are essential for the national defense and, therefore, not subject to the prohibitions in this section. The exemption of additional activities having significant impact shall be determined in consultation between the Director and the Department of Defense.

§922.73 Marine reserves and marine conservation area.

(161) (a) *Marine reserves*. Unless prohibited by 50 CFR part 660 (Fisheries off West Coast States), the following activities are prohibited and thus unlawful for any person to conduct or cause to be conducted within a marine reserve described in Appendix B to this subpart:

(162) (1) Harvesting, removing, taking, injuring, destroying, collecting, moving, or causing the loss of any Sanctuary resource, including living or dead organisms or historical resources, or attempting any of these activities.

(163) (2) Possessing fishing gear on board a vessel unless such gear is stowed and not available for immediate use.

(164) (3) Possessing any Sanctuary resource, including living or dead organisms or historical resources, except legally harvested fish on board a vessel at anchor or in transit.

(165) (b) *Marine conservation area*. Unless prohibited by 50 CFR part 660 (Fisheries off West Coast States), the following activities are prohibited and thus unlawful for any person to conduct or cause to be conducted within the marine conservation area described in Appendix C to this subpart:

(166) (1) Harvesting, removing, taking, injuring, destroying, collecting, moving, or causing the loss of any Sanctuary resource, including living or dead organisms or historical resources, or attempting any of these activities, except:

(167) (i) Recreational fishing for pelagic finfish; or

(168) (ii) Commercial and recreational fishing for lobster.

(169) (2) Possessing fishing gear on board a vessel, except legal fishing gear used to fish for lobster or pelagic finfish, unless such gear is stowed and not available for immediate use.

(170) (3) Possessing any Sanctuary resource, including living or dead organisms or historical resources, except legally harvested fish.

§922.74 Permit procedures and criteria.

(171) (a) Any person in possession of a valid permit issued by the Director in accordance with this section and §922.48 may conduct any activity within the Sanctuary prohibited under §§922.72 or 922.73 if such activity is either:

(172) (1) Research related to the resources of the Sanctuary,

(173) (2) To further the educational value of the Sanctuary; or

(174) (3) For salvage or recovery operations.

(175) (b) Permit applications shall be addressed to: Director, Office of Ocean and Coastal Resource Management, ATTN: Manager, Channel Islands National Marine Sanctuary, 113 Harbor Way, Santa Barbara, CA 93109.

(176) (c) In considering whether to grant a permit the Director shall evaluate such matters as:

(177) (1) The general professional, and financial responsibility of the applicant;

(178) (2) The appropriateness of the methods envisioned to the purpose(s) of the activity;

(179) (3) The extent to which the conduct of any permitted activity may diminish or enhance the value of the Sanctuary as a source of recreation, or as a source of educational or scientific information;

(180) (4) The end value of the activity and

(181) (5) Such other matters as may be deemed appropriate.

(182) (d) The Director may observe any permitted activity and/or require the submission of one or more reports of the status or progress of such activity. Any information obtained shall be available to the public.

Appendix A to Subpart G of Part 922–Channel Island National Marine Sanctuary Boundary Coordinates

(183) [Coordinate listed in this Appendix are unprojected (geographic) and based on the North American Datum of 1983.]

Point	Latitude (N)	Longitude (W)
1	33.94138	-119.27422
2	33.96776	-119.25010
3	34.02607	-119.23642
4	34.07339	-119.25686
5	34.10185	-119.29178
6	34.11523	-119.33040
7	34.11611	-119.39120
8	34.11434	-119.40212
9	34.11712	-119.42896
10	34.11664	-119.44844
11	34.13389	-119.48081
12	34.13825	-119.49198
13	34.14784	-119.51194
14	34.15086	-119.54670
15	34.15450	-119.54670
16	34.15450	-119.54670
17	34.15142	-119.61254
18	34.13411	-119.66024
19	34.14635	-119.69780
20	34.15988	-119.76688
21	34.15906	-119.77800
22	34.15928	-119.79327
23	34.16213	-119.80347
24	34.16962	-119.83643
25	34.17266	-119.85240
26	34.17588	-119.88903
27	34.17682	-119.93357
28	34.17258	-119.95830
29	34.13535	-120.01964
30	34.13698	-120.01964
31	34.12994	-120.08582
32	34.12481	-120.11104
33	34.12519	-120.16076
34	34.11008	-120.21190

Point	Latitude (N)	Longitude (W)
35	34.11128	-120.22707
36	34.13632	-120.25292
37	34.15341	-120.28627
38	34.16408	-120.29310
39	34.17704	-120.30670
40	34.20492	-120.30670
41	34.20492	-120.38830
42	34.20707	-120.41801
43	34.20520	-120.42859
44	34.19254	-120.46041
45	34.20540	-120.50728
46	34.20486	-120.53987
47	34.18182	-120.60041
48	34.10208	-120.64208
49	34.08151	-120.63894
50	34.05848	-120.62862
51	34.01940	-120.58567
52	34.01349	-120.57464
53	33.98698	-120.56582
54	33.95039	-120.56582
55	33.92694	-120.46132
56	33.92501	-120.42170
57	33.91403	-120.37585
58	33.91712	-120.32506
59	33.90956	-120.30857
60	33.88976	-120.29540
61	33.84444	-120.25482
62	33.83146	-120.22927
63	33.81763	-120.20284
64	33.81003	-120.18731
65	33.79425	-120.13422
66	33.79379	-120.10207
67	33.79983	-120.06995
68	33.81076	-120.04351
69	33.81450	-120.03158
70	33.84125	-119.96508
71	33.84865	-119.92316
72	33.86993	-119.88330
73	33.86195	-119.88330
74	33.86195	-119.80000
75	33.86110	-119.79017
76	33.86351	-119.77130
77	33.85995	-119.74390
78	33.86233	-119.68783
79	33.87330	-119.65504

Point	Latitude (N)	Longitude (W)
80	33.88594	-119.62617
81	33.88688	-119.59423
82	33.88809	-119.58278
83	33.89414	-119.54861
84	33.90064	-119.51936
85	33.90198	-119.51609
86	33.90198	-119.43311
87	33.90584	-119.43311
88	33.90424	-119.42422
89	33.90219	-119.40730
90	33.90131	-119.38373
91	33.90398	-119.36333
92	33.90635	-119.35345
93	33.91304	-119.33280
94	33.91829	-119.32206
95	33.48250	-119.16874
96	33.44235	-119.16797
97	33.40555	-119.14878
98	33.39059	-119.13283
99	33.36804	-119.08891
100	33.36375	-119.06803
101	33.36241	-119.04812
102	33.36320	-119.03670
103	33.36320	-118.90879
104	33.47500	-118.90879
105	33.48414	-118.90712
106	33.52444	-118.91492
107	33.53834	-118.92271
108	33.58616	-118.99540
109	33.59018	-119.02374
110	33.58516	-119.06745
111	33.58011	-119.08521
112	33.54367	-119.14460
113	33.51161	-119.16367

Subpart H-Gulf of the Farallones National Marine Sanctuary

§922.80 Boundary.

(184) (a) The Gulf of the Farallones National Marine Sanctuary (Sanctuary) consists of an area of the waters adjacent to the coast of California north and south of the Point Reyes Headlands, between Bodega Head and Rocky Point and the Farallon Islands (including Noonday Rock), and includes approximately 948 square

nautical miles (NM). The boundary coordinates are listed in Appendix A to this subpart.

(185) (b) The shoreward boundary follows the mean high tide line and the seaward limit of Point Reyes National Seashore. Between Bodega Head and Point Reyes Headlands, the Sanctuary extends seaward 3 NM beyond State waters. The Sanctuary also includes the waters within 12 NM of the Farallon Islands, and between the Islands and the mainland from Point Reyes Headlands to Rocky Point. The Sanctuary includes Bodega Bay, but not Bodega Harbor.

§922.81 Definitions.

(186) In addition to those definitions found at §922.3, the following definition applies to this subpart:

(187) *Areas of Special Biological Significance (ASBS)* means those areas established by the State of California prior to the designation of the Sanctuary except that for purposes of the regulations in this subpart, the area established around the Farallon Islands shall not be included.

(188) *Motorized personal watercraft* means a vessel which uses an inboard motor powering a water jet pump as its primary source of motive power and which is designed to be operated by a person sitting, standing, or kneeling on the vessel, rather than the conventional manner or sitting or standing inside the vessel.

§922.82 Prohibited or otherwise regulated activities.

(189) (a) Except as may be necessary for national defense (subject to the terms and conditions of Article 5, Section 2 of the Designation Document) or to respond to an emergency threatening life, property or the environment, or except as may be permitted by the Director in accordance with §922.48 and §922.83, the following activities are prohibited and thus are unlawful for any person to conduct or to cause to be conducted within the Sanctuary:

(190) (1) Exploring for, developing and producing oil or gas except that pipelines related to hydrocarbon operations outside the Sanctuary may be placed at a distance greater than 2 NM from the Farallon Islands, Bolinas Lagoon, and ASBS where certified to have no significant effect on Sanctuary resources in accordance with §922.84.

(191) (2) Discharging or depositing any material or other matter except:

(192) (i) Fish or fish parts and chumming materials (bait).

(193) (ii) Water (including cooling water) and other biodegradable effluents incidental to vessel use of the Sanctuary generated by:

(194) (A) Marine sanitation devices;

(195) (B) Routine vessel maintenance, e.g., deck wash down;

(196) (C) Engine exhaust; or

(197) (D) Meals on board vessels.

(198) (iii) Dredge material disposed of at the interim dumpsite now established approximately 10 NM south of the southeast Farallon Island and municipal sewage provided such discharges are certified in accordance with §922.84.

(199) (3) Except in connection with the laying of pipelines or construction of an outfall if certified in accordance with §922.84:

(200) (i) Constructing any structure other than a navigation aid,

(201) (ii) Drilling through the seabed, and

(202) (iii) Dredging or otherwise altering the seabed in any way other than by anchoring vessels or bottom trawling from a commercial fishing vessel, except for routine maintenance and navigation, ecological maintenance, mariculture, and the construction of docks and piers in Tomales Bay.

(203) (4) Except to transport persons or supplies to or from islands or mainland areas adjacent to Sanctuary waters, within an area extending 2 NM from the Farallon Islands, Bolinas Lagoon, or any ASBS, operating any vessel engaged in the trade of carrying cargo including but not limited to tankers and other bulk carriers and barges, or any vessel engaged in the trade of servicing offshore installations. In no event shall this section be construed to limit access for fishing, recreational or research vessels.

(204) (5) Disturbing seabirds or marine mammals by flying motorized aircraft at less than 1,000 feet over the waters within one NM of the Farallon Islands, Bolinas Lagoon, or any ASBS except to transport persons or supplies to or from the Islands or for enforcement purposes.

(205) (6) Removing or damaging any historical or cultural resource.

(206) (7) Operation of motorized personal watercraft, except for the operation of motorized personal watercraft for emergency search and rescue mission or law enforcement operations (other than routine training activities) carried out by National Park Service, U.S. Coast Guard, Fire or Police Departments or other Federal, State or local jurisdictions.

(207) (b) All activities currently carried out by the Department of Defense within the Sanctuary are essential for the national defense and, therefore, not subject to the prohibitions in this section. The exemption of additional activities having significant impacts shall be determined in consultation between the Director and the Department of Defense.

§922.83 Permit procedures and criteria.

(208) (a) Any person in possession of a valid permit issued by the Director in accordance with this section and §922.48 may conduct any activity in the Sanctuary, prohibited user §922.82, if such an activity is

(209) (1) Research related to the resources of the Sanctuary,

(210) (2) To further the educational value of the Sanctuary, or

(211) (3) For salvage or recovery operations.

(212) (b) Permit applications shall be addressed to the Director, Office of Ocean and Coastal Resource Management, ATTN: Manager, Gulf of the Farallones National Marine Sanctuary, Fort Mason, building #201, San Francisco, CA 94123.

(213) (c) In considering whether to grant a permit, the Director shall evaluate

(214) (1) The general professional and financial responsibility of the applicant,

(215) (2) The appropriateness of the methods envisioned to the purpose(s) of the activity,

(216) (3) The extent to which the conduct of any permitted activity may diminish or enhance the value of the Sanctuary,

(217) (4) The end value of the activity, and

(218) (5) Other matters as deemed appropriate.

(219) (d) The Director may observe any permitted activity and/or require the submission of one or more reports of the status or progress of such activity. Any information obtained will be made available to the public.

§922.84 Certification of other permits.

(220) (a) A permit, license, or other authorization allowing the discharge of municipal sewage, the laying of any pipeline outside 2 NM from the Farallon Islands, Bolinas Lagoon and ASBS, or the disposal of dredge material at the interim dumpsite now established approximately 10 NM south of the Southeast Farallon Island prior to the selection of a permanent dumpsite shall be valid if certified by the Director as consistent with the purpose of the Sanctuary and having no significant effect on Sanctuary resources. Such certification may impose terms and conditions as deemed appropriate to ensure consistency.

(221) (b) In considering whether to make the certifications called for in this section, the Director may seek and consider the views of any other person or entity, within or outside the Federal government, and may hold a public hearing as deemed appropriate.

(222) (c) Any certification called for in this section shall be presumed unless the Director acts to deny or condition certification within 60 days from the date that the Director receives notice of the proposed permit and the necessary supporting data.

(223) (d) The Director may amend, suspend, or revoke any certification made under this section whenever continued operation would violate any terms or conditions of the certification. Any such action shall be forwarded in writing to both the holder of the certified permit and the issuing agency and shall set forth reason(s) for the action taken

Appendix A to Subpart H of Part 922–
Gulf of the Farallones National Marine Sanctuary Boundary Coordinates

Point No.	Latitude north	Longitude west
1	38°15'50.349"	123°10'48.933"
2	38°12'36.338"	123°07'04.846"
3	38°09'57.033"	123°05'27.435"
4	38°08'26.872"	123°04'52.524"
5	38°07'42.125"	123°05'10.714"
6	38°06'08.017"	123°05'48.920"
7	38°05'26.765"	123°06'09.922"
8	38°04'44.587"	123°06'29.251"
9	38°03'54.439"	123°06'57.591"
10	38°03'37.527"	123°07'37.755"
11	37°59'32.425"	123°08'24.905"
12	37°59'22.344"	123°14'06.127"
13	37°57'31.931"	123°19'19.187"
14	37°54'16.943"	123°23'18.456"
15	37°50'05.522"	123°25'28.791"
16	37°45'33.799"	123°25'32.666"
17	37°41'20.351"	123°23'29.811"
18	37°38'01.053"	123°19'37.445"
19	37°36'04.665"	123°14'30.483"
20	37°35'30.191"	123°13'31.060"
21	37°33'47.197"	123°11'50.904"
22	37°31'12.270"	123°07'39.618"
23	37°30'29.706"	123°05'42.221"
24	37°29'39.287"	123°00'23.711"
25	37°30'34.337"	122°54'18.139"
26	37°31'47.784"	122°51'31.592"
27	37°34'17.533"	122°48'10.415"
28	37°36'58.627"	123°46'05.779"
29	37°39'59.303"	123°44'59.838"
30	37°52'56.365"	123°37'35.195"

Subpart J–Fagatele Bay National Marine Sanctuary

§922.100 Scope of regulations.

(224) The provisions of the subpart J apply only to the area of the Territory of American Samoa within the boundary of the Fagatele Bay National Marine Sanctuary (Sanctuary). Neither the provisions of this subpart J nor any permit issued under their authority shall be construed to relieve a person from any other requirements imposed by statute or regulation of the Territory of American Samoa or of the United States. In addition, no statute or regulation of the Territory of American Samoa shall be construed to relieve a person from the restrictions, conditions, and requirements contained in this subpart J.

§922.101 Boundary.

(225) The Sanctuary is a 163-acre (0.25 sq. mi.) coastal embayment formed by a collapsed volcanic crater on the island of Tutuila, Territory of American Samoa and includes Fagatele Bay in its entirety. The landward boundary is defined by the mean high water (MHW) line between Fagatele Point (14°22'15"S., 170°46'5"W.) and Steps Point (14°22'44"S., 170°45'27"W.). The seaward boundary of the Sanctuary is defined by a straight line between Fagatele Point and Steps Point.

§922.102 Prohibited or otherwise regulated activities.

(226) (a) Except as may be necessary for national defense or to respond to an emergency threatening life, property, or the environment, or as may be permitted by the Director in accordance with §922.48 and §922.104, the following activities are prohibited and thus are unlawful for any person to conduct or to cause to be conducted within the Sanctuary:

(227) (1)(i)(A) Gathering, taking, breaking, cutting, damaging, destroying, or possessing any invertebrate, coral, bottom formation, or marine plant.

(228) (B) Taking, gathering, cutting, damaging, destroying, or possessing any crown-of-thorns starfish (*Acanthaster planci*).

(229) (C) Possessing or using poisons, electrical charges, explosives, or similar environmentally destructive methods.

(230) (D) Possessing or using spearguns, including such devices known as Hawai‘ian slings, pole spears, arbalettes, pneumatic and spring-loaded spearguns, bows and arrows, bang sticks, or any similar taking device.

(231) (E) Possessing or using a seine, trammel net, or any type of fixed net.

(232) (ii) There shall be a rebuttable presumption that any items listed in this Paragraph (a)(1) found in the possession of a person within the Sanctuary have been used, collected, or removed within or from the Sanctuary.

(233) (2)(i) Operating a vessel closer than 200 feet (60.96 meters) from another vessel displaying a dive flag at a speed exceeding three knots.

(234) (ii) Operating a vessel in a manner which causes the vessel to strike or otherwise cause damage to the natural features of the Sanctuary.

(235) (3) Diving or conducting diving operations from a vessel not flying in a conspicuous manner the international code flag alpha “A.”

(236) (4) Littering, depositing, or discharging, into the waters of the Sanctuary, any material or other matter.

(237) (5) Disturbing the benthic community by dredging, filling, dynamiting, bottom trawling, or otherwise altering the seabed.

(238) (6) Removing, damaging, or tampering with any historical or cultural resource within the boundary of the Sanctuary.

(239) (7) Ensnaring, entrapping, or fishing for any sea turtle listed as a threatened or endangered species under the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 et seq.

(240) (8) Except for law enforcement purposes, using or discharging explosives or weapons of any description. Distress signaling devices, necessary and proper for safe vessel operation, and knives generally used by fishermen and swimmers shall not be considered weapons for purposes of this section.

(241) (9) Marking, defacing, or damaging in any way, or displacing or removing or tampering with any signs, notices, or placards, whether temporary or permanent, or with any monuments, stakes, posts, or other boundary markers related to the Sanctuary.

(242) (b) In addition to those activities prohibited or otherwise regulated under Paragraph (a) of this section, the following activities are prohibited and thus are unlawful for any person to conduct or to cause to be conducted landward of the straight line connecting Fagatele Point (14°22'15"S., 170°46'5"W.) and Matautuloa Benchmark (14°22'18"S., 170°45'35"W.).

(243) (1) Possessing or using fishing poles, handlines, or trawls.

(244) (2) Fishing commercially.

§922.103 Management and enforcement.

(245) The National Oceanic and Atmospheric Administration (NOAA) has primary responsibility for the management of the Sanctuary pursuant to the Act. The American Samoa Economic and Development Planning Office (EDPO) will assist NOAA in the administration of

the Sanctuary, and act as the lead agency, in conformance with the Designation Document, these regulations, and the terms and provisions of any grant or cooperative agreement. NOAA may act to deputize enforcement agents of the American Samoa Government (ASG) to enforce the regulations in this subpart in accordance with existing law. If NOAA chooses to exercise this provision, a memorandum of understanding shall be executed between NOAA and the ASG or the person(s) or entity authorized to act on their behalf.

§922.104 Permit procedures and criteria.

(246) (a) Any person in possession of a valid permit issued by the Director, in consultation with the EDPO, in accordance with this section and §922.48, may conduct an activity otherwise prohibited by §922.102 in the Sanctuary if such activity is judged not to cause long-term or irreparable harm to the resources of the Sanctuary, and is:

(247) (1) Related to research involving Sanctuary resources designed to enhance understanding of the Sanctuary environment or to improve resource management decision making;

(248) (2) Intended to further the educational value of the Sanctuary and thereby enhance understanding of the Sanctuary environment or improve resource management decision making; or

(249) (3) For salvage or recovery operations.

(250) (b) Permit applications shall be addressed to the Director, Office of Ocean and Coastal Resource Management; ATTN: Sanctuary Coordinator, Fagatele Bay National Marine Sanctuary, P.O. Box 4318, Pago Pago, AS 96799.

(251) (c) In considering whether to grant a permit, the Director shall evaluate such matters as:

(252) (1) The general professional and financial responsibility of the applicant;

(253) (2) The appropriateness of the methods being proposed for the purpose(s) of the activity;

(254) (3) The extent to which the conduct of any permitted activity may diminish or enhance the value of the Sanctuary as a source of recreation, education, or scientific information; and

(255) (4) The end value of the activity.

(256) (d) In addition to meeting the criteria in this section and §922.48, the applicant also must demonstrate to the Director that:

(257) (1) The activity shall be conducted with adequate safeguards for the environment; and

(258) (2) The environment shall be returned to, or will regenerate to, the condition which existed before the activity occurred.

(259) (e) The Director may, at his or her discretion, grant a permit which has been applied for pursuant to this section, in whole or in part, and subject the permit to such condition(s) as he or she deems necessary. A permit granted for research related to the Sanctuary may include, but is not limited to, the following conditions:

(260) (1) The Director may observe any activity permitted by this section;

(261) (2) Any information obtained in the research site shall be made available to the public; and

(262) (3) The submission of one or more reports of the status of such research activity may be required.

Subpart K–Cordell Bank National Marine Sanctuary

§922.110 Boundary

(263) The Cordell Bank National Marine Sanctuary (Sanctuary) consists of a 397.05 square nautical mile (NM) area of marine waters approximately 50 miles west-northwest of San Francisco, California extending at 180° from the northernmost boundary of the Gulf of the Farallones National Marine Sanctuary to the 1,000 fathom isobath northwest of the Bank, then south along this isobath to the Gulf of the Farallones National Marine Sanctuary boundary and back to the northwest along this boundary to the beginning point. The boundary coordinates are listed in appendix A to this subpart.

§922.111 Prohibited or otherwise regulated activities.

(264) (a) Except as necessary for national defense or to respond to an emergency threatening life, property or the environment, or except as permitted in accordance with §922.48 and §922.112 or certified in accordance with §922.47, the following activities are prohibited and thus are unlawful for any person to conduct or to cause to be conducted:

(265) (1)(i) Depositing or discharging, from any location within the boundary of the Sanctuary, material or other matter of any kind except:

(266) (A) Fish, fish parts, chumming materials (bait) produced and discarded during routine fishing activities conducted in the Sanctuary; and

(267) (B) Water (including cooling water) and other biodegradable effluents incidental to use of a vessel in the Sanctuary and generated by: Marine sanitation devices approved by the United States Coast Guard; routine vessel maintenance, e.g., deck wash down; engine exhaust; or meals on board vessels.

(268) (ii) Depositing or discharging, from any location beyond the boundaries of the Sanctuary, material or other matter of any kind, except for the exclusions

listed in Paragraph (a)(1)(i) of this section, which enter the Sanctuary and injure a Sanctuary resource.

(269) (2) Removing, taking, or injuring or attempting to remove, take, or injure benthic invertebrate or algae located on Cordell Bank or within the 50 fathom isobath surrounding the Bank. There is a rebuttable presumption that any such resource found in the possession of a person within the Sanctuary was taken or removed by that person. This prohibition does not apply to accidental removal, injury, or takings during normal fishing operations.

(270) (3) Exploring for, or developing or producing, oil, gas, or minerals in any area of the Sanctuary.

(271) (b) All activities being carried out by the Department of Defense (DOD) within the Sanctuary on the effective date of designation that are necessary for national defense are exempt from the prohibitions contained in the regulations in this subpart. Additional DOD activities initiated after the effective date of designation that are necessary for national defense will be exempted by the Director after consultation between the Department of Commerce and DOD. DOD activities not necessary for national defense, such as routine exercises and vessel operations, are subject to all prohibitions contained in the regulations in this subpart.

(272) (c) Where necessary to prevent immediate, serious, and irreversible damage to a Sanctuary resource, any activity may be regulated within the limits of the Act on an emergency basis for no more than 120 days.

§922.112 Permit procedures and criteria.

(273) (a) If a person wishes to conduct an activity prohibited under §922.111, that person must apply for, receive, and have in possession on board any vessel used a valid permit issued pursuant to this section and §922.48 authorizing that person to conduct that activity.

(274) (b) Permit applications shall be addressed to the Director, Office of Ocean and Coastal Resource Management; ATTN: Manager, Cordell Bank National Marine Sanctuary, Fort Mason, Building #201, San Francisco, CA 94123.

(275) (c) The Director, at his or her discretion, may issue a permit subject to such terms and conditions as deemed appropriate, to conduct an activity otherwise prohibited by §922.111, if the Director finds that the activity will further research related to Sanctuary resources; further the educational or historical value of the Sanctuary; further salvage or recovery operations in or near the Sanctuary in connection with a recent air or marine casualty; or assist in the management of the Sanctuary. In deciding whether to issue a permit, the Director may consider such factors as the professional qualifications and financial ability of the applicant as related to the proposed activity; the appropriateness of the methods and procedures proposed by the applicant for the conduct of the activity; the extent to which the conduct of the activity may diminish or enhance the values for which the Sanctuary was designated; and the end value of the applicant's overall activity.

Appendix A to Subpart K of Part 922–Cordell Bank National Marine Sanctuary Boundary Coordinates

Point No.	Latitude north	Longitude west
1	38°15'51.72"	123°10'52.44"
2	38°07'55.88"	123°38'33.53"
3	38°06'45.21"	123°38'00.40"
4	38°04'58.41"	123°37'14.34"
5	38°04'28.22"	123°37'17.83"
6	38°03'42.75"	123°36'55.66"
7	38°03'11.10"	123°36'19.78"
8	38°02'46.12"	123°36'21.98"
9	38°02'02.74"	123°35'56.56"
10	38°01'27.10"	123°35'55.12"
11	38°01'22.28"	123°36'55.13"
12	38°01'11.54"	123°37'28.21"
13	38°00'49.16"	123°37'29.77"
14	37°59'54.49"	123°36'47.90"
15	37°59'12.39"	123°35'59.55"
16	37°58'39.40"	123°35'14.85"
17	37°58'00.57"	123°34'42.93"
18	37°57'18.99"	123°33'43.15"
19	37°56'56.42"	123°32'51.97"
20	37°56'18.90"	123°32'49.24"
21	37°55'22.37"	123°32'36.96"
22	37°54'26.10"	123°32'21.73"
23	37°53'07.46"	123°31'46.81"
24	37°52'34.93"	123°31'18.90"
25	37°51'42.81"	123°31'19.10"
26	37°50'59.58"	123°31'02.96"
27	37°49'22.64"	123°29'34.07"
28	37°48'49.14"	123°28'44.61"
29	37°48'36.95"	123°28'08.29"
30	37°48'03.37"	123°28'23.27"
31	37°47'41.54"	123°28'01.97"
32	37°04'01.78"	123°27'16.78"
33	37°46'51.92"	123°26'48.98"
34	37°46'13.20"	123°26'04.79"
35	37°46'00.73"	123°25'36.99"
36	37°50'25.31"	123°25'26.53"

Point No.	Latitude north	Longitude west
37	37°54'32.28"	123°23'16.49"
38	37°57'45.71"	123°19'17.72"
39	37°59'29.27"	123°14'12.16"
40	37°59'43.71"	123°08'27.55"
41	38°03'10.20"	123°07'44.35"
42	38°04'01.64"	123°06'58.92"
43	38°08'33.32"	123°04'56.24"
44	38°12'42.06"	123°07'10.21"

Subpart M–Monterey Bay National Marine Sanctuary

§922.130 Boundary.

(276) (a) The Monterey Bay National Marine Sanctuary (Sanctuary) consists of an area of approximately 4,024 square nautical miles of coastal and ocean waters, and the submerged lands thereunder, in and surrounding Monterey Bay, off the central coast of California.

(277) (b) The northern terminus of the boundary is located along the southern boundary of the Gulf of the Farallones National Marine Sanctuary and runs westward to approximately 123°07'W. The boundary then extends south in an arc which generally follows the 500 fathom isobath. At approximately 37°03'N., the boundary arcs south to 122°25'W., 36°10'N., due west of Partington Point. The boundary again follows the 500 fathom isobath south to 121°41'W., 35°33'N., due west of Cambria. The boundary then extends shoreward towards the mean high-water line. The landward boundary is defined by the mean high-water line between the Gulf of the Farallones National Marine Sanctuary and Cambria, exclusive of a small area off the north coast of San Mateo County and the City and County of San Francisco between Point Bonita and Point San Pedro. Pillar Point, Santa Cruz, Moss Landing and Monterey harbors are excluded from the Sanctuary boundary shoreward from their respective International Collision at Sea regulation (Colreg.) demarcation lines except for Moss Landing Harbor, where all of Elkhorn Slough east of the Highway One bridge is included within the Sanctuary boundary. The boundary coordinates are listed in appendix A to this subpart.

§922.131 Definitions.

(278) In addition to those definitions found at §922.3, the following definitions apply to this subpart:

(279) *Attract* or *attracting* means the conduct of any activity that lures or may lure white sharks by using food, bait, chum, dyes, acoustics or any other means, except the mere presence of human beings (e.g., swimmers, divers, boaters, kayakers, surfers).

(280) *Federal Project* means any water resources development project conducted by the U.S. Army Corps of Engineers or operating under a permit or other authorization issued by the Corps of Engineers and authorized by Federal law.

(281) *Hand tool* means a hand-held implement, utilized for the collection of jade pursuant to §922.132(a)(1), that is no greater than 36 inches in length and has no moving parts (e.g., dive knife, pry bar or abalone iron). Pneumatic, mechanical, electrical, hydraulic or explosive tools are, therefore, examples of what does not meet this definition.

(282) M*otorized personal water craft* means any motorized vessel that is less than fifteen feet in length as manufactured, is capable of exceeding a speed of fifteen knots, and has the capacity to carry not more than the operator and one other person while in operation. The term includes, but is not limited to, jet skis, wet bikes, surf jets, miniature speed boats, air boats, and hovercraft.

§922.132 Prohibited or otherwise regulated activities.

(283) (a) Except as specified in paragraphs (b) through (f) of this section, the following activities are prohibited and thus are unlawful for any person to conduct or to cause to be conducted:

(284) (1) Exploring for, developing or producing oil, gas or minerals within the Sanctuary except: jade may be collected (meaning removed) from the area bounded by the 35°55'20"N latitude parallel (coastal reference point: beach access stairway at south Sand Dollar Beach), the 35°53'20"N latitude parallel (coastal reference point: westernmost tip of Cape San Martin), and from the mean high tide line seaward to the 90-foot isobath (depth line) (the "authorized area") provided that:

(285) (i) Only jade already loose from the seabed may be collected;

(286) (ii) No tool may be used to collect jade except:

(287) (A) A hand tool (as defined in §922.131) to maneuver or lift the jade or scratch the surface of a stone as necessary to determine if it is jade;

(288) (B) A lift bag or multiple lift bags with a combined lift capacity of no more than two hundred pounds; or

(289) (C) A vessel (except for motorized personal watercraft) (see Paragraph (a)(7) of this section) to provide access to the authorized area;

(290) (iii) Each person may collect only what that person individually carries; and

(291) (iv) For any loose piece of jade that cannot be collected under paragraphs (a)(1)(ii) and (iii) of this section,

any person may apply for a permit to collect such a loose piece by following the procedures in §922.133.

(292) (2)(i) Discharging or depositing, from within the boundary of the Sanctuary, any material or other matter except:

(293) (A) Fish, fish parts, chumming materials or bait used in or resulting from traditional fishing operations in the Sanctuary;

(294) (B) Biodegradable effluent incidental to vessel use and generated by marine sanitation devices approved in accordance with section 312 of the Federal Water Pollution Control Act, as amended, (FWPCA), 33 U.S.C. 1322 et seq.;

(295) (C) Water generated by routine vessel operations (e.g., cooling water, deck wash down and graywater as defined by section 312 of the FWPCA) excluding oily wastes from bilge pumping;

(296) (D) Engine exhaust; or

(297) (E) Dredged material deposited at disposal sites authorized by the U.S. Environmental Protection Agency (EPA) (in consultation with the U.S. Army Corps of Engineers (COE)) prior to the effective date of Sanctuary designation (January 1, 1993), provided that the activity is pursuant to, and complies with the terms and conditions of, a valid Federal permit or approval existing on January 1, 1993.

(298) (ii) Discharging or depositing, from beyond the boundary of the Sanctuary, any material or other matter that subsequently enters the Sanctuary and injures a Sanctuary resource or quality, except those listed in paragraphs (a)(2)(i) (A) through (D) of this section and dredged material deposited at the authorized disposal sites described in appendix B to this subpart, provided that the dredged material disposal is pursuant to, and complies with the terms and conditions of, a valid Federal permit or approval.

(299) (3) Moving, removing or injuring, or attempting to move, remove or injure, a Sanctuary historical resource. This prohibition does not apply to moving, removing or injury resulting incidentally from kelp harvesting, aquaculture or traditional fishing operations.

(300) (4) Drilling into, dredging or otherwise altering the seabed of the Sanctuary; or constructing, placing or abandoning any structure, material or other matter on the seabed of the Sanctuary, except as an incidental result of:

(301) (i) Anchoring vessels;

(302) (ii) Aquaculture, kelp harvesting or traditional fishing operations;

(303) (iii) Installation of navigation aids;

(304) (iv) Harbor maintenance in the areas necessarily associated with Federal Projects in existence on January 1, 1993, including dredging of entrance channels and repair, replacement or rehabilitation of breakwaters and jetties;

(305) (v) Construction, repair, replacement or rehabilitation of docks or piers; or

(306) (vi) Collection of jade pursuant to Paragraph (a)(1) of this section, provided that there is no constructing, placing, or abandoning any structure, material, or other matter on the seabed of the Sanctuary.

(307) (5) Taking any marine mammal, sea turtle or seabird in or above the Sanctuary, except as permitted by regulations, as amended, promulgated under the Marine Mammal Protection Act, as amended, (MMPA), 16 U.S.C. 1361 et seq., the Endangered Species Act, as amended, (ESA), 16 U.S.C. 1531 et seq., and the Migratory Bird Treaty Act, as amended, (MBTA), 16 U.S.C. 703 et seq.

(308) (6) Flying motorized aircraft, except as necessary for valid law enforcement purposes, at less than 1,000 feet above any of the four zones within the Sanctuary described in appendix C to this subpart.

(309) (7) Operating motorized personal water craft within the Sanctuary except within the four designated zones and access routes within the Sanctuary described in appendix D to this subpart.

(310) (8) Possessing within the Sanctuary (regardless of where taken, moved or removed from), except as necessary for valid law enforcement purposes, any historical resource, or any marine mammal, sea turtle or seabird taken in violation of regulations, as amended, promulgated under the MMPA, ESA or MBTA.

(311) (9) Interfering with, obstructing, delaying or preventing an investigation, search, seizure or disposition of seized property in connection with enforcement of the Act or any regulation or permit issued under the Act.

(312) (10) Attracting any white shark in that part of the Sanctuary out to the seaward limit of State waters. For the purposes of this prohibition, the seaward limit of State waters is a line three nautical miles distant from the coastline of the State, where the coastline is the line of ordinary low water along the portion of the coast in direct contact with the open sea. The coastline for Monterey Bay, which is inland waters, is the straight line marking the seaward limit of the Bay, determined by connecting the following two points: 36°57'06"N., 122°01'45"W. and 36°38'16"N., 121°56 '03"W.

(313) (b) The prohibitions in paragraphs (a)(2) through (9) of this section do not apply to activities necessary to respond to emergencies threatening life, property or the environment.

(314) (c)(1) All Department of Defense activities shall be carried out in a manner that avoids to the maximum extent practicable any adverse impacts on Sanctuary resources and qualities. The prohibition in paragraphs

(a)(2) through (9) of this section do not apply to existing military activities carried out by the Department of Defense, as specifically identified in the Final environmental Impact Statement and Management Plan for the Proposed Monterey Bay National Marine Sanctuary (NOAA, 1992). (Copies of the FEIS/MP are available from the Monterey Bay National Marine Sanctuary, 299 Foam Street, Suite D, Monterey, CA 93940). New activities may be exempted from the prohibitions in paragraphs (a)(2) through (9) of this section by the Director after consultation between the Director and the Department of Defense.

(315) (2) In the event of threatened or actual destruction of, loss of, or injury to a Sanctuary resource or quality resulting from an untoward incident, including but not limited to spills and groundings, caused by the Department of Defense, the cognizant component shall promptly coordinate with the Director for the purpose of taking appropriate actions to respond to and mitigate the harm and, if possible, restore or replace the Sanctuary resource or quality.

(316) (d) The prohibitions in Paragraph (a)(1) of this section as it pertains to jade collection in the Sanctuary, paragraphs (a) (2) and (8) of this section, and Paragraph (a)(10) of this section do not apply to any activity executed in accordance with the scope, purpose, terms and conditions of a National Marine Sanctuary permit issued pursuant to §§922.48 and 922.133 or a Special Use permit issued pursuant to section 310 of the Act.

(317) (e) The prohibitions in Paragraph (a) (2) through (8) of this section do not apply to any activity authorized by any lease, permit, license, approval or other authorization issued after January 1, 1993 and issued by any Federal, State or local authority of competent jurisdiction, provided that the applicant complies with §922.49, the Director notifies the applicant and authorizing agency that he or she does not object to issuance of the authorization, and the applicant complies with any terms and conditions the Director deems necessary to protect Sanctuary resources and qualities. Amendments, renewals and extensions of authorizations in existence on the effective date of designation constitute authorizations issued after the effective date.

(318) (f) Notwithstanding paragraphs (d) and (e) of this section, in no event may the Director issue a National Marine Sanctuary permit under §§922.48 and 922.133 or a Special Use permit under section 310 of the Act authorizing, or otherwise approve: the exploration for, development or production of oil, gas or minerals within the Sanctuary, except for the collection of jade pursuant to Paragraph (a)(1) of this section; the discharge of primary-treated sewage within the Sanctuary (except by certification, pursuant to §922.47, of valid authorizations in existence on January 1, 1993 and issued by other authorities of competent jurisdiction); or the disposal of dredged material within the Sanctuary other than at sites authorized by EPA (in consultation with COE) prior to January 1, 1993. Any purported authorizations issued by other authorities within the Sanctuary shall be invalid

§922.133 Permit procedures and criteria.

(319) (a) A person may conduct an activity prohibited by §922.132(a)(1) as it pertains to jade collection in the Sanctuary, §922.132(a) (2) through (8), and §922.132(a) (10), if conducted in accordance with the scope, purpose, terms and conditions of a permit issued under this section and §922.48.

(320) (b) Applications for such permits should be addressed to the Director, Office of Ocean and Coastal Resource Management; ATTN: Manager, Monterey Bay National Marine Sanctuary, 299 Foam Street, Suite D, Monterey, CA 93940.

(321) (c) The Director, at his or her discretion, may issue a permit, subject to such terms and conditions as he or she deems appropriate, to conduct an activity prohibited by §922.132(a)(1) as it pertains to jade collection in the Sanctuary, §922.132(a) (2) through (8), and §922.132(a)(10) if the Director finds the activity will have only negligible short-term adverse effects on Sanctuary resources and qualities and will: further research related to Sanctuary resources and qualities; further the educational, natural or historical resource value of the Sanctuary; further salvage or recovery operations in or near the Sanctuary in connection with a recent air or marine casualty; allow the removal, without the use of pneumatic, mechanical, electrical, hydraulic or explosive tools, of loose jade from the Jade Cove area under §922.132 (a)(1)(iv); assist in managing the Sanctuary; or further salvage or recovery operations in connection with an abandoned shipwreck in the Sanctuary title to which is held by the State of California. In deciding whether to issue a permit, the Director shall consider such factors as: the professional qualifications and financial ability of the applicant as related to the proposed activity; the duration of the activity and the duration of its effects; the appropriateness of the methods and procedures proposed by the applicant for the conduct of the activity; the extent to which the conduct of the activity may diminish or enhance Sanctuary resources and qualities; the cumulative effects of the activity; and the end value of the activity. For jade collection, preference will be given for applications proposing to collect loose pieces of jade for research or educational purposes. In addition, the Director may consider such other factors as he or she deems appropriate.

(322) (d) It shall be a condition of any permit issued that the permit or a copy thereof be displayed on board all vessels or aircraft used in the conduct of the activity.

(323) (e) The Director may, *inter alia*, make it a condition of any permit issued that any data or information obtained under the permit be made available to the public.

(324) (f) The Director may, *inter alia*, make it a condition of any permit issued that a NOAA official be allowed to observe any activity conducted under the permit and/or that the permit holder submit one or more reports on the status, progress or results of any activity authorized by the permit.

§922.134 Notification and review.

(325) (a) (Reserved)

(326) (b)(1) NOAA has entered into a Memorandum of Agreement (MOA) with the State of California, EPA and the Association of Monterey Bay Area Governments regarding the Sanctuary regulations relating to water quality within State waters within the Sanctuary. With regard to permits, the MOA encompasses:

(327) (i) National Pollutant Discharge Elimination System (NPDES) permits issued by the State of California under §13377 of the California Water Code; and

(328) (ii) Waste Discharge Requirements issued by the State of California under §13263 of the California Water Code.

(329) (2) The MOA specifies how the process of §922.49 will be administered within State waters within the Sanctuary in coordination with the State permit program.

Appendix A to Subpart M of Part 922–Monterey Bay National Marine Sanctuary Boundary Coordinates

(Appendix Based on North American Datum of 1983)

Point No.	Latitude north	Longitude west
1	37°52'56.09055"	122°37'39.12564"
2	37°39'59.06176"	122°45'03.79307"
3	37°36'58.39164"	122°46'09.73871"
4	37°34'17.30224"	122°48'14.38141"
5	37°31'47.55649"	122°51'35.56769"
6	37°30'34.11030"	122°54'22.12170"
7	37°29'39.05866"	123°00'27.70792"
8	37°30'29.47603"	123°05'46.22767"
9	37°31'17.66945"	123°07'47.63363"
10	37°27'10.93594"	123°08'24.32210"
11	37°20'35.37491"	123°07'54.12763"
12	37°13'40.21805"	123°06'15.50600"
13	37°07'48.76810"	123°01'43.10994"
14	37°03'46.60999"	122°54'45.39513"
15	37°02'06.30955"	122°46'35.02125"
16	36°55'17.56782"	122°48'21.41121"
17	36°48'22.74244"	122°48'56.29007"
18	36°41'30.91516"	122°48'19.49739"
19	36°34'45.76070"	122°46'26.96772"
20	36°28'24.18076"	122°43'32.43527"
21	36°22'20.70312"	122°39'28.42026"
22	36°16'43.93588"	122°34'26.77255"
23	36°11'44.53838"	122°28'37.16141"
24	36°07'26.88988"	122°21'54.97541"
25	36°04'07.08898"	122°14'39.75924"
26	36°01'28.22233"	122°07'00.19068"
27	35°59'45.46381"	121°58'56.36189"
28	35°58'59.12170"	121°50'26.47931"
29	35°58'53.63866"	121°45'22.82363"
30	35°55'45.60623"	121°42'40.28540"
31	35°50'15.84256"	121°43'09.20193"
32	35°43'14.26690"	121°42'43.79121"
33	35°35'41.88635"	121°41'25.07414"
34	35°33'11.75999"	121°37'49.74192"
35	35°33'17.45869"	121°05'52.89891"
36	37°35'39.73180"	122°31'14.96033"
37	37°36'49.21739"	122°37'00.22577"
38	37°46'00.98983"	122°39'00.40466"
39	37°49'05.69080"	122°31'46.30542"

Appendix B to Subpart M of Part 922–Dredged Material Disposal Sites Adjacent to the Monterey Bay National Marine Sanctuary

(Appendix Based on North American Datum of 1983.)

(330) As of January 1, 1993, the U.S. Army Corps of Engineers operates the following dredged material disposal site adjacent to the Sanctuary off of the Golden Gate:

Point No.	Latitude north	Longitude west
1	37°45.875'	122°34.140'
2	37°44.978'	122°37.369'
3	37°44.491'	122°37.159'
4	37°45.406'	122°33.389'
5	37°45.875'	122°34.140'

(331) In addition, the U.S. Environmental Protection Agency, as of January 1, 1993, is (in consultation with the U.S. Army Corps of Engineers) in the process of

establishing a dredged material disposal site outside the northern boundary of the Monterey Bay National Marine Sanctuary and within one of three study areas described in 57 FR 43310, Sept. 18, 1992. When that disposal site is authorized, this appendix will be updated to incorporate its precise location.

Appendix C to Subpart M of Part 922–Zones Within the Sanctuary Where Overflights Below 1,000 Feet Are Prohibited

(332) The four zones are:

(333) (1) From mean high water out to three nautical miles (NM) between a line extending from Point Santa Cruz on a southwesterly heading of 220° and a line extending from 2.0 NM north of Pescadero Point on a southwesterly heading of 240°;

(334) (2) From mean high water out to three NM between a line extending from the Carmel River mouth on a westerly heading of 270° and a line extending due west along latitude 35°33'17.5612" off of Cambria;

(335) (3) From mean high water and within a five NM arc drawn from a center point at the end of Moss Landing Pier; and

(336) (4) Over the waters of Elkhorn Slough east of the Highway One bridge to Elkhorn Road.

Appendix D to Subpart M of Part 922—Zones and Access Routes Within the Sanctuary Where the Operation of Motorized Personal Watercraft is Allowed

(337) The four zones and access routes are:

(338) (1) The approximately one [1.0] NM^2 area off Pillar Point Harbor from harbor launch ramps, through harbor entrance to the northern boundary of Zone One bounded by

(339) (a) 37°29.6'N. (flashing 5-second breakwater entrance light and horn located at the seaward end of the outer west breakwater), 122°29.1'W.;

(340) (b) 37°28.9'N. (bell buoy), 122°29.0'W.;

(341) (c) 37°28.8'N., 122°28'W.; and

(342) (d) 37°29.6'N., 122°28'W.;

(343) (2) The approximately five [5.0] NM^2 area off of Santa Cruz Small Craft Harbor from harbor launch ramps, through harbor entrance, and then along a 100 yard wide access route southwest along a true bearing of approximately 196° (180° magnetic) to the whistle buoy at 36°56.3'N., 122°00.6'W. Zone Two is bounded by

(344) (a) 36°55.0'N., 122°02'W.;

(345) (b) 36°55.0'N., 121°58'W.;

(346) (c) 36°56.5'N., 121°58'W.; and

(347) (d) 36°56.5'N., 122°02'W.;

(348) (3) The approximately six [6.0] NM^2 area off of Moss Landing Harbor from harbor launch ramps, through harbor entrance, and then along a 100 yard wide access route due west to the eastern boundary of Zone Three bounded by

(349) (a) 36°50.0'N., 121°49.3'W.;

(350) (b) 36°50.0'N., 121°50.8'W.;

(351) (c) 36°46.7'N., 121°50.8'W.;

(352) (d) 36°46.7'N., 121°49.0'W.;

(353) (e) 36°47.9'N. (bell buoy), 121°48.1'W.; and

(354) (f) 36°48.9'N., 121°48.2'W.; and

(355) (4) The approximately five [5.0] NM^2 area off of Monterey Harbor from harbor launch ramps to the seaward end of the U.S. Coast Guard Pier, and then along a 100 yard wide access route due north to the southern boundary of Zone Four bounded by

(356) (a) 36°38.7'N., 121°55.4'W.;

(357) (b) 36°36.9'N., 121°52.5'W.;

(358) (c) 36°38.3'N., 121°51.3'W.; and

(359) (d) 36°40.0'N., 121°54.4'W.

Subpart O–Olympic Coast National Marine Sanctuary

§922.150 Boundary.

(360) (a) The Olympic Coast National Marine Sanctuary (Sanctuary) consists of an area of approximately 2500 square nautical mile (NM) (approximately 8577 sq. kilometers) of coastal and ocean waters, and the submerged lands thereunder, off the central and northern coast of the State of Washington.

(361) (b) The Sanctuary boundary extends from Koitlah Point due north to the United States/Canada international boundary. The Sanctuary boundary then follows the U.S./Canada international boundary seaward to the 100 fathom isobath. The seaward boundary of the Sanctuary approximates the 100 fathom isobath in a southerly direction from the U.S./Canada international boundary to a point due west of the mouth of the Copalis River cutting across the heads of Nitnat, Juan de Fuca and Quinault Canyons. The coastal boundary of the Sanctuary is the mean higher high water line when adjacent to Federally managed lands cutting across the mouths of all rivers and streams, except where adjacent to Indian reservations, State and county owned lands; in such case, the coastal boundary is the mean lower low water line. La Push harbor is excluded from the Sanctuary boundary shoreward of the International Collision at Sea regulation (Colreg.) demarcation lines. The boundary coordinates are listed in appendix A to this subpart.

§922.151 Definitions.

(362) In addition to those definitions found at §922.3, the following definitions apply to this subpart:

(363) *Federal Project* means any water resources development project conducted by the U.S. Army Corps of Engineers or operating under a permit or other authorization issued by the Corps of Engineers and authorized by Federal law.

(364) *Indian reservation* means a tract of land set aside by the Federal Government for use by a Federally recognized American Indian tribe and includes, but is not limited to, the Makah, Quileute, Hoh and Quinault Reservations.

(365) *Traditional fishing* means fishing using a commercial or recreational fishing method that has been used in the Sanctuary before the effective date of Sanctuary designation (July 22, 1994), including the retrieval of fishing gear.

(366) *Treaty* means a formal agreement between the United States Government and an Indian tribe.

§922.152 Prohibited or otherwise regulated activities.

(367) (a) Except as specified in paragraphs (b) through (g) of this section, the following activities are prohibited and thus are unlawful for any person to conduct or to cause to be conducted:

(368) (1) Exploring for, developing or producing oil, gas or minerals within the Sanctuary.

(369) (2)(i) Discharging or depositing, from within the boundary of the Sanctuary, any material or other matter except:

(370) (A) Fish, fish parts, chumming materials or bait used in or resulting from traditional fishing operations in the Sanctuary;

(371) (B) Biodegradable effluent incidental to vessel use and generated by marine sanitation devices approved in accordance with section 312 of the Federal Water Pollution Control Act, as amended, (FWPCA), 33 U.S.C. 1322 et seq.;

(372) (C) Water generated by routine vessel operations (e.g., cooling water, deck wash down and graywater as defined by section 312 of the FWPCA) excluding oily wastes from bilge pumping;

(373) (D) Engine exhaust; or

(374) (E) Dredge spoil in connection with beach nourishment projects related to harbor maintenance activities.

(375) (ii) Discharging or depositing, from beyond the boundary of the Sanctuary, any material or other matter, except those listed in paragraphs (a)(2)(i) (A) through (E) of this section, that subsequently enters the Sanctuary and injures a Sanctuary resource or quality.

(376) (3) Moving, removing or injuring, or attempting to move, remove or injure, a Sanctuary historical resource. This prohibition does not apply to moving, removing or injury resulting incidentally from traditional fishing operations.

(377) (4) Drilling into, dredging or otherwise altering the seabed of the Sanctuary; or constructing, placing or abandoning any structure, material or other matter on the seabed of the Sanctuary, except as an incident result of:

(378) (i) Anchoring vessels;

(379) (ii) Traditional fishing operations;

(380) (iii) Installation of navigation aids;

(381) (iv) Harbor maintenance in the areas necessarily associated with Federal Projects in existence on July 22, 1994, including dredging of entrance channels and repair, replacement or rehabilitation of breakwaters and jetties;

(382) (v) Construction, repair, replacement or rehabilitation of boat launches, docks or piers, and associated breakwaters and jetties; or

(383) (vi) Beach nourishment projects related to harbor maintenance activities.

(384) (5) Taking any marine mammal, sea turtle or seabird in or above the Sanctuary, except as authorized by the Marine Mammal Protection Act, as amended, (MMPA), 16 U.S.C. 1361 et seq., the Endangered Species Act, as amended, (ESA), 16 U.S.C. 1531 et seq., and the Migratory Bird Treaty Act, as amended, (MBTA), 16 U.S.C. 703 et seq., or pursuant to any Indian treaty with an Indian tribe to which the United States is a party, provided that the Indian treaty right is exercised in accordance with the MMPA, ESA and MBTA, to the extent that they apply.

(385) (6) Flying motorized aircraft at less than 2,000 feet both above the Sanctuary within one NM of the Flattery Rocks, Quillayute Needles, or Copalis National Wildlife Refuge, or within one NM seaward from the coastal boundary of the Sanctuary, except for activities related to tribal timber operations conducted on reservation lands, or to transport persons or supplies to or from reservation lands as authorized by a governing body of an Indian tribe.

(386) (7) Possessing within the Sanctuary (regardless of where taken, moved or removed from) any historical resource, or any marine mammal, sea turtle, or seabird taken in violation of the MMPA, ESA or MBTA, to the extent that they apply.

(387) (8) Interfering with, obstructing, delaying or preventing an investigation, search, seizure or disposition of seized property in connection with enforcement of the Act or any regulation or permit issued under the Act.

(388) (b) The prohibitions in Paragraph (a)(2) through (4), (6) and (7) of this section do not apply to activities necessary to respond to emergencies threatening life, property or the environment.

(389) (c) The prohibitions in paragraphs (a)(2) through (4), (6) and (7) of this section do not apply to activities necessary for valid law enforcement purposes.

(390) (d)(1) All Department of Defense military activities shall be carried out in a manner that avoids to the maximum extent practicable any adverse impacts on Sanctuary resources and qualities.

(391) (i) Except as provided in Paragraph (d)(2) of this section, the prohibitions in paragraphs (a) (2) through (7) of this section do not apply to the following military activities performed by the Department of Defense in W-237A, W-237B, and Military Operating Areas Olympic A and B in the Sanctuary:

(392) (A) Hull integrity tests and other deep water test;

(393) (B) Live firing of guns, missiles, torpedoes, and chaff;

(394) (C) Activities associated with the Quinault Range including the in-water testing of non-explosive torpedoes; and

(395) (D) Anti-submarine warfare operations.

(396) (ii) New activities may be exempted from the prohibitions in paragraphs (a) (2) through (7) of this section by the Director after consultation between the Director and the Department of Defense. If it is determined that an activity may be carried out, such activity shall be carried out in a manner that avoids to the maximum extent practicable any adverse impact on Sanctuary resources and qualities. Civil engineering and other civil works projects conducted by the U.S. Army Corps of Engineers are excluded from the scope of this Paragraph (d).

(397) (2) The Department of Defense is prohibited from conducting bombing activities within the Sanctuary.

(398) (3) In the event of threatening or actual destruction of, loss of, or injury to a Sanctuary resource or quality resulting from an untoward incident, including but not limited to spills and groundings caused by the Department of Defense, the Department of Defense shall promptly coordinate with the Director for the purpose of taking appropriate actions to respond to and mitigate the harm and, if possible, restore or replace the Sanctuary resource or quality.

(399) (e) The prohibitions in paragraphs (a) (2) through (7) of this section do not apply to any activity executed in accordance with the scope, purpose, terms and conditions of a National Marine Sanctuary permit issued pursuant to §922.48 and §922.153 or a Special Use permit issued pursuant to section 310 of the Act.

(400) (f) Members of a federally recognized Indian tribe may exercise aboriginal and treaty-secured rights, subject to the requirements of other applicable law, without regard to the requirements of this part. The Director may consult with the governing body of a tribe regarding ways the tribe may exercise such rights consistent with the purposes of the Sanctuary.

(401) (g) The prohibitions in paragraphs (a) (2) through (7) of this section do not apply to any activity authorized by any lease, permit, license, or other authorization issued after July 22, 1994 and issued by any Federal, State or local authority of competent jurisdiction, provided that the applicant complies with §922.49, the Director notifies the applicant and authorizing agency that he or she does not object to issuance of the authorization, and the applicant complies with any terms and conditions the Director deems necessary to protect Sanctuary resources and qualities. Amendments, renewals and extensions of authorizations in existence on the effective date of designation constitute authorizations issued after the effective date.

(402) (h) Notwithstanding paragraphs (e) and (g) of this section, in no event may the Director issue a National Marine Sanctuary permit under §922.48 and §922.153 or a Special Use permit under section 310 of the Act authorizing, or otherwise approve: The exploration for, development or production of oil, gas or minerals within the Sanctuary; the discharge of primary-treated sewage within the Sanctuary (except by certification, pursuant to §922.47, of valid authorizations in existence on July 22, 1994 and issued by other authorities of competent jurisdiction); the disposal of dredged material within the Sanctuary other than in connection with beach nourishment projects related to harbor maintenance activities; or bombing activities within the Sanctuary. Any purported authorizations issued by other authorities after July 22, 1994 for any of these activities within the Sanctuary shall be invalid.

§922.153 Permit procedures and criteria.

(403) (a) A person may conduct an activity prohibited by paragraphs (a) (2) through (7) of §922.152 if conducted in accordance with the scope, purpose, terms and conditions of a permit issued under this section and §922.48.

(404) (b) Applications for such permits should be addressed to the Director, Office of Ocean and Coastal Resource Management; ATTN: Manager, Olympic Coast National Marine Sanctuary, 138 West First Street, Port Angeles, WA 98362.

(405) (c) The Director, at his or her discretion, may issue a permit, subject to such terms and conditions as he or her deems appropriate, to conduct an activity prohibited by paragraphs (a) (2) through (7) of §922.152, if the Director finds that the activity will not substantially injure Sanctuary resources and qualities and will: further research related to Sanctuary resources and qualities; further the educational, natural or historical resource

value of the Sanctuary; further salvage or recovery operations in or near the Sanctuary in connection with a recent air or marine casualty; assist in managing the Sanctuary; further salvage or recovery operations in connection with an abandoned shipwreck in the Sanctuary title to which is held by the State of Washington; or promote the welfare of any Indian tribe adjacent to the Sanctuary. In deciding whether to issue a permit, the Director may consider such factors as: the professional qualifications and financial ability of the applicant as related to the proposed activity; the duration of the activity and the duration of its effects; the appropriateness of the methods and procedures proposed by the applicant for the conduct of the activity; the extent to which the conduct of the activity may diminish or enhance Sanctuary resources and qualities; the cumulative effects of the activity; the end value of the activity; and the impacts of the activity on adjacent Indian tribes. Where the issuance or denial of a permit is requested by the governing body of an Indian tribe, the Director shall consider and protect the interests of the tribe to the fullest extent practicable in keeping with the purposes of the Sanctuary and his or her fiduciary duties to the tribe. The Director may also deny a permit application pursuant to this section, in whole or in part, if it is determined that the permittee or applicant has acted in violation of the terms or conditions of a permit or of the regulations in this subpart. In addition, the Director may consider such other factors as he or she deems appropriate.

(406) (d) It shall be a condition of any permit issued that the permit or a copy thereof be displayed on board all vessels or aircraft used in the conduct of the activity.

(407) (e) The Director may, *inter alia*, make it a condition of any permit issued that any data or information obtained under the permit be made available to the public.

(408) (f) The Director may, *inter alia*, make it a condition of any permit issued that a NOAA official be allowed to observe any activity conducted under the permit and/or that the permit holder submit one or more reports on the status, progress or results of any activity authorized by the permit.

(409) (g) The Director shall obtain the express written consent of the governing body of an Indian tribe prior to issuing a permit, if the proposed activity involves or affects resources of cultural or historical significance to the tribe.

(410) (h) Removal, or attempted removal of any Indian cultural resource or artifact may only occur with the express written consent of the governing body of the tribe or tribes to which such resource or artifact pertains, and certification by the Director that such activities occur in a manner that minimizes damages to the biological and archeological resources. Prior to permitting entry onto a significant cultural site designated by a tribal governing body, the Director shall require the express written consent of the governing body of the tribe or tribes to which such cultural site pertains.

§922.154 Consultation with the State of Washington, affected Indian tribes, and adjacent county governments.

(411) (a) The Director shall regularly consult with the State of Washington, the governing bodies of tribes with reservations adjacent to the Sanctuary, and adjacent county governments regarding areas of mutual concern, including Sanctuary programs, permitting, activities, development, and threats to Sanctuary resources.

(412) (b) The Director shall, when requested by such governments, enter into a memorandum of understanding regarding such consultations.

Appendix A to Subpart O of Part 922—Olympic Coast National Marine Sanctuary Boundary Coordinates (Based on North American Datum of 1983)

Point No.	Latitude north	Longitude west
1	47°07'45.0"	124°11'02.0"
2	47°07'45.0"	124°58'12.0"
3	47°35'05.0"	125°00'00.0"
4	47°40'05.0"	125°04'44.0"
5	47°50'01.0"	125°05'42.0"
6	47°57'13.0"	125°29'13.0"
7	48°07'33.0"	125°38'20.0"
8	48°15'00.0"	125°40'54.0"
9	48°18'21.2"	125°30'02.9"
10	48°20'15.2"	125°22'52.9"
11	48°26'46.2"	125°09'16.9"
12	48°27'09.2"	125°08'29.9"
13	48°28'08.2"	125°05'51.9"
14	48°29'43.2"	125°00'10.9"
15	48°29'56.2"	124°59'19.9"
16	48°30'13.2"	124°54'56.9"
17	48°30'21.2"	124°50'25.9"
18	48°30'10.2"	124°47'17.9"
19	48°29'36.4"	124°43'38.1"
20	48°28'08.0"	124°38'13.0"
21	48°23'17.0"	124°38'13.0"

Subpart Q–Hawai'ian Islands Humpback Whale National Marine Sanctuary

§922.180 Purpose.

(413) (a) The purpose of the regulations in this subpart is to implement the designation of the Hawai'ian Islands Humpback Whale National Marine Sanctuary by regulating activities affecting the resources of the Sanctuary or any of the qualities, values, or purposes for which the Sanctuary was designated, in order to protect, preserve, and manage the conservation, ecological, recreational, research, educational, historical, cultural, and aesthetic resources and qualities of the area. The regulations are intended to supplement and complement existing regulatory authorities; to facilitate to the extent compatible with the primary objective of protecting the humpback whale and its habitat, all public and private uses of the Sanctuary, including uses of Hawai'ian natives customarily and traditionally exercised for subsistence, cultural, and religious purposes, as well as education, research, recreation, commercial and military activities; to reduce conflicts between compatible uses; to maintain, restore, and enhance the humpback whale and its habitat; to contribute to the maintenance of natural assemblages of humpback whales for future generations; to provide a place for humpback whales that are dependent on their Hawai'ian Islands wintering habitat for reproductive activities, including breeding, calving, and nursing, and for the long-term survival of their species; and to achieve the other purposes and policies of the HINMSA and NMSA.

(414) (b) These regulations may be modified to fulfill the Secretary's responsibilities for the Sanctuary, including the provision of additional protections for humpback whales and their habitat, if reasonably necessary, and the conservation and management of other marine resources, qualities and ecosystems of the Sanctuary determined to be of national significance. The Secretary shall consult with the Governor of the State of Hawaii on any modification to the regulations contained in this part. For any modification of the regulations contained in this part that would constitute a change in a term of the designation, as contained in the Designation Document for the Sanctuary, the Secretary shall follow the applicable requirements of section 303 and 304 of the NMSA, and sections 2305 and 2306 of the HINMSA.

(415) (c) Section 304(e) of the NMSA requires the Secretary to review management plans and regulations every five years, and make necessary revisions. Upon completion of the five year review of the Sanctuary management plan and regulations, the Secretary will re-propose the Sanctuary management plan and regulations in their entirety with any proposed changes thereto. The Governor of the State of Hawaii will have the opportunity to review the re-proposed management plan and regulations before they take effect and if the Governor certifies any term or terms of such management plan or regulations as unacceptable, the unacceptable term or terms will not take effect in State waters of the Sanctuary.

§922.181 Boundary.

(416) (a) Except for excluded areas described in Paragraph (b) of this section, the Hawai'ian Islands Humpback Whale National Marine Sanctuary consists of the submerged lands and waters off the coast of the Hawai'ian Islands seaward from the shoreline, cutting across the mouths of rivers and streams:

(417) (1) To the 100-fathom (183 meter) isobath from Kailiu Point eastward to Mokolea Point, Kauai;

(418) (2) To the 100-fathom (183 meter) isobath from Puaena Point eastward to Mahie Point, and from the Kapahulu Groin in Waikiki eastward to Makapuu Point, Oahu;

(419) (3) To the 100-fathom (183 meter) isobath from Cape Halawa, Moloka'i, south and westward to Ilio Point, Moloka'i; southwestward to include Penguin Banks; eastward along the east side of Lanai; to the waters seaward of the three nautical mile limit north of Kahoolawe, to the Hanamanoia Lighthouse on Maui, and northward along the shoreline to Lipoa Point, Maui;

(420) (4) To the deep water area of Pailolo Channel from Cape Halawa, Moloka'i, to Lipoa Point, Maui, and southward;

(421) (5) To the 100-fathom (183 meter) isobath from Upolu Point southward to Keahole Point, Hawaii.

(422) (b) Excluded from the Sanctuary boundary are the following commercial ports and small boat harbors:

(423) *Hawaii (Big Island)*

(424) Kawaihae Boat Harbor & Small Boat Basin

(425) *Lanai*

(426) Kaumalapau Harbor, Manele Harbor

(427) *Maui*

(428) Lahaina Boat Harbor

(429) Maalae Boat Harbor

(430) *Moloka'i*

(431) Hale o Lono Harbor

(432) Kaunakakai Harbor

(433) *Oahu*

(434) Kuapa Pond (Hawaii Kai)

(435) (c) The coordinates of the lateral extents of each boundary area within the Sanctuary boundary appear in Appendix A of this subpart Q.

§922.182 Definitions.

(436) (a) *Acts* means the Hawai'ian Islands National Marine Sanctuary Act (HINMSA; sections 2301-2307 of Public Law 102-587), and the National Marine Sanctuaries Act (NMSA; also known as Title III of the Marine Protection, Research, and Sanctuaries Act (MPRSA), as amended, 16 U.S.C. 1431 et seq.).

(437) *Adverse impact* means an impact that independently or cumulatively damages, diminishes, degrades, impairs, destroys, or otherwise harms.

(438) *Alteration of the seabed* means drilling into, dredging, or otherwise altering a natural physical characteristic of the seabed of the Sanctuary; or constructing, placing, or abandoning any structure, material, or other matter on the seabed of the Sanctuary.

(439) *Habitat* means those areas that provide space for individual and population growth and normal behavior of humpback whales, and include sites used for reproductive activities, including breeding, calving and nursing.

(440) *Military activities* means those military activities conducted by or under the auspices of the Department of Defense and any combined military activities carried out by the Department of Defense and the military forces of a foreign nation.

(441) *Sanctuary* means the Hawai'ian Islands Humpback Whale National Marine Sanctuary.

(442) *Sanctuary* resource means any humpback whale, or the humpback whale's habitat within the Sanctuary.

(443) *Shoreline* means the upper reaches of the wash of the waves, other than storm or seismic waves, at high tide during the season of the year in which the highest wash of the waves occurs, usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves.

(444) *Take or taking a humpback whale* means to harass, harm, pursue, hunt, shoot, wound, kill, capture, collect or injure a humpback whale, or to attempt to engage in any such conduct. The term includes, but is not limited to, any of the following activities: collecting any dead or injured humpback whale, or any part thereof; restraining or detaining any humpback whale, or any part thereof, no matter how temporarily; tagging any humpback whale; operating a vessel or aircraft or doing any other act that results in the disturbing or molesting of any humpback whale.

(445) (b) Other terms appearing in the regulations in this subpart are defined at 15 CFR 922.3, and/or in the Marine Protection, Research, and Sanctuaries Act, as amended, 33 U.S.C. 1401 et seq., and 16 U.S.C. 1431 et seq.

§922.183 Allowed activities.

(446) (a) All activities except those prohibited by §922.184 may be undertaken in the Sanctuary subject to any emergency regulations promulgated pursuant to §922.185, subject to the interagency cooperation provisions of section 304(d) of the NMSA [16 U.S.C. 1434(d)] and §922.187 of this subpart, and subject to the liability established by section 312 of the NMSA and §922.46. All activities are also subject to all prohibitions, restrictions, and conditions validly imposed by any other Federal, State, or county authority of competent jurisdiction.

(447) (b) Included as activities allowed under the first sentence of Paragraph (a) of this section are all classes of military activities, internal or external to the Sanctuary, that are being or have been conducted before the effective date of the regulations in this subpart, as identified in the Final Environmental Impact Statement/Management Plan. Paragraphs (a) (1) through (5) of §922.184 do not apply to these classes of activities, nor are these activities subject to further consultation under section 304(d) of the NMSA.

(448) (c) Military activities proposed after the effective date of the regulations in this subpart, are also included as allowed activities under the first sentence of Paragraph (a) of this section. Paragraphs (a) (1) through (5) of §922.184 apply to these classes of activities unless–

(449) (1) They are not subject to consultation under section 304(d) of the NMSA and §922.187 of this subpart, or

(450) (2) Upon consultation under section 304(d) of the NMSA and §922.187 of this subpart, NOAA's findings and recommendations include a statement that paragraphs (a)(1) through (5) of §922.184 do not apply to the military activity.

(451) (d) If a military activity described in paragraphs (b) or (c)(2) of this section is modified such that it is likely to destroy, cause the loss of, or injure a Sanctuary resource in a manner significantly greater than was considered in a previous consultation under section 304(d) of the NMSA and §922.187 of this subpart, or if the modified activity is likely to destroy, cause the loss of, or injure any Sanctuary resource not considered in a previous consultation under section 304(d) of the NMSA and §922.187 of this subpart, the modified activity will be treated as a new military activity under Paragraph (c) of this section.

(452) (e) If a proposed military activity subject to section 304(d) of the NMSA and §922.187 of this subpart is necessary to respond to an emergency situation and the Secretary of Defense determines in writing that failure to undertake the proposed activity during the period of consultation would impair the national defense, the Secretary of the military department concerned may

request the Director that the activity proceed during consultation. If the Director denies such a request, the Secretary of the military department concerned may decide to proceed with the activity. In such case, the Secretary of the military department concerned shall provide the Director with a written statement describing the effects of the activity on Sanctuary resources once the activity is completed.

§922.184 Prohibited activities.

(453) (a) The following activities are prohibited and thus unlawful for any person to conduct or cause to be conducted.

(454) (1) Approaching, or causing a vessel or other object to approach, within the Sanctuary, by any means, within 100 yards of any humpback whale except as authorized under the Marine Mammal Protection Act, as amended (MMPA), 16 U.S.C. 1361 et seq., and the Endangered Species Act, as amended (ESA), 16 U.S.C. 1531 et seq.;

(455) (2) Operating any aircraft above the Sanctuary within 1,000 feet of any humpback whale except as necessary for takeoff or landing from an airport or runaway, or as authorized under the MMPA and the ESA;

(456) (3) Taking any humpback whale in the Sanctuary except as authorized under the MMPA and the ESA;

(457) (4) Possessing within the Sanctuary (regardless of where taken) any living or dead humpback whale or part thereof taken in violation of the MMPA or the ESA;

(458) (5) Discharging or depositing any material or other matter in the Sanctuary; altering the seabed of the Sanctuary; or discharging or depositing any material or other matter outside the Sanctuary if the discharge or deposit subsequently enters and injures a humpback whale or humpback whale habitat, provided that such activity:

(459) (i) Requires a Federal or State permit, license, lease, or other authorization; and

(460) (ii) Is conducted:

(461) (A) Without such permit, license, lease, or other authorization, or

(462) (B) Not in compliance with the terms or conditions of such permit, license, lease, or other authorization.

(463) (6) Interfering with, obstructing, delaying or preventing an investigation, search, seizure or disposition of seized property in connection with enforcement of either of the Acts or any regulations issued under either of the Acts.

(464) (b) The prohibitions in paragraphs (a)(1) through (5) of this section do not apply to activities necessary to respond to emergencies threatening life, property or the environment; or to activities necessary for valid law enforcement purposes. However, while such activities are not subject to paragraphs (a)(1) through (5) of this section, this Paragraph (b) does not exempt the activity from the underlying prohibition or restriction under other applicable laws and regulations (e.g., MMPA, ESA, and CWA).

(465) (c) Any Sanctuary fishery regulations shall not take effect in Hawaii State waters until established by the State Board of Land and Natural Resources.

§922.185 Emergency Regulations.

(466) Where necessary to prevent or minimize the destruction of, loss of, or injury to a Sanctuary resource, or to minimize the imminent risk of such destruction, loss, or injury, any and all activities are subject to immediate temporary regulation, including prohibition. Before issuance of such regulations the Director shall consult to the extent practicable with any relevant Federal agency and the Governor of the State of Hawaii. Emergency regulations shall not take effect in State waters of the Sanctuary until approved by the Governor of Hawaii.

§922.186 Penalties; appeals.

(467) (a) Pursuant to section 307 of the NMSA, each violation of either of the Acts, or regulation in this subpart is subject to a civil penalty of not more than $100,000. Each such violation is subject to forfeiture of property or Sanctuary resources seized in accordance with section 307 of the NMSA. Each day of a continuing violation constitutes a separate violation.

(468) (b) Regulations setting forth the procedures governing the administrative proceedings for assessment of civil penalties for enforcement reasons, issuance and use of written warnings, and release or forfeiture of seized property appear at 15 CFR part 904.

(469) (c) A person subject to an action taken for enforcement reasons for violation of the regulations in the subpart or either of the Acts may appeal pursuant to the applicable procedures in 15 CFR part 904.

§922.187 Interagency Cooperation.

(470) Under section 304(d) of the NMSA, Federal agency actions internal or external to a national marine sanctuary, including private activities authorized by licenses, leases, or permits, that are likely to destroy, cause the loss of, or injure any sanctuary resource are subject to consultation with the Director. The Federal agency proposing an action shall determine whether the activity is likely to destroy, cause the loss of, or injure a Sanctuary resource. To the extent practicable, consultation procedures under section 304(d) of the NMSA may be consolidated with interagency cooperation procedures required by other statutes, such as the ESA. The Director will attempt to provide coordinated review and analysis of all environmental requirements.

Appendix A to Subpart Q—Hawai'ian Islands Humpback Whale, National Marine Sanctuary Boundary Description and Coordinates of the Lateral Boundary Closures and Excluded Areas.

(471) Appendix A provides a text and pictorial (see Figures 1-3) description of the Sanctuary boundary with specific lateral closure points and exclusion areas. The lateral extends (bounds) of each boundary area are closed by straight lines defined by at least two points. It may be necessary to extend these lines beyond the defining points to intersect the actual 100 fathom contour or the shoreline. Each point corresponds to a bounds number indicated in Figure 2. Digital files of the Sanctuary boundary (available in three common formats, ESRI Shape File, MapInfo Table and an ASCII Exchange format) are available from the Sanctuary office in Kihei, Maui, at the address listed above or by calling (808) 879-2818. These digital geographies are the best available representation of the verbal legal delineation and were derived from: the Hawai'ian shoreline as supplied by State of Hawaii through the Office of Planning GIS Office, the NOAA and State of Hawaii agreed upon lateral boundary and exclusion areas, and the 100 fathom isobath digitized from the following 1:80,000 scale NOAA nautical charts-19327 —

(472) West Coast of Hawaii (9th ED, 4/29/89),

(473) 19347—Channels between Moloka'i, Maui, Lanai, and Kahoolawe (17th ED, 12/13/97),

(474) 19351—Channels between Oahu, Moloka'i, and Lanai (8th ED, 7/01/89),

(475) 19357—Island of Oahu (20th ED, 9/21/96), and

(476) 19381—Island of Kauai (8th ED, 7/17/1993).

(477) For the portion of the Lanai region of the HIHWNMS west of Chart 19351, [157°42.8'W.] the 100 fathom contour was derived from the 1:250,999 chart 19340—Hawaii to Oahu (24th ED, 1/09/1993).

(478) All digital geography data have been referenced to WGS84 (NAD83) and have been converted to geographic (latitude and longitude) coordinates.

Sanctuary Boundary

(479) A. As defined by the specific lateral boundaries in B, and except for excluded areas described in Paragraph C of this section, the Hawai'ian Islands Humpback Whale National Marine Sanctuary consists of the submerged lands and waters off the coast of the Hawai'ian Islands seaward from the shoreline, cutting across the mouths of rivers and streams (see Figure 1):

(480) 1. To the 100-fathom (183 meter) isobath from Kailiu Point eastward to Mokolea Point, Kauai;

(481) 2. To the 100-fathom (183 meter) isobath from Puaena Point eastward to Mahie Point, and from the Kapahulu Groin in Waikiki eastward to Makapuu Point, Oahu;

(482) 3. To the 100-fathom (183 meter) isobath from Cape Halawa, Moloka'i, south and westward to Ilio Point, Moloka'i; southwestward to include Penguin Banks; eastward along the east side of Lanai; to the waters seaward of the three nautical mile limit north of Kahoolawe, to the Hanamanoia Lighthouse on Maui, and northward along the shoreline to Lipoa Point, Maui;

(483) 4. To the deep water area of Pailolo Channel from Cape Halawa, Moloka'i, to Lipoa Point, Maui, and southward;

(484) 5. To the 100-fathom (183 meter) isobath from Upolu Point southward to Keahole Point, Hawaii.

(485) B. Lateral Closure Bounds for the Hawai'ian Islands Humpback Whale National Marine Sanctuary Boundary (see Figure 2).

(486) C. Excluded Ports and Harbors Bounds (See Figure 3).

TITLE 33–NAVIGATION AND NAVIGABLE WATERS

Part 26–Vessel Bridge-to-Bridge Radiotelephone Regulations

§26.01 Purpose

(487) (a) The purpose of this part is to implement the provisions of the Vessel Bridge-to-Bridge Radiotelephone Act. This part–

(488) (1) Requires the use of the vessel bridge-to-bridge radiotelephone;

(489) (2) Provides the Coast Guard's interpretation of the meaning of important terms in the Act;

(490) (3) Prescribes the procedures for applying for an exemption from the Act and the regulations issued under the Act and a listing of exemptions.

(491) (b) Nothing in this part relieves any person from the obligation of complying with the rules of the road and the applicable pilot rules.

§26.02 Definitions.

(492) For the purpose of this part and interpreting the Act–

(493) "Secretary" means the Secretary of the Department in which the Coast Guard is operating;

(494) "Act" means the "Vessel Bridge-to-Bridge Radiotelephone Act", 33 U.S.C. sections 1201–1208;

(495) "Length" is measured from end to end over the deck excluding sheer;

(496) "Power-driven vessel" means any vessel propelled by machinery; and

Bound No. (Fig. 2)	Geographic name	No. of points	Latitude	Longitude
1	Kailiu Pt., Kauai	2	22°13'24.7" 22°16'33.5"	– 159°34'52.2" – 159°35'59.4"
2	Mokolea Pt., Kauai	2	22°13'29.9" 22°14'55.4"	– 159°22'55.8" – 159°22'19.3"
3	Puaena Pt., N. Oahu	2	21°38'24.6" 21°36'08.4"	– 158°08'26.0" – 158°06'24.5"
4	Mahie Pt., N. Oahu	2	21°33'37.3" 21°35'32.2"	– 157°51'51.9" – 157°50'05.5"
5	Kapahulu Groin, S. Oahu	3	21°15'05.7" 21°16'06.1" 21°16'06.2"	– 157°50'27.5" – 157°49'25.7" – 157°49'23.8"
6	Makapuu Pt. S. Oahu	2	21°18'39.6" 21°19'44.7"	– 157°38'56.7" – 157°35'46.1"
7	Ilio Pt., Moloka‘i	2	21°13'25.7" 21°13'27.0"	– 157°18'45.8" – 157°15'14.4"
8	Pailolo Channel, C. Halawa to Lipoa Pt.	2	21°01'29.8" 21°09'29.5"	– 156°38'22.0" – 156°42'37.2"
9	Hanamanoia Lighthouse, Maui	2	20°34'21.8" 20°34'58.4"	– 156°26'51.1" – 156°24'45.2"
10	3 NM closure around Kahoolawe	51	20°35'58.1" 20°35'59.9" 20°36'03.9" 20°36'06.6" 20°36'16.3" 20°36'25.7" 20°36'34.6" 20°36'39.9" 20°36'43.8" 20°36'50.8" 20°36'59.0" 20°37'08.7" 20°37'18.1" 20°37'27.0" 20°37'35.5" 20°37'43.4" 20°37'50.9" 20°37'56.4" 20°37'59.0" 20°38'06.0" 20°38'08.6" 20°38'10.8" 20°38'17.2" 20°38'18.9" 20°38'23.4" 20°38'30.3" 20°38'36.6" 20°38'42.4" 20°38'43.4" 20°38'46.4" 20°38'51.5" 20°38'56.0" 20°38'59.8" 20°39'03.0" 20°39'04.0" 20°39'04.4"	– 156°29'32.0" – 156°29'33.0" – 156°29'35.5" – 156°29'36.9" – 156°29'43.1" – 156°29'49.9" – 156°29'57.3" – 156°30'02.2" – 156°30'05.5" – 156°30'12.1" – 156°30'16.5" – 156°30'22.7" – 156°30'29.5" – 156°30'36.8" – 156°30'44.8" – 156°30'53.4" – 156°31'02.4" – 156°31'10.0" – 156°31'13.2" – 156°31'22.7" – 156°31'26.8" – 156°31'29.9" – 156°31'39.9" – 156°31'43.0" – 156°31'48.4" – 156°31'58.0" – 156°32'07.9" – 156°32'18.3" – 156°32'20.5" – 156°32'25.9" – 156°32'36.7" – 156°32'47.7" – 156°32'59.1" – 156°33'10.7" – 156°33'15.7" – 156°33'17.0"

Bound No. (Fig. 2)	Geographic name	No. of points	Latitude	Longitude
			20°39'05.3" 20°39'06.8" 20°39'08.6" 20°39'08.9" 20°39'09.7" 20°39'10.1" 20°39'11.0" 20°39'12.1" 20°39'12.5" 20°39'12.4" 20°39'12.6" 20°39'12.2" 20°39'11.8" 20°39'11.7" 20°39'11.3"	– 156°33'21.1" – 156°33'28.7" – 156°33'40.7" – 156°33'44.4" – 156°33'49.6" – 156°33'53.8" – 156°34'00.3" – 156°34'12.4" – 156°34'24.4" – 156°34'25.4" – 156°34'30.5" – 156°34'42.6" – 156°34'47.7" – 156°34'48.9" – 156°34'55.8"
11	Technical Closure North of Kahoolawe	2	20°41'39.2" 20°41'45.0"	– 156°37'07.5" – 156°38'03.6"
12	Upolu Pt., Hawaii (Big Island)	2	20°16'05.3" 20°17'59.9"	– 155°51'00.5" – 155°51'17.2"
13	Keahole Pt., Hawaii (Big Island)	2	19°43'39.6" 19°43'41.5"	– 156°03'42.7" – 156°04'14.5"
14	Kawaihae Harbor, Big Island exclusion	2	20°02'14.3" 20°02'25.3"	– 155°50'02.5" – 155°49'57.7"
15	Haleolono Harbor, Moloka‘i exclusion	2	21°05'03.5" 21°05'04.8"	– 157°14'58.6" – 157°14'55.2"
16	Kaunakakai Harbor, Moloka‘i exclusion	4	21°05'13.9" 21°04'49.2" 21°04'38.5" 21°05'07.4"	– 157°01'35.7" – 157°01'58.3" – 157°01'41.2" – 157°01'15.0"
17	Kaumalapau Harbor, Lanai exclusion	2	20°47'09.2" 20°47'01.1"	– 156°59'32.2" – 156°59'31.3"
18	Manele Harbor, Lanai exclusion	2	20°44'33.2" 20°44'35.2"	– 156°53'12.9" – 156°53'14.1"
19	Lahaina Harbor, Maui exclusion	2	20°52'18.3" 20°52'18.8"	– 156°40'45.0" – 156°40'44.0"
20	Maalaea Harbor, Maui exclusion	2	20°47'32.1" 20°47'24.8"	– 156°30'35.0" – 156°30'39.6"
21	Western closure Kuapa Pond (Hawaii Kai), Oahu	2	21°17'07.0" 21°17'06.5"	– 157°43'07.7" – 157°43'07.0"
22	Eastern closure Kuapa Pond (Hawaii Kai), Oahu	2	21°16'53.3" 21°16'51.9"	– 157°42'42.7" – 157°42'40.3"

Appendix A to Subpart Q of Part 922
Hawaiian Islands Humpback Whale National Marine Sanctuary Boundary Description and Coordinates of the Lateral Boundary Closures and Excluded Areas (Figures 1-3)

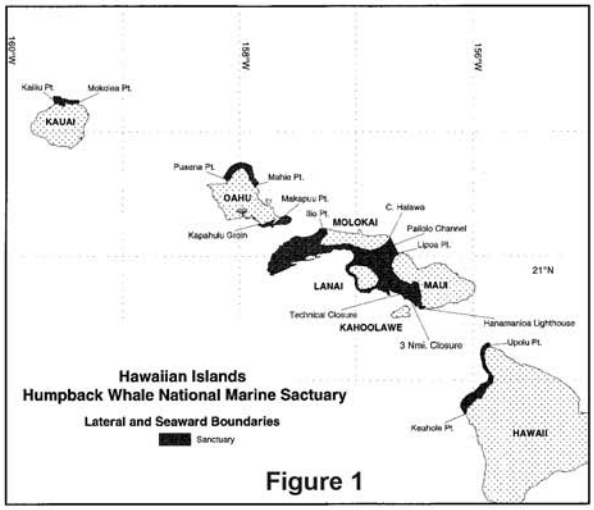


Figure 1

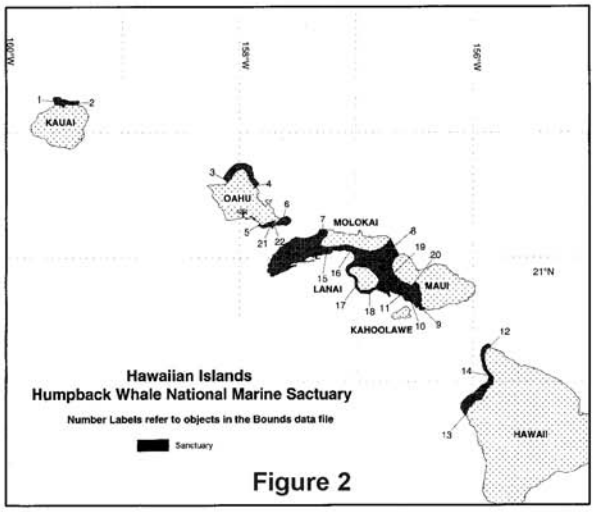


Figure 2

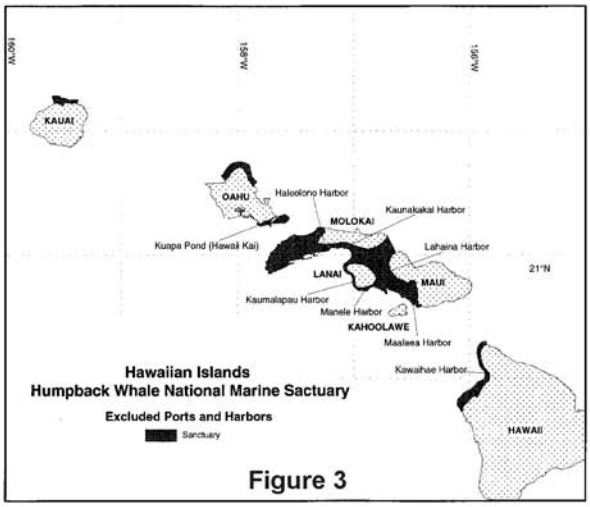


Figure 3

(497) "Towing vessel" means any commercial vessel engaged in towing another vessel astern, alongside, or by pushing ahead.

(498) "Vessel Traffic Services (VTS)" means a service implemented under Part 161 of this chapter by the United States Coast Guard designed to improve the safety and efficiency of vessel traffic and to protect the environment. The VTS has the capability to interact with marine traffic and respond to traffic situations developing in the VTS area.

(499) "Vessel Traffic Service Area or VTS Area" means the geographical area encompassing a specific VTS area of service as described in Part 161 of this chapter. This area of service may be subdivided into sectors for the purpose of allocating responsibility to individual Vessel Traffic Centers or to identify different operating requirements.

(500) **Note:** Although regulatory jurisdiction is limited to the navigable waters of the United States, certain vessels will be encouraged or may be required, as a condition of port entry to report beyond this area to facilitate traffic management within the VTS area.

§26.03 Radiotelephone required.

(501) (a) Unless an exemption is granted under §26.09 and except as provided in Paragraph (a)(4) of this section, this part applies to:

(502) (1) Every power-driven vessel of 20 meters or over in length while navigating;

(503) (2) Every vessel of 100 gross tons and upward carrying one or more passengers for hire while navigating;

(504) (3) Every towing vessels of 26 feet or over in length while navigating; and

(505) (4) Every dredge and floating plant engaged in or near a channel or fairway in operations likely to restrict or affect navigation of other vessels except for an unmanned or intermittently manned floating plant under the control of a dredge.

(506) (b) Every vessel, dredge, or floating plant described in Paragraph (a) of this section must have a radiotelephone on board capable of operation from its navigational bridge, or in the case of a dredge, from its main control station, and capable of transmitting and receiving on the frequency or frequencies within the 156-162 Mega-Hertz band using the classes of emissions designated by the Federal Communications Commission for the exchange of navigational information.

(507) (c) The radiotelephone required by Paragraph (b) of this section must be carried on board the described vessels, dredges, and floating plants upon the navigable waters of the United States.

(508) (d) The radiotelephone required by Paragraph (b) of this section must be capable of transmitting and receiving on VHF FM channel 22A (157.1 MHz).

(509) (e) While transiting any of the following waters, each vessel described in Paragraph (a) of this section also must have on board a radiotelephone capable of transmitting and receiving on VHF FM channel 67 (156.375 MHz):

(510) (1) The lower Mississippi River from the territorial sea boundary, and within either the Southwest Pass safety fairway or the South Pass safety fairway specified in 33 CFR 166.200, to mile 242.4 AHP (Above Head of Passes) near Baton Rouge;

(511) (2) The Mississippi River-Gulf Outlet from the territorial sea boundary, and within the Mississippi River-Gulf outlet Safety Fairway specified in 33 CFR 166.200, to that channel's junction with the Inner Harbor Navigation Canal; and

(512) (3) The full length of the Inner Harbor Navigation Canal from its junction with the Mississippi River to that canal's entry to Lake Pontchartrain at the New Seabrook vehicular bridge.

(513) (f) In addition to the radiotelephone required by Paragraph (b) of this section each vessel described in Paragraph (a) of this section while transiting any waters within a Vessel Traffic Service Area, must have on board a radiotelephone capable of transmitting and receiving on the VTS designated frequency in Table 161.12(c) (VTS and VMRS Centers, Call Signs/MMSI, Designated Frequencies, and Monitoring Areas).

(514) **Note:** A single VHF-FM radio capable of scanning or sequential monitoring (often referred to as "dual watch" capability) will not meet the requirements for two radios.

§26.04 Use of the designated frequency.

(515) (a) No person may use the frequency designated by the Federal Communications Commission under section 8 of the Act, 33 U.S.C. 1207 (a), to transmit any information other than information necessary for the safe navigation of vessels or necessary tests.

(516) (b) Each person who is required to maintain a listening watch under section 5 of the Act shall, when necessary, transmit and confirm, on the designated frequency, the intentions of his vessel and any other information necessary for the safe navigation of vessels.

(517) (c) Nothing in these regulations may be construed as prohibiting the use of the designated frequency to communicate with shore stations to obtain or furnish information necessary for the safe navigation of vessels.

(518) (d) On the navigable waters of the United States, channel 13 (156.65 MHz) is the designated frequency required to be monitored in accordance with §26.05(a) except that in the area prescribed in §26.03(e), channel 67 (156.375 MHz) is the designated frequency.

(519) (e) On those navigable waters of the United States within a VTS area, the designated VTS frequency is an additional designated frequency required to be monitored in accordance with §26.05.

§26.05 Use of radiotelephone.

(520) Section 5 of the Act states that the radiotelephone required by this Act is for the exclusive use of the master or person in charge of the vessel, or the person designated by the master or person in charge to pilot or direct the movement of the vessel, who shall maintain a listening watch on the designated frequency. Nothing herein shall be interpreted as precluding the use of portable radiotelephone equipment to satisfy the requirements of this act.

§26.06 Maintenance of radiotelephone; failure of radiotelephone.

(521) Section 6 of the Act states – (a) Whenever radiotelephone capability is required by this Act, a vessel's radiotelephone equipment shall be maintained in effective operating condition. If the radiotelephone equipment carried aboard a vessel ceases to operate, the master shall exercise due diligence to restore it or cause it to be restored to effective operating condition at the earliest practicable time. The failure of a vessel's radiotelephone equipment shall not, in itself, constitute a violation of this Act, nor shall it obligate the master of any vessel to moor or anchor his vessel; however, the loss of radiotelephone capability shall be given consideration in the navigation of the vessel.

§26.07 Communications.

(522) No person may use the service of, and no person may serve as, a person required to maintain a listening watch under section 5 of the Act, 33 U.S.C. 1204, unless the person can communicate in the English language.

§26.08 Exemption procedures.

(523) (a) The Commandant has redelegated to the Assistant Commandant for Marine Safety, Security and Environmental Protection, U.S. Coast Guard Headquarters, with the reservation that this authority shall not be further redelegated, the authority to grant exemptions from provisions of the Vessel Bridge-to-Bridge Radiotelephone Act and this part.

(524) (b) Any person may petition for an exemption from any provision of the Act or this part;

(525) (c) Each petition must be submitted in writing to U.S. Coast Guard, Marine Safety, Security and Environmental Protection, 2100 Second Street SW., Washington, DC 20593-0001, and must state:

(526) (1) The provisions of the Act or this part from which an exemption is requested; and

(527) (2) The reasons why marine navigation will not be adversely affected if the exemption is granted and if the exemption relates to a local communication system how that system would fully comply with the intent of the concept of the Act but would not conform in detail if the exemption is granted.

§26.09 List of exemptions.

(528) (a) All vessels navigating on those waters governed by the navigation rules for Great Lakes and their connecting and tributary waters (33 U.S.C. 241 et seq.) are exempt from the requirements of the Vessel Bridge-to-Bridge Radiotelephone Act and this part until May 6, 1975.

(529) (b) Each vessel navigating on the Great Lakes as defined in the Inland Navigation Rules Act of 1980 (33 U.S.C. 2001 et seq.) and to which the Vessel Bridge-to-Bridge Radiotelephone Act (33 U.S.C. 1201-1208) applies is exempt from the requirements in 33 U.S.C. 1203, 1204, and 1205 and the regulations under §§26.03, 26.04, 26.05, 26.06, and 26.07. Each of these vessels and each person to whom 33 U.S.C. 1208(a) applies must comply with Articles VII, X, XI, XII, XIII, XV, and XVI and Technical Regulations 1–9 of "The Agreement Between the United States of America and Canada for Promotion of Safety on the Great Lakes by Means of Radio, 1973."

Part 70–Interference With or Damage to Aids to Navigation

§70.05–10 Revocation of license.

(530) Every master, pilot, and engineer, or person or persons acting in such capacity, respectively, on board any boat or vessel who shall willfully injure or destroy an aid to navigation established and maintained by the United States shall be deemed guilty of violating the provisions of §70.05-1 and shall upon conviction be punished as provided in §70.05-5 and shall also have his license revoked or suspended for a term to be fixed by the judge before whom tried and convicted.

§70.05–20 Report Required.

(531) Whenever any vessel collides with an aid to navigation established and maintained by the United States or any private aid to navigation established or maintained in accordance with Part 64, 66, 67 or 68 of this subchapter, or is connected with any such collision, it shall be the duty of person in charge of such vessel to report the accident to the nearest Officer in Charge, Marine Inspection, in accordance with 46 CFR 4.

Part 80–COLREGS Demarcation Lines

§80.01 General basis and purpose of demarcation lines.

(532) (a) The regulations in this part establish the lines of demarcation delineating those waters upon which mariners shall comply with the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS) and those waters upon which mariners shall comply with the Inland Navigation Rules.

(533) (b) The waters inside of the lines are Inland Rules waters. The waters outside the lines are COLREGS waters.

(534) (c) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

§80.1102 Santa Catalina Island, CA.

(535) The 72 COLREGS shall apply to the harbors on Santa Catalina Island.

§80.1104 San Diego Harbor, CA.

(536) A line drawn from Zuniga Jetty Light "V" to Zuniga Jetty Light "Z"; thence to Point Loma Light.

§80.1106 Mission Bay, CA.

(537) A line drawn from Mission Bay South Jetty Light 2 to Mission Bay North Jetty Light 1.

§80.1108 Oceanside Harbor, CA.

(538) A line drawn from Oceanside South Jetty Light 4 to Oceanside Breakwater Light 3.

§80.1110 Dana Point Harbor, CA.

(539) A line drawn from Dana Point Jetty Light 6 to Dana Point Breakwater Light 5.

§80.1112 Newport Bay, CA.

(540) A line drawn from Newport Bay East Jetty Light 4 to Newport Bay West Jetty Light 3.

§80.1114 San Pedro Bay-Anaheim Bay, CA.

(541) (a) A line drawn across the seaward extremities of the Anaheim Bay Entrance Jetties; thence to Long Beach Breakwater East End Light 1.

(542) (b) A line drawn from Long Beach Channel Entrance Light 2 to Long Beach Light.

(543) (c) A line drawn from Los Angeles Main Entrance Channel Light 2 to Los Angeles Light.

§80.1116 Redondo Harbor, CA.

(544) A line drawn from Redondo Beach East Jetty Light 2 to Redondo Beach West Jetty Light 3.

§80.1118 Marina Del Rey, CA.

(545) (a) A line drawn from Marina Del Rey Breakwater South Light 1 to Marina Del Rey Light 4.

(546) (b) A line drawn from Marina Del Rey Breakwater North Light 2 to Marina Del Rey Light 3.

(547) (c) A line drawn from Marina Del Rey Light 4 to the seaward extremity of the Ballona Creek South Jetty.

§80.1120 Port Hueneme, CA.

(548) A line drawn from Port Hueneme East Jetty Light 4 to Port Hueneme West Jetty Light 3.

§80.1122 Channel Islands Harbor, CA.

(549) (a) A line drawn from Channel Islands Harbor South Jetty Light 2 to Channel Islands Harbor Breakwater South Light 1.

(550) (b) A line drawn from Channel Islands Harbor Breakwater North Light to Channel Islands Harbor North Jetty Light 5.

§80.1124 Ventura Marina, CA.

(551) A line drawn from Ventura Marina South Jetty Light 6 to Ventura Marina Breakwater South Light 3; thence to Ventura Marina North Jetty Light 7.

§80.1126 Santa Barbara Harbor, CA.

(552) A line drawn from Santa Barbara Harbor Light 4 to Santa Barbara Harbor Breakwater Light.

§80.1130 San Luis Obispo Bay, CA.

(553) A line drawn from the southernmost extremity of Fossil Point to the seaward extremity of Whaler Island Breakwater.

§80.1132 Estero-Morro Bay, CA.

(554) A line drawn from the seaward extremity of the Morro Bay East Breakwater to the Morro Bay West Breakwater Light.

§80.1134 Monterey Harbor, CA.

(555) A line drawn from Monterey Harbor Light 6 to the northern extremity of Monterey Municipal Wharf 2.

§80.1136 Moss Landing Harbor, CA.

(556) A line drawn from the seaward extremity of the pier located 0.3 mile south of Moss Landing Harbor

Entrance to the seaward extremity of the Moss Landing Harbor North Breakwater.

§80.1138 Santa Cruz Harbor, CA.

(557) A line drawn from the seaward extremity of the Santa Cruz Harbor East Breakwater to Santa Cruz Harbor West Breakwater Light; thence to Santa Cruz Light.

§80.1140 Pillar Point Harbor, CA.

(558) A line drawn from Pillar Point Harbor Light 6 to Pillar Point Harbor Entrance Light.

§80.1142 San Francisco Harbor, CA.

(559) A straight line drawn from Point Bonita Light through Mile Rocks Light to the shore.

§80.1144 Bodega and Tomales Bay, CA.

(560) (a) An east-west line drawn from Sand Point to Avalis Beach.

(561) (b) A line drawn from the seaward extremity of Bodega Harbor North Breakwater to Bodega Harbor Entrance Light 1.

§80.1146 Albion River, CA.

(562) A line drawn on an axis of 030º true through Albion River Light 1 across Albion Cove.

§80.1148 Noyo River, CA.

(563) A line drawn from Noyo River Entrance Daybeacon 4 to Noyo River Entrance Light 5.

§80.1150 Arcata-Humboldt Bay, CA.

(564) A line drawn from Humboldt Bay Entrance Light 4 to Humboldt Bay Entrance Light 3.

§80.1152 Crescent City Harbor, CA.

(565) A line drawn from Crescent City Entrance Light to the southeasternmost extremity of Whaler Island.

§80.1305 Chetco River, Oreg.

(566) A line drawn across the seaward extremities of the Chetco River Entrance Jetties.

§80.1310 Rogue River, Oreg.

(567) A line drawn across the seaward extremities of the Rogue River Entrance Jetties.

§80.1315 Coquille River, Oreg.

(568) A line drawn across the seaward extremities of the Coquille River Entrance Jetties.

§80.1320 Coos Bay, Oreg.

(569) A line drawn across the seaward extremities of the Coos Bay Entrance Jetties.

§80.1325 Umpqua River, Oreg.

(570) A line drawn across the seaward extremities of the Umpqua River Entrance Jetties.

§80.1330 Siuslaw River, Oreg.

(571) A line drawn across the seaward extremities of the Siuslaw River Entrance Jetties.

§80.1335 Alsea Bay, Oreg.

(572) A line drawn from the seaward shoreline on the north of the Alsea Bay Entrance 165° true across the channel entrance.

§80.1340 Yaquina Bay, Oreg.

(573) A line drawn across the seaward extremities of the Yaquina Bay Entrance Jetties.

§80.1345 Depoe Bay, Oreg.

(574) A line drawn across the Depoe Bay Channel entrance parallel with the general trend of the highwater shoreline.

§80.1350 Netarts Bay, Oreg.

(575) A line drawn from the northernmost extremity of the shore on the south side of Netarts Bay north to the opposite shoreline.

§80.1355 Tillamook Bay, Oreg.

(576) A line drawn across the seaward extremities of the Tillamook Bay Entrance Jetties.

§80.1360 Nehalem River, Oreg.

(577) A line drawn approximately parallel with the general trend of the highwater shoreline across the Nehalem River Entrance.

§80.1365 Columbia River Entrance, Oreg./Wash.

(578) A line drawn from the seaward extremity of the Columbia River North Jetty (above water) 155° true to the seaward extremity of the Columbia River South Jetty (above water).

§80.1370 Willapa Bay, WA.

(579) A line drawn from Willapa Bay Light 169.8° true to the westernmost tripod charted 1.6 miles south of Leadbetter Point.

§80.1375 Grays Harbor, Wash.

(580) A line drawn from across the seaward extremities (above water) of the Grays Harbor Entrance Jetties.

§80.1380 Quillayute River, Wash.

(581) A line drawn from the seaward extremity of the Quillayute River Entrance East Jetty to the overhead power cable tower charted on James Island; thence a straight line through Quillayute River Entrance Light 3 to the shoreline.

§80.1385 Strait of Juan de Fuca.

(582) The 72 COLREGS shall apply on all waters of the Strait of Juan de Fuca.

§80.1390 Haro Strait and Strait of Georgia.

(583) The 72 COLREGS shall apply on all waters of the Haro Strait and the Strait of Georgia.

§80.1395 Puget Sound and Adjacent Waters.

(584) The 72 COLREGS shall apply on all waters of Puget Sound and adjacent waters, including Lake Union, Lake Washington, Hood Canal, and all tributaries.

§80.1410 Hawai'ian Island Exemption from General Rule.

(585) Except as provided elsewhere in this part for Mamala Bay and Kaneohe Bay on Oahu; Port Allen and Nawiliwili Bay on Kauai; Kahului Harbor on Maui; and Kawailae and Hilo Harbors on Hawaii, the 72 COLREGS shall apply on all other bays, harbors, and lagoons of the Hawai'ian Island (including Midway).

§80.1420 Mamala Bay, Oahu, Hawaii.

(586) A line drawn from Barbers Point Light to Diamond Head Light.

§80.1430 Kaneohe Bay, Oahu, Hawaii.

(587) A straight line drawn from Pyramid Rock Light across Kaneohe Bay through the center of Mokolii Island to the shoreline.

§80.1440 Port Allen, Kauai, Hawaii.

(588) A line drawn from Hanapepe Light to Hanapepe Bay Breakwater Light.

§80.1450 Nawiliwili Harbor, Kauai, Hawaii.

(589) A line drawn from Nawiliwili Harbor Breakwater Light to Kukii Point Light.

§80.1460 Kahului Harbor, Maui, HI.

(590) A line drawn from Kahului Harbor Entrance East Breakwater Light to Kahului Harbor Entrance West Breakwater Light.

§80.1470 Kawaihae Harbor, Hawaii.

(591) A line drawn from Kawaihae Light to the seaward extremity of the Kawaihae South Breakwater.

§80.1480 Hilo Harbor, Hawaii.

(592) A line drawn from the seaward extremity of the Hilo Breakwater 265° true (as an extension of the seaward side of the breakwater) to the shoreline 0.2 nautical mile north of Alealea Point.

§80.1490 Apra Harbor, U.S. Territory of Guam.

(593) A line drawn from the westernmost extremity of Orote Island to the westernmost extremity of Glass Breakwater

§80.1495 U.S. Pacific Island Possessions.

(594) The 72 COLREGS shall apply on the bays, harbors, lagoons, and waters surrounding the U.S. Pacific Island of American Samoa, Baker, Howland, Jarvis, Johnson, Palmyra, Swains and Wake Islands.

Part 110–Anchorage Regulations

§110.1 General.

(595) (a) The areas described in subpart A of this part are designated as special anchorage areas for purposes of 33 U.S.C. §§2030(g) and 2035(j). Vessels of less than 20 meters in length, and barges, canal boats, scows, or other nondescript craft, are not required to sound signals required by rule 35 of the Inland Navigation Rules (33 U.S.C. 2035). Vessels of less than 20 meters are not required to exhibit anchor lights or shapes required by rule 30 of the Inland Navigation Rules (33 U.S.C. 2030).

(596) (b) The anchorage grounds for vessels described in Subpart B of this part are established, and the rules and regulations in relation thereto adopted, pursuant to the authority contained in section 7 of the act of March 4, 1915, as amended (38 Stat. 1053; 33 U.S.C. 471).

(597) (c) All bearings in the part are referred to true meridian.

(598) (d) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

Subpart A–Special Anchorage Areas

§110.90 San Diego Harbor, California.

(599) (a) Area A–1. In North San Diego Bay, the Shelter Island Yacht Basin Anchorage, the water area enclosed by a line beginning at

(600) 32°42'56.7"N., 117°13'47.1"W.; thence southwesterly to

(601) 32°42'53.6"N., 117°13'51.3"W.; thence northwesterly to

(602) 32°43'01.3"N., 117°13'59.1"W.; thence northeasterly to

(603) 32°43'02.6"N., 117°13'55.5"W.; thence southeasterly to

(604) 32°42'59.8"N., 117°13'50.4"W.; thence southeasterly to the point of beginning.

(605) (b) Area A–1a. In North San Diego Bay, the Shelter Island Roadstead Anchorage east of Shelter Island, the water area 55 feet either side of a line beginning at

(606) 32°42'33.6"N., 117°13'48.3"W.; thence northeasterly to

(607) 32°42'36.0"N., 117°13'45.1"W.

(608) (c) Area A–1b. The water area off Shelter Island's eastern shore, 210 feet shoreward of a line beginning at

(609) 32°42'43.9"N., 117°13'34.3"W.; thence northeasterly to

(610) 32°42'52.8"N., 117°13'22.4"W.

(611) (d) Area A–1c. The water area off Shelter Island's eastern shore, 210 feet shoreward of a line beginning at

(612) 32°42'55.0"N., 117°13'19.4"W.; thence northeasterly to

(613) 32°43'03.5"N., 117°13'07.6"W.

(614) (e) Area A–2. In North San Diego Bay, the America's Cup Harbor Anchorage, the water area enclosed by a line beginning at

(615) 32°43'13.7"N., 117°13'23.8"W; thence northeasterly to

(616) 32°43'16.7"N., 117°13'16.4"W.; thence northeasterly to

(617) 32°43'22.6"N., 117°13'25.8"W.; thence westerly to

(618) 32°43'22.5"N., 117°13'29.6"W.; thence southwesterly to

(619) 32°43'19.0"N., 117°13'32.6"W.; thence southeasterly to the point of beginning.

(620) (f) Area A–3. In North San Diego Bay, the Laurel Street Roadstead Anchorage, the water area enclosed by a line beginning at

(621) 32°43'30.5"N., 117°10'28.5"W.; thence southwesterly to

(622) 32°43'29.8"N., 117°10'34.2"W.; thence southwesterly to

(623) 32°43'25.8"N., 117°10'36.1"W.; thence southerly to

(624) 32°43'20.2"N., 117°10'36.1"W.; thence westerly to

(625) 32°43'20.2"N., 117°10'52.9"W.; thence northeasterly to

(626) 32°43'29.8"N., 117°10'48.0"W., thence northeasterly following a line parallel to, and 200 feet bayward of, the shoreline of San Diego Bay adjoining Harbor Drive to the point of beginning.

(627) (g) Area A–4. In Central San Diego Bay, the Bay Bridge Roadstead Anchorage, the water area enclosed by a line beginning at

(628) 32°41'32.1"N., 117°09'43.1"W.; thence southwesterly to

(629) 32°41'19.1"N., 117°09'46.1"W.; thence southeasterly to

(630) 32°41'17.8"N., 117°09'44.3"W.; thence southeasterly to

(631) 32°41'14.9"N., 117°09'37.9"W.; thence northeasterly to

(632) 32°41'26.9"N., 117°09'35.1"W., thence southwesterly to the point of beginning.

(633) (h) Area A–5. In Central San Diego Bay, the Glorietta Bay Anchorage, the water area enclosed by a line beginning at

(634) 32°40'42.2"N., 117°10'03.1"W.; thence southwesterly to

(635) 32°40'41.2"N., 117°10'06.6"W.; thence northwesterly to

(636) 32°40'46.2"N., 117°10'15.6"W.; thence northeasterly to

(637) 32°40'46.7"N., 117°10'14.1"W.; thence southeasterly the point of beginning.

(638) (i) Area A–6. In Fiddler's Cove, the water enclosed by a line beginning at

(639) 32°39'10.4"N., 117°08'49.4"W.; thence northwesterly to

(640) 32°39'14.9"N., 117°08'51.8"W.; thence northeasterly to

(641) 32°39'17.6"N., 117°08'47.5"W.; thence northwesterly to

(642) 32°39'19.8"N., 117°08'48.8"W.; thence northeasterly to

(643) 32°39'24.4"N., 117°08'41.4"W.; thence southeasterly to

(644) 32°39'15.7"N., 117°08'36.0"W.; thence southwesterly to the point of beginning.

(645) **Note:** This area is located on Federal property owned by the United States Navy, and it is reserved for active duty military, their dependents, retirees and DOD employees only.

(646) (j) Area A–8. In South San Diego Bay, the Sweetwater Anchorage, the water enclosed by a line beginning at

(647) 32°39'12.2"N., 117°07'45.1"W.; thence easterly to

(648) 32°39'12.2"N., 117°07'30.1"W.; thence southerly to

(649) 32°38'45.2"N., 117°07'30.1"W.; thence westerly to

(650) 32°38'45.2"N., 117°07'45.1"W.; thence northerly to the point of beginning.

(651) (k) Area A–9. In North San Diego Bay, the Cruiser Anchorage, the water enclosed by a line beginning at

(652) 32°43'35.9"N., 117°11'06.2"W.; thence southwesterly to

(653) 32°43'31.5"N., 117°11'13.2"W.; thence southeasterly to

(654) 32°43'28.9"N., 117°11'11.0"W.; thence southeasterly to

(655) 32°43'25.9"N., 117°11'07.7"W.; thence northeasterly to

(656) 32°43'34.8"N., 117°11'03.2"W.; thence northwesterly to the point of beginning. All coordinates in this section use Datum: NAD 83.

(657) **Note:** Mariners anchoring in these anchorages, excluding Anchorage A–6, should consult applicable local ordinances of the San Diego Unified Port District. Temporary floats or buoys for marking anchors are allowed. Fixed moorings, piles or stakes are prohibited. All moorings shall be positioned so that no vessel, when anchored, shall at any time extend beyond the limits of the area. See Captain of the Port Notice 6–97, a copy of which can be obtained by calling (619) 683-6495.

§110.91 Mission Bay, California.

(658) (a) Area M–1. In San Juan Cove, the entire water area west of a line drawn from 32°46'53.6"N., 117°14'52.5"W.; to El Carmel Point North Light; 32°46'48.0"N., 117°14'50.1"W.

(659) **NOTE:** Control over the anchoring of vessels and the placing of temporary moorings in this area is exercised by the City of San Diego Park and Recreation Department pursuant to local ordinances.

(660) (b) Area M–2. In Santa Barbara Cove, the entire water area west of a line drawn from

(661) 32°46'40.0"N., 117°14'47.0"W.; to

(662) 32°46'33.5"N., 117°14'45.5"W.

(663) **NOTE:** Control over the anchoring of vessels and the placing of temporary mooring in this area is exercised by the City of San Diego Park and Recreation Department pursuant to local ordinances.

(664) (c) Area M–3. In Mariners Basin, the entire water area west of a line drawn from latitude 32°45'49.2"N., longitude 117°14'42.9"W.; to Mission Point Light; latitude 32°45'43.7"N., longitude 117°14'41.9"W.

(665) **NOTE:** Control over the anchoring of vessels and the placing of temporary moorings in this area is exercised by the City of San Diego Park and Recreation Department pursuant to local ordinances.

(666) (d) Area M–4. In Quivira Basin, the water area enclosed by that portion of a circle of 45 yard radius from 32°45'42.8"N., 117°14'25.6"W.; through the arc from 354°T to 088°T.

(667) **NOTE:** Control over the anchoring of vessels and the placing of temporary moorings in this area is exercised by the City of San Diego Park and Recreation Department pursuant to local ordinances.

§110.93 Dana Point Harbor, Calif.

(668) The area in Dana Point Harbor, Calif. commencing at a point at

(669) 33°27'36.2"N., 117°42'20.4"W.; thence 016°20' True for 612 feet to a point at

(670) 33°27'42.1"N., 117°42'18.4"W.; thence 106°20' True for 85 feet to a point at

(671) 33°27'41.8"N., 117°42'17.7"W.; thence 196°20' True for 222 feet to a point at

(672) 33°27'39.7"N., 117°42'18.2"W.; thence 182°20' True 234 feet to a point at

(673) 33°27'37.4"N., 117°42'18.2"W.; thence 166°20' True for 499 feet to a point at

(674) 33°27'32.6"N., 117°42'16.8"W.; thence 320° True for 470 feet to the point of origin.

§110.95 Newport Bay Harbor, Calif.

(675) (a) Area A–1. In Lido Channel, northeast of a line parallel to and 195 feet from the pierhead line along the southwest shore of Lido Isle; north of the south U.S. Bulkhead line off Lido Isle extended; southwest of a line parallel to and 120 feet from the pierhead line along the southwest shore of Lido Isle; and southeast of the north side of Via Barcelona, on Lido Isle, extended.

(676) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to the City of Newport Beach Harbor Ordinance No. 543 for recreational and small craft of such size and alignment as permitted by the harbor master.

(677) (b) Area A–2. East of the east side of 15th Street extended; north of a line parallel to and 250 feet from the pierhead line between 14th and 15th Streets, this line being the north line of Newport Channel, and extending east in a straight line to an intersection with a line bearing 268° from Lido Isle East Light 2, this line being the northwest line of the main fairway; west of the east side of 13th Street extended; and south of a line parallel to and 220 feet from the pierhead line off the south shore of Lido Isle.

(678) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to the City of Newport Beach Harbor Ordinance No. 543 for recreational and small craft of such size and alignment as permitted by the harbor master.

(679) (c) Area A–3. A rectangular area, 40 feet wide and 885 feet long, on the west side of Upper Bay Channel, 120 feet east of and parallel to the west pierhead line,

the south end being 50 feet north from U.S. Bulkhead Station 130.

(680) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to Orange County Harbor Ordinance No. 490 for recreational and small craft of such size and alignment as permitted by the harbor master.

(681) (d) Area A–4. South of a line bearing 268° from Newport Bay Channel Light 11, this line being the south line of the main fairway; north of a line parallel to and 200 feet from the pierhead line off 11th to 8th Streets; and west of a line bearing 203° from Newport Bay Channel Light 12, passing through the pierhead line at the east end of Lido Isle.

(682) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to the City of Newport Beach Harbor Ordinance No. 543 for recreational and small craft of such size and alignment as permitted by the harbor master.

(683) (e) Area A–5 (Newport Harbor Yacht Club). East of a line bearing 23° from the center of the north end of 8th Street, being parallel to and 150 feet distant from the east end of Area A–4; north of a line parallel to and 200 feet from the pierhead line off 7th and 8th Streets; northwest of a line parallel to and 200 feet from the northwest pierhead line off Bay Island; and south of a line bearing 268° from Newport Bay Channel Light 11, this line being the southerly line of the main fairway.

(684) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to the City of Newport Beach Harbor Ordinance No. 543 for recreational and small craft of such size and alignment as permitted by the harbormaster.

(685) (f) Area A–6. Northwest of Harbor Island, beginning at a point on the Newport City line 107 feet from the angle point northwest of Harbor Island; thence 036°27', 55 feet; thence 303°18', 300 feet; thence 216°27', 72 feet; thence 165°12', 211 feet; thence 75°11'44", approximately 216 feet, to the point of beginning.

(686) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to Orange County Harbor Ordinance No. 490 for recreational and small craft of such size and alignment as permitted by the harbor master.

(687) (g) Area A–7. East of a line parallel to and 150 feet from the east pierhead line off Bay Island; north of a line parallel to and 150 feet from the pierhead line off Fernando Street; northwest of the east side of Adams Street extended; and southwest of a line bearing 131° from Newport Bay Channel Light 11, being parallel to and 100 feet southwest of the southwest line of the main channel.

(688) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to the City of Newport Beach Harbor Ordinance No. 543 for recreational and small craft of such size and alignment as permitted by the harbor master.

(689) (h) Area A–8. Northeast of a line parallel to and 270 feet from the southwest pierhead line from Collins Isle to Balboa Island; north of a line bearing 311° from Newport Bay Channel Lighted Buoy 10 and passing through Newport Bay Channel Light 12, this line being the northeast line of the main channel; southwest of a line parallel to and 150 feet from the southwest pierhead line from Collins Isle to Balboa Island; and southeast of a line bearing 238° from U.S. Station 160.

(690) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to the City of Newport Beach Harbor Ordinance No. 543 for recreational and small craft of such size and alignment as permitted by the harbor master.

(691) (i) Area A–9. In Balboa Island Channel, east of a line bearing due north from U.S. Station 151, being 25 feet west of the end of Emerald Avenue; north of a line parallel to and 75 feet from the north pierhead line off Balboa Island; west of the east side of Amethyst Avenue extended; and south of a line parallel to and 150 feet from the north pierhead line of Balboa Island.

(692) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to the City of Newport Beach Harbor Ordinance No. 543 for recreational and small craft of such size and alignment as permitted by the harbor master.

(693) (j) Area A–10. Southeast of a line bearing 209° from Newport Bay Channel Lighted Buoy 10 and passing through the east side of the end of "A" Street; north of an irregular line parallel to and 150 feet from the north pierhead line off Balboa Peninsula from "A" to "K" Streets; south of the south line of the main channel; and south and southeast of an irregular line parallel to and 375 feet from the north pierhead line off Balboa Peninsula.

(694) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to the City of Newport Beach Harbor Ordinance No. 543 for recreational and small craft of such size and alignment as permitted by the harbor master.

(695) (k) Area A–11. Northeast of a line bearing 108°30' from Newport Bay Channel Lighted Buoy 10, this line being the northeast line of the main channel; north of a

line parallel to and 350 feet from the south pierhead line off Balboa Island; west of the west bulkhead line of the Grand Canal extended; and south of a line parallel to and 150 feet from the south pierhead off Balboa Island.

(696) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to the City of Newport Beach Harbor Ordinance No. 543 for recreational and small craft of such size and alignment as permitted by the harbor master.

(697) (1) Area A–12 (Balboa Yacht Club). South of a line parallel to and 150 feet from the south pierhead line off Balboa Island; west of the east end pierhead line off Balboa Island extended and bearing 161°; north of a line parallel to and 700 feet from the south pierhead line off Balboa Island; and east of a line parallel to and 1,000 feet from the east boundary, bearing 161° from the point of intersection of the east bulkhead line of Grand Canal and the south bulkhead line off Balboa Island.

(698) **NOTE:** This area is reserved for recreational and other small craft. Single moorings will be allowed in this area conforming to the City of Newport Beach Harbor Ordinance No. 543 for pleasure boats and yachts of such sizes and alignments as permitted by the harbor master.

(699) (m) (Reserved)

(700) (n) Area B–1. Southeast of a line bearing 237° from Lido Isle West Light 4 and being parallel to and 200 feet from the pierhead line off the southeast end of Rhine Point; northeast of the southwest bulkhead line off Rhine Point extended; north of a line parallel to and 250 feet from the pierhead line between 15th and 18th Streets, this line being the north line of Newport Channel; west of the west side of 15th Street extended; and south of a line parallel to and 220 feet from the pierhead off the south shore of Lido Isle.

(701) **NOTE:** This area is reserved for recreational and other small craft. Fore and aft moorings will be allowed in this area conforming to the City of Newport Beach Harbor Ordinance No. 543 for recreational and small craft of such size and alignment as permitted by the harbor master.

§110.100 Los Angeles and Long Beach Harbors, Calif.

(702) (a) (Reserved)

(703) (b) Area A–2. Consisting of two parts in the outer basin of Fish Harbor on the east and west sides of Fish Harbor Entrance Channel described as follows:

(704) (1) Part 1. Beginning at a point at the intersection of westerly side of Fish Harbor Entrance Channel and the outer jetty; thence southwesterly along the jetty about 900 feet to the shore; thence northerly about 500 feet; thence northeasterly about 650 feet, on a line parallel to jetty; thence southeasterly about 500 feet, along the westerly side of Fish Harbor Entrance Channel to the point of beginning.

(705) (2) Part 2. Beginning at a point at the intersection of the east side of Fish Harbor Entrance Channel and Fish Harbor mole (outer Fish Harbor); thence northwesterly along the channel line about 850 feet to the southerly side of the Fairway; thence northeasterly and easterly along the southerly side of the Fairway, about 478 and 565 feet respectively to its intersection with Fish Harbor mole; thence southerly and southwesterly along the mole to the point of beginning.

(706) (c) Area B–1. Long Beach outer harbor along east side of Pier 400 beginning at

(707) 33º44'22.8"N., 118º13'51.0"W.; thence south to

(708) 33º43'54.5"N., 118º13'50.0"W.; thence southwesterly to

(709) 33º43'46.0"N., 118º14'13.6"W.; thence northwesterly to

(710) 33º44'15.3"N., 118º14'26.6"W.; thence northeasterly to

(711) 33º44'25.1"N., 118º14'15.6"W.; thence easterly to the beginning point.

(712) (d) Area C–1. Long Beach outer harbor between Island Freeman and Island Chaffee beginning at

(713) 33º44'20.0"N., 118º08'26.2"W.; thence west to

(714) 33º44'23.5"N., 118º09'32.6"W.; thence north to

(715) 33º44'52.8"N., 118º09'33.2"W.; thence southeast to

(716) 33º44'25.5"N., 118º08'26.2"W.; thence south to the beginning point.

(717) (e) Area E–1. Long Beach outer harbor northwest of Island Freeman beginning at

(718) 33º44'55.0"N., 118º09'40.0"W.; thence southwesterly to

(719) 33º44'37.0"N., 118º09'48.5"W.; thence northwesterly to

(720) 33º44'52.0"N., 118º10'32.0"W.; thence north to

(721) 33º45'11.0"N., 118º10'32.0"W.

(722) (f) Restrictions. Special anchorage areas B–1, C–1, and E–1 are reserved for barges on mooring balls, unless otherwise authorized by the Captain of the Port Los Angeles-Long Beach

§110.111 Marina del Rey Harbor, Calif.

(723) An area in the main channel within the following described boundaries:

(724) Beginning at the most northeasterly corner at

(725) 33°58'58", 118°26'46"; thence southerly to

(726) 33°58'53", 118°26'46"; thence southeasterly to

(727) 33°58'52", 118°26'45"; thence southerly to

(728) 33°58'39", 118°26'45"; thence westerly to

(729) 33°58'38", 118°26'55"; thence northerly to

(730) 33°59'00", 118°26'55"; thence easterly to the point of beginning.

(731) **NOTE:** This area is reserved for yachts and other recreational craft and for all types of small craft during storm, stress, or other emergency. Single and fore-and-aft moorings will be allowed in the area as permitted by the Director of the Department of Small Craft Harbors, Los Angeles County.

§110.115 Santa Barbara Harbor, Calif.

(732) North of the Santa Barbara breakwater; seaward of the line of mean high water; and southwest of a line bearing 46°30' from the north corner of Bath Street and Cabrillo Boulevard to the end of the Santa Barbara breakwater; excluding a fairway 225 feet wide, 100 feet from each side of and parallel to the Navy pier.

(733) **NOTE:** Fore and aft moorings will be allowed in this area conforming to the City of Santa Barbara Harbor Ordinance No. 2106 for yachts and small craft of such size and alignment as permitted by the harbor master.

§110.120 San Luis Obispo Bay, Calif.

(734) (a) Area A–1. Area A–1 is the water area bounded by the San Luis Obispo County wharf, the shoreline, a line drawn from the southernmost point of Fossil Point to latitude 35°10'18.5"N., longitude 120°43'38.5"W.; thence to the southeast corner of the San Luis Obispo County wharf.

(735) (b) Area A–2. Area A–2 is the water area enclosed by a line drawn from the outer end of Whaler Island breakwater at latitude 35°09'22"N., longitude 120°44'56"W., to the Marre Chimney at latitude 35°10'56"N., longitude 120°44'31"W.

(736) **NOTE:** The Port San Luis Harbor District prescribes local regulations for mooring and boating activities in these areas.

§110.125 Morro Bay Harbor, Calif.

(737) (a) Area A–1. Opposite the City of Morro Bay, beginning 50 feet west of the intersection of the west channel line and the prolongation of the center line of Seventh Street; thence in a generally southeasterly direction and parallel to the channel line for a distance of 450 yards; thence 166° and parallel to the revetment for a distance of 1,025 yards; thence 270° for a distance of 200 yards; thence 346° for a distance of about 1,425 yards to meet the prolongation of the center line of Seventh Street; and thence to the point of beginning.

(738) (b) Area A–2. Beginning at a point 322° and 150 feet from the high water line on the most westerly part of Fairbanks Point; thence continuing on this bearing for a distance of 1,346 feet; thence 052° for a distance of 450 feet and thence generally southeasterly parallel to and 150 feet from the mean high water line to the point of beginning.

(739) **NOTE:** Moorings and boating activities will be allowed in these areas conforming to applicable City of Morro Bay ordinances and regulations adopted pursuant thereto.

§110.126 Monterey Harbor, Calif.

(740) The waters of Monterey Harbor between the shoreline and the following coordinates: Beginning at a point on the shoreline at

(741) 36°36'27.5"N., 121°53'35.0"W.; thence to

(742) 36°36'32.4"N., 121°53'31.0"W., in an easterly direction to

(743) 36°36'28.8"N., 121°53'19.0"W.; thence south to

(744) 36°36'23.1"N., 121°53'19.0"W.; thence to the north end of Municipal Wharf No. 1 at

(745) 36°36'20.0"N., 121°53'28.0"W.

§110.126a San Francisco Bay, California.

(746) Richardson Bay Anchorage. That portion of Richardson Bay, north of a line bearing 257° from Peninsula Point to the shore at Sausalito, except for federally-maintained channels, and all channels approved for private use therein.

(747) **NOTE:** Mariners anchoring in the special anchorage area should consult applicable ordinances of the Richardson Bay Regional Agency and the County of Marin. These ordinances establish requirements on matters including the anchoring of vessels, placement of moorings, and use of anchored and moored vessels within the special anchorage area. Information on these local agency requirements may be obtained from the Richardson Bay Harbor Administrator.

§110.127 Lake Mohave and Lake Mead, Nevada and Arizona.

(748) (a) Willow Beach, Ariz. That portion of Lake Mohave enclosed by the shore and a line connecting the following points, excluding a 100-foot-wide fairway, extending westerly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(749) "a" 35°52'30"N., 114°39'35"W.

(750) "b" 35°52'10"N., 114°39'35"W.

(751) (b) Katherine, Ariz. That portion of Lake Mohave enclosed by the shore and a line connecting the following points, excluding a 100-foot-wide fairway, extending westerly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(752) "a" 35°13'33"N., 114°34'38"W.

(753) "b" 35°13'05"N., 114°34'40"W.

(754) (c) El Dorado Canyon, Nev. That portion of Lake Mohave enclosed by the shore and a line connecting

the following points, excluding a 50-foot-wide fairway, extending easterly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(755) "a" 35°42'37"N., 114°42'21"W.

(756) "b" 35°42'08"N., 114°42'10"W.

(757) (d) Cottonwood Cove, Nev. That portion of Lake Mohave enclosed by the shore and a line connecting the following points, excluding a 200-foot-wide fairway extending northeasterly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(758) "a" 35°29'46"N., 114°40'55"W.

(759) "b" 35°29'33"N., 114°40'45"W.

(760) (e) Overton Beach, Nev.–(1) Area "A". That portion of Lake Mead enclosed by the shore and lines connecting the following points, excluding two 300-foot-wide fairways, extending northwesterly and southwesterly from the launching ramps, as established by the Superintendent, Lake Mead Recreation Area:

(761) "a" 36°27'05"N., 114°21'48"W.

(762) "b" 36°27'15"N., 114°21'20"W.

(763) "c" 36°26'32"N., 114°20'45"W.

(764) "d" 36°25'49"N., 114°20'50"W.

(765) "e" 36°25'00"N., 114°21'27"W.

(766) "f" 36°25'19"N., 114°22'10"W.

(767) (f) Echo Bay, Nev. That portion of Lake Mead enclosed by the shore and lines connecting the following points, excluding a 100-foot-wide fairway, extending southwesterly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(768) "a" 36°18'30"N., 114°25'10"W.

(769) "b" 36°18'20"N., 114°24'00"W.

(770) "c" 36°17'35"N., 114°24'05"W.

(771) "d" 36°17'40"N., 114°24'27"W.

(772) (g) Callville Bay, Nev. That portion of Lake Mead enclosed by the shore and lines connecting the following points, excluding a 200-foot-wide fairway, extending southeasterly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(773) "a" 36°09'00"N., 114°42'40"W.

(774) "b" 36°08'10"N., 114°42'03"W.

(775) "c" 36°08'06"N., 114°42'40"W.

(776) (h) Las Vegas Wash, Nev. That portion of Lake Mead enclosed by the shore and a line connecting the following points, excluding a 200-foot-wide fairway, extending easterly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(777) "a" 36°07'23"N., 114°49'45"W.

(778) "b" 36°06'29"N., 114°49'45"W.

(779) (i) Hemenway Harbor, Nev. That portion of Lake Mead enclosed by the shore and lines connecting the following points, excluding a 100-foot-wide fairway, extending easterly from the launching ramp at Boulder Beach and a 600-foot-wide fairway, extending northeasterly from the launching ramp at Hemenway Harbor, both as established by the Superintendent, Lake Mead Recreation Area:

(780) "a" 36°04'05"N., 114°48'15"W.

(781) "b" 36°03'25"N., 114°48'10"W.

(782) "c" 36°01'20"N., 114°45'15"W.

(783) (j) Kingman Wash, Ariz. That portion of Lake Mead enclosed by the shore and a line connecting the following points, excluding a 100-foot-wide fairway, extending westerly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(784) "a" 36°02'34"N., 114°42'50"W.

(785) "b" 36°02'05"N., 114°43'05"W.

(786) (k) Temple Bar, Ariz. That portion of Lake Mead enclosed by the shore and lines connecting the following points, excluding a 200-foot-wide fairway, extending southwesterly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(787) "a" 36°02'21"N., 114°19'29"W.

(788) "b" 36°02'34"N., 114°18'46"W.

(789) "c" 36°02'03"N., 114°18'13"W.

(790) (l) Greggs, Ariz. That portion of Lake Mead enclosed by the shore and a line connecting the following points, excluding a 100-foot-wide fairway, extending northerly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(791) "a" 36°00'35"N., 114°13'49"W.

(792) "b" 36°00'35"N., 114°14'10"W.

(793) (m) Pierce Ferry, Ariz. That portion of Lake Mead enclosed by the shore and a line connecting the following points, excluding a 100-foot-wide fairway, extending easterly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(794) "a" 36°08'42"N., 113°59'24"W.

(795) "b" 36°07'18"N., 113°58'32"W.

(796) (n) South Bay, Ariz. That portion of Lake Mead enclosed by the shore and a line connecting the following points, excluding one 100-foot wide fairway, extending westerly from the launching ramp, as established by the Superintendent, Lake Mead Recreation Area:

(797) "a" 36°06'26"N., 114°06'13"W.

(798) "b" 36°05'00"N., 114°06'50"W.

(799) "c" 36°05'00"N., 114°06'13"W.

(800) **NOTE:** Fixed moorings, piles, or stakes are prohibited. Single and fore and aft temporary moorings will be allowed. The anchoring of vessels and the placing of temporary moorings will be under the jurisdiction and at the discretion of the Superintendent, Lake Mead Recreation Area, National Park Service.

§110.127a and 110.127b.

(801) (Do not apply to this Coast Pilot.)

§110.127c Trinidad Bay, Calif.

(802) The waters of Trinidad Bay beginning at the southernmost point of Trinidad Head at

(803) 41°03'04"N., 124°08'56"W.; thence east to Prisoner Rock at

(804) 41°03'09"N., 124°08'37"W.; thence east to

(805) 41°03'09"N., 124°08'19"W.; thence north to

(806) 41°03'26"N., 124°08'21"W.; thence following the shoreline to Trinidad Bay in a westerly and southerly direction to the point of beginning.

(807) **NOTE:** The area will be principally for use by sport and commercial fishing vessels. Temporary floats and buoys for anchoring will be allowed in the area. Fixed moorings, piles or stakes are prohibited. All moorings shall be placed so that no vessel when anchored or moored shall at any time extend beyond the limits of the area. The anchoring of all vessels and placing of all moorings will be under the supervision of the City of Trinidad or such other authority as may be designated by the City Council of the City of Trinidad, California.

§110.128 Columbia River at Portland, Oreg.

(808) The waters of the Columbia River between Sand Island and Government Island, bounded on the west by pile dike U.S. 5.75 and a line extending true north from the northerly end of the dike to the south shore of Sand Island and bounded on the east by a line bearing 339°15' true, from a point on Government Island at latitude 45°35'10", longitude 122°32'41", to the southerly shore of Sand Island.

§110.128b Island of Hawaii, Hawaii.

(809) (a) Hilo Bay. The waters of Hilo Bay enclosed by a line beginning at

(810) 19°43'55.5"N., 155°03'30"W. thence to

(811) 19°44'08.0"N., 155°04'19"W. thence to

(812) 19°43'51.0"N., 155°04'30"W. thence to

(813) 19°44'10.0"N., 155°05'29"W. thence along the shoreline to the beginning point. (Datum: OHD)

(814) (b) Kuhio Bay. The waters of Kuhio Bay enclosed by a line beginning at

(815) 19°44'13.0"N., 155°03'25"W. thence to

(816) 19°44'15.0"N., 155°03'25"W. thence along the shoreline to the beginning point. (Datum: OHD)

§110.128c Island of Kauai, Hawaii.

(817) (a) Nawiliwili Bay. The waters of Nawiliwili Bay enclosed by a line beginning at

(818) 21°57'12.5"N., 159°21'38"W. thence to

(819) 21°57'26"N., 159°21'39.5"W. thence along the shoreline to the beginning point. (Datum: OHD)

§110.128d Island of Oahu, Hawaii. (Datum: OHD)

(820) (a) *Kaneohe Bay* (1). The waters of Kaneohe Bay enclosed by a line beginning at

(821) 21°26'28"N., 157°46'00"W. thence to

(822) 21°26'00"N., 157°46'14"W. thence to

(823) 21°26'20"N., 157°47'24"W. thence to

(824) 21°27'00"N., 157°48'25"W. thence to

(825) 21°26'46"N., 157°48'37"W. thence along the shoreline to the beginning point.

(826) (b) *Kaneohe Bay* (2). The waters of Kaneohe Bay enclosed by a line beginning at

(827) 21°27'28"N., 157°49'08"W.; thence to

(828) 21°28'10"N., 157°50'03"W.; thence to

(829) 21°29'10"N., 157°50'40"W.; thence to

(830) 21°30'46"N., 157°50'14"W.; thence along the shoreline to the beginning point.

(831) (c) *Keehi Lagoon*. The waters of Keehi Lagoon bounded by a line connecting the following points:

(832) 21°19'35.0"N., 157°54'06.0"W.

(833) 21°19'37.7"N., 157°53'58.0"W.

(834) 21°19'06.4"N., 157°53'41.9"W.

(835) 21°19'00.8"N., 157°53'44.1"W.

(836) 21°18'59.9"N., 157°53'49.7"W.

(837) 21°19'04.9"N., 157°53'50.0"W. and thence to the point of beginning.

(838) (d) *Sans Souci Beach*. The waters of Sans Souci Beach enclosed by a line beginning at

(839) 21°15'49"N., 157°49'31"W.; thence to

(840) 21°15'49.2"N., 157°49'29"W.; thence to

(841) 21°15'56.2"N., 157°49'31"W.; thence to

(842) 21°15'56"N., 157°49'33"W.; thence to the beginning point.

(843) (e) *Iroquois Point Lagoon*. The waters of Iroquois Point Lagoon enclosed by a line beginning at

(844) 21°19'53"N., 157°58'30"W.; thence to

(845) 21°19'56"N., 157°58'31"W.; thence along the shoreline to the beginning point.

(846) (f) *Hickam AFB Marina* (1)a. The waters of Hickam AFB Marina enclosed by a line beginning at

(847) 21°19'13"N., 157°57'40"W.; thence to

(848) 21°18'45"N., 157°57'40"W.; thence to

(849) 21°18'45"N., 157°57'28.5"W.; thence to

(850) 21°19'10"N., 157°57'28.5"W.; thence along the shoreline to the beginning point.

(851) (g) *Hickam AFB Marina* (2). The waters of Hickam AFB Marina enclosed by a line beginning at

(852) 21°19'11"N., 157°57'10"W.; thence to

(853) 21°18'46.2"N., 157°57'20"W; thence to

(854) 21°18'46.2"N., 157°57'05.2"W.; thence along the shoreline to the beginning point.

(855) (h) *Aiea Bay*. The waters of Aiea Bay enclosed by a line beginning at

(856) 21°22'20"N., 157°56'30"W.; thence to

(857) 21°22'27"N., 157°56'40.5"W; thence to

(858) 21°22'30"N., 157°56'40.5"W.; thence to
(859) 21°22'37"N., 157°56'22.5"W.; thence to
(860) 21°22'37"N., 157°56'19"W.; thence along the shoreline to the beginning point.

§110.129a Apra Harbor, Guam. (Datum: WGS 84)

(861) (a) The waters bounded by a line connecting the following points:
(862) 13°27'45.5"N., 144°39'34.8"E.
(863) 13°27'32.0"N., 144°39'36.3"E.; and thence along the shoreline to the point of beginning.
(864) (b) The waters bounded by a line connecting the following points:
(865) 13°26'53.6"N., 144°40'03.8"E.
(866) 13°27'04.0"N., 144°40'04.8"E.
(867) 13°27'04.0"N., 144°40'09.8"E.
(868) 13°27'10.0"N., 144°40'09.8"E.
(869) 13°27'10.0"N., 144°40'23.8"E.
(870) 13°26'51.0"N., 144°40'23.8"E.
(871) 13°26'51.0"N., 144°40'06.0"E.; and thence to the point of beginning.

Subpart B–Anchorage Grounds

§110.210 San Diego Harbor, CA.

(872) (a) The anchorage grounds. (1) Special anchorage for U.S. Government vessels (NAD 83). The waters bounded by a line connecting the following points:
(873) 32°42'13.2"N., 117°14'11.0"W.
(874) 32°41'12.0"N., 117°14'00.3"W. and thence along the shoreline to the point of beginning.
(875) (2) Special anchorage for U.S. Government vessels (NAD 83). The waters bounded by a line connecting the following points:
(876) 32°43'25.6"N., 117°12'46.1"W.
(877) 32°43'25.3"N., 117°12'52.0"W.
(878) 32°43'08.2"N., 117°12'58.0"W.
(879) 32°42'57.9"N., 117°12'54.0"W. and thence easterly along the northern boundary of the channel to:
(880) 32°43'05.0"N., 117°11'30.5"W.
(881) 32°43'27.2"N., 117°11'14.0"W. and thence along the shoreline of Harbor Island to the point of beginning.
(882) (3) "B" Street Merchant Vessel Anchorage (NAD 83). The waters bounded by a line connecting the following points:
(883) 32°43'00.8"N., 117°10'36.3"W.
(884) 32°43'00.8"N., 117°11'23.0"W.
(885) 32°43'05.0"N., 117°11'30.5"W.
(886) 32°43'27.2"N., 117°11'14.0"W.
(887) 32°43'20.2"N., 117°10'53.0"W. and thence due east to the shoreline, and thence along the shoreline and pier to the point of beginning.
(888) (b) The regulations. (1) The anchorages described in paragraphs (a)(1) and (a)(2) of this section are reserved exclusively for the anchorage of vessels of the United States Government and of authorized harbor pilot boats. No other vessels shall anchor in this area except by special permission obtained in advance from the Commander, Naval Base, San Diego, CA. The administration of these anchorages is exercised by the Commander, Naval Base, San Diego, CA.
(889) (2) The area described in Paragraph (a)(3) of this section is reserved for the use of merchant vessels calling at the Port of San Diego while awaiting a berth. The administration of this anchorage is exercised by the Port Director, San Diego Unified Port District.
(890) (3) Vessels anchoring in San Diego Harbor shall leave a free passage for other craft and shall not obstruct the approaches to the wharves in the harbor.

§110.212 Newport Bay Harbor, Calif.

(891) (a) The anchorage grounds–(1) Temporary Anchorage C–1. Southeast of a line parallel to and 170 feet from the pierhead line at the east end of Lido Isle; north of a line parallel to and 250 feet north of a line bearing 268° from Newport Bay Channel Light 11, this line being the north line of the main fairway; northwest of a line of 120 feet in length bearing 203° from the point of the pierhead line off the west end of Harbor Island; and southwest of the pierhead line off the northeast shore of Lido Isle extended.
(892) (2) Temporary Anchorage C–2. A parallelogram-shaped area, 100 feet wide and 400 feet long, lying 100 feet bayward from and parallel to the existing pierhead line, and adjoining and on the north side of Anchorage C–3 described in Paragraph (a)(3) of this section.
(893) (i) Vessels may anchor temporarily in Temporary Anchorages C–1 and C–2 when necessary and space permits, but shall move promptly when the necessity passes or upon order of the harbor master.
(894) (ii) Vessels anchoring in Temporary Anchorages C–1 and C–2 shall comply with all applicable Pilot Rules, including that requiring anchor lights at night.
(895) (iii) Floats or buoys for marking anchors or mooring in place and fixed mooring piles or stakes are prohibited.
(896) (3) Anchorage C–3. A parallelogram-shaped area, 100 feet wide and 500 feet long, lying 100 feet bayward from and parallel to the existing pierhead line, and adjoining and on the south side of Temporary Anchorage C–2 described in Paragraph (a)(2) of this section.
(897) (i) This area is reserved for recreational and other small craft.
(898) (ii) Fore and aft moorings will be allowed in this area conforming to Orange County Harbor Ordinance No. 490 and other local harbor regulations for recreational

and small craft of such size and alignment as permitted by the harbor master.

(899) (iii) All vessels using this area are required to maintain anchor lights from sunset to sunrise.

(900) (b) The regulations. (1) Vessels may anchor temporarily in these areas when necessary and space permits, but shall move promptly when the necessity passes or upon order of the harbor master.

(901) (2) Vessels anchoring in these areas shall comply with all applicable Pilot Rules, including that requiring anchor lights at night.

(902) (3) Floats or buoys for marking anchors or moorings in place and fixed mooring piles or stakes are prohibited.

§110.214 Los Angeles and Long Beach harbors, California.

(903) (a) *General Regulations*.

(904) (1) *Anchorage Assignment*. (i) Unless otherwise directed by the Captain of the Port Los Angeles-Long Beach, the pilot stations for the Port of Long Beach and the Port of Los Angeles will assign the use of commercial anchorages within their jurisdictions (Long Beach and Los Angeles Harbors respectively). All anchorages outside (seaward) of the federal breakwater will be assigned by the Los Angeles-Long Beach Vessel Traffic Information Service (VTIS). The master, pilot, or person in charge of a vessel must notify the appropriate pilot station (for anchorages inside the federal breakwater) or the VTIS (for anchorages outside the federal breakwater) of their intention to anchor, upon anchoring, and at least fifteen minutes prior to departing an anchorage. All anchorage assignments will be made as described in this part unless modified by the Captain of the Port.

(905) (ii) Radio communications for port entities governing anchorages are as follows: Los Angeles-Long Beach Vessel Traffic Information Service, call sign "LA-Long Beach Traffic", Channel 14 VHF–FM; Los Angeles Port Pilots, Channel 73 VHF–FM; Long Beach Port Pilots, Channel 74 VHF-FM.

(906) (iii) The exact boundary separating the Port of Long Beach from the Port of Los Angeles is published in local Port Tariffs. For purposes of this rule, Long Beach waters are those east, and Los Angeles waters are those west, of the following locations:

(907) (A) Inner Harbor: The Henry Ford (Badger Avenue) Bridge.

(908) (B) Middle Harbor: The Pier 400 Transportation Corridor.

(909) (C) Outer Harbor: The western boundary of Commercial Anchorage B.

(910) (2) *Required approvals, permits and notifications.*

(911) (i) No vessel may anchor anywhere within Los Angeles or Long Beach harbors for more than 10 consecutive days unless an extended anchorage permit is obtained from the Captain of the Port. In determining whether an extended anchorage permit will be granted, consideration will be given, but not necessarily limited to: the current and anticipated demands for anchorage space within the harbor, the duration requested, the condition of the vessel, and the reason for the request.

(912) (ii) No vessel while carrying, loading, or unloading division 1.1 or 1.2 materials as defined in 49 CFR 173.50, or Cargoes of Particular Hazard (COPH) as defined in 33 CFR 126.10, or Certain Dangerous Cargoes (CDC) as defined in 33 CFR 160.203, may anchor without first obtaining a permit issued by the Captain of the Port.

(913) (iii) Vessels requiring use of an explosives anchorage should contact the Captain of the Port at least 24 hours prior to the anticipated need for the explosives anchorage to allow for proper activation of that anchorage.

(914) (iv) Except with the prior approval of the Captain of the Port, or, in the case of an emergency, with approval of the Captain of the Port immediately subsequent to anchoring, no commercial vessel greater than 1600 gross tons may anchor in Los Angeles-Long Beach Harbor unless it maintains the capability to get underway within 30 minutes. Any vessel unable to meet this requirement must immediately notify the Captain of the Port and make arrangements for an adequate number of tugs to respond to the vessel within 30 minutes notice.

(915) (v) In anchorages where lightering is authorized, the Captain of the Port must be notified at least 4 hours in advance of a vessel conducting lightering operations (see 33 CFR 156.118).

(916) (3) *Other General Requirements.*

(917) (i) When at anchor, all commercial vessels greater than 1600 gross tons shall, at all times, have a licensed deck officer on watch and maintain a continuous radio listening watch unless subject to one of the exemptions in this Paragraph. The radio watch must be on CH–13 VHF-FM when anchored inside the federal breakwater, and on CH–14 VHF–FM or on CH–16 VHF–FM when anchored outside the federal breakwater, except for unmanned barges; vessels which have less than 100 gallons of oil or fuel onboard regardless of how the fuel is carried; and other vessels receiving advance approval from the Captain of the Port.

(918) (ii) When sustained wind speeds exceed 40 knots, all anchored commercial vessels greater than 1600 gross tons shall ensure their propulsion plant is placed in immediate standby and a second anchor is made ready to let go. Vessels unable to comply with this

requirement must immediately notify the Captain of the Port. In such case, the Captain of the Port may require the vessel to have one or more tugs standing by to render immediate assistance.

(919) (4) *Prohibitions.* Within Los Angeles Harbor, Long Beach Harbor, and the Los Angeles-Long Beach Precautionary Area, except for emergency reasons, or with the prior approval of the Captain of the Port, vessels are prohibited from anchoring outside of designated anchorage areas. In the event a vessel anchors outside a designated anchorage area for emergency reasons, the master, pilot, or person in charge of the vessel shall:

(920) (i) Position the vessel so as to minimize the danger to other vessels and facilities:

(921) (ii) Immediately notify the Captain of the Port by the most expeditious means of the vessel's location and the reason(s) for the emergency anchoring; and

(922) (iii) Move the vessel as soon as the emergency condition prompting anchoring outside a designated area abates, or as soon as ordered to move by the Captain of the Port, whichever occurs sooner.

(923) (5) *Exemption from rules.* The Captain of the Port may, upon request, or whenever he/she deems appropriate, authorize a deviation from any rule in this section.

(924) (b) *The anchorage grounds.* Locations of anchorage grounds are as described in this section. Specific requirements for individual anchorages are contained paragraphs (c) and (d) of this section. All coordinates referenced use datum: NAD 83.

(925) (1) *Commercial Anchorage A (Los Angeles Harbor).* A circular area with a radius of 400 yards (approximately 366 meters), centered in position 33°43'19.2"N., 118°14'18.5"W.

(926) (2) *Commercial Anchorage B (Long Beach Harbor).* An area enclosed by a line joining the following coordinates:

(927) 33º44'37.0"N., 118º13'00.0"W.; thence south/southeast to

(928) 33º44'12.0"N., 118º12'36.2"W.; thence southeast to

(929) 33º43'38.2"N., 118º11'36.9"W.; thence southwest to

(930) 33º43'26.1"N., 118º11'47.2"W.; thence west to

(931) 33º43'26.1"N., 118º12'22.7"W.; thence west/southwest to

(932) 33º42'58.9"N., 118º13'53.0"W.; thence north/northwest to

(933) 33º43'46.0"N., 118º14'13.6"W.; thence east/northeast to

(934) 33º43'54.5"N., 118º13'50.0"W.; thence north to

(935) 33º44'22.8"N., 118º13'51.0"W.; thence east/northeast to the beginning point.

(936) (3) *Commercial Anchorage C (Long Beach Harbor).* An area enclosed by a line joining the following coordinates:

(937) 33°44'20.0"N., 118°08'26.2"W.; thence west to

(938) 33°44'23.5"N., 118°09'32.6"W.; thence north to

(939) 33°44'52.8"N., 118°09'32.2"W.; thence southeast to

(940) 33°44'25.2"N., 118°08'26.2"W.; thence south to the beginning point.

(941) (4) *Commercial Anchorage D (Long Beach Harbor).* An area enclosed by a line beginning near the east end of the Long Beach Breakwater and joining the following(4) Commercial Anchorage D (Long Beach Harbor). An area enclosed by a line beginning near the east end of the Long Beach Breakwater and joining the following coordinates:

(942) 33°43'27.2"N.; 118°08'12.6"W.; thence west to

(943) 33°43'27.2"N.; 118°10'46.5"W.; thence north to

(944) 33°43'51.0"N.; 118°10'46.5"W.; thence northeast to

(945) 33°44'18.5"N.; 118°10'27.2"W.; thence east to

(946) 33°44'18.5"N.; 118°08'12.6"W.; thence south to the beginning point.

(947) (5) *Commercial Anchorage E (Long Beach Harbor).* An area enclosed by a line joining the following coordinates:

(948) 33º44'37.0"N., 118º09'48.5"W.; thence southwest to

(949) 33º44'18.5"N., 118º09'56.8"W.; thence west to

(950) 33º44'18.5"N., 118º10'27.2"W.; thence northwest to

(951) 33º44'27.6"N., 118º10'41.0"W.; thence west/northwest to

(952) 33º44'29.0"N., 118º10'57.4"W.; thence north/northwest to

(953) 33º45'06.4"N., 118º11'09.5"W.; thence northeast to

(954) 33º45'15.2"N., 118º10'46.1"W.; thence southeast to

(955) 33º45'11.0"N., 118º10'32.0"W.; thence south to

(956) 33º44'52.0"N., 118º10'32.0"W.; thence southeast to the beginning point.

(957) (6) *Commercial Anchorage F (outside of Long Beach Breakwater).* The waters southeast of the Long Beach Breakwater bounded by a line connecting the following coordinates:

(958) 33°43'05.1"N., 118°07'59.0"W.; thence west to

(959) 33°43'05.1"N., 118°10'36.5"W.; thence south/southeast to

(960) 33°38'17.5"N., 118°07'00.0"W.; thence north/northeast to

(961) 33°40'23.0"N., 118°06'03.0"W.; and thence north/northwest to the beginning point.

(962) (7) *Commercial Anchorage G (outside of the Middle Breakwater).* The waters south of the Middle Breakwater bounded by a line connecting the following coordinates:

(963) 33°43'05.4"N., 118°11'18.0"W.; thence west to

(964) 33°43'05.4"N., 118°12'18.7"W.; thence west/southwest to

(965) 33°42'25.9"N., 118°14'19.2"W.; thence southeast to

(966) 33°41'40.3"N., 118°13'05.2"W.; thence east/northeast to

(967) 33°42'08.8"N., 118°11'36.8"W.; and thence north-/northeast to the beginning point.

(968) (8) *General Anchorage N (Los Angeles Harbor)*. The waters near Cabrillo Beach shoreward of a line connecting the following coordinates:

(969) 33°42'55.9"N., 118°16'44.4"W.

(970) 33°42'26.8"N., 118°16'33.9"W.

(971) (9) *General Anchorage P (Long Beach Harbor)*. The waters within an area beginning at Alamitos Bay West Jetty Light "1" and connecting the following coordinates

(972) 33°44'14.5"N., 118°07'19.2"W.; thence northwest to

(973) 33°44'20.6"N., 118°07'31.7"W.; thence northwest

(974) 33°45'06.5"N., 118°09'34.0"W.; thence along the eastern shoreline of Island White to the lighted marker at

(975) 33°45'13.5"N., 118°09'34.0"W.; thence northwest to

(976) 33°45'37.1"N., 118°10'38.5"W.; thence north/northwest to

(977) 33°45'49.4"N., 118°10'38.8"W.; and thence east/southeast along the Long Beach shoreline and the Alamitos Bay West Jetty to the beginning point.

(978) (10) *General Anchorage Q (Long Beach Harbor/Alamitos Bay/Anaheim Bay)*. The waters within an area described as follows:

(979) 33°44'36.0"N., 118°08'13.0"W.; thence east/southeast to

(980) 33°44'20.6"N., 118°07'31.7"W.; thence along a line described as an arc, radius of 460 meters (approximately 1509 feet) centered on

(981) 33°44'12.5"N., 118°07'16.5"W.; to

(982) 33°44'04.8"N., 118°07'01.0"W.; thence northwest to

(983) 33°44'11.1"N., 118°07'13.0"W.; thence north/northeast to

(984) 33°44'24.0"N., 118°07'04.1"W.; thence east/southeast to

(985) 33°44'22.5"N., 118°06'57.0"W.; thence along the shoreline of Seal Beach and Anaheim Bay W. Jetty to

(986) 33°43'39.1"N., 118°06'06.8"W.; thence west/southwest to

(987) 33°43'27.8"N., 118°07'39.9"W.; thence northwest to

(988) 33°43'38.4"N., 118°07'48.2"W.; thence west to

(989) 33°43'38.4"N., 118°08'12.9"W.; and thence north to the beginning point.

(990) (11) *Explosives Anchorage (Long Beach Harbor)*. A circular area with a radius of 1,909 yards (1,745 meters), centered in position 33°43'37.0"N., 118°09'05.3"W.

(991) (c) *Individual anchorage requirements:*

(992) (1) Table 110.214(c) lists anchorage grounds, identifies the purpose of each anchorage, and contains specific regulations applicable to certain anchorages. Requirements for the explosives anchorage are contained in Paragraph (d) of this section.

(993) (2) The geographic boundaries of each anchorage are contained in Paragraph (b) of this section.

(994) (d) *Explosives Anchorage (Long Beach Harbor)*.

(995) (1) Priority for use of this anchorage shall be given to vessels carrying, loading, or unloading division 1.1, 1.2, 1.3 or 1.4 (explosive) materials as defined in 49 CFR 173.50, or Cargoes of Particular Hazard (COPH) as defined in 33 CFR 126.10, or Certain Dangerous Cargoes (CDC) as defined in 33 CFR 160.203.

(996) (2) Vessels requiring the use of this anchorage shall notify the Captain of the Port at least 24 hours in advance of their intentions including the estimated times of arrival, departure, net explosive weight, and whether the vessel will be loading or unloading. Vessels may not use this anchorage without first obtaining a permit issued by the Captain of the Port.

(997) (3) No vessel containing more than 680 metric tons (approximately 749 tons) of net explosive weight (NEW) may anchor in this anchorage;

(998) (4) Bunkering and lightering operations are permitted in the explosives anchorage, except that vessels engaged in the loading or unloading of explosives shall not simultaneously conduct bunkering or lightering operations.

(999) (5) Each anchored vessels loading, unloading or laden with explosives, must display a red flag of a least 1.2 square meters (approximately 16 square feet) in size by day, and at night the flag must be illuminated by spotlight;

(1000) (6) When a vessel displaying the red flag occupies the explosive anchorage, no other vessel may anchor within the Explosives Anchorage.

(1001) **Note:** When the explosives anchorage is activated, portions of Anchorage "C", "D", "F" and "Q" are encompassed by the explosives anchorage.

§110.215 Anaheim Bay Harbor, California; U.S. Naval Weapons Station, Seal Beach, California; Naval Explosives Anchorage.

(1002) (a) The anchorage ground. The waters of Anaheim Bay Harbor between the east side of the Entrance Channel and the East Jetty, and the West side of the Entrance Channel and the West Jetty as outlined in the following two sections:

(1003) (1) East Side:

(1004) 33°44'03.0"N., 118°05'35.0"W.

(1005) 33°43'53.0"N., 118°05'15.0"W.

(1006) 33°43'49.0"N., 118°05'18.0"W.

(1007) 33°43'36.5"N., 118°05'56.0"W.

TABLE 110.214(C)

Anchorage	General Location	Purpose	Specific regulations
A	Los Angeles Harbor	Commercial	Note a.
B	Long Beach Harbor	do	Do.
C	do	do	Notes a, g.
D	do	Commercial & Naval	Notes a, b, g.
E	do	Commercial	Note c.
F	Outside Breakwater	do	Notes c, g.
G	do	do	Notes c, d.
N	Los Angeles Harbor	Small Craft	Note e.
P	Long Beach Harbor	do	Note f.
Q	do	do	Notes c, g.

NOTES:

a. Bunkering and lightering are permitted.

b. West of 118°09'48"W. priority for use of the anchorage will be given to commercial vessels over 244 meters (approximately 800 feet). East of 118°09'48"W. priority for use of the anchorage will be given to Naval and Public vessels, vessels under Department of Defense charter, and vessels requiring use of the explosives anchorage.

c. Bunkering and lightering are prohibited.

d. This anchorage is within a Regulated Navigation Area and additional requirements apply as set forth in 33 CFR 165.1152(e.)

e. This anchorage is controlled by the Los Angeles Port Police. Anchoring, mooring and recreational boating activities conforming to applicable City of Los Angeles ordinances and regulations are allowed in this anchorage.

f. This anchorage is controlled by the Long Beach Harbor Master. Anchoring, mooring and recreational boating activities conforming to applicable City of Long Beach ordinances and regulations are allowed in this anchorage.

g. When the explosives anchorage is activated portions of this anchorage lie within the explosives anchorage and the requirements of paragraph (d) of this section apply.

(1008) 33°43'37.0"N., 118°05'57.0"W.

(1009) 33°44'03.0"N., 118°05'35.0"W.

(1010) (2) West Side:

(1011) 33°44'05.0"N., 118°05'40.0"W.

(1012) 33°44'06.0"N., 118°05'56.5"W.

(1013) 33°44'01.0"N., 118°06'01.0"W.

(1014) 33°43'40.5"N., 118°06'03.0"W.

(1015) 33°43'39.5"N., 118°06'02.0"W.

(1016) 33°44'05.0"N., 118°05'40.0"W.

(1017) (b) The regulations. (1) This area is reserved for use of naval vessels carrying or transferring ammunition or explosives under standard military restrictions as established by the Safety Manual, Armed Service Explosives Board.

(1018) (2) No pleasure or commercial craft shall navigate or anchor within this area at any time without first obtaining permission from the Commanding officer, Naval Weapons Station, Seal Beach, California. This officer will extend full cooperation relating to public use of the area and will fully consider every reasonable request for the passage of small craft in light of requirements for national security and safety of persons and property.

(1019) (3) Nothing in this section shall be construed as relieving the owner or operator of any vessel from the regulations contained in Part 334.930 of Title 33, covering navigation in Anaheim Bay Harbor.

(1020) (4) The regulations in this section shall be administered by the Commanding Officer U.S. Naval Weapons Station, Seal Beach, California and by such agencies as he may designate, and enforced by the Captain of the Port, Los Angeles-Long Beach, California.

§110.216 Pacific Ocean at Santa Catalina Island, Calif.

(1021) (a) The anchorage grounds–(1) *Descanso Bay*. Shoreward of a line connecting the promontories known as White Rock and Casino Point.

(1022) (2) *Isthmus Cove*. All the waters bounded by aline connecting the following coordinates, beginning at 33°27'12"N., 118°30'05"W. (the promontory known as Lion Head); thence southeast to 33°26'55.5"N., 118°28'44"W.; thence west-southwest to 33°26'50"N., 118°29'08"W.; thence southwest to 33°26'39"N., 118°29'19"W.; thence along the shoreline returning to

the point of origin, excluding the following-described non-anchorage area: an area 300 feet wide (170 feet west and 130 feet east of the centerline of the Catalina Island Steamship Line pier), extending 1600 feet from the foot of the pier, and an area 150 feet seaward of the shoreline extending approximately 1500 feet east and 1500 feet northwest of the centerline of said pier.

(1023) (3) *Avalon Bay*. (i) Anchorage A. The waters within an area described as follows: A circle of 1350 feet radius centered at 33°20'59.0"N., 118°18'56.2"W.

(1024) (ii) *Anchorage B*. The waters within an area described as follows: A circle of 1350 feet radius centered at 33°20'38.3"N., 118°18'35.8"W.

(1025) (iii) *Anchorage C*. The waters within an area described as follows: A circle of 1350 feet radius centered at 33°21'21.0"N., 118°19'16.7"W.

(1026) Datum: NAD 83

(1027) (b) The regulations. (1) The Descanso Bay anchorage is reserved for yachts and other small craft. Floats or buoys for marking anchors or moorings in place will be allowed in this area. Fixed mooring piles or stakes are prohibited.

(1028) (2) The Isthmus Cove anchorage shall be available for anchorage of all types of craft. Temporary floats or buoys for marking anchors or moorings in place will be allowed in this area. Fixed mooring piles or stakes are prohibited.

(1029) (3) The non-anchorage area described in Paragraph (a)(2) of this section shall be used only by commercial vessels. Commercial vessels of 15 feet draft or over may anchor in this area seaward of the Catalina Island Steamship Line pier during hours between sunrise and sunset. The use of this area for anchorage is forbidden to all other craft at all times. Fixed mooring piles or stakes and floats or buoys for marking anchors or moorings in place are prohibited.

(1030) (4) The instructions of the Captain of the Port requiring vessels to anchor bow and stern, or with two bow anchors, or requiring shifting the anchorage of any vessel within the anchorage grounds for the common safety or convenience, or for otherwise enforcing the regulations in this section, shall be promptly complied with by owners, masters, and persons in charge of vessels.

(1031) (5) Nothing in this section shall be construed as relieving the owner or person in charge of any vessels or plant from the penalties of law for obstructing navigation or for obstructing or interfering with range lights, or for not complying with the navigation laws in regard to lights, fog signals, or for otherwise violating law.

(1032) (6) The Avalon Bay anchorage is reserved for large passenger vessels of over 1600 gross tons, unless otherwise authorized by the Captain of the Port Los Angeles-Long Beach.

§110.218 Pacific Ocean at San Clemente Island, Calif.; in vicinity of Wilson Cove.

(1033) (a) The anchorage grounds. Shoreward of a line beginning at a point on the beach bearing 153° true, 1,400 yards, from Wilson Cove Light; thence 062° true, 0.67 nautical mile, thence 332° true, 1.63 nautical miles; thence 241°31' true to the shore line.

(1034) (b) The regulations. (1) This area is reserved exclusively for anchorage of United State Government vessels or vessels temporarily operating under Government direction, and no vessel, except in an emergency, shall anchor in the area without first obtaining permission from the Commandant, Eleventh Naval District, or the Senior Naval Officer present who shall in turn notify the Commandant promptly.

(1035) (2) No vessel shall anchor in such a manner as to unreasonably obstruct the approach to the wharf.

§110.220 Pacific Ocean at San Nicolas Island, Calif.; restricted anchorage areas.

(1036) (a) The restricted areas–(1) East area. All waters within a circle having a radius of one nautical mile centered at latitude 33°13'45", longitude 119°25'50" (the former position of San Nicolas Island East End Light), which point bears approximately 101°, 420 yards, from San Nicolas Island East End Light.

(1037) (2) West area. Shoreward of a line bearing 276° true from San Nicolas Island south side light a distance of six nautical miles; thence to a point bearing 270° true, two nautical miles, from the westernmost point of the island; thence 60° to a point due north of the northernmost point of the island; thence 180° true to the shore.

(1038) (b) The regulations. Except in an emergency, no vessel shall anchor in these restricted areas without authority of the Commandant, Eleventh Naval District. Cargo vessels destined for San Nicolas Island may anchor in the east area for unloading or loading.

§110.222 Pacific Ocean at Santa Barbara Island, Calif.

(1039) (a) The anchorage grounds. Shoreward of a line beginning at the Santa Barbara Island Light on the northeast end of the island and bearing 23° true a distance of 1.515 nautical miles seaward from the beach; thence 140°30' true, 2.54 nautical miles; thence 212°30' true, 2.30 nautical miles; thence 296°30' true, 0.96 nautical mile; and thence 325° true to the beach.

(1040) (b) The regulations. The anchorage shall be available for anchorage of all types of craft. Temporary floats or buoys for marking anchors in place will be permitted in this area.

§110.224 San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay, Sacramento River, San Joaquin River, and connecting waters, CA.

(1041) (a) *General Regulations*.

(1042) (1) Within the navigable waters of San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay, New York Slough, San Joaquin River Deep Water Channel, the Stockton Turning Basin, the Sacramento River Deep Water Ship Channel between Suisun Bay and the east end of the West Sacramento Turning Basin, and connecting waters, anchoring is prohibited outside of designated anchorages except when required for safety or with the written permission of the Captain of the Port. Each vessel anchoring outside an established anchorage area shall immediately notify the Captain of the Port of her position and reason for anchoring.

(1043) (2) No vessel may permanently moor in areas adjacent to the San Joaquin River Deep Water Channel except with the written permission of the Captain of the Port.

(1044) (3) Each vessel anchoring for safety reasons in the San Joaquin River Deep Water Channel, the Sacramento River Deep Water Ship Channel, or the Stockton or West Sacramento Turning Basins shall be positioned as near to the edge of the channel or turning basin as possible so as not to interfere with navigation, or obstruct the approach to any pier, wharf, slip, or boat harbor and shall move as soon as the reason for anchoring no longer exists or when notified to move by the Captain of the Port.

(1045) (4) No vessel may anchor within a tunnel, cable, or pipeline area shown on a Government chart.

(1046) (5) No vessel may moor, anchor, or tie up to any pier, wharf, or other vessel in such a manner as to extend into an adjacent channel or fairway.

(1047) (6) No vessel in such a condition that it is likely to sink or otherwise become a menace or obstruction to navigation or anchorage of other vessels may occupy an anchorage, except when unforeseen circumstances create conditions of imminent peril to personnel and then only for such period as may be authorized by the Captain of the Port.

(1048) (7) Each vessel carrying explosives shall only anchor in an explosives anchorage except as authorized by Paragraph (a)(1) or (a)(17) of this section.

(1049) (8) No vessel other than a vessel under Federal supervision may go alongside or in any manner moor to any Government-owned vessel, mooring buoy, or pontoon boom, their anchor cables, or any of their appendages. No vessel other than a vessel under Federal supervision may obstruct or interfere in any manner with the mooring, unmooring, or servicing of vessels owned by the United States.

(1050) (9) The Captain of the Port may require any vessel in a designated anchorage area to moor with two or more anchors.

(1051) (10) Each vessel that will not have sufficient personnel on board to weigh anchor at any time shall anchor with two anchors with mooring swivel, unless otherwise authorized by the Captain of the Port.

(1052) (11) Deep-draft vessels shall take precedence over vessels of lighter draft in the deeper portions of all anchorages. Light-draft barges and vessels shall anchor away from the deeper portions of the anchorage so as not to interfere with the anchoring of deep-draft vessels. Should circumstances warrant, the Captain of the Port may require lighter draft vessels to move to provide safe anchorage, particularly in Anchorages 7 and 9, for deep-draft vessels.

(1053) (12) Barges towed in tandem to any anchorage shall nest together when anchoring.

(1054) (13) Each vessel that is notified by the Captain of the Port or his authorized representative to shift her position shall promptly shift her position.

(1055) (14) No person may use these anchorages for any purpose other than the purpose stated in these anchorage regulations.

(1056) (15) Where these regulations require that a vessel notify the Captain of the Port, the operator of the vessel shall transmit such report to the San Francisco Vessel Traffic Service.

(1057) **NOTE:** Vessel Traffic Service guards VHF-FM Channel 13 (156.65 MHz) and Channel 14 (156.70 MHz).

(1058) (16) Nothing in this section may be construed as relieving any vessel or the owner or person in charge of any vessel from the penalties of law for obstructing or interfering with range lights or for not complying with the laws relating to lights, day signals, and fog signals and other navigation laws and regulations.

(1059) (17) The District Engineer, Corps of Engineers, may issue written permission for anchoring a single barge carrying explosives in quantities considered by the District Engineer as safe and necessary in the vicinity of work being done directly under the District Engineer supervision or under a Department of the Army permit. When issuing such a permit, the District Engineer shall prescribe the conditions under which the explosives must be stored and handled and shall furnish a copy of the permit and a copy of the rules and regulations for storing and handling to the Captain of the Port.

(1060) (18) No vessel may anchor in a "dead ship" status (propulsion or control unavailable for normal operations) at any anchorage other than in Anchorage 9 as specified in Table 110.224(d)(1) without prior approval of the Captain of the Port.

(1061) (b) *Naval Anchorages*. In addition to the General Regulations in Paragraph (a) of this section, the following regulations apply to each naval anchorage described in this section.

(1062) (1) Naval anchorages are intended for public vessels of the United States, but may be used by other vessels when not required for use by public vessels.

(1063) (2) Other vessels using a naval anchorage shall promptly notify the Captain of the Port upon anchoring and upon departure and shall be prepared to move within one hour upon notice should the anchorage be required for public vessels.

(1064) (c) *Explosive Anchorages*. In addition to the General Regulations in Paragraph (a) of this section, the following regulations apply to each explosives anchorage described in this section.

(1065) (1) Explosives anchorages and, where established, surrounding forbidden anchorage zones, are temporarily activated as needed by the Captain of the Port. When not activated, explosives anchorages and surrounding forbidden anchorage zones become part of the general anchorage which encompasses them or, if not located within the boundaries of a general anchorage, become available for general navigation.

(1066) (2) Notice of activation and deactivation of explosives anchorages will be disseminated by Coast Guard Broadcast Notice to Mariners.

(1067) (3) Each vessel which anchors in an explosives anchorage or surrounding forbidden anchorage zone while such anchorage is not activated shall be prepared to move within one hour if the anchorage is activated.

(1068) (4) Unless otherwise authorized by the Captain of the Port:

(1069) (i) No vessel may anchor in an activated explosives anchorage except vessels loaded with, loading, or unloading explosives.

(1070) (ii) No vessel may enter or remain in an activated explosives anchorage except (A) vessels loaded with, loading or unloading explosives, (B) lighters or barges delivering cargo to or from such vessels, or (c) a tug authorized by Paragraph (c)(7)(iii) of this section.

(1071) (iii) No vessel carrying explosives or on which explosives are to be loaded may enter or remain in an activated explosives anchorage without written permission from the Captain of the Port. Such a permit must be obtained before entering the anchorage and may be revoked at any time.

(1072) (iv) No vessel may anchor in the forbidden anchorage zone surrounding an activated explosives anchorage.

(1073) (5) Each vessel loaded with, loading, or unloading explosives, while within an explosives anchorage, shall display by day at her masthead, or at least 10 feet above the upper deck if the vessel has no mast, a red flag at least 16 square feet in area.

(1074) (6) Each passing vessel shall reduce speed as necessary so as to insure that its wake does not interfere with cargo transfer operations aboard any vessel displaying a red flag in an explosives anchorage.

(1075) (7) The Captain of the Port may:

(1076) (i) Issue permission to any vessel carrying flammable solids, oxidizing materials, corrosive liquids, flammable liquids, compressed gases, or poisonous substances to occupy a berth in an activated explosives anchorage. Such a permit must be obtained before entering the anchorage and may be revoked at any time.

(1077) (ii) Require any person having business on board a vessel which is loaded with, loading, or unloading explosives to have a document that is acceptable to the Coast Guard for identification purposes and to show that document to the Captain of the Port.

(1078) (iii) Require a non-self-propelled vessel, or a self-propelled vessel that is unable to maneuver under its own power, that occupies an activated explosives anchorage to be attended by a tug.

(1079) (d) *Anchorage Grounds*.

(1080) (1) Table 110.224(d)(1) lists anchorage grounds, identifies the purpose of each anchorage, and contains specific regulations applicable to certain anchorages.

(1081) (2) The geographic boundaries of each anchorage are contained in Paragraph (e) of this section.

(1082) (e) *Boundaries*.

(1083) (1) *Anchorage No. 4*. Bounded by the west shore of San Francisco Bay and the following lines: Beginning on the shore southwest of Point San Quentin at

(1084) 37°56'28"N., 122°28'54"W.; thence east-southeasterly to

(1085) 37°55'55"N., 122°26'49"W.; thence southwesterly to

(1086) 37°54'13"N., 122°27'24"W.; thence southeasterly to the shore of Tiburon Peninsula at Point Chauncey at

(1087) 37°53'40.5"N., 122°26'55"W. When Explosives Anchorage No. 13 is activated by the Captain of the Port, it and the forbidden anchorage zone surrounding it are excluded from Anchorage No. 4.

(1088) (2) *Anchorage No. 5, Southampton Shoal*. In San Francisco Bay at Southampton Shoal bounded by a line connecting the following coordinates:

(1089) 37°55'48"N., 122°25'52"W; to

(1090) 37°55'50"N., 122°26'32"W; to

(1091) 37°54'49"N., 122°26'39"W; to

(1092) 37°54'03"N., 122°26'06"W; to

(1093) 37°53'25"N., 122°25'30"W; to

(1094) 37°53'23"N., 122°25'09"W; to

(1095) 37°55'19"N., 122°25'33"W; to

(1096) 37°55'42"N., 122°25'45"W; thence back to

(1097) 37°55'48"N., 122°25'52"W.

Table 110.224(d)(1)

Anchorage Number	General Location	Purpose	Specific Regulations (Notes)
4	San Francisco Bay	General	a,b
5	San Francisco Bay	General	a,b
6	San Francisco Bay	General	a
7	San Francisco Bay	General	a,b,c,d,e
8	San Francisco Bay	General	a,b,c
8A	San Francisco Bay	General	a,b,c,d,e,j,n
9	San Francisco Bay	General	a,b,m
10	San Francisco Bay	Naval	a
12	San Francisco Bay	Explosive	a,f
13	San Francisco Bay	Explosive	a,e,g
14	San Francisco Bay	Explosive	a,f,h
18	San Pablo Bay	General	
19	San Pablo Bay	General	b
20	San Pablo Bay	General	
21	San Pablo Bay	Naval	
22	Carquinez Strait	General	
23	Benicia	General	c,d,e,l
24	Carquinez Strait	General	j
26	Suisun Bay	General	k
27	Suisun Bay	General	
28	San Joaquin River	General	
30	San Joaquin River	Explosive	

Notes

a. When sustained winds are in excess of 25 knots each vessel greater than 300 gross tons using this anchorage shall maintain a continuous radio watch on VHF channel 13 (156.65 MHz) and VHF channel 14 (156.70 MHz). This radio watch must be maintained by a person who fluently speaks the English language.

b. Each vessel using this anchorage may not project into adjacent channels or fairways.

c. This anchorage is primarily for use by vessels requiring a temporary anchorage waiting to proceed to pier facilities or other anchorage grounds. This anchorage may not be used by vessels for the purpose of loading any dangerous cargoes or combustible liquids unless authorized by the Captain of the Port.

d. Each vessel using this anchorage may not remain for more than 12 hours unless authorized by the Captain of the Port.

e. Each vessel using this anchorage shall be prepared to move within 1 hour upon notification by the Captain of the Port.

f. The maximum total quantity of explosives that may be on board a vessel using this anchorage shall be limited to 3,000 tons unless otherwise authorized with the written permission of the Captain of the Port.

g. The maximum total quantity of explosives that may be on board a vessel using this anchorage shall be limited to 50 tons except that, with the written permission of the Captain of the Port, each vessel in transit, loaded with explosives in excess of 50 tons, may anchor temporarily in this anchorage provided that the hatches to the holds containing explosives are not opened.

h. Each vessel using this anchorage will be assigned a berth by the Captain of the Port on the basis of the maximum quantity of explosives that will be on board the vessel.

i. [Reserved]

j. Each vessel using this anchorage shall promptly notify the Captain of the Port, upon anchoring and upon departure.

k. See §162.270 of this title establishing restricted areas in the vicinity of the Maritime Administration Reserve Fleet.

l. Vessels using this anchorage must exceed 15 feet draft, have engines on standby, and have a pilot on board.

m. Any vessel anchoring in a "dead-ship" status shall have one assist tug of adequate bollard pull on standby and immediately available (maximum of 15 minute response time) to provide emergency maneuvering. When the sustained winds are 20 knots or greater, or when the wind gusts are 25 knots or greater, the tug must be alongside.

n. This temporary anchorage will be activated by VTS San Francisco when Anchorages 8 and 9 are at capacity and additional anchorage capacity in the vicinity of Alameda is required. VTS will notify a vessel that this temporary anchorage is activated and available for use when Anchorages 8 and 9 are full, and a vessel requests permission from VTS to anchor in Anchorage 8 or 9.

(1098) (3) *Anchorage No. 6*. Bounded by the east shore of San Francisco Bay and the following lines: Beginning at the shore of the southernmost extremity of Point Isabel at

(1099) 37°53'46"N., 122°19'19"W.; thence westerly along the north shore of Brooks Island to the jetty extending westerly therefrom; thence westerly along the jetty to its bayward end at

(1100) 37°54'13"N., 122°23'27"W.; thence south-southeasterly to

(1101) 37°49'53"N., 122°21'39"W.; thence southeasterly to

(1102) 37°49'32.5"N., 122°21'20.5"W.; thence easterly to

(1103) 37°49.34"N., 122°20'13"W.; thence east-southeasterly to

(1104) 37°49'30"N., 122°19'45.5"W.; thence east-northeasterly to the shore at Emeryville at

(1105) 37°50'04"N., 122°17'41"W.; excluding from this area, however, the channel to Berkeley Marina delineated by lines joining the following points:

(1106) 37°52'08"N., 122°19'07"W.

(1107) 37°52'03"N., 122°19'17.5"W.

(1108) 37°52'00"N., 122°19'15.5"W.

(1109) 37°51'01"N., 122°22'07"W.

(1110) 37°50'43"N., 122°22'00"W.

(1111) 37°50'53"N., 122°21'32"W.

(1112) 37°51'47"N., 122°18'59"W.

(1113) (4) *Anchorage No. 7, Treasure Island*. In San Francisco Bay at Treasure Island bounded a line connecting the following coordinates:

(1114) 37°49'36"N., 122°22'40"W; to

(1115) 37°50'00"N., 122°22'57"W; to

(1116) 37°50'00"N., 122°23'44"W; to

(1117) 37°49'22.5"N., 122°23'44"W; to

(1118) 37°48'40.5"N., 122°22'38"W; to

(1119) 37°49'00.0"N., 122°22'16"W; thence along the shore to

(1120) 37°49'36"N., 122°22'40"W.

(1121) (5) *Anchorage No. 8*. In San Francisco Bay bounded by the west shore of Alameda Island and the following lines:

(1122) Beginning at
(1123) 37°47'52.0"N., 122°19'58.0"W.; thence west-northwesterly to
(1124) 37°48'02.5"N., 122°21'01.5"W.; thence west-southwesterly to
(1125) 37°47'51.5"N., 122°21'40.0"W.; thence south-southwesterly to
(1126) 37°47'35.5"N., 122°21'50.0"W.; thence south-southeasterly to
(1127) 37°46'40.0"N., 122°21'23.0"W.; thence easterly to
(1128) 37°46'36.5"N., 122°19'52.0"W.; thence northerly to shore at
(1129) 37°46'53.0"N., 122°19'53.5"W. (NAD 83).
(1130) (6) *Anchorage No. 8A*. In San Francisco Bay bounded by the following lines:
(1131) Beginning at:
(1132) 37°47'35"N., 122°21'50"W.; thence south-southwesterly to
(1133) 37°47'07"N., 122°22'09"W.; thence south-southeasterly to
(1134) 37°46'30"N., 122°21'57"W.; thence easterly along the northern border of Anchorage 9 to
(1135) 37°46'26"N., 122°20'42"W.; thence northerly to
(1136) 37°46'38"N., 122°20'42"W.; thence westerly along the southern border of Anchorage 8 to
(1137) 37°46'41"N., 122°21'23"W.; thence northwesterly along the southwestern border of Anchorage 8 back to the beginning point (NAD 83).
(1138) (7) *Anchorage No. 9*. In San Francisco Bay bounded on the east by the eastern shore of San Francisco Bay and on the north by the southern shore of Alameda Island and a line beginning at
(1139) 37°46'21.5"N., 122°19'07.0"W.; thence westerly to
(1140) 37°46'30.0"N., 122°21'56.0"W.; thence south-south easterly to
(1141) 37°41'45.0"N., 122°20'22.0"W. (San Bruno Channel Light 1); thence south-southeasterly to
(1142) 37°38'38.5"N., 122°18'48.5 "W. (San Bruno Channel Light 5); thence southeasterly to
(1143) 37°36'05.0"N., 122°14'18.0"W.; thence northeasterly to shore at
(1144) 37°37'38.5"N., 122°09'06.5"W. (NAD 83).
(1145) (8) *Anchorage No. 10*. In San Francisco Bay bounded by the east shore of Sausalito and the following lines: Beginning on the shore of Sausalito at
(1146) 37°51'20"N., 122°28'38"W.; thence southeasterly to
(1147) 37°50'57.5"N., 122°27'57"W.; thence southwesterly to the shore of Sausalito at
(1148) 37°50'36"N., 122°28'34"W.
(1149) (9) *Anchorage No. 12*. In San Francisco Bay east of the city of San Francisco Bay east of the city of San Francisco a circular area having a radius of 500 yards centered at
(1150) 37°44'32.5"N., 122°20'27.5"W. A 667-yard-wide forbidden anchorage zone surrounds this anchorage.
(1151) (10) *Anchorage No. 13*. In San Francisco Bay east of the Tiburon Peninsula a circular area having a radius of 333 yards centered at
(1152) 37°55'26"N., 122°27'27"W. A 667-yard-wide forbidden anchorage zone surrounds this anchorage except where such zone would extend beyond the limits of Anchorage No. 4.
(1153) **NOTE:** see §110.224(e)(2) for a description of Anchorage No. 4.
(1154) (11) *Anchorage No. 14*. In San Francisco Bay east of Hunters Point an area 1,000 yards wide and 2,760 yards long, the end boundaries of which are semicircles, with a radii of 500 yards and center, respectively at
(1155) 37°42'37"N., 122°19'48"W.;
(1156) 37°43'29"N., 122°19'48"W. (NAD 83); and the side boundaries of which are parallel tangents joining the semicircles. A forbidden anchorage zone extends 667 yards out from the perimeter on each side.
(1157) *(12) Anchorage No. 18*. In San Pablo Bay bounded by the west shore of San Pablo Bay and the following lines: Beginning at the shore at Point San Pedro at
(1158) 37°59'16"N., 122°26'47"W.; thence easterly to
(1159) 37°59'16"N., 122°26'26"W.; thence northerly to
(1160) 38°03'46"N., 122°25'52.5"W.; thence northwesterly to the shore south of the entrance to Novato Creek at
(1161) 38°05'13.5"N., 122°29'04"W.; excluding from this area, however, the channel to Hamilton Field and the extension of this channel easterly to the boundary of the anchorage, and the pipeline area therein.
(1162) (13) *Anchorage No. 19*. In San Pablo Bay bounded by the northeast shore of San Pablo Bay and the following lines: Beginning at the shore of Tubbs Island at
(1163) 38°07'39"N., 122°25'18"W.; thence southerly to
(1164) 38°00'36"N., 122°25'20"W.; thence northeasterly to
(1165) 38°03'13"N., 122°19'46"W.; thence east-northeasterly to
(1166) 38°03'37"N., 122°17'13"W.; thence northerly to the long dike extending southwesterly from Mare Island at
(1167) 38°03'52.5"N., 122°17'10"W.; thence along the long dike to the shore at Mare Island.
(1168) (14) *Anchorage No. 20*. In San Pablo Bay bounded by the southeast shore of San Pablo Bay and the following lines: Beginning at the northeast corner of Parr Terminal No. 4 at Point San Pablo at
(1169) 37°57'59"N., 122°25'35"W.; thence northeasterly to
(1170) 38°01'27.5"W., 122°21'33"W.; thence east-northeasterly to the Union Oil Co. pier at Oleum at
(1171) 38°03'18"N., 122°15'37"W.; and thence along this pier to the shore.
(1172) (15) *Anchorage No. 21*. In San Pablo Bay south of Mare Island a rectangular area beginning at
(1173) 38°03'56"N., 122°15'56"W.; thence easterly to

(1174) 38°04'02"N., 122°15'20"W.; thence southerly to
(1175) 38°03'48"N., 122°15'16"W.; thence westerly to
(1176) 38°03'42"N., 122°15'52"W.; thence northerly to the point of beginning.
(1177) (16) *Anchorage No. 22, Carquinez Strait*. In Carquinez Strait an area bounded by a line connecting the following coordinates:
(1178) 38°02'36.8"N., 122°09'59"W.; to
(1179) 38°02'06.6"N., 122°09'46.7"W.; to
(1180) 38°01'53.8"N., 122°09'00"W.; to
(1181) 38°02'33.9"N., 122°09'00"W.; thence back to
(1182) 38°02'36.8"N., 122°09'59"W.
(1183) (17) *Anchorage No. 23, Benicia*. In Carquinez Strait an area bounded by a line connecting the following coordinates:
(1184) 38°02'33.9"N., 122°09'00"W.; to
(1185) 38°01'53.8"N., 122°09'00"W.; to
(1186) 38°01'57.4"N., 122°08'19.3"W.; to
(1187) 38°02'33.0"N., 122°08'18.6"W.; thence back to
(1188) 38°02'33.9"N., 122°09'00"W.
(1189) (18) *Anchorage No. 24*. Bounded by the north shore of Carquinez Strait and the following points:
(1190) Beginning on the shore at Dillon Point at
(1191) 38°03'44"N., 122°11'34"W.; thence southeasterly to
(1192) 38°03'21"N., 122°10'43"W.; thence southeasterly to
(1193) 38°02'36"N., 122°10'03"W. (Carquinez Strait Light 23); thence to the shore at the Benicia City Wharf at
(1194) 38°02'40"N., 122°09'55"W. (NAD 83).
(1195) (19) *Anchorage No. 26*. On the west side of Suisun Bay, adjacent to and northeast of the city of Benicia within the following boundaries: Beginning on the shore northeast of Army Point at
(1196) 38°02'54"N., 122°07'37"W.; thence south-southeasterly along the Southern Pacific bridge to
(1197) 38°02'38"N., 122°07'24"W.; thence easterly to
(1198) 38°02'42"N., 122°07'07.5"W.; thence northeasterly to
(1199) 38°05'42"N., 122°04'06"W.; thence northwesterly to the shore at
(1200) 38°05'58"N., 122°04'28"W.; thence along the shore to the point of beginning.
(1201) (20) *Anchorage No. 27*. In the northeast portion of Suisun Bay bounded by the north shore and the following lines: Beginning on the shore of Grizzly Island at
(1202) 38°08'13"N., 122°02'42.5"W.; thence southerly to tripod at Preston Point on Roe Island at
(1203) 38°04'16"N., 122°02'42"W.; thence along the south shore of Roe Island to
(1204) 38°04'05"N., 122°01'35"W; thence east-southeasterly to
(1205) 38°03'42.5"N., 121°58'54"W.; thence easterly to the shore of Chipps Island at
(1206) 38°03'42.5"N., 121°55'05"W.
(1207) (21) *Anchorage No. 28*. The area bounded on the east by the shore of Lower Sherman Island and the following lines: Beginning at Point Sacramento on Lower Sherman Island at
(1208) 38°03'45"N., 121°50'17.5"W.; thence southwesterly to
(1209) 38°03'37.5"N., 121°50'31"W.; thence south-southeasterly to
(1210) 38°02'11"N., 121°49'58"W.; thence to the shore of Lower Sherman Island at
(1211) 38°02'23"N., 121°49'49"W.
(1212) (22) *Anchorage No. 30*. The portion of the Old San Joaquin River Channel bounded on the west by the shore of Mandeville Point and the following lines: Beginning on the shore of Mandeville Point at
(1213) 38°04'01"N., 121°32'05"W.; thence northeasterly to
(1214) 38°04'07.5"N., 121°31'58"W.; thence southeasterly to
(1215) 38°03'47"N., 121°31'42.5"W.; thence westerly to the shore of Mandeville Point at
(1216) 38°03'47.5"N., 121°31'56"W.

§110.228 Columbia River, Oregon and Washington.

(1217) (a) The anchorage grounds.-(1) Astoria North Anchorage. An area enclosed by a line beginning north of Astoria, Oregon, at latitude 46°11'47"N., longitude 123°49'39"W.; thence continuing northerly to
(1218) 46°12'05"N., 123°49'35"W.; thence northeasterly to
(1219) 46°13'16"N., 123°46'23"W.; thence southerly to
(1220) 46°13'01"N., 123°46'12"W.; thence southwesterly to
(1221) 46°11'52"N., 123°49'13"W.; thence westerly to the point of beginning.
(1222) (2) Astoria South Anchorage. An area enclosed by a line beginning north of Astoria, Oregon at
(1223) 46°11'38"N., 123°48'59"W.; thence continuing northerly to
(1224) 46°11'47"N., 123°49'08"W.; thence northeasterly to
(1225) 46°13'03"N., 123°45'50"W.; thence northeasterly to
(1226) 46°13'07"N., 123°45'37"W.; thence southerly to
(1227) 46°12'56"N., 123°45'30"W.; thence southwesterly to
(1228) 46°12'24"N., 123°46'33"W.; thence southwesterly to
(1229) 46°12'07"N., 123°47'24"W.; thence southwesterly to the point of beginning.
(1230) (3) Longview Anchorage. An area enclosed by a line beginning southeast of Longview, Washington, at
(1231) 46°07'15"N., 122°59'08"W.; thence continuing northeasterly to
(1232) 46°07'23"N., 122°58'56"W.; thence southeasterly to
(1233) 46°06'58"N., 122°58'20"W; thence southeasterly to
(1234) 46°06'42"N., 122°57'56"W.; thence southerly to

(1235) 46°06'33"N., 122°58'04"W; thence westerly to
(1236) 46°06'35"N., 122°58'10"W.; thence northwesterly to
(1237) 46°06'42"N., 122°58'23"W.; thence northwesterly to the point of beginning.
(1238) (4) Kalama Anchorage. An area enclosed by a line beginning northeast of Sandy Island at
(1239) 46°00'59"N., 122°51'31"W.; thence continuing southeasterly to
(1240) 46°00'55"N., 122°51'27"W.; thence southeasterly to
(1241) 46°00'36"N., 122°51'11"W.; thence southerly to
(1242) 45°59'42"N., 122°50'48"W.; thence westerly to
(1243) 45°59'39"N., 122°50'59"W.; thence northerly to
(1244) 46°00'35"N., 122°51'26"W.; thence northwesterly to
(1245) 46°00'52"N., 122°51'41"W., thence northeasterly to the point of beginning.
(1246) (5) Woodland Anchorage. An area enclosed by a line beginning east of Columbia City, Oregon, at
(1247) 45°53'56"N., 122°48'13"W.; thence continuing easterly to
(1248) 45°53'58"N., 122°47'58"W.; thence southerly to
(1249) 45°53'29"N., 122°47'41"W.; thence westerly to
(1250) 45°53'21"N., 122°47'59"W.; thence northerly to
(1251) 45°53'42"N., 122°48'09"W.; thence northerly to the point of beginning.
(1252) (6) Henrici Bar Anchorage. An area enclosed by a line beginning near the mouth of Bachelor Slough at
(1253) 45°47'25"N., 122°46'45"W.; thence continuing southeasterly to
(1254) 45°46'46"N., 122°46'10"W.; thence southeasterly to
(1255) 45°46'26"N., 122°45'56"W.; thence southerly to
(1256) 45°46'04"N., 122°45'46"W.; thence southerly to
(1257) 45°45'42"N., 122°45'41"W.; thence southerly to
(1258) 45°45'38"N., 122°45'41"W.; thence westerly to
(1259) 45°45'38"N., 122°45'48"W.; thence northerly to
(1260) 45°46'17"N., 122°46'06"W.; thence northwesterly to
(1261) 45°47'21"N., 122°46'55"W.; thence northeasterly to the point of beginning.
(1262) (7) Willow Bar Anchorage. An area enclosed by a line beginning northeast of Reeder Point at
(1263) 45°43'41"N., 122°45'36"W.; thence continuing easterly to
(1264) 45°43'40"N., 122°45'26"W.; thence southerly to
(1265) 45°41'28"N., 122°46'12"W.; thence westerly to
(1266) 45°41'30"N., 122°46'22"W.; thence northerly to the point of beginning.
(1267) (8) Kelley Point Anchorage. An area enclosed by a line beginning east of Kelley Point at
(1268) 45°39'07"N., 122°45'36"W.; thence continuing northeasterly to
(1269) 45°39'11"N., 122°45'32"W.; thence southerly to
(1270) 45°39'03"N., 122°45'17"W.; thence westerly to
(1271) 45°38'58"N., 122°45'22"W.; thence northerly to the point of beginning.
(1272) (9) Hayden Island Anchorage. An area enclosed by a line beginning south of Mathews Point at
(1273) 45°38'44"N., 122°44'35"W.; thence continuing easterly to
(1274) 45°38'27"N., 122°43'21"W.; thence southeasterly to
(1275) 45°38'12"N., 122°43'03"W.; thence westerly to
(1276) 45°38'19"N., 122°43'40"W.; thence northwesterly to
(1277) 45°38'42"N., 122°44'36"W.; thence northeasterly to the point of beginning.
(1278) (b) The regulations. (1) All designated anchorages are intended for the primary use of deep-draft vessels over 200 feet in length.
(1279) (2) If a vessel under 200 feet in length is anchored in a designated anchorage, the master or person in charge of the vessel shall:
(1280) (i) Ensure that the vessel is anchored so as to minimize conflict with large, deep-draft vessels utilizing or seeking to utilize the anchorage; and
(1281) (ii) Move the vessel out of the area if requested by the master of a large, deep-draft vessel seeking to enter or depart the area or if directed by the Captain of the Port.
(1282) (3) No vessel may occupy a designated anchorage for more than 30 consecutive days without a permit from the Captain of the Port.
(1283) (4) No vessel being layed-up or dismantled or undergoing major alterations or repairs may occupy a designated anchorage without a permit from the Captain of the Port.
(1284) (5) No vessel carrying a Cargo of Particular Hazard listed in §126.10 (not in this Coast Pilot) may occupy a designated anchorage without permission from the Captain of the Port.
(1285) (6) No vessel in a condition such that it is likely to sink or otherwise become a hazard to the operation of other vessels shall occupy a designated anchorage except in an emergency and then only for such periods as may be authorized by the Captain of the Port.
(1286) (7) Except as allowed for emergencies, no vessel may occupy either the Henrici Bar or Willow Bar Anchorages during the commercial drift fishing seasons established by the Oregon Department of Fish and Wildlife (ODFW). Vessels occupying either of these anchorages at the time a drift fishing season is announced must depart prior to commencement of the season. In no case, however, shall a vessel have less than 48 hours to effect the move.
(1287) (8) ODFW will normally notify the Captain of the Port four days in advance of any commercial drift fishing season. Once notified, the Captain of the Port will inform the Portland Steamship Operators Association

(PSOA) via the Merchant's Exchange and will notify the Columbia River and Bar Pilots.

§110.229 Straits of Juan de Fuca, Wash.

(1288) (a) Anchorage grounds–(1) Nonanchorage area (Port Angeles Harbor). Beginning at a point on the shore at

(1289) 48°07'04.5"N., 123°24'15.6"W.; thence to

(1290) 48°07'39.1"N., 123°24'00"W.; thence to

(1291) 48°07'36.7"N., 123°23'46"W.; thence to a point on the shoreline at

(1292) 48°06'57.4"N., 123°24'04"W.

(1293) (b) The regulations. (1) No vessel may anchor in this nonanchorage area at any time.

(1294) (2) Dragging, seining, fishing, or other activities which may foul underwater installations within this nonanchorage area are prohibited.

(1295) (3) Vessels may transit this nonanchorage area, but must proceed by the most direct route and without unnecessary delay.

(1296) (4) The city of Port Angeles will mark this area with signs on the shoreline visible (during normal daylight) 1 mile to seaward reading "Do Not Anchor in This Area."

§110.230 Puget Sound Area, Wash.

(1297) (a) The anchorage grounds–(1) Freshwater Bay emergency explosives anchorage, Strait of Juan de Fuca. All of Freshwater Bay and adjacent waters shoreward of a line beginning at Observatory Point,

(1298) 48°09'03", 123°38'12", thence due north approximately 1,150 yards to

(1299) 48°09'36", 123°38'12"; thence 090°, approximately 6,450 yards, to

(1300) 48°09'36", 123°33'27"; thence 180° to the shoreline.

(1301) (i) This area does not constitute an explosives anchorage for loading or discharging explosives, but is established exclusively for use by explosives laden vessels enroute to the ammunition dumping area which encounter adverse weather and sea conditions and are forced to await more favorable conditions before proceeding to sea.

(1302) (1–a) Bellingham Bay general anchorage. The waters of Bellingham Bay within a circular area with a radius of 2,000 yards, having its center at

(1303) 48°44'15", 122°32'25".

(1304) (1–b) Bellingham Bay explosives anchorage. The waters of Bellingham Bay within a circular area with a radius of 1,000 yards, having its center at

(1305) 48°42'48", 122°33'37".

(1306) (2) Port Townsend explosives anchorages–(i) Fair weather anchorage area. A circular area having a radius of 300 yards, whose center is at

(1307) 48°06'26", 122°43'46".

(1308) (ii) Foul weather anchorage area. A circular area having a radius of 300 yards, whose center is at

(1309) 48°04'05", 122°44'52".

(1310) (3) Holmes Harbor general anchorage. All of Holmes Harbor lying southerly of a line ranging 310° through Baby (Hackney) Island, between the shores of Whidbey Island.

(1311) (4) Port Gardner general anchorage, Possession Sound. Beginning at a point bearing 211°, 560 yards, from Snohomish River Light 5; thence 180°, 675 yards; thence 216°, 250 yards; thence 254°, 800 yards; thence 302°, 1,700 yards; thence 49°, 1,280 yards; thence approximately 115°, 1,525 yards, to the point of beginning.

(1312) (5) (Reserved)

(1313) (6) Thorndike Bay emergency explosives anchorage, Hood Canal. Beginning at a point bearing 267°, 3,500 yards, from Hood Canal Light 7; thence 180° 1,000 yards, to a point approximately 251°, 3,725 yards, from Hood Canal Light 7; thence 270°, 1,350 yards, to a point approximately 256°, 5,000 yards, from Hood Canal Light 7; thence due north 1,000 yards, to a point approximately 268°, 4,900 yards, from Hood Canal Light 7; thence approximately 090°, 1,350 yards, to the point of beginning.

(1314) (7) Smith Cove general anchorage (west), Elliott Bay. Shoreward of a line beginning at Fourmile Rock Light; thence to a point bearing 207°, 1,100 yards, from Fourmile Rock Light; thence southeasterly to point bearing 006°30', 2,075 yards, from Duwamish Head Light 2; thence due north to the shore of Smith Cove.

(1315) (8) Smith Cove General Anchorage (east) Elliott Bay. Shoreward of a line beginning at

(1316) 47°37'36.3"N., 122°22'38"W.; thence due south 1,350 yards to

(1317) 47°36'56.6"N., 122°22'38"W.; thence due east to the shore at

(1318) 47°36'56.6"N., 122°21'18.8"W.

(1319) (9) Eliott Bay General Anchorage (east). Shoreward of a line beginning at the northeast corner of Harbor Island at

(1320) 47°35'26.2"N., 122°20'41"W.; thence due north 1,025 yards to

(1321) 47°35'56.5"N., 122°20'41"W.; thence due west on said line to its intersection with the east line of the West Waterway at

(1322) 47°35'56.5"N., 120°21'25.5"W.; thence due south to the northwest corner of Harbor Island at

(1323) 47°35'17.3"N., 122°21'25.5"W.

(1324) (10) Elliott Bay General Anchorage (west). Shoreward of a line beginning at

(1325) 47°35'06.7"N., 122°21'36.8"W.; thence due north to

(1326) 47°35'46"N., 122°21'36.8"W.; thence on a bearing 335° T for 400 yards to

(1327) 47°35'56.5"N., 122°21'44"W.; thence due west to Duwamish Head Light; thence due south to the shoreline.

(1328) (11) Orchard Point general anchorage, Puget Sound. Beginning at Orchard Point Light; thence 106°, two miles; thence 180° to the northern shore of Blake Island; thence west and south along the shoreline to the southern end of Blake Island at approximate longitude 122°29'16"; thence 250° to the dock at Harper; thence westerly and northerly along the shoreline to the point of beginning.

(1329) (12) (Reserved)

(1330) (13) Commencement Bay general anchorage. A quadrilateral area bounded as follows: Beginning at

(1331) 47°17'37"N., 122°26'00"W.; thence due south to

(1332) 47°17'19"N., 122°26'00"W.; thence due east to a point bearing 286°T from Hylebos Waterway Light 1 at a distance of 450 yards; thence due north to

(1333) 47°17'33"N., 122°25'00"W.; thence west northwest to the point of beginning.

(1334) (14) Cherry Point general anchorage. The waters within a circular area with a radius of 0.8 nautical mile, having its center at

(1335) 48°48'30"N., 122°46'00"W.

(1336) (15) *Anacortes General Anchorages*.

(1337) (i) *Anacortes East (ANE) Anchorage Area*. The waters within a circular area with a radius of 600 yards, having its center at 48°31'27"N., 122°33'45"W. [Datum: NAD 1983].

(1338) (ii) *Anacortes Center (ANC) Anchorage Area*. The waters within a circular area with a radius of 600 yards, having its center at 48°30'54"N., 122°34'06"W. [Datum: NAD 1983].

(1339) (iii) *Anacortes West (ANW) Anchorage Area*. The waters within a circular area with a radius of 600 yards, having its center at 48°31'09"N., 122°34'55"W. [Datum: NAD 1983].

(1340) (16) *Cap Sante Tug and Barge General Anchorage*. The Cap Sante Tug and Barge General Anchorage includes all waters enclosed by a line connecting the following points: 48°31'16"N., 122°36'00"W., which is approximately the northeast tip of Cap Sante; then southeast to 48°30'53"N., 122°35'28"W.; then west southwest to 48°30'45"N., 122°35'52"W., approximately the south tip of Cap Sante; then north along the shoreline to the point of origin. [Datum: NAD 1983].

(1341) (17) *Hat Island Tug and Barge General Anchorage*. The Hat Island Tug and Barge General Anchorage includes all waters enclosed by a line connecting the following points: 48°31'19"N., 122°33'04"W., near the west side of Hat Island; then southwest to 48°30'37"N., 122°33'38"W.; then east to 48°30'37"N., 122°32'00"W.; then northwest to the point of origin. [Datum: NAD 1983].

(1342) (b) *Regulations*.

(1343) (1) No vessel shall anchor in any general anchorage described in paragraph (a) of this section without prior permission from the Captain of the Port (COTP), or his authorized representative. Vessel Traffic Service Puget Sound is designated as the COTP's authorized representative. All vessels should seek permission at least 48 hours prior to arrival at the anchorage area in order to avoid unnecessary delays.

(1344) (i) Except for the Anacortes General Anchorages, a berth in a general anchorage, if available, may be assigned to any vessel by the Captain of the Port or his authorized representative upon application and he may grant revocable permits for the continuous use of the same berth. For the Anacortes General Anchorages, the following hierarchy will be applied for assignment of a berth; tankers conducting lightering operations, then loaded tankers, and then all other vessels.

(1345) (ii) Tugs and oil barges using the Cap Sante and Hat Island General Anchorages are exempt from the requirement to obtain the COTP's permission.

(1346) (2) Except for the Anacortes General Anchorages, no vessel shall occupy any general anchorage for a period longer than 30 days unless a permit is obtained from the Captain of the Port for that purpose. There is a 10 days maximum stay at the Anacortes East and Anacortes Center general anchorages, and 6 day maximum stay at the Anacortes West general anchorage.

(1347) (3) The COTP or his authorized representative may require vessels to depart from the Anacortes General Anchorage before the expiration of the authorized or maximum stay. The COTP or his authorized representative will provide at least 24-hour notice to a vessel required to depart the Anacortes General Anchorage.

(1348) (4) No vessel in a condition such that it is likely to sink or otherwise become a menace or obstruction to the navigation or anchorage of other vessels shall occupy any general anchorage except in an emergency and then only for such period as may be permitted by the Captain of the Port.

(1349) (5) Within the Anacortes General Anchorages, lightering operations shall only be conducted in the Anacortes West and Anacortes Center anchorages.

(1350) (6) Tugs and barges using the Cap Sante and Hat Island Barge General Anchorages are required to ensure their vessels and barges do not project beyond the holding area's boundaries. The tug must be manned, remain in attendance with the barge and maintain a communications guard with VTS on an appropriate VTS VHF radio working frequency, which is currently channel 5A.

(1351) (7) No vessel shall anchor in any general anchorage described in paragraph (a) of this section without prior permission from the Captain of the Port, or his authorized representative. No vessel shall occupy any general anchorage for a period longer than 30 days unless a permit is obtained from the Captain of the Port for that purpose. No vessel in a condition such that it is likely to sink or otherwise become a menace or obstruction to the navigation or anchorage of other vessels shall occupy a general anchorage except in an emergency and then only for such period as may be permitted by the Captain of the Port. A berth in a general anchorage, if available, may be assigned to any vessel by the Captain of the Port upon application and he may grant revocable permits for the continuous use of the same berth.

(1352) (8) Explosive anchorages are reserved for vessels carrying explosives. All vessels carrying explosives shall be within these areas when anchored.

(1353) (9) Whenever any vessel not fitted with mechanical power, anchors in an explosive anchorage, the Captain of the Port may require the attendance of a tug upon such vessel, when, in his judgment, such action is necessary.

(1354) (10) Vessels carrying explosives shall comply with the general regulations in paragraph (b)(1) of this section, when applicable.

(1355) (11) Every vessel at anchor in an explosives anchorage shall display by day a red flag at least 16 square feet in area at its mast head or at least 10 feet above the upper deck if the vessel has no mast, and by night a red light in the same position specified for the flag. These signals shall be in addition to day signals and lights required to be shown by all vessels when at anchor.

(1356) (12) Every vessel constructed of wood shall, unless there are steel bulwarks or metallic cases or cargo on board, be fitted with radar reflector screens of metal of sufficient size to permit target indication on the radar screen of commercial type radars.

(1357) (13) Fishing and navigation by pleasure and commercial craft are prohibited within the area at all times when vessels which are anchored in the area for the purpose of loading or unloading explosives display a red flag by day and a red light by night, unless special permission is granted by the Captain of the Port.

(1358) (14) No explosives handling in any explosive anchorage will be undertaken by any vessel unless personnel from the Captain of the Port are on board to supervise the handling of explosives.

(1359) (15) No vessel shall remain at anchor in any explosive anchorage unless there is on board such vessel a competent watchman or a tug in attendance.

§110.235 Pacific Ocean (Mamala Bay), Honolulu Harbor, Hawaii (Datum: NAD 83).

(1360) (a) *The anchorage grounds*–(1) *Anchorage A*. The waters bounded by the arc of a circle with a radius of 350 yards with the center located at:

(1361) 21°16'57"N., 157°53'12"W.

(1362) (2) *Anchorage B*. The waters bounded by a line connecting the following coordinates:

(1363) 21°17'06"N., 157°54'40"W.; to

(1364) 21°17'22"N., 157°54'40"W.; to

(1365) 21°17'22"N., 157°54'19"W., to

(1366) 21°17'06"N., 157°54'19"W., and thence to

(1367) 21°17'06"N., 157°54'40"W.

(1368) (3) *Anchorage C*. The waters bounded by the arc of a circle with a radius of 450 yards with the center located at:

(1369) 21°17'09"N., 157°54'55"W.

(1370) (4) *Anchorage D*. The waters bounded by the arc of a circle with a radius of 450 yards with the center located at:

(1371) 21°17'21"N., 157°55'20"W.

(1372) (b) *The regulations*. (1) Anchors must be placed inside the anchorage areas.

(1373) (2) The anchorages are general anchorages for commercial vessels. Anchorage A should be used only if Anchorages B, C, and D are full.

(1374) (3) No bunkering operations or vessel to vessel transfer of oil in bulk of any kind is permitted within Anchorage A.

(1375) (4) Nothing in this section shall be construed as relieving the owner or person in charge of any vessel from complying with the rules of navigation and with safe navigation practice.

(1376) (c) Before entering into the anchorage grounds in this section you must first obtain permission from the Captain of the Port Honolulu.

§110.236 Pacific Ocean Off Barbers Point, Island of Oahu, Hawaii: Offshore pipeline terminal anchorages.

(1377) (a) *The anchorage ground*–(1) *Anchorage A*. The waters within an area described as follows: A circle of 1,000 feet radius centered at 21°17'43.6"N., 158°07'36.1"W. (Datum NAD 83)

(1378) (2) *Nonanchorage area A*. The waters extending 300 feet on either side of a line bearing 059° from anchorage A to the shoreline at

(1379) 21°18'10.6"N., 158°06'47.1"W. (Datum NAD 83)

(1380) (3) *Anchorage B*. The waters enclosed by a line beginning at

(1381) 21°16'20.1"N., 158°04'59.1"W.; thence to

(1382) 21°15'52.5"N., 158°05'07.0"W.; thence to

(1383) 21°15'59.7"N., 158°05'35.9"W.; thence to

(1384) 21°16'27.4"N., 158°05'28.0"W.; thence to the point of beginning. (Datum NAD 83)

(1385) (4) *Nonanchorage area B*. The waters extending 300 feet on either side of a line bearing 334.5° from anchorage B to the shoreline at

(1386) 21°17'39.1"N., 158°06'03.2"W. (Datum NAD 83)

(1387) (5) *Anchorage C*. The waters enclosed by a line beginning at

(1388) 21°16'46.6"N., 158°04'29.1"W.; thence to

(1389) 21°16'46.6"N., 158°04'02.1"W.; thence to

(1390) 21°16'32.6"N., 158°04'02.1"W.; thence to

(1391) 21°16'32.6"N., 158°04'29.1"W.; thence to the point of beginning. (Datum NAD 83)

(1392) (6) *Nonanchorage area C*. The waters extending 300 feet on either side of a line bearing 306° from anchorage C to the shoreline at

(1393) 21°17'42.6"N., 158°05'57.9"W. (Datum NAD 83)

(1394) (7) *Anchorage D*. The waters enclosed by a line beginning at

(1395) 21°17'48.6"N., 158°07'10.1"W.; thence to

(1396) 21°17'44.6"N., 158°07'06.1"W.; thence to

(1397) 21°17'37.6"N., 158°07'14.1"W.; thence to

(1398) 21°17'41.6"N., 158°07'18.1"W.; thence to the point of beginning. (Datum NAD 83)

(1399) (b) *The regulations*.–(1) No vessels may anchor, moor, or navigate in anchorages A, B, C, or D except–

(1400) (i) Vessels using the anchorages and their related pipelines for loading or unloading;

(1401) (ii) Commercial tugs, lighters, barges, launches, or other vessels engaged in servicing the anchorage facilities or vessels using them.

(1402) (iii) Public vessels of the United States.

(1403) (2) When vessels are conducting loading or unloading operations as indicated by the display of a red flag (international code flag B) at the masthead, passing vessels of over 100 gross tons shall not approach within 1,000 yards at a speed in excess of 6 knots.

(1404) (3) The owner of any vessel wanting to use an anchorage ground and use of the related pipeline facilities shall notify the captain of the port, Honolulu, Hawaii, and the Commanding Officer, U.S. Naval Air Station, Barbers Point, Hawaii, at least 24 hours in advance of desired occupancy of the anchorage ground by the vessel. Such notification must include the maximum height above the waterline of the uppermost portion of the vessel's mast and a description of the masts' lighting including height of the highest anchor light and any aircraft warning lights to be displayed by the vessel at night.

(1405) (4) When, in the opinion of the Captain of the Port, or his authorized representative, oil transfer operations within these anchorages could jeopardize the safety of vessels or facilities in the area, or cause an undue risk of oil pollution, such oil transfer operations shall be immediately terminated until such time as the cognizant Coast Guard officer determines that the danger has subsided.

(1406) (5) Nonanchorage areas A, B, and C are established for the protection of submerged pipelines. Except for vessels servicing pipeline facilities, no anchoring, dragging, seining or other potential pipeline fouling activities are permitted within these areas.

(1407) (6) Nothing in this section shall be construed as relieving the owner or person in charge of any vessel from complying with the rules of the road and safe navigation practice.

(1408) (7) The regulations of this section are enforced by the captain of the port or his duly authorized representative.

§110.237 Pacific Ocean at Waimea, Hawaii, Naval Anchorage.

(1409) (a) *The anchorage grounds*. All the waters within a circle having a radius of 300 yards centered at 21°56'50.7"N., 159°41'22.9"W. (Datum NAD 83).

(1410) (b) The regulation. Except in an emergency, no vessel except a Naval vessel may anchor or moor in this anchorage without permission of the Captain of the Port, Honolulu, Hawaii.

§110.238 Apra Harbor, Guam.

(1411) (a) The Anchorage grounds (Datum WGS 84). (1) General Anchorage. The waters bounded by a line connecting the following points:

Latitude	Longitude
13°27'32.0"N	144°39'36.8"E
13°27'21.0"N	144°39'22.8"E
13°27'12.5"N	144°37'25.4"E

(1412) and thence along the shoreline to

Latitude	Longitude
13°27'45.5"N	144°39'34.8"E

(1413) and thence to the point of beginning.

(1414) (2) Explosives Anchorage 701. The water in Naval Anchorage A bounded by the arc of a circle with a radius of 350 yards and located at:

Latitude	Longitude
13°26'54.0"N	144°37'53.5"E

(1415) (3) Naval Explosives Anchorage 702. The waters in the General Anchorage bounded by the arc of a circle with a radius of 350 yards and with the center located at:

Latitude	Longitude
13°27'29.9"N	144°38'13.0"E

(1416) (4) Naval Anchorage A. The waters bounded by a line connecting the following points:

Latitude	Longitude
13°26'47.3"N	144°37'42.6"E
13°27'02.0"N	144°37'42.6"E
13°27'10.6"N	144°39'00.8"E
13°26'59.6"N	144°39'00.8"E
13°26'59.6"N	144°39'08.6"E
13°26'54.3"N	144°39'08.6"E
13°26'54.3"N	144°39'24.2"E
13°26'42.2"N	144°39'24.2"E
13°26'40.4"N	144°38'01.8"E

(1417) and thence to the point of beginning.

(1418) (5) Naval Anchorage B. The waters bounded by a line connecting the following points:

Latitude	Longitude
13°26'43.7"N	144°39'53.3"E
13°26'53.6"N	144°40'03.8"E
13°26'51.0"N	144°40'06.0"E
13°26'41.0"N	144°39'56.0"E

(1419) and thence along the shoreline to the point of beginning.

(1420) (b) *The regulations*–(1) *General Anchorage*. Any vessel may anchor in the General Anchorage except vessels carrying more than 25 tons of high explosives.

(1421) (2) *Explosives Anchorage 701*. Vessels carrying more than 25 tons of high explosives must use Anchorage 701, unless otherwise directed by the Captain of the Port.

(1422) (3) *Explosives Anchorage 702*. Except Naval vessels using the anchorage as directed by local Naval authorities, no vessel may anchor so that any part of the hull or rigging, or the anchor tackle may extend into Anchorage 702 at any time.

(1423) (4) *Naval Anchorages A and B*. (i) Except as provided in paragraph (b)(3)(ii) of this section, non-naval vessels may not anchor within these anchorages or use the mooring buoys therein without permission of the local Naval authorities obtained through the Captain of the Port. (There is a user charge for the use of these mooring buoys.)

(1424) (ii) Small craft that are continuously manned and capable of getting underway may anchor within these anchorages during daylight hours without prior approval of the Captain of the Port.

(1425) (5) *General regulations*. (i) Vessels may use the Naval mooring buoys in the General Anchorage without charge for a period up to 72 hours if authorized by the Captain of the Port. Vessels so moored shall promptly move at their own expense upon notification from the Captain of the Port.

(1426) (ii) Except for vessels not more than 65 feet in length, all vessels shall anchor in an anchorage ground.

(1427) (iii) Vessels anchored in an anchorage ground shall place their anchors within the anchorage ground so that no portion of the hull or rigging at any time extends outside the anchorage ground.

(1428) (iv) No vessel may anchor in the harbor for more than 30 consecutive days without permission of the Captain of the Port.

§110.239 Island of Tinian, CNMI.

(1429) (a) The anchorage grounds (based on 1944 Saipan Datum):

(1430) (1) Explosives Anchorage A. A circular area intersecting the shoreline having a radius of 1,900 yards centered at 14°58'57.0"N., 145°35'40.8"E.

(1431) (2) Explosives Anchorage B. A circular area intersecting the shoreline having radius of 1,900 yards centered at 14°58'15.9"N., 145°35'54.8"E.

(1432) (b) The regulations: Explosives Anchorages A and B; with the exception of explosives laden naval vessels at explosives anchorage A and B, no vessel may anchor within these areas without permission of the Captain of the Port. No vessel of more than 500 gross tons displacement may enter these areas except for the purpose of anchoring in accordance with this section.

Part 117–Drawbridge Operation Regulations

Subpart A–General Requirements

§117.1 Purpose.

(1433) (a) This part prescribes the general and special drawbridge operating regulations that apply to the drawbridges across the navigable waters of the United States and its territories. The authority to regulate drawbridges across the navigable waters of the United States is vested in the Secretary of Homeland Security.

(1434) (b) Subpart A contains the general operation requirements that apply to all drawbridges.

(1435) (c) Subpart B contains specific requirements for operation of individual drawbridges. These requirements are in addition to or vary from the general requirements in Subpart A. Specific sections in subpart B that vary from a general requirement in Subpart A supersede the general requirement. All other general requirements in Subpart A, that are not at variance, apply

to the drawbridges and removable span bridges listed in Subpart B.

§117.3 [Removed].

§117.4 Definitions.

(1436) The following definitions apply to this part:

(1437) *Appurtenance* means an attachment or accessory extending beyond the hull or superstructure that is not an integral part of the vessel and is not needed for a vessel's piloting, propelling, controlling, or collision avoidance capabilities.

(1438) *Automated drawbridge* means a drawbridge that is operated by an automated mechanism, not a drawtender. An automated drawbridge is normally kept in the open to navigation position and closes when the mechanism is activated.

(1439) *Deviation* means a District Commander's action authorizing a drawbridge owner to temporarily not comply with the drawbridge opening requirements in this part.

(1440) *Drawbridge* means a bridge with an operational span that is intended to be opened for the passage of waterway traffic.

(1441) *Drawspan* means the operational span of a drawbridge.

(1442) *Lowerable* means a non-structural vessel appurtenance that is or can be made flexible, hinged, collapsible, or telescopic so that it can be mechanically or manually lowered.

(1443) *Nonstructural* means that the item is not rigidly fixed to the vessel and can be relocated or altered.

(1444) *Not essential to navigation* means that a nonstructural vessel appurtenance, when in the lowered position, would not adversely affect the vessel's piloting, propulsion, control, or collision-avoidance capabilities.

(1445) *Public vessel* means a vessel that is owned and operated by the United States Government and is not engaged in commercial service, as defined in 46 U.S.C. 2101.

(1446) *Remotely operated drawbridge* means a drawbridge that is operated by remote control from a location away from the drawbridge.

(1447) *Removable span bridge* means a bridge that requires the complete removal of a span by means other than machinery installed on the bridge to open the bridge to navigation.

(1448) *Untended* means that there is no drawtender at the drawbridge.

§117.5 When the drawbridge must open.

(1449) Except as otherwise authorized or required by this part, drawbridges must open promptly and fully for the passage of vessels when a request or signal to open is given in accordance with this subpart.

§117.7 General requirements of drawbridge owners.

(1450) Except for drawbridges that have been authorized, before January 3, 2007, to remain closed to navigation or as otherwise specified in subpart B, drawbridge owners must:

(1451) (a) Provide the necessary drawtender(s) for the safe and prompt opening of the drawbridge.

(1452) (b) Maintain the working machinery of the drawbridge in good operating condition.

(1453) (c) Cycle the drawspan(s) periodically to ensure operation of the drawbridge.

(1454) (d) Ensure that the drawbridge operates in accordance with the requirements of this part.

(1455) (e) Any drawbridge allowed to remain closed to navigation prior to January 3, 2007, when necessary, must be returned to operable condition within the designated time set forth by the District Commander and will become subject to the requirements of this part.

§117.8 Permanent changes to drawbridge operation.

(1456) (a) Anyone may submit a written request to the District Commander for a permanent change to a drawbridge operating requirement. The request must include documentation supporting or justifying the requested change.

(1457) (b) If after evaluating the request, the District Commander determines that the requested change is not needed, he or she will respond to the request in writing and provide the reasons for denial of the requested change.

(1458) (c) If the District Commander decides that a change may be needed, he or she will begin a rulemaking to implement the change.

§117.9 Delaying opening of a draw.

(1459) No person shall unreasonably delay the opening of a draw after the signals required by §117.15 have been given.

(1460) **NOTE:** Trains are usually controlled by the block method. That is, the track is divided into blocks or segments of a mile or more in length. When a train is in a block with a drawbridge, the draw may not be able to open until the train has passed out of the block and the yardmaster or other manager has "unlocked" the drawbridge controls. The maximum time permitted for delay is defined in Subpart B for each affected bridge. Land and water traffic should pass over or through the draw as soon as possible in order to prevent unnecessary delays in the opening and closure of the draw.

§117.11 Unnecessary opening of the draw.

(1461) No vessel owner or operator shall –

(1462) (a) Signal a drawbridge to open if the vertical clearance is sufficient to allow the vessel, after all lowerable nonstructural vessel appurtenances that are not essential to navigation have been lowered, to safely pass under the drawbridge in the closed position; or

(1463) (b) Signal a drawbridge to open for any purpose other than to pass through the drawbridge opening.

§117.15 Signals.

(1464) (a) General. (1) The operator of each vessel requesting a drawbridge to open shall signal the drawtender and the drawtender shall acknowledge that signal. The signal shall be repeated until acknowledged in some manner by the drawtender before proceeding.

(1465) (2) The signals used to request the opening of the draw and to acknowledge that request shall be sound signals, visual signals, or radiotelephone communications described in this subpart.

(1466) (3) Any of the means of signaling described in this subpart sufficient to alert the party being signaled may be used.

(1467) (b) Sound signals. (1) Sound signals shall be made by whistle, horn, megaphone, hailer, or other device capable of producing the described signals loud enough to be heard by the drawtender.

(1468) (2) As used in this section, "prolonged blast" means a blast of four to six seconds duration and "short blast" means a blast of approximately one second duration.

(1469) (3) The sound signal to request the opening of a draw is one prolonged blast followed by one short blast sounded not more than three seconds after the prolonged blast. For vessels authorized to be passed through a draw during a scheduled closure period, the sound signal to request the opening of the draw during that period is five short blasts sounded in rapid succession.

(1470) (4) When the draw can be opened immediately, the sound signal to acknowledge a request to open the draw is one prolonged blast followed by one short blast sounded not more than 30 seconds after the requesting signal.

(1471) (5) When the draw cannot be opened immediately, or is open and shall be closed promptly, the sound signal to acknowledge a request to open the draw is five short blasts sounded in rapid succession not more than 30 seconds after the vessel's opening signal. The signal shall be repeated until acknowledged in some manner by the requesting vessel.

(1472) (c) Visual signals. (1) The visual signal to request the opening of a draw is–

(1473) (i) A white flag raised and lowered vertically; or

(1474) (ii) A white, amber, or green light raised and lowered vertically.

(1475) (2) When the draw can be opened immediately, the visual signal to acknowledge a request to open the draw, given not more than 30 seconds after the vessel's opening signal, is–

(1476) (i) A white flag raised and lowered vertically;

(1477) (ii) A white, amber, or green light raised and lowered vertically, or

(1478) (iii) A fixed or flashing white, amber, or green light or lights.

(1479) (3) When the draw cannot be opened immediately, or is open and must be closed promptly, the visual signal to acknowledge a request to open the draw is–

(1480) (i) A red flag or red light swung back and forth horizontally in full sight of the vessel given not more than 30 seconds after the vessel's opening signal; or

(1481) (ii) A fixed or flashing red light or lights given not more than 30 seconds after the vessel's opening signal.

(1482) (4) The acknowledging signal when the draw cannot open immediately or is open and must be closed promptly shall be repeated until acknowledged in some manner by the requesting vessel.

(1483) (d) Radiotelephone communications. (1) Radiotelephones may be used to communicate the same information provided by sound and visual signals.

(1484) (2) The vessel and the drawtender shall monitor the frequency used until the vessel has cleared the draw.

(1485) (3) When radiotelephone contact cannot be initiated or maintained, sound or visual signals under this section shall be used.

§117.17 Signaling for contiguous drawbridges.

(1486) When a vessel must pass two or more drawbridges close together, the opening signal is given for the first bridge. After acknowledgment from the first bridge that it will promptly open, the opening signal is given for the second bridge, and so on until all bridges that the vessel must pass have been given the opening signal and have acknowledged that they will open promptly.

§117.19 Signaling when two or more vessels are approaching a drawbridge.

(1487) When two or more vessels are approaching the same drawbridge at the same time, or nearly the same time, whether from the same or opposite directions, each vessel shall signal independently for the opening of the draw and the drawtender shall reply in turn to the signal of each vessel. The drawtender need not reply to signals by vessels accumulated at the bridge for passage during a scheduled open period.

§117.21 Signaling for an opened drawbridge.

(1488) When a vessel approaches a drawbridge with the draw in the open position, the vessel shall give the opening signal. If no acknowledgment is received within 30 seconds, the vessel may proceed, with caution, through the open draw.

§117.23 Installation of radiotelephones.

(1489) (a) When the District Commander deems it necessary for reasons of safety of navigation, the District Commander may require the installation and operation of a radiotelephone on or near a drawbridge.

(1490) (b) The District Commander gives written notice of the proposed requirement to the bridge owner.

(1491) (c) All comments the owner wishes to submit shall be submitted to the District Commander within 30 days of receipt of the notice under Paragraph (b) of this section.

(1492) (d) If, upon consideration of the comments received, the District Commander determines that a radiotelephone is necessary, the District Commander notifies the bridge owner that a radiotelephone shall be installed and gives a reasonable time, not to exceed six months, to install the radiotelephone and commence operation.

§117.24 Radiotelephone installation identification.

(1493) (a) The Coast Guard authorizes, and the District Commander may require the installation of a sign on drawbridges, on the upstream and downstream sides, indicating that the bridge is equipped with and operates a VHF radiotelephone in accordance with §117.23.

(1494) (b) The sign shall give notice of the radiotelephone and its calling and working channels-

(1495) (1) In plain language; or

(1496) (2) By a sign consisting of the outline of a telephone handset with the long axis placed horizontally and a vertical three-legged lightning slash superimposed over the handset. The slash shall be as long vertically as the handset is wide horizontally and normally not less than 27 inches and no more than 36 inches long. The preferred calling channel should be shown in the lower left quadrant and the preferred working channel should be shown in the lower right quadrant.

§117.31 Drawbridge operations for emergency vehicles and emergency vessels.

(1497) (a) Upon receiving notification that an emergency vehicle is responding to an emergency situation, a drawtender must make all reasonable efforts to have the drawspan closed at the time the emergency vehicle arrives.

(1498) (b) When a drawtender receives notice, or a proper signal as provided in §117.15 of this part, the drawtender shall take all reasonable measures to have the draw opened, regardless of the operating schedule of the draw, for passage of the following, provided this opening does not conflict with local emergency management procedures which have been approved by the cognizant Coast Guard Captain of the Port:

(1499) (1) Federal, State, and local government vessels used for public safety;

(1500) (2) vessels in distress where a delay would endanger life or property;

(1501) (3) commercial vessels engaged in rescue or emergency salvage operations; and

(1502) (4) vessels seeking shelter from severe weather.

§117.33 Closure of draw for natural disasters or civil disorders.

(1503) Drawbridges need not open for the passage of vessels during periods of natural disasters or civil disorders declared by the appropriate authorities unless otherwise provided for in Subpart B or directed to do so by the District Commander.

§117.35 Temporary change to a drawbridge operating schedule.

(1504) (a) For any temporary change to the operating schedule of a drawbridge, lasting less than or equal to 180 days, the District Commander may issue a deviation approval letter to the bridge owner and publish a "Notice of deviation from drawbridge regulation" in the **Federal Register**.

(1505) (b) If the time period for a temporary change to the operating schedule of a drawbridge will be greater then 180 days, the District Commander will follow appropriate rulemaking procedures and publish a temporary rule in the **Federal Register** prior to the start of the action.

(1506) (c) *Request for change*. (1) To temporarily change the drawbridge-operating requirements the bridge owner must submit a written request to the District Commander for approval of the change.

(1507) (2) The request must describe the reason for the closure and the dates and times scheduled for the start and end of the change.

(1508) (3) Requests should be submitted as early as possible, preferably 90 days before the start of the action. District Commanders have discretion to accept requests submitted less than 90 days before a needed change if those requests can be processed before the date of the needed change.

(1509) (d) *Determination*. The District Commander's determination to allow the schedule change is normally forwarded to the bridge owner within ten working days after receipt of the request. If the request is denied, the

reasons for the denial will be set out in the District Commander's decision letter.

(1510) (e) The drawbridge must return to its regular operating schedule immediately at the end of the designated time period.

(1511) (f) If the authorized closure period for an event is broken into separate time periods on the same day or on consecutive days, the drawbridge must provide openings for navigation between the authorized closures.

(1512) (g) The District Commander will also announce the change to the operating schedule in the Local Notice to Mariners and other appropriate local media.

§117.36 Closure of drawbridge for emergency repair.

(1513) (a) When a drawbridge unexpectedly becomes inoperable, or should be immediately rendered inoperable because of mechanical failure or structural defect, the drawbridge owner must notify the District Commander of the closure without delay and give the reason for the emergency closure of the drawbridge and an estimated time when the drawbridge will be returned to operating condition.

(1514) (b) The District Commander will notify mariners about the drawbridge status through Broadcast Notices to Mariners, Local Notice to Mariners and any other appropriate local media.

(1515) (c) Repair work under this section must be performed with all due speed in order to return the drawbridge to operation as soon as possible.

§117.37 [Removed].

§117.39 Authorized closure of drawbridge due to infrequent requests for openings.

(1516) (a) When there have been no requests for drawbridge openings for at least two years, a bridge owner may request in writing that the District Commander authorize the drawbridge to remain closed to navigation and to be untended.

(1517) (b) The District Commander may:

(1518) (1) Authorize the closure of the drawbridge;

(1519) (2) Set out any conditions in addition to the requirement in paragraph (d): and

(1520) (3) Revoke an authorization and order the drawbridge returned to operation when necessary.

(1521) (c) All drawbridges authorized to remain closed to navigation, under this section, must be maintained in operable condition.

(1522) (d) Authorization under this section does not:

(1523) (1) Authorize physical changes to the drawbridge structure, or

(1524) (2) Authorize removal of the operating machinery.

(1525) (e) Drawbridges authorized under this section to remain closed to navigation and to be untended are identified in subpart B of this part.

§117.40 Advance notice for drawbridge opening.

(1526) (a) Upon written request by the owner of a drawbridge, the District Commander may authorize a drawbridge to operate under an advance notice for opening. The drawbridge tender, after receiving the advance notice, must open the drawbridge at the requested time and allow for a reasonable delay in arrival of the vessel giving the advance notice.

(1527) (b) If the request is approved, a description of the advanced notice for the drawbridge will be added to subpart B of this part.

§117.41 Maintaining drawbridges in the fully open position.

(1528) (a) Drawbridges permanently maintained in the fully open to navigation position may discontinue drawtender service as long as the drawbridge remains fully open to navigation. The drawbridge must remain in the fully open position until drawtender service is restored.

(1529) (b) If a drawbridge is normally maintained in the fully open to navigation position, but closes to navigation for the passage of pedestrian, vehicular, rail, or other traffic, the drawbridge must be tended unless:

(1530) (1) Special operating requirements are established in subpart B of this part for that drawbridge; or

(1531) (2) The drawbridge is remotely operated or automated.

§117.42 Remotely operated and automated drawbridges.

(1532) (a) Upon written request by the owner of a drawbridge, the District Commander may authorize a drawbridge to operate under an automated system or from a remote location.

(1533) (b) If the request is approved, a description of the full operation of the remotely operated or automated drawbridge will be added to subpart B of this part.

§117.43 [Removed].

§117.45 [Removed].

§117.47 Clearance gauges.

(1534) (a) Clearance gauges are required for drawbridges across navigable waters of the United States discharging into the Atlantic Ocean south of Delaware Bay (including the Lewes and Rehoboth Canal, DE) or into the Gulf of Mexico (including coastal waterways contiguous thereto and tributaries to such waterways and the

Lower Atchafalaya River, LA), except the Mississippi River and its tributaries and outlets.

(1535) (b) Except for provisions in this part which specify otherwise for particular drawbridges, clearance gauges shall be designed, installed, and maintained according to the provisions of 33 CFR 118.160 (not carried in this Coast Pilot).

(1536) **NOTE:** Clearance gauge requirements, if any, for drawbridges other than those referred to in this section are listed in Subpart B under the appropriate bridge.

§117.49 Process of violations.

(1537) (a) Complaints of alleged violations under this part are submitted to the District Commander of the Coast Guard District in which the drawbridge is located.

(1538) (b) Penalties for violations under this part are assessed and collected under Subpart 1.07 of Part 1 of this chapter (not published in this Coast Pilot; see 33 CFR 1.07).

Subpart B–Specific Requirements

§117.51 General.

(1539) The drawbridges in this subpart are listed by the state in which they are located and by the waterway they cross. Waterways are arranged alphabetically by state. The drawbridges listed under a waterway are generally arranged in order from the mouth of the waterway moving upstream. The drawbridges on the Atlantic Intracoastal Waterway are listed from north to south and on the Gulf Intracoastal Waterway from east to west.

§117.53 [Removed].

§117.55 Posting of requirements.

(1540) (a) The owner of each drawbridge under this subpart, other than removable span bridges, must ensure that a sign summarizing the requirements in this subpart applicable to the drawbridge is posted both upstream and downstream of the drawbridge. The requirements to be posted need not include those in Subpart A or §§117.51 through 117.59 of this part.

§117.57 Advance notice.

(1541) Owners and tenders of drawbridges requiring advance notice to open shall use all reasonable means to open the draw at the requested time and give due regard to the possibility that a brief delay may be experienced by the vessel giving the advance notice.

§117.59 Special requirements due to hazards.

(1542) For the duration of occurrences hazardous to safety or navigation, such as floods, freshets, and damage to the bridge or fender system, the District Commander may require the owner of an operational drawbridge listed in this subpart to have the bridge attended full time and open on signal.

CALIFORNIA

§117.140 General.

(1543) In California, when fog prevails by day or night, the drawtender, after sounding the opening signal, shall toll a bell continuously during the approach and passage of a vessel.

§117.143 Bishop Cut.

(1544) The draw of the San Joaquin County highway bridge, mile 1.0 between King Island and Bishop Tract, shall open on signal if at least 12 hours notice is given to the San Joaquin County Department of Public Works at Stockton.

§117.147 Cerritos Channel.

(1545) (a) The draw of the Commodore Schuyler F. Heim highway bridge, mile 4.9 at Long Beach, shall open on signal; except that, from 6:30 a.m. to 8 a.m. and 3:30 p.m. to 6 p.m. Monday through Friday except Federal holidays, the draws need not be opened for the passage of vessels. The opening signal for the Commodore Schuyler Heim bridge is three prolonged blasts. The acknowledging signal is two prolonged blasts followed by one short blast when the draw will open immediately and five short blasts when the draw will not open immediately. Channel 13 (156.65 MHz) or other assigned frequencies may be used.

(1546) (b) The draw of the Henry Ford Avenue railroad bridge, mile 4.8 at Long Beach, shall be maintained in the fully open position except when a train is crossing or for maintenance. If the draw is in the closed position, the opening signal is two short blasts followed by one prolonged blast. The acknowledging signal is two prolonged blasts followed by one short blast when the draw will open immediately and five short blasts when the draw will not open immediately. Channel 13 (156.65 MHz) or other assigned frequencies may be used.

§117.149 China Basin, Mission Creek.

(1547) The draws of the 3rd Street bridge, mile 0.0, and the 4th Street bridge, mile 0.2, both at San Francisco, shall open on signal if at least one hour notice is given.

§117.150 Connection Slough.

(1548) The draw of the Reclamation District No. 2027 bridge between Mandeville and Bacon Islands, mile 2.5 near Stockton, shall open on signal from May 1 through October 31 from 6 a.m. to 10 p.m., and from November 1 through April 30 from 9 a.m. to 5 p.m. At all other times, the draw shall open on signal if at least four hours notice is given to the drawtender during regular operating hours, or to the Rio Vista bridge across the Sacramento River, mile 12.8. The draw shall open on signal if at least one hour notice is given for emergency vessels owned, operated or controlled by the United States or the State of California, for commercial vessels engaged in rescue or emergency salvage operations, or for vessels in distress.

§117.151 Cordelia Slough (a tributary of Suisun Bay).

(1549) The draw of the Union Pacific railroad bridge, mile 1.5 at Suisun, shall open on signal if at least 24 hours notice is given.

§117.153 Corte Madera Creek.

(1550) The draw of the Golden Gate Bridge, Highway and Transportation District bridge, mile 0.5 near Greenbrae, shall be maintained in the fully open position, except for the crossing of trains or for maintenance.

§117.157 Georgiana Slough.

(1551) The draws of the Sacramento County highway bridges, mile 4.5 near Isleton, and mile 12.4 near Walnut Grove, shall open on signal from 6 a.m. to 10 p.m. from May 1 through October 31. The draws shall open on signal from November 1 through April 30 from 9 a.m. to 5 p.m. At all other times, the draws of these bridges shall open on signal if at least four hours notice is given to the drawtender at the Rio Vista bridge across the Sacramento River, mile 12.8.

§117.159 Grant Line Canal.

(1552) The draw of the San Joaquin County highway bridge, mile 5.5 at Tracy, shall open on signal if at least 12 hours notice is given to the San Joaquin County Department of Public Works at Stockton.

§117.161 Honker Cut.

(1553) The draw of the San Joaquin County (Eightmile Road) bridge, mile 0.3 between Empire Tract and King Island at Stockton, shall open on signal if at least 12 hours notice is given to the San Joaquin County Department of Public Works at Stockton.

§117.163 Islais Creek (Channel).

(1554) The draw of the 3rd Street bridge, mile 0.4 at San Francisco, shall open on signal if at least one hour notice is given.

§117.165 Lindsey Slough.

(1555) The center drawspan of the Hastings Farms Highway Bridge, mile 2.0 between Egbert and Lower Hastings Tracts, must be removed for the passage of vessels if at least 72 hours notice is given to the Hastings Island Land Company office at Rio Vista.

§117.167 Little Potato Slough.

(1556) The draw of the California Department of Transportation highway bridge, mile 0.1 at Terminus, shall open on signal if at least 4 hours notice is given to the drawtender at the Rio Vista bridge across the Sacramento River, mile 12.8.

§117.169 Mare Island Strait and the Napa River.

(1557) (a) The draw of the Mare Island Drawbridge, mile 2.8, at Vallejo shall open on signal between the hours of 9 a.m. and 7 p.m. daily, and upon two hours advance notice all other times. When the drawbridge operator is present, mariners may contact the drawbridge via marine radio or telephone at 707-648-4313 for drawspan operation. When the drawbridge operator is not present, mariners may contact the City of Vallejo via the same telephone number to schedule drawspan operation.

(1558) (b) The draw of the Northwestern Pacific railroad bridge, mile 10.6 at Brazos, shall be maintained in the fully open position, except for the crossing of trains or for maintenance. When the draw is closed and visibility at the drawtender's station is less than one mile, up or down the channel, the drawtender shall sound two prolonged blasts every minute. When the draw is opened, the drawtender shall sound three short blasts.

§117.171 Middle River.

(1559) (a) The draw of the San Joaquin County (Bacon Island Road) highway bridge, mile 8.6 between Bacon Island and Lower Jones Tract, shall open on signal from May 15 through September 15 from 9 a.m. to 5 p.m. From September 16 through May 14, the draw shall open on signal from 9 a.m. to 5 p.m. from Thursday through Monday. At all other times, the draw shall open on signal if at least 12 hours notice is given to the San Joaquin County Department of Public Works at Stockton.

(1560) (b) The draw of the Burlington Northern Santa Fe railroad bridge, mile 9.8 near Middle River Station, shall open on signal if at least 12 hours notice is given

to the Atchison, Topeka and Santa Fe Railway Manager of Structures at San Bernardino.

(1561) (c) The California Route 4 Bridge, mile 15.1, between Victoria Island and Drexler Tract need not open for the passage of vessels.

§117.173 Miner Slough.

(1562) The draw of the California Department of Transportation highway bridge, mile 5.5 between the northerly end of Ryer Island and Holland Tract, shall open on signal if at least 12 hours notice is given to the drawtender at the Rio Vista bridge across the Sacramento River, mile 12.8.

§117.175 Mokelumne River.

(1563) (a) The draw of the California Department of Transportation highway bridge, the Mokelumne River Bridge, mile 3.0, at East Isleton shall open upon signal as follows:

(1564) (1) From November 1 through April 30 from 9 a.m. to 5 p.m.

(1565) (2) From May 1 through October 31 from 6 a.m. to 10 p.m., except that during the following periods the draw need only open for recreational vessels on the hour, 20 minutes past the hour, and 40 minutes past the hour:

(1566) Saturdays 10 a.m. until 2 p.m.

(1567) Sundays 11 a.m. until 6 p.m.

(1568) Memorial Day; 4th of July and

(1569) Labor Day 11 a.m. until 6 p.m.

(1570) (3) At all other times the draw shall open on signal if at least 4 hours notice is given to the drawtender at Rio Vista bridge over the Sacramento River, mile 12.8.

(1571) (4) Emergency vessels of the United States, state or commercial vessels engaged in rescue or emergency salvage operations, and vessels in distress shall be passed as soon as possible but no later than one hour after notice is given.

(1572) (b) The draw of the Sacramento and San Joaquin Counties (Millers Ferry) highway bridge, mile 12.1 over the North Fork of the Mokelumne River near Walnut Grove, shall open on signal from May 1 through October 31 from 9 a.m. to 5 p.m. At all other times, the draw shall open on signal if at least 12 hours notice is given to the San Joaquin County Department of Public Works at Stockton.

(1573) (c) The removable span of the San Joaquin County highway bridge over the South Fork of the Mokelumne River, mile 18.0 at New Hope Landing, shall be removed as soon as possible upon notification by the District Commander that an emergency exists which requires the removal.

(1574) (d) The draws of the bridges above New Hope Landing need not be opened for the passage of vessels.

§117.177 Mud Slough.

(1575) The draw of the Union Pacific railroad bridge, mile 0.7 near Alviso, shall open on signal if at least 24 hours notice is given.

§117.179 Newark Slough.

(1576) The draw of the San Mateo County Transportation Department railroad bridge, mile 0.5 near Newark, shall open on signal if at least 24 hours notice is given to the San Mateo Transportation Department, at San Carlos.

§117.181 Oakland Inner Harbor Tidal Canal.

(1577) The draws of the Alameda County highway drawbridges at Park Street, mile 5.2; Fruitvale Avenue, mile 5.6; and High Street, mile 6.0; and the U.S. Army Corps of Engineers railroad drawbridge, mile 5.6 at Fruitvale Avenue, shall open on signal; except that, from 8 a.m. to 9 a.m. and 4:30 p.m. to 6:30 p.m. Monday through Friday except Federal holidays, the draws need not be opened for the passage of vessels. However, the draws shall open during the above closed periods for vessels which must, for reasons of safety, move on a tide or slack water, if at least two hours notice is given.

§117.183 Old River.

(1578) The draw of the California Department of Transportation (Route 4) highway bridge, mile 14.8 between Victoria Island and Byron Tract, shall open on signal from May 1 through October 31 from 6 a.m. to 10 p.m. and from November 1 through April 30 from 9 a.m. to 5 p.m. At all other times, the draw shall open on signal if at least four hours notice is given to the drawtender at the Rio Vista bridge across the Sacramento River, mile 12.8.

§117.185 Pacheco Creek.

(1579) The draw of the Contra Costa County highway bridge, mile 1.0, and Union Pacific railroad bridge, mile 1.1, both near Martinez, shall open on signal if at least 24 hours notice is given.

§117.187 Petaluma River.

(1580) (a) The draws of the Northwestern Pacific railroad bridges, mile 0.8 at Blackpoint and mile 12.4 at Haystack Landing, shall be maintained in the fully open position, except for the crossing of trains or for maintenance. When the draw is closed and visibility from the drawtender's station is less than one mile up or down the channel, the drawtender shall sound two long blasts every minute. When the draw is reopened, the drawtender shall sound three short blasts.

(1581) (b) The draw of the Petaluma highway bridge at "D" Street, mile 13.7 at Petaluma, shall open on signal if at

least four hours notice is given for openings from 6 a.m. to 6 p.m., and if at least 24 hours notice is given for openings from 6 p.m. to 6 a.m.

§117.189 Sacramento River.

(1582) (a) The draws of each bridge from Isleton to American River junction shall open on signal from May 1 through October 31 from 6 a.m. to 10 p.m. and from November 1 through April 30 from 9 a.m. to 5 p.m. At all other times, the draws shall open on signal if at least four hours notice is given to the drawtender at the Rio Vista bridge across the Sacramento River, mile 12.8.

(1583) (b) The draws of the California Department of Transportation bridges, mile 90.1 at Knights Landing, and Mile 135.5 at Meridian, shall open on signal if at least 12 hours notice is given to the California Department of Transportation at Marysville.

(1584) (c) The draws of the bridges above Meridian need not be opened for the passage of vessels.

§117.191 San Joaquin River.

(1585) (a) The draw of the Port of Stockton railroad bridge, mile 39.7 at Stockton, shall open on signal if at least 12 hours notice is given to the Port Director.

(1586) (b) The draws of the U.S. Navy drawbridge, mile 39.8, Burlington Northern Santa Fe railroad bridge, mile 40.6, and California Highway 4 bridge (Garwood Bridge), mile 41.6, need not be opened for the passage of vessels. The owners or agencies controlling the bridges shall restore the draws to full operation within six months of notification to take such action from the District Commander.

(1587) (c) Drawbridges above the Old River junction need not open for the passage of vessels.

§117.193 San Leandro Bay.

(1588) The drawspans of the California Department of Transportation Highway and Bicycle drawbridges, mile 0.0 and mile 0.1, between Alameda and Bay Farm Island, must open on signal; except that, from 5 a.m. to 8 a.m. and 5 p.m. to 9 p.m, the drawspans must open on signal if at least 12 hours notice is given. Notice must be given to the drawtender of the Bay Farm Island drawbridges from 8 a.m. to 5 p.m. and to the drawtender of the Park Street Drawbridge at Alameda at all other times. The drawspans need not be opened for the passage of vessels from 9 p.m. to 5 a.m.

§117.195 Snodgrass Slough.

(1589) The draw of the Sacramento County bridge, mile 4.4 at Walnut Grove, shall open on signal if at least 72 hours notice is given to Sacramento County Transportation Operations and Maintenance office at Sacramento.

§117.197 Sonoma Creek.

(1590) The draw of the Northwestern Pacific railroad bridge, mile 5.4 at Wingo, shall open on signal if at least 24 hours notice is given.

§117.199 Steamboat Slough.

(1591) The draw of the California Department of Transportation highway bridge, mile 11.2 at the head of Grand Island, shall open on signal from May 1 through October 31 from 6 a.m. to 10 p.m. At all other times, the draw shall open on signal if at least four hours notice is given to the drawtender at the Rio Vista bridge across the Sacramento River, mile 12.8.

§117.201 Sutter Slough.

(1592) The draw of the Sacramento County highway bridge, mile 6.4 near Courtland, need not be opened for the passage of vessels. However, the draw shall be returned to operable condition within six months after notification by the District Commander to do so.

IDAHO

§117.381 Clearwater River.

(1593) The draws of the Camas Prairie railroad bridge, mile 0.6 at Lewiston, shall open on signal if at least three hours notice is given to the Camas Prairie Railroad in Lewiston.

§117.383 Pend Oreille River.

(1594) The draw of the Burlington Northern railroad bridge, mile 111.3 near Sandpoint, need not be opened for the passage of vessels.

§117.385 Snake River.

(1595) The drawspan of the U.S. 12 bridge, mile 140.0, between Lewiston, Idaho, and Clarkston, Washington, operates as follows:

(1596) (a) The draw need not open for the passage of vessels except at these hours:

(1597) (1) From March 15 through November 15 at 6 a.m., 10 a.m., 3 p.m., 7 p.m., and 9 p.m.

(1598) (2) From November 16 through March 14 at 9 a.m., 10 a.m., 2 p.m., and 3 p.m.

(1599) (b) Requests for openings shall be given to the Washington State Department of Transportation.

(1600) (1) Monday through Thursday of every week, except holidays, the draw shall open if at least two hours notice is given.

(1601) (2) Friday through Sunday of every week, except holidays, the draw shall open if notice is given by 5 p.m. of the preceding Wednesday.

(1602) (3) The draw shall open on holidays if notice is given by 5 p.m. two workdays, excluding Friday, preceding the holiday.

(1603) (4) The draw shall open at any time for the passage of vessels engaged in an emergency.

OREGON

§117.861 Blind Slough.

(1604) The draws of the Portland and Western railroad bridge, mile 1.1 at Knappa, shall open on signal if at least one hour notice is given. However, the draw shall open promptly on signal from four hours before to four hours after each day's authorized commercial fishing period established by the Columbia River Compact (Washington State Department of Fisheries and the Fish Commission of Oregon) for the Columbia River Fishery below Bonneville Dam.

§117.865 Clatskanie River.

(1605) The draw of the Portland and Western railroad bridge, mile 0.7 at Clatskanie, shall open on signal if at least one hours notice is given. However, the draw shall open promptly on signal from four hours before to four hours after each day's authorized commercial fishing period established by the Columbia River Compact (Washington State Department of Fisheries and the Fish Commission of Oregon) for the Columbia River Fishery below Bonneville Dam.

§117.869 Columbia River.

(1606) (a) The draws of the Interstate 5 Bridges, mile 106.5, between Portland, OR, and Vancouver, WA, shall open on signal except that the draws need not be opened for the passage of vessels from 6:30 a.m. to 9 a.m. and from 2:30 p.m. to 6 p.m. Monday through Friday except federal holidays.

(1607) (b) The draw of the Port of Hood River bridge, mile 169.8 at Hood River, shall open on signal if at least 12 hours notice is given.

(1608) (c) The draw of the Burlington Northern Santa Fe railroad bridge, mile 201.2, between Celilo, Oregon, and Wishram, Washington, is automated and is normally maintained in the fully open-to-navigation position.

(1609) (1) Lights. All lights required for automated operation shall be visible to marine traffic for a distance of at least 2 miles and shall be displayed at all times, day and night.

(1610) (i) When the draw is fully open, a steady green light shall be displayed at the center of the drawspan on both upstream and downstream sides.

(1611) (ii) When the draw is not fully open, a steady red light shall be displayed at the center of the drawspan on both upstream and downstream sides.

(1612) (iii) When the draw is about to close, flashing yellow lights in the form of a down-pointing arrow shall be displayed at the center of the drawspan on both upstream and downstream sides.

(1613) (2) Operation. When a train approaches the bridge, the yellow lights shall start flashing. After an 8-minute delay, the green lights shall change to red, the drawspan shall lower and lock, and the yellow lights shall be extinguished. Red lights shall continue to be displayed until the train has crossed and the drawspan is again in the fully open position. At that time, the red lights shall change to green.

(1614) (3) Vessels equipped with radiotelephones may contact Burlington Northern Santa Fe to obtain information on the status of the bridge. Bridge status information also may be obtained by calling the commercial telephone number posted at the drawspan of the bridge.

§117.871 Coos Bay.

(1615) The draw of the Union Pacific railroad bridge, mile 9.0 at North Bend, shall be maintained in the fully open position, except for the crossing of trains or for maintenance. During foggy weather, a fog bell installed in the center of the draw shall be rung continuously, striking every 10 seconds. At any time during foggy weather when the draw is closed and passage is not clear for vessels, a siren shall be sounded continuously. The siren shall be capable of being heard at a distance of one mile from the draw. When the bridge is again opened, the siren shall be stopped, indicating that the way is clear for the passage of vessels.

§117.873 Coos River.

(1616) The draw of the Oregon State secondary highway bridge, mile 2.2 near Eastside, shall open on signal if at least 12 hours notice is given.

§117.875 Coquille River.

(1617) The draws of the US 101 highway bridge, mile 3.5 at Bandon, Oregon, shall open on signal if at least two hours notice is given to the drawtender at the Coos Bay South Slough bridge.

§117.879 Isthmus Slough.

(1618) The draw of the Oregon State secondary highway bridge, mile 1.0 at Coos Bay, shall open on signal if at least 24 hours notice is given.

§117.881 John Day River.

(1619) The draw of the Portland and Western railroad bridge, mile 0.0 near Astoria, shall open on signal if at least one hour notice is given. However, the draw shall open promptly on signal from four hours before to four hours after each day's authorized commercial fishing period established by the Columbia River Compact (Washington State Department of Fisheries and the Fish Commission of Oregon) for the Columbia River Fishery below Bonneville Dam.

§117.887 North Portland Harbor (Oregon Slough).

(1620) The draw of the Burlington Northern Santa Fe railroad bridge, mile 3.2 at Portland, shall open on signal if at least one half hours notice is given.

§117.889 Siuslaw River.

(1621) (a) The draw of the US 101 bridge, mile 5.0 at Florence, shall open on signal if at least two hours notice is given.

(1622) (b) The draw of the Central Oregon and Pacific railroad bridge, mile 8.0 near Cushman, shall open on signal if at least 24 hours notice is given.

§117.892 South Slough.

(1623) The drawspan for the Oregon State Highway Drawbridge across South Slough at Charleston must open on signal for the passage of vessels, except that between the hours of 7 a.m. and 7 p.m., from June 1 through September 30, the drawspan need be opened only on the hour and half-hour. This exception does not apply to commercial tugs and/or tows or public vessels of the United States.

§117.893 Umpqua River.

(1624) (a) The draw of the US 101 bridge, mile 11.1 at Reedsport, Oregon, shall open on signal if at least two hours notice is given.

(1625) (b) The draw of the Central Oregon and Pacific railroad bridge, mile 11.5 at Reedsport, shall be maintained in the fully open position, except for the crossing of trains or other railroad equipment or for maintenance. During foggy weather when the draw is closed and the channel is not clear for the passage of vessels, a fog horn with an audible range of one-half mile from the draw shall be sounded. Two clear signals of approximately six seconds duration each, repeated at intervals of 60 seconds from completion of the second signal to commencement of the next signal, shall be sounded and repeated from commencement of closure to full opening of the draw. When the draw is again in the open position, the fog horn shall be stopped, indicating that the channel is clear for the passage of vessels.

(1626) (c) The draw of the US 101 bridge across the side channel of the Umpqua River, mile 11.1 near Reedsport, need not be opened for the passage of vessels.

§117.895 Wallooskee River.

(1627) The draw of the Oregon State secondary highway bridge, mile 1.0 near Astoria, shall open on signal if at least 48 hours notice is given.

§117.897 Willamette River.

(1628) (a) The draws of the Union Pacific railroad bridge, mile 119.6 at Albany; and mile 164.3 near Harrisburg, need not open for the passage of vessels. However the draws shall be returned to operable condition within six months after notification by the District Commander to do so.

(1629) (b) The draw of the Oregon State highway bridge, mile 132.1 at Corvallis, shall open on signal if at least seven days notice is given. However, the draw need not be opened on Saturdays, Sundays, and Federal Holidays.

(1630) (c) The draws of the bridges listed in paragraph (c)(3) of this section shall open on signal if appropriate advance notice is given subject to the following requirements and exceptions:

(1631) (1) The draws need not open for the passage of vessels from 7 a.m. to 9 a.m. and 4 p.m. to 6 p.m. every Monday through Friday; except that on New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, and Christmas Day, the draws shall open in accordance with the notice requirements of paragraph (c)(3) below.

(1632) (2) During Rose Festival Week or when the water elevation reaches and remains above +12 feet, no advance notice is required to request opening, except during the normal closed periods in (c)(1) above.

(1633) (3)(i) Broadway Bridge, Portland, mile 11.7. No advance notice required, however any periods where the draws are not required to be opened do not apply to oceangoing vessels of 750 gross tons or over.

(1634) (ii) Steel Bridge (upper deck only), Portland, mile 12.1. From 8 a.m. to 5 p.m. Monday through Friday, one hour's notice shall be given for draw openings. At all other times, two hours notice is required.

(1635) (iii) Burnside Bridge, Portland, mile 12.4. Only single-leaf openings will be provided, except that double-leaf openings will be provided during Rose Festival. From 9 a.m. to 4 p.m. Monday through Friday notice at least one hour in advance shall be given for draw openings. At all other times, notice at least two hours in advance is required.

(1636) (iv) Morrison Bridge, Portland, mile 12.8, from 8 a.m. to 5 p.m. Monday through Friday, one hour's

notice shall be given for draw openings. At all other times, two hours notice is required.

(1637) (v) Hawthorne Bridge, Portland, mile 13.1, no advance notice required.

§117.899 Youngs Bay and Lewis and Clark River.

(1638) (a) The draw of the US101 (New Youngs Bay) highway bridge, mile 0.7, across Youngs Bay at Smith Point, shall open on signal for the passage of vessels if at least one half-hour notice is given to the drawtender at the Lewis and Clark River Bridge by marine radio, telephone, or other suitable means from 7 a.m. to 5 p.m. Monday through Friday and from 8 a.m. to 4 p.m. on Saturday and Sunday. At all other times, including all Federal holidays but Columbus Day, at least a two-hour notice by telephone is required. The opening signal shall be two prolonged blasts followed by one short blast.

(1639) (b) The draw of the Oregon State (Old Youngs Bay) highway bridge, mile 2.4, across Youngs Bay foot of Fifth Street, shall open on signal for the passage of vessels if at least one half-hour notice is given to the drawtender at the Lewis and Clark River Bridge by marine radio, telephone, or other suitable means from 7 a.m. to 5 p.m. Monday through Friday and from 8 a.m. to 4 p.m. Saturday and Sunday. At all other times, including all Federal holidays but Columbus Day, at least a two-hour notice by telephone is required. The opening signal is two prolonged blasts followed by one short blast.

(1640) (c) The draw of the Oregon State (Lewis and Clark River) highway bridge, mile 1.0, across the Lewis and Clark River, shall open on signal for the passage of vessels if at least one half-hour notice is given by marine radio, telephone, or other suitable means from 7 a.m. to 5 p.m. Monday through Friday and from 8 a.m. to 4 p.m. on Saturday and Sunday. At all other times, including all Federal holidays but Columbus Day, at least a two-hour notice by telephone is required. The opening signal is one prolonged blast followed by four short blasts.

WASHINGTON

§117.1031 Chehalis River.

(1641) The draw of the SR-101 highway bridge, mile 0.1, at Aberdeen, shall open on a signal of two short blasts followed by one prolonged blast from one hour before sunrise to one hour after sunset, except that from 7:15 a.m. to 8:15 a.m. and 4:15 p.m. to 5:15 p.m., Monday through Friday, except Federal holidays, the draw need not be opened for the passage of vessels of less than 5,000 gross tons. At all other times, the draw shall open on signal if at least one hour notice is given by marine radio, telephone, or other suitable means to the Washington Department of Transportation.

§117.1035 Columbia River.

(1642) (a) The term drawtender, as used in this section means the operator of the drawspan, whether that person may be a train crew member, maintenance person, or an officially designated drawtender.

(1643) (b) The draw of the semi-automated Union Pacific railroad bridge (Kalan Bridge), mile 323.4, near Kennewick, Washington, is normally maintained in the fully open position with no drawtender in attendance. A radar beacon (RACON) is located at the center of the drawspan. The RACON operates only when the drawspan is fully open, by responding with the Morse letter "K" to X-band radar signals. When necessary to close the drawspan for the passage of a train or for maintenance, a drawtender shall be dispatched to operate the draw from either of the remote control stations located at the ends of the bridge. Operation of the bridge shall be as follows:

(1644) (1) The drawtender shall broadcast a radio message over Channel 16-VHF to all vessels in the vicinity that the Kalan Bridge will be closing in two minutes. If after two minutes no response is received, the drawtender shall broadcast a message over Channel 13-VHF that the Kalan Bridge is closing. Both messages shall be broadcast twice.

(1645) (2) Prior to activating the closing sequence the drawtender shall visually inspect the waterway for marine traffic approaching the bridge. The closing sequence shall not be activated until after marine traffic has cleared the bridge.

(1646) (3) When the closing sequence is activated, the following functions occur automatically: The RACON is deactivated, red strobe lights on the lift towers and on the channel piers start flashing, a downward pointing arrow consisting of amber colored lights is displayed from the center of the drawspan and a recorded message is broadcast over Channel 13-VHF advising that the Kalan Bridge is closed to river traffic. The radio message is repeated every five minutes, the red lights continue to flash and the downward pointing arrow is displayed, until the lift span returns to the up and locked position. At the end of the ten minutes, a horn sounds for 30 seconds, the span begins closing and the centerspan navigation lights turn from green to red. The horn sounds for 30 seconds at 10 minute intervals, until the lift span returns to the up and locked position.

(1647) (4) If for any reason during the closing sequence a danger is posed to marine traffic, the closing sequence shall be stopped and the bridge reopened until the threat of danger has passed.

(1648) (5) If the bridge is to be temporarily closed for maintenance or for purposes other than the passage of a train, the drawtender shall continually monitor Channels 13 and 16 for calls from approaching vessels, and respond to inquiries from vessels about the closure.

(1649) (6) After a train has cleared the bridge, the following functions occur automatically: The drawspan returns to the fully open and locked position, the RACON is reactivated, the arrow display and the red strobe lights are extinguished, the red centerspan navigation lights return to green and a recorded message is broadcast over Channel 13-VHF that the Kalan Bridge is open for marine traffic.

(1650) (7) Bridge status information may be obtained by calling the commercial telephone number posted at the drawspan of the bridge.

(1651) (c) The draw of the Burlington Northern Santa Fe railroad bridge at mile 328.0, between Pasco and Kennewick, shall open on signal from 8 a.m. to 4 p.m. At all other times the draw shall open on signal if at least 2 hour's notice is given through the General Yardmaster, Pasco, Washington.

§117.1037 Cowlitz River.

(1652) (a) The draw of the Burlington Northern Santa Fe railroad bridge, mile 1.5, shall operate as follows:

(1653) (1) The draw shall open on signal if at least 24 hours notice is given.

(1654) (2) In the event of an emergency declared by the Cowlitz County Department of Emergency Services, the bridge shall be capable of opening upon two hours notice. Notification of emergencies and requests for openings during emergencies are initiated through the Cowlitz County Department of Emergency Services.

(1655) (3) The operating machinery of the draw shall be maintained in a serviceable condition and the draw shall be opened and closed at intervals frequent enough to make certain that the machinery is in proper order for satisfactory operation.

(1656) (4) During periods of fog or similar periods of reduced visibility, the drawtender, after acknowledging the signal to open, shall toll a bell continuously during the approach and passage of the vessel.

(1657) (b) The draw of the Allen Street Bridge, mile 5.5, need not open for the passage of vessels.

§117.1041 Duwamish Waterway.

(1658) (a) The draws of each bridge across the Duwamish Waterway shall open on signal, except as follows:

(1659) (1) From Monday through Friday, except all Federal holidays but Columbus Day, the draws of the First Avenue South Bridges, mile 2.5, need not be opened for the passage of vessels from 6 a.m. to 9 p.m. and 3 p.m. to 6 p.m., except: The draws shall be open at any time for a vessel of 5,000 gross tons and over, a vessel towing a vessel of 5,000 gross tons and over, and a vessel proceeding to pick up for towing a vessel of 5,000 gross tons and over.

(1660) (2) The draw of the South Park highway bridge, mile 3.8, need not be opened for the passage of vessels from 6:30 a.m. to 8:00 a.m. and 3:30 p.m. to 5:00 p.m., Monday through Friday, except Federal holidays.

(1661) (b) The following bridges shall open on the specified signals:

(1662) (1) Burlington Northern Santa Fe railroad bridge, mile 0.4, and Southwest Spokane Street bridge, mile 0.3, one prolonged blast followed quickly by three short blasts.

(1663) (2) Burlington Northern Santa Fe railroad bridge, mile 0.4, one prolonged blast followed quickly by one short blast.

(1664) (3) First Avenue South bridge, mile 2.5, three prolonged blasts.

(1665) (4) South Park highway bridge, mile 3.8, one prolonged blast followed quickly by one short blast and one prolonged blast.

(1666) (c) When fog prevails by day or by night, the drawtender of bridges listed in this section, after giving the acknowledging signal to open, shall toll a bell continuously during the approach and passage of vessels.

§117.1045 Hood Canal.

(1667) The draw of the Washington State pontoon highway bridge near Port Gamble operates as follows:

(1668) (a) The draw shall open on signal if at least one hour's notice is given. The draw shall be opened horizontally for 300 feet unless the maximum opening of 600 feet is requested.

(1669) (b) Telephone requests for bridge openings may be directed as collect calls to the Toll Office at the bridge site. The call may also be made by direct telephone communication through the Seattle Marine Operator, Station KOH, or through other marine wire or radio telephone service.

(1670) (c) During unusual or emergency periods, the authorized representative of the owner of or agency controlling the bridge shall open the draw on a demand basis for specified periods of time, normally not exceeding 48 hours, when requested by the Department of the Navy. While on a demand basis, a drawtender shall be in attendance on the bridge with radio communication equipment in operation.

§117.1047 Hoquiam River.

(1671) (a) When fog prevails by day or night, the drawtender of each bridge listed in this section, after giving the acknowledging signal to open, shall toll a

bell continuously during the approach and passage of vessels.

(1672) (b) The draw of the Puget Sound and Pacific railroad bridge, mile 0.3 at Hoquiam, shall be maintained in the fully open position except for the passage of trains or for maintenance. When the draw of the bridge is closed and the visibility at the drawtender's station is less than one mile up or down the channel, the drawtender shall sound two long blasts every minute. When the draw is reopened, the drawtender shall sound one long blast followed by one short blast.

(1673) (c) The draw of the Simpson Avenue bridge, mile 0.5 at Hoquiam, shall open on signal if at least a one hour notice is given by marine radio, telephone, or other suitable means to the Washington Department of Transportation. The opening signal is two prolonged blasts followed by one short blast.

(1674) (d) The draw of the Riverside Avenue Bridge, mile 0.9, at Hoquiam, shall open on signal if at least one hour notice is given by marine radio, telephone, or other suitable means to the Washington Department of Transportation. The opening signal is two prolonged blasts followed by two short blasts.

§117.1049 Lake Washington.

(1675) The draw of the Evergreen Point Floating Bridge between Seattle and Bellevue shall operate as follows:

(1676) (a) The draw shall open on signal if at least two hours notice is given.

(1677) (b) Telephone requests for bridge opening may be directed as collect calls to the Highway Radio or made by direct telephone communication through the Seattle Marine Operator, Station KOH, or through other marine wire or radiotelephone service.

(1678) (c) The draw need not be opened from 5 a.m. to 9 p.m. Monday through Friday, except for all Federal holidays other than Columbus Day.

§117.1051 Lake Washington Ship Canal.

(1679) (a) When fog prevails by day or by night, the drawtender of each bridge listed in this section, after giving the acknowledging signal to open, shall toll a bell continuously during the approach and passage of vessels.

(1680) (b) All non-self-propelled vessels, craft, or rafts navigating this waterway for which the opening of any draw is necessary shall be towed by a suitable self-propelled vessel while passing the draw.

(1681) (c) The draw of the Burlington Northern Santa Fe railroad bridge, mile 0.1, shall open on signal.

(1682) (d) The draws of the Ballard Bridge, mile 1.1, Fremont Bridge, mile 2.6, and University Bridge, mile 4.3, shall open on signal, except that:

(1683) (1) The draws need not be opened for a period of up to 10 minutes after receiving an opening request, if needed to pass accumulated vehicular traffic. However, the draws shall open without delay, when requested by vessels engaged in towing operations.

(1684) (2) The draws need not open from 7 a.m. to 9 a.m. and from 4 p.m. to 6 p.m. Monday through Friday, except all Federal holidays but Columbus Day for any vessel of less than 1000 tons, unless the vessel has in tow a vessel of 1000 gross tons or over.

(1685) (3) Between the hours of 11 p.m. and 7 a.m. the draws shall open if at least one hour notice is given by telephone, radiotelephone, or otherwise to the drawtender at the Fremont Avenue Bridge.

(1686) (4) The draws of the Ballard and Fremont Bridges need not open from 7 a.m. to 10 a.m. and from 3:30 p.m. to 6:30 p.m., Monday through Friday, except on all Federal holidays, but Columbus Day, Martin Luther King Day, President's Day, and Veteran's Day. The draw of the University Bridge need not open from 7 a.m. to 9 a.m. and from 4 p.m. to 6 p.m., Monday through Friday, except Federal holidays. A vessel of any size towing another vessel of 1000 gross tons or more shall receive an opening on signal at any of these draws at any time.

(1687) (e) The draw of the Montlake Bridge, mile 5.2 shall open on signal, except that:

(1688) (1) The draw need not open for a period of up to 10 minutes after receiving an opening request, if needed to pass accumulated vehicular traffic. However, the draw shall open without delay, when requested by vessels engaged in towing operations.

(1689) (2) For any vessel or watercraft of less than 1,000 gross tons, unless the vessel has in tow a vessel of 1,000 gross tons or over, from Monday through Friday, except Federal Holidays:

(1690) (i) The draw need not open from 7 a.m. to 9 a.m. and from 3:30 p.m. to 6:30 p.m. from April 30 to September 1 and from 7 a.m. to 10 a.m. and from 3:30 p.m. to 7 p.m. from September 1 to April 30.

(1691) (ii) The draw need open only on the hour and half hour from 12:30 to 3:30 p.m. and from 6 p.m. to 6:30 p.m.

§117.1053 Lewis River.

(1692) The draw of the Burlington Northern Santa Fe railroad bridge, 2.0 at Woodland, need not be opened for the passage of vessels.

§117.1055 Skagit River.

(1693) The draws of all bridges across the Skagit river need not be opened for the passage of vessels. However, the draws shall be returned to operable condition within one year after notification by the District Commander to do so.

§117.1057 Skamokawa Creek.

(1694) The draw of the Washington State highway bridge at Skamokawa need not be opened for the passage of vessels.

§117.1058 Snake River.

(1695) (a) The draw of the Burlington Northern Santa Fe railroad bridge across the Snake River at mile 1.5 between Pasco and Burbank is automated and is normally maintained in the fully open to navigation position.

(1696) (b) Lights. All lights required for automated operation shall be visible for a distance of at least 2 miles and shall be displayed at all times, day and night.

(1697) (1) When the draw is fully open, a steady green light shall be displayed at the center of the drawspan on both upstream and downstream sides.

(1698) (2) When the draw is not fully open, a steady red light shall be displayed at the center of the drawspan on both upstream and downstream sides.

(1699) (3) When the draw is about to close, flashing yellow lights in the form of a down-pointing arrow shall be displayed at the center of the drawspan on both upstream and downstream sides.

(1700) (4) A similar set of red, green, and yellow lights shall be displayed on a remote lighting panel located near the north end, upstream side, of the Washington State highway bridge at mile 2.2. These lights shall be synchronized with the lights on the railroad bridge and shall be visible to vessels traveling downstream throughout the passage of the channel adjacent to Strawberry Island.

(1701) (c) Operation. When a train approaches the bridge, the yellow lights shall start flashing. After an eight-minute delay, the green lights shall change to red, the drawspan shall lower and lock, and the yellow lights shall be extinguished. Red lights shall continue to be displayed until the train has crossed and the drawspan is again in the fully open position. At that time, the red lights shall change green.

(1702) (d) Vessels equipped with radiotelephones may contact Burlington Northern Santa Fe to obtain information on the status of the bridge. Bridge status information also may be obtained by calling the commercial telephone number posted at the drawspan of the bridge.

§117.1059 Snohomish River, Steamboat Slough, and Ebey Slough.

(1703) (a) Drawtenders of bridges listed in this section shall acknowledge sound signals as follows:

(1704) (1) When draw can be opened immediately, two prolonged blasts followed by one short blast or three loud and distinct strokes of a bell.

(1705) (2) When draw cannot be opened immediately, or when it is open and must be closed promptly, two prolonged blasts or two loud and distinct strokes of a bell. This signal may also be used by a vessel to countermand its call signal.

(1706) (b) When fog prevails by day or by night, the drawtender of each bridge listed in this section, after giving the acknowledging signal to open, shall toll a bell continuously during the approach and passage of vessels.

(1707) (c) The draws of the twin, SR529, highway bridges across the Snohomish River, mile 3.6, at Everett, shall open on signal if at least one hour notice is given. On weekdays Monday through Friday, notice for openings shall be given by marine radio, telephone, or other means to the drawtender at the SR529 highway bridge across Ebey Slough, at Marysville, and at all other times to the drawtender at the twin SR529 bridges at Everett. One signal opens both draws. During freshets, a drawtender shall be in constant attendance and the draws shall open on signal when so ordered by the District Commander.

(1708) (d) The draw of the SR2 highway bridge across the Snohomish River, mile 6.9, at Everett, shall open on signal if at least four hours notice is given. During freshets, a drawtender shall be in constant attendance and the draw shall open on signal when so ordered by the District Commander.

(1709) (e) The draw of the Burlington Northern Santa Fe railroad bridge across the Snohomish River, mile 15.5, at Snohomish, need not be opened for the passage of vessels.

(1710) (f) The draw of the Burlington Northern Santa Fe railroad bridge across Steamboat Slough, mile 1.0, near Marysville, shall open on signal if at least four hours notice is given. The opening signal is one prolonged blast followed by one short blast and one prolonged blast.

(1711) (g) The draws of the twin, SR529, highway bridges across Steamboat Slough, miles 1.1 and 1.2, near Marysville, shall open on signal if at least four-hours notice is given. On weekdays, Monday through Friday, notice for openings shall be given by marine radio, telephone, or other means to the drawtender at the SR529 highway bridge across Ebey Slough, at Marysville, and at all other times to the drawtender at the twin SR529 bridges at Everett. One signal opens both draws. During freshets, a drawtender shall be in constant attendance and the draws shall open on signal when so ordered by the District Commander.

(1712) (h) The draws of the SR529 highway bridge across Ebey Slough, mile 1.6, at Marysville, shall open on signal if at least one-hour notice is given. On weekdays, Monday through Friday, notice for openings shall be

given by marine radio, telephone, or other means to the drawtender at this bridge, and at all other times to the drawtender at the SR529 bridges across the Snohomish River at Everett. During freshets, a drawtender shall be in constant attendance and the draws shall open on signal when so ordered by the District Commander.

§117.1061 Tacoma Harbor.

(1713) (a) When fog prevails by day or night, the drawtender of each bridge listed in this section, after giving the acknowledging signal to open, shall toll a bell continuously during the approach and passage of vessels.

(1714) (b) The draw of the South 11th Street bridge across City Waterway, mile 0.6 at Tacoma, shall open on signal if at least two hours notice is given. However, the draw need not be opened from 6:30 a.m. to 8:30 a.m. and 3:30 p.m. to 5:30 p.m. Monday through Friday except Federal holidays for vessels of less than 1,000 gross tons, unless the vessels have in tow a vessel of 1,000 gross tons or over or unless the opening of the draw is required for the pickup of a vessel of 1,000 gross tons or over for towing. In emergencies, openings shall be made as soon as possible upon notification to the Washington State Department of Transportation.

§117.1063 Willapa River South Fork

(1715) The draw of the Washington State Parks and Recreation Commission bridge across the South Fork Willapa River, mile 0.3, at Raymond, shall open on signal if at least 24 hours notice is given.

§117.1065 Wishkah River.

(1716) (a) When fog prevails by day or by night, the drawtender of each bridge listed in this section, after giving the acknowledging signal to open, shall toll a bell continuously during the approach and passage of vessels.

(1717) (b) The draw of the Puget Sound and Pacific railroad bridge, mile 0.1 at Aberdeen, shall be maintained in the fully open position, except for the passage of trains or for maintenance. When the draw of the bridge is closed and the visibility at the drawtender's station is less than one mile up or down the channel, the drawtender shall sound two prolonged blasts every minute. When the draw is reopened, the drawtender shall sound one prolonged blast followed by one short blast.

(1718) (c) The draws of the Heron Street Bridge, mile 0.2, and the Wishkah Street Bridge, mile 0.4, at Aberdeen, shall open on signal if at least one hour notice is given by marine radio, telephone, or other suitable means to the Washington Department of Transportation. The opening signal for both bridges is one prolonged blast followed by two short blasts.

Part 147–Safety Zones

§147.1 Purpose of safety zones.

(1719) Safety zones may be established around OCS facilities being constructed, maintained, or operated on the Outer Continental Shelf to promote the safety of life and property on the facilities, their appurtenances and attending vessels, and on the adjacent waters within the safety zones. Regulations adopted for safety zones may extend to the prevention or control of specific activities and access by vessels or persons, and include measures to protect the living resources of the sea from harmful agents. The regulations do not encompass the operating equipment or procedures used in the drilling for and production of oil, gas, or other minerals, or the transportation of oil, gas, or other minerals by pipeline except as they relate to the safety of life and property on OCS facilities and on the waters adjacent to OCS facilities or to the protection of the living resources of the sea within a safety zone from harmful agents.

§147.5 Delegation of authority.

(1720) The authority to establish safety zones and to issue and enforce safety zone regulations in accordance with the provisions of this part is delegated to District Commanders

§147.10 Establishment of safety zones.

(1721) (a) Whenever it comes to the attention of the District Commander that a safety zone and regulations may be required concerning any OCS facility being constructed, maintained, or operated on the Outer Continental Shelf or its appurtenances and attending vessels, or the adjacent waters, the District Commander may initiate appropriate inquiry to determine whether a safety zone and regulations should be established. In making this determination, the District Commander considers all relevant safety factors, including existing or reasonably foreseeable congestion of vessels, the presence of unusually harmful or hazardous substances, and any obstructions within 500 meters of the OCS facility. If the District Commander determines that the circumstances warrant the establishment of a safety zone and regulations the District Commander takes action as necessary consistent with the provisions of this part.

(1722) (b) Except as provided in Paragraph (c) of this section, a safety zone and necessary regulations may be established concerning any OCS facility being constructed, maintained or operated on the Outer Continental Shelf, following publication of a notice of proposed rule making in the **FEDERAL REGISTER** and after interested parties have been given the opportunity to submit comments. A zone and necessary

regulations may be in effect during any period when construction equipment and materials are within 500 meters of the construction site until the removal of all portions of the facility.

(1723) (c) A safety zone and necessary regulations may be established without public rule making procedures when the District Commander determined that imminent danger exists with respect to the safety of life and property of an OCS facility constructed, maintained, or operated on the Outer Continental Shelf, its appurtenances and attending vessels or adjacent waters. A safety zone and regulations may be made effective on the date the rule is published in the **FEDERAL REGISTER.** However, if circumstances require, they may be placed into effect immediately, followed promptly by publication in the **FEDERAL REGISTER**. The District Commander may utilize, in addition to broadcast Notices to Mariners, Local Notices to Mariners, and Notices to Mariners, newspapers, and broadcasting stations to disseminate information concerning a safety zone and regulations pertaining thereto. The public may comment concerning the establishment of a safety zone or regulations under this Paragraph. A safety zone or regulations may be modified or withdrawn, as appropriate, based on the comments received.

(1724) (d) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts reference to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

§147.15 Extent of safety zones.

(1725) A safety zone establishment under this part may extend to a maximum distance of 500 meters around the OCS facility measured from each point on its outer edge or from its construction site, but may not interfere with the use of recognized sea lanes essential to navigation.

§147.20 Definitions.

(1726) Unless otherwise stated, the term "attending vessel" refers to any vessel which is operated by the owner or operator of an OCS facility located in the safety zone, which is used for the purpose of carrying supplies, equipment or personnel to or from the facility, which is engaged in construction, maintenance, alteration, or repair of the facility, or which is used for further exploration, production, transfer or storage of natural resources from the seabed beneath the safety zone.

§147.1102 Platform GRACE safety zone.

(1727) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 34°10'47"N., 119°28'05"W.

(1728) (b) Regulations: No vessel may enter or remain in this safety zone except the following: (1) An attending vessel, (2) a vessel under 100 feet in length overall not engaged in towing, or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1103 Platform GINA safety zone.

(1729) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 34°07'02"N., 119°16'35"W.

(1730) (b) Regulations: No vessel may enter or remain in this safety zone except the following: (1) An attending vessel, (2) a vessel under 100 feet in length overall not engaged in towing, or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1104 Platform ELLEN and ELLY safety zone.

(1731) (a) Description: The areas within a line 500 meters from each point on the outer edge of each structure. The structures are approximately 120 meters apart. The position of the center of each structure is: Platform Ellen, 33°34'57"N., 118°07'42"W.; and Platform Elly, 33°35'00"N., 118°07'40"W.

(1732) (b) Regulations: No vessel may enter or remain in this safety zone except the following: (1) An attending vessel serving either structure, (2) a vessel under 100 feet in length overall not engaged in towing, or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1105 Platform HONDO safety zone.

(1733) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 34°23'27"N., 120°07'14"W.

(1734) (b) Regulations: No vessel may enter or remain in this safety zone except for the following: (1) An attending vessel, (2) a vessel under 100 feet in length overall not engaged in towing, or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1106 Exxon Santa Ynez offshore storage and treatment vessel mooring safety zone.

(1735) (a) Description: The area within a line 1108 meters from the center of the mooring. The position of the center of the mooring is 34°24'19"N., 120°06'00"W.

(1736) (b) Regulations: No vessel may enter or remain in this safety zone except the following: (1) An attending vessel, (2) a vessel under 100 feet in length overall not engaged in towing, or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1107 Platform GILDA safety zone.

(1737) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 34°10'56"N., 119°25'07"W.

(1738) (b) Regulations: No vessel may enter or remain in this safety zone except for the following: (1) An attending vessel, (2) a vessel under 100 feet in length overall not engaged in towing, or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1108 Platform EDITH safety zone.

(1739) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 33°35'45"N., 118°08'27"W.

(1740) (b) Regulations: No vessel may enter or remain in this safety zone except for the following: (1) An attending vessel, (2) a vessel under 100 feet in length overall not engaged in towing, or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1109 Platform HERMOSA Safety Zone.

(1741) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 34°27'19"N., 120°38'47"W.

(1742) (b) Regulations: No vessel may enter or remain in this safety zone except the following: (1) An attending vessel, (2) a vessel under 100 feet in length overall not engaged in towing or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1110 Platform HARVEST Safety Zone.

(1743) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 34°28'09.5"N., 120°40'46.1"W.

(1744) (b) Regulations: No vessel may enter or remain in this safety zone except for the following: (1) An attending vessel, (2) a vessel under 100 feet in length overall not engaged in towing or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1111 Platform EUREKA Safety Zone.

(1745) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 33°33'50"N., 118°07'00"W.

(1746) (b) Regulations: No vessel may enter or remain in this safety zone except the following: remain in this safety zone except the following: (1) An attending vessel, (2) a vessel under 100 feet in length overall not engaged in towing or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1112 Platform HIDALGO Safety Zone.

(1747) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 34°29'42"N, 120°42'08"W.

(1748) (b) Regulations: No vessel may enter or remain in this safety zone except the following: (1) An attending vessel, (2) a vessel under 100 feet in length overall not engaged in towing or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1113 Platform GAIL Safety Zone.

(1749) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 34°07'30"N., 119°24'01"W.

(1750) (b) Regulations: No vessel may enter or remain in this safety zone except the following (1) An attending vessel, (2) a vessel under 100 feet in length overall not engaged in towing, or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1114 Platform HARMONY Safety Zone.

(1751) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 34°22'36"N., 120°10'03"W.

(1752) (b) Regulation: No vessel may enter or remain in this safety zone except the following: (1) an attending vessel; (2) a vessel under 100 feet in length overall not engaged in towing; or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1115 Platform HERITAGE Safety Zone.

(1753) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 34°21'01"N., 120°16'45"W.

(1754) (b) Regulation: No vessel may enter or remain in this safety zone except the following: (1) An attending vessel; (2) a vessel under 100 feet in length overall not

engaged in towing; or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

§147.1116 Platform IRENE Safety Zone.

(1755) (a) Description: The area within a line 500 meters from each point on the structure's outer edge. The position of the center of the structure is 34°36'37.5"N., 120°43'46"W.

(1756) (b) Regulation: No vessel may enter or remain in this safety zone except the following: (1) An attending vessel; (2) a vessel under 100 feet in length overall not engaged in towing; or (3) a vessel authorized by the Commander, Eleventh Coast Guard District.

Part 157–Rules for the Protection of the Marine Environment relating to Tank Vessels Carrying Oil in Bulk

Subpart A–General

§157.01 Applicability.

(1757) (a) Unless otherwise indicated, this part applies to each vessel that carries oil in bulk as cargo and that is:

(1758) (1) Documented under the laws of the United States (a U.S. vessel); or

(1759) (2) Any other vessel that enters or operates in the navigable waters of the United States, or that operates, conducts lightering under 46 U.S.C. 3715, or receives cargo from or transfers cargo to a deepwater port under 33 U.S.C. 1501 et seq., in the United States Exclusive Economic Zone, as defined in 33 U.S.C. 2701(8).

(1760) (b) This part does not apply to a vessel exempted under 46 U.S.C. 2109 or 46 U.S.C. 3702.

§157.02 Incorporation by reference.

(1761) (a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in Paragraph (b) of this section, the Coast Guard must publish notice of change in the FEDERAL REGISTER; and the material must be available to the public. All approved material is available for inspection at the U.S. Coast Guard, Office of Operating and Environmental Standards (CG-522), 2100 Second Street SW., Washington, DC 20593-0001, and at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. All approved material is available from the sources indicated in paragraph (b) of this section.

(1762) (b) The material approved for incorporation by reference in this part and the sections affected are as follows:

(1763) *International Maritime Organization (IMO)*, 4 Albert Embankment, London SE1 7SR, England. IMO Assembly Resolution A.601(15), Provision and Display of Manoeuvering Information on Board Ships, Annex Sections 1.1, 2.3, 3.1 and 3.2 with appendices, adopted on 19 November 1987 . . . . . **157.450**

(1764) IMO Assembly Resolution A.744(18), Guidelines on the Enhanced Programme of Inspections During Surveys of Bulk Carriers and Oil Tankers, Annex B sections 1.1.3-1.1.4, 1.2-1.3, 2.1, 2.3-2.6, 3-8 and Annexes 1-10 with appendices, adopted 4 November 1993 . . .**157.430**

(1765) IMO Assembly Resolution A.751(18), Interim Standards for Ship Manoeuvrability, Annex sections 1.2,2.3-2.4, 3-4.2 and 5, adopted 4 November 1993 with Explanatory Notes in MSC/Circ. 644 dated 6 June 1994 . . . . . **157.445**

(1766) *Oil Companies International Marine Forum (OCIMF)*, 15th floor, 96 Victoria Street, London SW1E 5JW, England. International Safety Guide for Oil Tankers and Terminals, Fourth Edition, Chapters 6, 7 and 10, 1996 . . . . . **157.435**

§157.03 Definitions.

(1767) Except as otherwise stated in a subpart:

(1768) *Amidships* means the middle of the length.

(1769) *Animal fat* means a non-petroleum oil, fat, or grease derived from animals and not specifically identified elsewhere in this part.

(1770) *Ballast voyage* means the voyage that a tank vessel engages in after it leaves the port of final cargo discharge.

(1771) *Breadth or B* means the maximum molded breadth of a vessel in meters.

(1772) *Cargo tank length* means the length from the forward bulkhead of the forwardmost cargo tanks, to the after bulkhead of the aftermost cargo tanks.

(1773) *Center tank* means any tank inboard of a longitudinal bulkhead.

(1774) *Clean ballast* means ballast which:

(1775) (1) If discharged from a vessel that is stationary into clean, calm water on a clear day, would not—

(1776) (i) Produce visible traces of oil on the surface of the water or on adjoining shore lines; or

(1777) (ii) Cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shore lines; or

(1778) (2) If verified by an approved cargo monitor and control system, has an oil content that does not exceed 15 p.m.

(1779) *Combination carrier* means a vessel designed to carry oil or solid cargoes in bulk.

(1780) *Crude oil* means any liquid hydrocarbon mixture occurring naturally in the earth, whether or not treated to render it suitable for transportation, and includes crude oil from which certain distillate fractions may have been removed, and crude oil to which certain distillate fractions may have been added.

(1781) *Deadweight* or *DWT* means the difference in metric tons between the lightweight displacement and the total displacement of a vessel measured in water of specific gravity 1.025 at the load waterline corresponding to the assigned summer freeboard.

(1782) *Dedicated clean ballast tank* means a cargo tank that is allocated solely for the carriage of clean ballast.

(1783) *Domestic trade* means trade between ports or places within the United States, its territories and possessions, either directly or via a foreign port including trade on the navigable rivers, lakes, and inland waters.

(1784) *Double bottom* means watertight protective spaces that do not carry any oil and which separate the bottom of tanks that hold any oil within the cargo tank length from the outer skin of the vessel.

(1785) *Double hull* means watertight protective spaces that do not carry any oil and which separate the sides, bottom, forward end, and aft end of tanks that hold any oil within the cargo tank length from the outer skin of the vessel as prescribed in §157.10d.

(1786) *Doubles sides* means watertight protective spaces that do not carry any oil and which separate the sides of tanks that hold any oil within the cargo tank length from the outer skin of the vessel.

(1787) *Existing vessel* means any vessel that is not a new vessel.

(1788) *Fleeting* or *assist towing vessel* means any commercial vessel engaged in towing astern, alongside, or pushing ahead, used solely within a limited geographic area, such as a particular barge fleeting area or commercial facility, and used solely for restricted service, such as making up or breaking up larger tows.

(1789) *Foreign trade* means any trade that is not domestic trade.

(1790) *From the nearest land* means from the baseline from which the territorial sea of the United States is established in accordance with international law.

(1791) *Fuel oil* means any oil used as fuel for machinery in the vessel in which it is carried.

(1792) *Inland vessel* means a vessel that is not oceangoing and that does not operate on the Great Lakes.

(1793) *Instantaneous rate of discharge of oil content* means the rate of discharge of oil in liters per hour at any instant, divided by the speed of the vessel in knots at the same instant.

(1794) *Integrated tug barge* means a tug and a tank barge with a mechanical system that allows the connection of the propulsion unit (the tug) to the stern of the cargo carrying unit (the tank barge) so that the two vessels function as a single self-propelled vessel.

(1795) Large primary structural member includes any of the following:

(1796) (1) Web frames.

(1797) (2) Girders.

(1798) (3) Webs.

(1799) (4) Main brackets.

(1800) (5) Transverses.

(1801) (6) Stringers.

(1802) (7) Struts in transverse web frames when there are 3 or more struts and the depth of each is more than 1/15 of the total depth of the tank.

(1803) *Length or L* means the distance in meters from the fore side of the stem to the axis of the rudder stock on a waterline at 85 percent of the least molded depth measured from the molded baseline, or 96 percent of the total length on that waterline, whichever is greater. In vessels designed with drag, the waterline is measured parallel to the designed waterline.

(1804) *Lightweight* means the displacement of a vessel in metric tons without cargo, fuel oil, lubricating oil, ballast water, fresh water, and feedwater in tanks, consumable stores, and any persons and their effects.

(1805) *Major conversion* means a conversion of an existing vessel that:

(1806) (1) Substantially alters the dimensions or carrying capacity of the vessel, except a conversion that includes only the installation of segregated ballast tanks, dedicated clean ballast tanks, a crude oil washing system, double sides, a double bottom, or a double hull;

(1807) (2) Changes the type of vessel;

(1808) (3) Substantially prolongs the vessel's service life; or

(1809) (4) Otherwise so changes the vessel that it is essentially a new vessel, as determined by the Commandant (G-MOC).

(1810) *MARPOL 73/78* means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating to that Convention. A copy of MARPOL 73/78 is available from the International Maritime Organization, 4 Albert Embankment, London, SE1, 7SR, England.

(1811) *New vessel* means:

(1812) (1) A U.S. vessel in domestic trade that:

(1813) (i) Is constructed under a contract awarded after December 31, 1974;

(1814) (ii) In the absence of a building contract, has the keel laid or is at a similar stage of construction after June 30, 1975;

(1815) (iii) Is delivered after December 31, 1977; or

(1816) (iv) Has undergone a major conversion for which:

(1817) (A) The contract is awarded after December 31, 1974;

(1818) (B) In the absence of a contract, conversion is begun after June 30, 1975; or

(1819) (C) Conversion is completed after December 31, 1977; and

(1820) (2) A foreign vessel or a U.S. vessel in foreign trade that;

(1821) (i) Is constructed under a contract awarded after December 31, 1975;

(1822) (ii) In the absence of a building contract, has the keel laid or is at a similar stage of construction after June 30, 1976;

(1823) (iii) Is delivered after December 31, 1979; or

(1824) (iv) Has undergone a major conversion for which:

(1825) (A) The contract is awarded after December 31, 1975;

(1826) (B) In the absence of a contract, conversion is begun after June 30, 1976; or

(1827) (C) Conversion is completed after December 31, 1979.

(1828) *Non-petroleum oil* means oil of any kind that is not petroleum-based. It includes, but is not limited to, animal fat and vegetable oil.

(1829) *Oceangoing* has the same meaning as defined in §151.05 of this chapter.

(1830) *Officer in charge of a navigational watch* means any officer employed or engaged to be responsible for navigating or maneuvering the vessel and for maintaining a continuous vigilant watch during his or her periods of duty and following guidance set out by the master, international or national regulations, and company policies.

(1831) *Oil means* oil of any kind or in any form including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. This includes liquid hydrocarbons as well as animal and vegetable oils.

(1832) *Oil cargo residue* means any residue of oil cargo whether in solid, semi-solid, emulsified, or liquid form from cargo tanks and cargo pump room bilges, including but not limited to, drainages, leakages, exhausted oil, muck, clingage, sludge, bottoms, paraffin (wax), and any constituent component of oil. The term "oil cargo residue" is also known as "cargo oil residue."

(1833) *Oily mixture* means a mixture, in any form, with any oil content. "Oily mixture" includes, but is not limited to–

(1834) (1) Slops from bilges;

(1835) (2) Slops from oil cargoes (such as cargo tank washings, oily waste, and oily refuse);

(1836) (3) Oil residue; and

(1837) (4) Oily ballast water from cargo or fuel oil tanks, including any oil cargo residue.

(1838) *Oil residue* means–

(1839) (1) Oil cargo residue; and

(1840) (2) Other residue of oil whether in solid, semi-solid, emulsified, or liquid form resulting from drainages, leakages, exhausted oil and other similar occurrences from machinery spaces.

(1841) *Oil spill response vessel* means a vessel that is exclusively dedicated to operations to prevent or mitigate environmental damage due to an actual or impending accidental oil spill. This includes a vessel that performs routine service as an escort for a tank vessel, but excludes a vessel that engages in any other commercial activity, such as the carriage of any type of cargo.

(1842) *Oil tanker* means a vessel that is constructed or adapted primarily to carry crude oil or products in bulk as cargo. This includes a tank barge, a tankship, and a combination carrier, as well as a vessel that is constructed or adapted primarily to carry noxious liquid substances in bulk as cargo and which also carries crude oil or products in bulk as cargo.

(1843) *Other non-petroleum oil* means an oil of any kind that is not petroleum oil, an animal fat, or a vegetable oil.

(1844) *Permeability of a space* means the ratio of volume within a space that is assumed to be occupied by water to the total volume of that space.

(1845) *Petroleum oil* means petroleum in any form, including but not limited to, crude oil, fuel oil, sludge, oil residue, and refined products.

(1846) *Primary towing vessel* means any vessel engaged in towing astern, alongside, or pushing ahead and includes the tug in an integrated tug barge. It does not include fleeting or assist towing vessels.

(1847) *Product* means any liquid hydrocarbon mixture in any form, except crude oil, petrochemicals, and liquefied gases.

(1848) *Segregated ballast* means the ballast water introduced into a tank that is completely separated from the cargo oil and fuel oil system and that is permanently allocated to the carriage of ballast.

(1849) *Slop tank* means a tank specifically designated for the collection of cargo drainings, washings, and other oily mixtures.

(1850) *Tank* means an enclosed space that is formed by the permanent structure of a vessel, and designed for the carriage of liquid in bulk.

(1851) *Tank barge* means a tank vessel not equipped with a means of self-propulsion.

(1852) *Tank vessel* means a vessel that is constructed or adapted primarily to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue, and that—

(1853) (1) Is a vessel of the United States;

(1854) (2) Operates on the navigable waters of the United States; or

(1855) (3) Transfers oil or hazardous material in a port or place subject to the jurisdiction of the United States. This does not include an offshore supply vessel, or a fishing vessel or fish tender vessel of not more than 750 gross tons when engaged only in the fishing industry.

(1856) *Tankship* means a tank vessel propelled by mechanical power or sail.

(1857) *Vegetable oil* means a non-petroleum oil or fat not specifically identified elsewhere in this part that is derived from plant seeds, nuts, kernels, or fruits.

(1858) *Wing tank* means a tank that is located adjacent to the side shell plating.

§157.04 Authorization of classification societies.

(1859) (a) The Coast Guard may authorize any classification society (CS) to perform certain plan reviews, certifications, and inspections required by this part on vessels classed by that CS except that only U.S. classification societies may be authorized to perform those plan reviews, inspections, and certifications for U.S. vessels.

(1860) (b) If a CS desires authorization to perform the plan reviews, certifications, and inspections required under this part, it must submit to the Commandant (CG-543), U.S. Coast Guard, Washington, DC 20593-0001, evidence from the governments concerned showing that they have authorized the CS to inspect and certify vessels on their behalf under the MARPOL 73/78.

(1861) (c) The Coast Guard notifies the CS in writing whether or not it is accepted as an authorized CS. If authorization is refused, reasons for the refusal are included.

(1862) (d) Acceptance as an authorized CS terminates unless the following are met:

(1863) (1) The authorized CS must have each Coast Guard regulation that is applicable to foreign vessels on the navigable waters of the United States.

(1864) (2) Each issue concerning equivalents to the regulations in this part must be referred to the Coast Guard for determination.

(1865) (3) Copies of any plans, calculations, records of inspections, or other documents relating to any plan review, inspection, or certification performed to meet this part must be made available to the Coast Guard.

(1866) (4) Each document certified under §§157.116(a)(2), 157.118(b)(1)(ii), and 157.216(b)(1)(11) must be marked with the name or seal of the authorized CS.

(1867) (5) A copy of the final documentation that is issued to each vessel that is certified under this part must be referred to the Commandant (CG-543), U.S. Coast Guard, Washington, D.C. 20593-0001.

Subpart B–Design, Equipment, and Installation

§157.08 Applicability of Subpart B.

(1868) **NOTE:** An "oil tanker" as defined in §157.03 includes barges as well as self-propelled vessels.

(1869) (a) Sections 157.10d and 157.11(g) apply to each vessel to which this part applies.

(1870) (b) Sections 157.11 (a) through (f), 157.12, 157.15, 157.19(b)(3), 157.33, and 157.37 apply to each vessel to which this part applies that carries 200 cubic meters or more of crude oil or products in bulk as cargo, as well as to each oceangoing oil tanker to which this part applies of 150 gross tons or more. These sections do not apply to a foreign vessel which remains beyond the navigable waters of the United States and does not transfer oil cargo at a port or place subject to the jurisdiction of the United States.

(1871) (c) Section 157.21 applies to each oil tanker to which this part applies of 150 gross tons or more that is oceangoing or that operates on the Great Lakes. This section does not apply to a foreign vessel which remains beyond the navigable waters of the United States and does not transfer oil cargo at a port or place subject to the jurisdiction of the United States.

(1872) (d) Sections in subpart B of 33 CFR part 157 that are not specified in paragraphs (a) through (c) of this section apply to each oceangoing oil tanker to which this part applies of 150 gross tons or more, unless otherwise indicated in paragraphs (e) through (m) of this section. These sections do not apply to a foreign vessel which remains beyond the navigable waters of the United States and does not transfer oil cargo at a port or place subject to the jurisdiction of the United States.

(1873) (e) Sections 157.11 (a) through (f), 157.12, and 157.15 do not apply to a vessel, except an oil tanker, that carries less than 1,000 cubic meters of crude oil or products in bulk as cargo and which retains oil mixtures on board and discharges them to a reception facility.

(1874) (f) Sections 157.11 (a) through (f), 157.12, 157.13, and 157.15 do not apply to a tank vessel that carries only asphalt, carbon black feedstock, or other products with similar physical properties, such as specific gravity and cohesive and adhesive characteristics, that inhibit effective product/water separation and monitoring.

(1875) (g) Sections 157.11 (a) through (f), 157.12, 157.13, 157.15, and 157.23 do not apply to a tank barge that cannot ballast cargo tanks or wash cargo tanks while underway.

(1876) (h) Sections 157.19 and 157.21 do not apply to a tank barge that is certificated by the Coast Guard for limited short protected coastwise routes if the barge is

otherwise constructed and certificated for service exclusively on inland routes.

(1877) (i) Section 157.09(d) does not apply to any:

(1878) (1) U.S. vessel in domestic trade that is constructed under a contract awarded before January 8, 1976;

(1879) (2) U.S. vessel in foreign trade that is constructed under a contract awarded before April 1, 1977; or

(1880) (3) Foreign vessel that is constructed under a contract awarded before April 1, 1977.

(1881) (j) Sections 157.09 and 157.10a do not apply to a new vessel that:

(1882) (1) Is constructed under a building contract awarded after June 1, 1979;

(1883) (2) In the absence of a building contract, has the keel laid or is at a similar stage of construction after January 1, 1980;

(1884) (3) Is delivered after June 1, 1982; or

(1885) (4) Has undergone a major conversion for which:

(1886) (i) The contract is awarded after June 1, 1979;

(1887) (ii) In the absence of a contract, conversion is begun after January 1, 1980; or

(1888) (iii) Conversion is completed after June 1, 1982.

(1889) (k) Sections 157.09(b)(3), 157.10(c)(3), 157.10a(d)(3), and 157.10b(b)(3) do not apply to tank barges.

(1890) (1) Section 157.10b does not apply to tank barges if they do not carry ballast while they are engaged in trade involving the transfer of crude oil from an offshore oil exploitation or production facility on the Outer Continental Shelf of the United States.

(1891) (m) Section 157.12 does not apply to a U.S. vessel that:

(1892) (1) Is granted an exemption under Subpart F of this part; or

(1893) (2) Is engaged solely in voyages that are:

(1894) (i) Between ports or places within the United States, its territories or possessions;

(1895) (ii) Of less than 72 hours in length; and

(1896) (iii) At all times within 50 nautical miles of the nearest land.

(1897) (n) Section 157.10d does not apply to:

(1898) (1) A vessel that operates exclusively beyond the navigable waters of the United States and the United States Exclusive Economic Zone, as defined in 33 U.S.C. 2701(8);

(1899) (2) An oil spill response vessel;

(1900) (3) Before January 1, 2015–

(1901) (i) A vessel unloading oil in bulk as cargo at a deepwater port licensed under the Deepwater Port Act of 1974 (33 U.S.C. 1501 et seq.); or

(1902) (ii) A delivering vessel that is offloading oil in bulk as cargo in lightering activities–

(1903) (A) Within a lightering zone established under 46 U.S.C. 3715(b)(5); and

(1904) (B) More than 60 miles from the territorial sea base line, as defined in 33 CFR 2.20.

(1905) (4) A vessel documented under 46 U.S.C., Chapter 121, that was equipped with a double hull before August 12, 1992;

(1906) (5) A barge of less than 1,500 gross tons as measured under 46 U.S.C., Chapter 145, carrying refined petroleum in bulk as cargo in or adjacent to waters of the Bering Sea, Chukchi Sea, and Arctic Ocean and waters tributary thereto and in the waters of the Aleutian Islands and the Alaskan Peninsula west of 155 degrees west longitude; or

(1907) (6) A vessel in the National Defense Reserve Fleet pursuant to 50 App. U.S.C. 1744.

§157.10d Double hulls on tank vessels.

(1908) (a) With the exceptions stated in §157.08(n), this section applies to a tank vessel—

(1909) (1) For which the building contract is awarded after June 30, 1990; or

(1910) (2) That is delivered after December 31, 1993;

(1911) (3) That undergoes a major conversion for which;

(1912) (i) The contract is awarded after June 30, 1990; or

(1913) (ii) Conversion is completed after December 31, 1993; or

(1914) (4) That is otherwise required to have a double hull by 46 U.S.C. 3703a(c).

(1915) **NOTE:** 46 U.S.C. 3703a(c) is shown in appendix G to this part.

(1916) (b) Each vessel to which this section applies must be fitted with:

(1917) (1) A double hull in accordance with this section; and

(1918) (2) If §157.10 applies, segregated ballast tanks and a crude oil washing system in accordance with that section.

(1919) (c) Except on a vessel to which §157.10d(d) applies, tanks within the cargo tank length that carry any oil must be protected by double sides and a double bottom as follows:

(1920) (1) Double sides must extend for the full depth of the vessel's side or from the uppermost deck, disregarding a rounded gunwale where fitted, to the top of the double bottom. At any cross section, the molded width of the double side, measured at right angles to the side shell plating, from the side of tanks containing oil to the side shell plating, must not be less than the distance w as shown in Figure 157.10d(c) and specified as follows:

(1921) (i) For a vessel of 5,000 DWT and above: w=[0.5+(DWT/20,000)] meters; or, w=2.0 meters (79 in.), whichever is less, but in no case less than 1.0 meter (39 in.).

(1922) (ii) For a vessel of less than 5,000 DWT: w=[0.4+(2.4)(DWT/20,000)] meters, but in no case less than 0.76 meter (30 in.).

(1923) (iii) For a vessel to which Paragraph (a)(4) of this section applies: w=0.76 meter (30 in.), provided that the double side was fitted under a construction or conversion contract awarded prior to June 30, 1990.

(1924) (2) At any cross section, the molded depth of the double bottom, measured at right angles to the bottom shell plating, from the bottom of tanks containing oil to the bottom shell plating, must not be less than the distance h as shown in Figure 157.10d(c) and specified as follows:

(1925) (i) For a vessel of 5,000 DWT and above: h=B/15; or, h=2.0 meters (79 in.), whichever is less, but in no case less than 1.0 meter (39 in.).

(1926) (ii) For a vessel of less than 5,000 DWT: h=B/15, but in no case less than 0.76 meter (30 in.).

(1927) (iii) For a vessel to which Paragraph (a)(4) of this section applies: h=B/15; or, h=2.0 meters (79 in.), whichever is the lesser, but in no case less than 0.76 meter (30 in.), provided that the double bottom was fitted under a construction or conversion contract awarded prior to June 30, 1990.

(1928) (3) For a vessel built under a contract awarded after September 11, 1992, within the turn of the bilge or at cross sections where the turn of the bilge is not clearly defined, tanks containing oil must be located inboard of the outer shell—

(1929) (i) For a vessel of 5,000 DWT and above: At levels up to 1.5h above the base line, not less than the distance h, as shown in Figure 157.10d(c) and specified in Paragraph (c)(2) of this section. At levels greater than 1.5h above the base line, not less than the distance w, as shown in Figure 157.10d(c) and specified in Paragraph (c)(1) of this section.

(1930) (ii) For a vessel of less than 5,000 DWT: Not less the distance h above the line of the mid-ship flat bottom, as shown in Figure 157.10d(c)(3)(ii) and specified in Paragraph (c)(2) of this section. At levels greater than h above the line of the mid-ship flat bottom, not less than the distance w, as shown in Figure 157.10d(c)(3)(ii) and specified in Paragraph (c)(1) of this section.

(1931) (4) For a vessel to which §157.10(b) applies that is built under a contract awarded after September 11, 1992.

(1932) (i) The aggregate volume of the double sides, double bottom, forepeak tanks, and afterpeak tanks must not be less than the capacity of segregated ballast tanks required under §157.10(b). Segregated ballast tanks that may be provided in addition to those required under §157.10(b) may be located anywhere within the vessel.

(1933) (ii) Double side and double bottom tanks used to meet the requirements of §157.10(b) must be located as uniformly as practicable along the cargo tank length. Large inboard extensions of individual double side and double bottom tanks, which result in a reduction of overall side or bottom protection, must be avoided.

(1934) (d) A vessel of less than 10,000 DWT that is constructed and certificated for service exclusively on inland or limited short protected coastwise routes must be fitted with double sides and a double bottom as follows:

(1935) (1) A minimum of 61 cm. (2 ft.) from the inboard side of the side shell plate, extending the full depth of the side or from the main deck to the top of the double bottom, measured at right angles to the side shell; and

(1936) (2) A minimum of 61 cm. (2 ft.) from the top of the bottom shell plating, along the full breadth of the vessel's bottom, measured at right angles to the bottom shell.

(1937) (3) For a vessel to which Paragraph (a)(4) of this section applies, the width of the double sides and the depth of the double bottom may be 38 cm. (15 in.), in lieu of the dimensions specified in paragraphs (d)(1) and (d)(2) of this section, provided that the double side and double bottom tanks were fitted under a construction or conversion contract awarded prior to June 30, 1990.

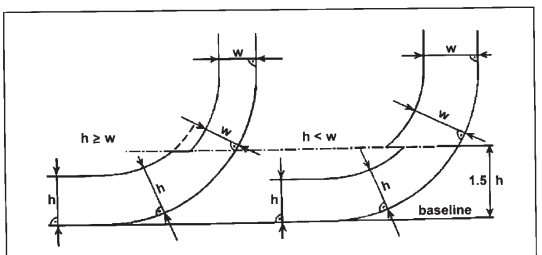
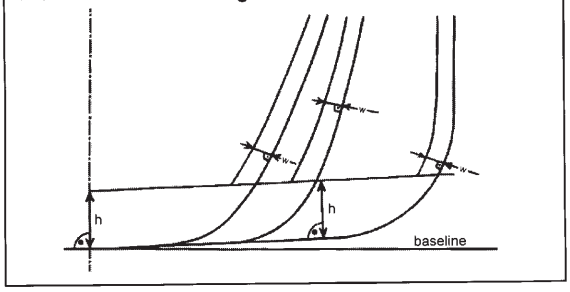


Figure 157.10d(c) Minimum Double Hull Dimensions

Figure 157.10d(c)(3)(ii) - Minimum Double Hull Dimensions Within the turn of the bilge of Vessels under 5,000 DWT



(1938) (4) For a vessel built under a contract awarded after September 11, 1992, a minimum 46 cm. (18 in.) clearance for passage between framing must be maintained throughout the double sides and double bottom.

(1939) (e) Except as provided in Paragraph (e)(3) of this section, a vessel must not carry any oil in any tank extending forward of:

(1940) (1) The collision bulkhead; or

(1941) (2) In the absence of a collision bulkhead, the transverse plane perpendicular to the centerline through a point located:

(1942) (i) The lesser of 10 meters (32.8 ft.) or 5 percent of the vessel length, but in no case less than 1 meter (39 in.), aft of the forwarded perpendicular;

(1943) (ii) On a vessel of less than 10,000 DWT tons that is constructed and certificated for service exclusively on inland or limited short protected coastwise routes, the lesser of 7.62 meters (25 ft.) or 5 percent of the vessel length, but in no case less than 61 cm. (2 ft.), aft of the headlog or stem at the freeboard deck; or

(1944) (iii) On each vessel which operates exclusively as a box or trail barge, 61 cm. (2 ft.) aft of the headlog.

(1945) (3) This Paragraph does not apply to independent fuel oil tanks that must be located on or above the main deck within the areas described in paragraphs (e)(1) and (e)(2) of this section to serve adjacent deck equipment that cannot be located further aft. Such tanks must be as small and as far aft as is practicable.

(1946) (f) On each vessel, the cargo tank length must not extend aft to any point closer to the stern than the distance equal to the required width of the double side, as prescribed in §157.10d(c)(1) or §157.10d(d)(1).

Subpart G–Interim Measures for Certain Tank Vessels Without Double Hulls Carrying Petroleum Oils

§157.400 Purpose and applicability.

(1947) (a) The purpose of this subpart is to establish mandatory safety and operational requirements to reduce environmental damage resulting from petroleum oil spills.

(1948) (b) This subpart applies to each tank vessels specified in §157.01 of this part that—

(1949) (1) Is 5,000 gross tons or more;

(1950) (2) Carries petroleum oil in bulk as cargo or oil cargo residue; and

(1951) (3) Is not equipped with a double hull meeting §157.10d of this part, or an equivalent to the requirements of §157.10d, but required to be equipped with a double hull at a date set forth in 46 U.S.C. 3703a (b)(3) and (c)(3).

§157.445 Maneuvering performance capability.

(1952) (a) A tankship owner or operator shall ensure that maneuvering tests in accordance with IMO Resolution A.751(18), sections 1.2, 2.3-2.4, 3-4.2, and 5 (with Explanatory Notes in MSC/Circ. 644) have been conducted by July 29, 1997. Completion of maneuvering performance tests must be shown by—

(1953) (1) For a foreign flag tankship, a letter from the flag administration or an authorized classification society, as described in §157.04 of this part, stating the requirements in Paragraph (a) of this section have been met; or

(1954) (2) For a U.S. flag tankship, results from the vessel owner confirming the completion of the tests or a letter from an authorized classification society, as described in §157.04 of this part, stating the requirements in Paragraph (a) of this section have been met.

(1955) (b) If a tankship undergoes a major conversion or alteration affecting the control systems, control surfaces, propulsion system, or other areas which may be expected to alter maneuvering performance, the tankship owner or operator shall ensure that new maneuvering tests are conducted as required by Paragraph (a) of this section.

(1956) (c) If a tankship is one of a class of vessels with identical propulsion, steering, hydrodynamic, and other relevant design characteristics, maneuvering performance test results for any tankship in the class may be used to satisfy the requirements of Paragraph (a) of this section.

(1957) (d) The tankship owner or operator shall ensure that the performance test results, recorded in the format of Appendix 6 of the Explanatory Notes in MSC/Circ. 644., are prominently displayed in the wheelhouse.

(1958) (e) Prior to entering the port or place of destination and prior to getting underway, the tankship master shall discuss the results of the performance tests with the pilot while reviewing the anticipated transit and the possible impact of the tankship's maneuvering capability on the transit.

Part 160–Ports and Waterways Safety-General

Subpart A–General

§160.1 Purpose.

(1959) (a) This subchapter contains regulations implementing the Ports and Waterways Safety Act (33 U.S.C. 1221) and related statutes.

§160.3 Definitions.

(1960) For the purposes of this subchapter:

(1961) *Bulk* means material in any quantity that is shipped, stored, or handled without the benefit of package, label, mark or count and carried in integral or fixed independent tanks.

(1962) *Captain of the Port* means the Coast Guard officer designated by the Commandant to command a Captain of the Port Zone as described in part 3 of this chapter.

(1963) *Commandant* means the Commandant of the United States Coast Guard.

(1964) *Commanding Officer, Vessel Traffic Services* means the Coast Guard officer designated by the Commandant to command a Vessel Traffic Service (VTS) as described in part 161 of this chapter.

(1965) *Deviation* means any departure from any rule in this subchapter.

(1966) *District Commander* means the Coast Guard officer designated by the Commandant to command a Coast Guard District as described in part 3 of this chapter.

(1967) *ETA* means estimated time of arrival.

(1968) *Length of Tow* means, when towing with a hawser, the length in feet from the stern of the towing vessel to the stern of the last vessel in tow. When pushing ahead or towing alongside, length of tow means the tandem length in feet of the vessels in tow excluding the length of the towing vessel.

(1969) *Person* means an individual, firm, corporation, association, partnership, or governmental entity.

(1970) *State* means each of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Trust Territories of the Pacific Islands, the Commonwealth of the Northern Marianas Islands, and any other commonwealth, territory, or possession of the United States.

(1971) *Tanker* means a self-propelled tank vessel constructed or adapted primarily to carry oil or hazardous materials in bulk in the cargo spaces.

(1972) *Tank Vessel* means a vessel that is constructed or adapted to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue.

(1973) *Vehicle* means every type of conveyance capable of being used as a means of transportation on land.

(1974) *Vessel* means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water.

(1975) *Vessel Traffic Services (VTS)* means a service implemented under Part 161 of this chapter by the United States Coast Guard designed to improve the safety and efficiency of vessel traffic and to protect the environment. The VTS has the capability to interact with marine traffic and respond to traffic situations developing in the VTS area.

(1976) *Vessel Traffic Service Area or VTS Area* means the geographical area encompassing a specific VTS area of service as described in Part 161 of this chapter. This area of service may be subdivided into sectors for the purpose of allocating responsibility to individual Vessel Traffic Centers or to identify different operating requirements.

(1977) **Note:** Although regulatory jurisdiction is limited to the navigable waters of the United States, certain vessels will be encouraged or may be required, as a condition of port entry, to report beyond this area to facilitate traffic management within the VTS area.

(1978) *VTS Special Area* means a waterway within a VTS area in which special operating requirements apply.

§160.5 Delegations.

(1979) (a) District Commanders and Captains of the Ports are delegated the authority to establish safety zones.

(1980) (b) Under the provisions of 33 CFR 6.04–1 and 6.04–6, District Commanders and Captains of the Ports have been delegated authority to establish security zones.

(1981) (c) Under the provisions 33 CFR §1.05–1, District Commanders have been delegated authority to establish regulated navigation areas.

(1982) (d) Subject to the supervision of the cognizant Captain of the Port and District Commander, Commanding Officers, Vessel Traffic Services are delegated authority under 33 CFR 1.01-30 to discharge the duties of the Captain of the Port that involve directing the operation, movement and anchorage of vessels within a Vessel Traffic Service area including management of vessel traffic within anchorages, regulated navigation areas and safety zones, and to enforce Vessel Traffic Service and ports and waterways safety regulations. This authority may be exercised by Vessel Traffic Center personnel. The Vessel Traffic Center may, within the Vessel Traffic Service area, provide information, make recommendations, or to a vessel required under Part 161 of this chapter to participate in a Vessel Traffic Service, issue an order, including an order to operate or anchor as directed; require the vessel to comply with orders issued; specify times of entry, movement or departure; restrict operations as necessary for safe operation under the circumstances; or take other action necessary for control of the vessel and the safety of the port or of the marine environment.

§160.7 Appeals.

(1983) (a) Any person directly affected by a safety zone or an order or direction issued under this subchapter (33 CFR Subchapter P) may request reconsideration by the

official who issued it or in whose name it was issued. This request may be made orally or in writing, and the decision of the official receiving the request may be rendered orally or in writing.

(1984) (b) Any person directly affected by the establishment of a safety zone or by an order or direction issued by, or on behalf of, a Captain of the Port may appeal to the District Commander through the Captain of the Port. The appeal must be in writing, except as allowed under paragraph (e) of this section, and shall contain complete supporting documentation and evidence which the appellant wishes to have considered. Upon receipt of the appeal, the District Commander may direct a representative to gather and submit documentation or other evidence which would be necessary or helpful to a resolution of the appeal. A copy of this documentation and evidence is made available to the appellant. The appellant is afforded five working days from the date of receipt to submit rebuttal materials. Following submission of all materials, the District Commander issues a ruling, in writing, on the appeal. Prior to issuing the ruling, the District Commander may, as a matter of discretion, allow oral presentation on the issues.

(1985) (c) Any person directly affected by the establishment of a safety zone or by an order or direction issued by, or on behalf of, a District Commander, or who receives an unfavorable ruling on an appeal taken under paragraph (b) of this section may appeal to the Area Commander through the District Commander. The appeal must be in writing, except as allowed under paragraph (e) of this section, and shall contain complete supporting documentation and evidence which the appellant wishes to have considered. Upon receipt of the appeal, the Area Commander may direct a representative to gather and submit documentation or other evidence which would be necessary or helpful to a resolution of the appeal. A copy of this documentation and evidence is made available to the appellant. The appellant is afforded five working days from the date of receipt to submit rebuttal materials. Following submission of all materials, the Area Commander issues a ruling, in writing, on the appeal. Prior to issuing the ruling, the Area Commander may, as a matter of discretion, allow oral presentation on the issues.

(1986) (d) Any person who receives an unfavorable ruling on an appeal taken under paragraph (c) of this section, may appeal through the Area Commander to the Assistant Commandant for Prevention (formerly known as the Assistant Commandant for Marine Safety, Security and Environmental Protection), U.S. Coast Guard, Washington, DC 20593. The appeal must be in writing, except as allowed under paragraph (e) of this section. The Area Commander forwards the appeal, all the documents and evidence which formed the record upon which the order or direction was issued or the ruling under paragraph (c) of this section was made, and any comments which might be relevant, to the Assistant Commandant for Prevention. A copy of this documentation and evidence is made available to the appellant. The appellant is afforded five working days from the date of receipt to submit rebuttal materials to the Assistant Commandant for Prevention. The decision of the Assistant Commandant for Prevention is based upon the materials submitted, without oral argument or presentation. The decision of the Assistant Commandant for Prevention is issued in writing and constitutes final agency action.

(1987) (e) If the delay in presenting a written appeal would have significant adverse impact on the appellant, the appeal under paragraphs (b) and (c) of this section may initially be presented orally. If an initial presentation of the appeal is made orally, the appellant must submit the appeal in writing within five days of the oral presentation to the Coast Guard official to whom the presentation was made. The written appeal must contain, at a minimum, the basis for the appeal and a summary of the material presented orally. If requested, the official to whom the appeal is directed may stay the effect of the action while the ruling is being appealed.

Subpart B–Control of Vessel and Facility Operations

§160.101 Purpose.

(1988) This subpart describes the authority exercised by District Commanders and Captains of the Ports to insure the safety of vessels and waterfront facilities, and the protection of the navigable waters and the resources therein. The controls described in this subpart are directed to specific situations and hazards.

§160.103 Applicability.

(1989) (a) This subpart applies to any–

(1990) (1) Vessel on the navigable waters of the United States, except as provided in paragraphs (b) and (c) of this section;

(1991) (2) Bridge or other structure on or in the navigable waters of the United States; and

(1992) (3) Land structure or shore area immediately adjacent to the navigable waters of the United States.

(1993) (b) This subpart does not apply to any vessel on the Saint Lawrence Seaway.

(1994) (c) Except pursuant to international treaty, convention, or agreement, to which the United States is a party, this subpart does not apply to any foreign vessel that is not destined for, or departing from, a port or

place subject to the jurisdiction of the United States and that is in–

(1995) (1) Innocent passage through the territorial sea of the United States;

(1996) (2) Transit through the navigable waters of the United States which form a part of an international strait.

§160.105 Compliance with orders.

(1997) Each person who has notice of the terms of an order issued under this subpart must comply with that order.

§160.107 Denial of entry.

(1998) Each District Commander or Captain of the Port, subject to recognized principles of international law, may deny entry into the navigable waters of the United States or to any port or place under the jurisdiction of the United States, and within the district or zone of that District Commander or Captain of the Port, to any vessel not in compliance with the provisions of the Port and Tanker Safety Act (33 U.S.C. 1221–1232) or the regulations issued thereunder.

§160.109 Waterfront facility safety.

(1999) (a) To prevent damage to, or destruction of, any bridge or other structure on or in the navigable waters of the United States, or any land structure or shore area immediately adjacent to those waters, and to protect the navigable waters and the resources therein from harm resulting from vessel or structure damage, destruction, or loss, each District Commander or Captain of the Port may–

(2000) (1) Direct the handling, loading, unloading, storage, stowage, and movement (including the emergency removal, control, and disposition) of explosives or other dangerous articles and substances, including oil or hazardous material as those terms are defined in 46 U.S.C. 2101 on any structure on or in the navigable waters of the United States, or any land structure or shore area immediately adjacent to those waters; and

(2001) (2) Conduct examinations to assure compliance with the safety equipment requirements for structures.

§160.111 Special orders applying to vessel operations.

(2002) Each District Commander or Captain of the Port may order a vessel to operate or anchor in the manner directed when–

(2003) (a) The District Commander or Captain of the Port has reasonable cause to believe that the vessel is not in compliance with any regulation, law or treaty;

(2004) (b) The District Commander or Captain of the Port determines that the vessel does not satisfy the conditions for vessel operation and cargo transfers specified in §160.113; or

(2005) (c) The District Commander or Captain of the Port has determined that such order is justified in the interest of safety by reason of weather, visibility, sea conditions, temporary port congestion, other temporary hazardous circumstances, or the condition of the vessel.

§160.113 Prohibition of vessel operation and cargo transfers.

(2006) (a) Each District Commander or Captain of the Port may prohibit any vessel, subject to the provisions of chapter 37 of Title 46, U.S. Code, from operating in the navigable waters of the United States, or from transferring cargo or residue in any port or place under the jurisdiction of the United States, and within the district or zone of that District Commander or Captain of the Port, if the District Commander or the Captain of the Port determines that the vessel's history of accidents, pollution incidents, or serious repair problems creates reason to believe that the vessel may be unsafe or pose a threat to the marine environment.

(2007) (b) The authority to issue orders prohibiting operation of the vessels or transfer of cargo or residue under Paragraph (a) of this section also applies if the vessel:

(2008) (1) Fails to comply with any applicable regulation;

(2009) (2) Discharges oil or hazardous material in violation of any law or treaty of the United States;

(2010) (3) Does not comply with applicable vessel traffic service requirements;

(2011) (4) While underway, does not have at least one licensed deck officer on the navigation bridge who is capable of communicating in the English language.

(2012) (c) When a vessel has been prohibited from operating in the navigable waters of the United States under paragraphs (a) or (b) of this section, the District Commander or Captain of the Port may allow provisional entry into the navigable waters of the United States, or into any port or place under the jurisdiction of the United States and within the district or zone of that District Commander or Captain of the Port, if the owner or operator of such vessel proves to the satisfaction of the District Commander or Captain of the Port, that the vessel is not unsafe or does not pose a threat to the marine environment, and that such entry is necessary for the safety of the vessel or the persons on board.

(2013) (d) A vessel which has been prohibited from operating in the navigable waters of the United States, or from transferring cargo or residue in a port or place under the jurisdiction of the United States under the provisions of Paragraph (a) or (b)(1), (2) or (3) of this section, may be allowed provisional entry if the owner or operator proves, to the satisfaction of the District Commander or Captain of the Port that has jurisdiction,

that the vessel is no longer unsafe or a threat to the environment, and that the condition which gave rise to the prohibition no longer exists.

§160.115 Withholding of clearance.

(2014) (a) Each District Commander or Captain of the Port may request the Secretary of the Treasury, or the authorized representative thereof, to withhold or revoke the clearance required by 46 U.S.C. App. 91 of any vessel, the owner or operator of which is subject to any penalties under 33 U.S.C. 1232.

Subpart C–Notification of Arrivals, Hazardous Conditions, and Certain Dangerous Cargos

§160.201 General.

(2015) This subpart contains requirements and procedures for submitting Notices of Arrival (NOA) and Notice of Hazardous Condition. The sections in this subpart describe:

(2016) (a) Applicability and exemptions from requirements in this subpart;

(2017) (b) Required information in an NOA;

(2018) (c) Required changes to an NOA;

(2019) (d) Methods and times for submission of an NOA and changes to an NOA;

(2020) (e) How to obtain a waiver; and

(2021) (f) Requirements for submission of the Notice of Hazardous Conditions.

§160.202 Applicability.

(2022) (a) This subpart applies to U.S. and foreign vessels bound for or departing from ports or places in the United States.

(2023) (b) This subpart does not apply to U.S. recreational vessels under 46 U.S.C. *4301 et seq.* but does apply to forign recreational vessels.

(2024) (c) Unless otherwise specified in this subpart, the owner, agent, master, operator, or person in charge of a vessel regulated by this subpart is responsible for compliance with the requirements in this subpart.

(2025) (d) Towing vessels controlling a barge or barges required to submit an NOA under this subpart must submit only one NOA containing the information required for the towing vessel and each barge under its control.

§160.203 Exemptions.

(2026) (a) Except for reporting notice of hazardous conditions, the following vessels are exempt from requirements in this subpart:

(2027) (1) Passenger and supply vessels when they are employed in the exploration for or in the removal of oil, gas, or mineral resources on the continental shelf.

(2028) (2) Oil Spill Recovery Vessels (OSRVs) when engaged in actual spill response operations or during spill response exercises.

(2029) (3) Vessels operating upon the following waters:

(2030) (i) Mississippi River between its sources and mile 235, Above Head of Passes;

(2031) (ii) Tributaries emptying into the Mississippi River above mile 235;

(2032) (iii) Atchafalaya River above its junction with the Plaquemine-Morgan City alternate waterway and the Red River; and

(2033) (iv) The Tennessee River from its confluence with the Ohio River to mile zero on the Mobile River and all other tributaries between those two points.

(2034) (b) If not carrying certain dangerous cargo or controlling another vessel carrying certain dangerous cargo, the following vessels are exempt from NOA requirements in this subpart:

(2035) (1) Vessels 300 gross tons or less, except for foreign vessels entering any port or place in the Seventh Coast Guard District as described in 33 CFR 3.35–1(b).

(2036) (2) Vessels operating exclusively within a Captain of the Port Zone.

(2037) (3) Vessels arriving at a port or place under force majeure.

(2038) (4) Towing vessels and barges operating solely between ports or places in the continental United States.

(2039) (5) Public vessels.

(2040) (6) Except for tank vessels, U.S. vessels operating solely between ports or places in the United States on the Great Lakes.

(2041) (c) Vessels less than 500 gross tons need not submit the International Safety Management (ISM) Code Notice (Entry (7) to Table 160.206).

(2042) (d) [Suspended]

(2043) (e) [Suspended]

(2044) (f) U.S. vessels need not submit the International Ship and Port Facility Code (ISPS) Notice information (Entry (9) to Table 160.206).

§160.204 Definitions.

(2045) As used in this subpart:

(2046) *Agent* means any person, partnership, firm, company or corporation engaged by the owner or charterer of a vessel to act in their behalf in matters concerning the vessel.

(2047) *Barge* means a non-self propelled vessel engaged in commerce.

(2048) *Carried in bulk* means a commodity that is loaded or carried on board a vessel without containers or labels and received and handled without mark or count.

(2049) *Certain dangerous cargo* (CDC) includes any of the following:

(2050) (1) Division 1.1 or 1.2 explosives as defined in 49 CFR 173.50.

(2051) (2) Division 1.5D blasting agents for which a permit is required under 49 CFR 176.415 or, for which a permit is required as a condition of a Research and Special Programs Administration exemption.

(2052) (3) Division 2.3 "poisonous gas", as listed in 49 CFR 172.101 that is also a "material poisonous by inhalation" as defined in 49 CFR 171.8, and that is in a quantity in excess of 1 metric ton per vessel.

(2053) (4) Division 5.1 oxidizing materials for which a permit is required under 49 CFR 176.415 or for which a permit is required as a condition of a Research and Special Programs Administration exemption.

(2054) (5) A liquid material that has a primary or subsidiary classification of Division 6.1 "poisonous material" as listed 49 CFR 172.101 that is also a "material poisonous by inhalation," as defined in 49 CFR 171.8 and that is in a bulk packaging, or that is in a quantity in excess of 20 metric tons per vessel when not in a bulk packaging.

(2055) (6) Class 7, "highway route controlled quantity" radioactive material or "fissile material, controlled shipment," as defined in 49 CFR 173.403.

(2056) (7) Bulk liquefied chlorine gas and bulk liquefied gas cargo that is flammable and/or toxic and carried under 46 CFR 154.7.

(2057) (8) The following bulk liquids:

(2058) (i) Acetone cyanohydrin,

(2059) (ii) Allyl alcohol,

(2060) (iii) Chlorosulfonic acid,

(2061) (iv) Crotonaldehyde,

(2062) (v) Ethylene chlorohydrin,

(2063) (vi) Ethylene dibromide,

(2064) (vii) Methacrylonitrile, and

(2065) (viii) Oleum (fuming sulfuric acid).

(2066) (ix) Propylene oxide, alone or mixed with ethylene oxide.

(2067) (9) The following bulk solids;

(2068) (i) Ammonium nitrate listed as a Division 5.1 (oxidizing) material in 49 CFR 172.101 that is not certain dangerous cargo residue (CDC residue).

(2069) (ii) Ammonium nitrate based fertilizer listed as a Division 5.1 (oxidizing) material in 49 CFR 172.101 that is not CDC residue.

(2070) *Certain dangerous cargo residue (CDC residue)* means ammonium nitrate in bulk or ammonium nitrate based fertilizer in bulk remaining after all saleable cargo is discharged, not exceeding 1,000 pounds in total and not individually accumulated in quantities exceeding two cubic feet.

(2071) *Charterer* means the person or organization that contracts for the majority of the carrying capacity of a ship for the transportation of cargo to a stated port for a specified period. This includes "time charterers" and "voyage charterers."

(2072) *Crewmember* means all persons carried on board the vessel to provide navigation and maintenance of the vessel, its machinery, systems, and arrangements essential for propulsion and safe navigation or to provide services for other persons on board.

(2073) *Great Lakes* means Lakes Superior, Michigan, Huron, Erie, and Ontario, their connecting and tributary waters, the Saint Lawrence River as far as Saint Regis, and adjacent port areas.

(2074) *Gross tons* means the tonnage determined by the tonnage authorities of a vessel's flag state in accordance with the national tonnage rules in force before the entry into force of the International Convention on Tonnage Measurement of Ships, 1969 ("Convention"). For a vessel measured only under Annex I of the Convention, gross tons means that tonnage. For a vessel measured under both systems, the higher gross tonnage is the tonnage used for the purposes of the 300-gross-ton threshold.

(2075) *Hazardous condition* means any condition that may adversely affect the safety of any vessel, bridge, structure, or shore area or the environmental quality of any port, harbor, or navigable waterway of the United States. It may, but need not, involve collision, allision, fire, explosion, grounding, leaking, damage, injury or illness of a person aboard, or manning-shortage.

(2076) *Nationality* means the state (nation) in which a person is a citizen or to which a person owes permanent allegiance.

(2077) *Operator* means any person including, but not limited to, an owner, a charterer, or another contractor who conducts, or is responsible for, the operation of a vessel.

(2078) *Persons in addition to crewmembers* mean any person onboard the vessel, including passengers, who are not included on the list of crewmembers.

(2079) *Port or place of departure* means any port or place in which a vessel is anchored or moored.

(2080) *Port or place of destination* means any port or place in which a vessel is bound to anchor or moor.

(2081) *Public vessel* means a vessel that is owned or demise-(bareboat) chartered by the government of the United States, by a State or local government, or by the government of a foreign country and that is not engaged in commercial service.

(2082) *Time charterer* means the party who hires a vessel for a specific amount of time. The owner and his crew manage the vessel, but the charterer selects the ports of destination.

(2083) *Voyage charterer* means the party who hires a vessel for a single voyage. The owner and his crew manage

the vessel, but the charterer selects the ports of destination.

§160.206 Information required in an NOA.

(2084) (a) Each NOA must contain all of the information items specified in Table 160.206.

(2085) (b) Vessels operating solely between ports or places in the continental United States need submit only the name of and date of arrival and departure for the last port or places visited to meet the requirements in entries (2)(i) and (ii) to Table 160.206 of this section.

(2086) (c) You may submit a copy of INS Form I–418 to meet the requirements of entries (4) and (5) in Table 160.206.

(2087) (d) Any vessel planning to enter two or more consecutive ports or places in the United States during a single voyage may submit one consolidated Notification of Arrival at least 96 hours before entering the first port or place of destination. The consolidated notice must include the name of the port or place and estimated arrival and departure date for each destination of the voyage. Any vessel submitting a consolidated notice under this section must still meet the requirements of §160.208 of this part concerning requirements for charges to an NOA.

§160.208 Changes to a submitted NOA.

(2088) (a) Unless otherwise specified in this section, when submitted NOA information changes, vessels must submit a notice of change within the times required in §160.212.

(2089) (b) Changes in the following information need not be reported:

(2090) (1) Changes in arrival or departure times that are less than six (6) hours;

(2091) (2) Changes in vessel location or position of the vessel at the time of reporting (entry (2)(vi) to Table 160.206); and

(2092) (3) Changes to crewmembers' position or duties on the vessel (entry (5)(v) to Table 160.206).

(2093) (c) When reporting changes, submit only the name of the vessel, original NOA submission date, the port of arrival, the specific items to be corrected, and the new location or position of the vessel at the time of reporting. Only changes to NOA information need to be submitted.

§160.210 Methods for submitting an NOA.

(2094) (a) *Submission to the National Vessel Movement Center (NVMC)*. Except as provided in paragraphs (b) and (c) of this section, vessels must submit NOA information required by Sec. 160.206 (entries 1 through 9 in Table 160.206) to the NVMC, United States Coast Guard, 408 Coast Guard Drive Kearneysville, WV 25430, by:

(2095) (1) Electronic submission via the electronic Notice of Arrival and Departure (eNOAD) and consisting of the following three formats:

(2096) (i) A Web site that can be used to submit NOA information directly to the NVMC, accessible from the NVMC web site at http://www.nvmc.uscg.gov;

(2097) (ii) Electronic submission of Extensible Markup Language (XML) formatted documents via web service;

(2098) (iii) Electronic submission via Microsoft InfoPath; contact the NVMC at *sans@nvmc.uscg.gov* or by telephone at 1-800-708-9823 or 304-264-2502 for more information;

(2099) (2) E-mail at *sans@nvmc.uscg.gov*. Workbook available at *http://www.nvmc.uscg.gov*;

(2100) (3) Fax at 1-800-547-8724 or 304-264-2684. Workbook available at *http://www.nvmc.uscg.gov*; or

(2101) (4) Telephone at 1-800-708-9823 or 304-264-2502.

(2102) (b) *Saint Lawrence Seaway transits*. Those vessels transiting the Saint Lawrence Seaway inbound, bound for a port or place in the United States, may meet the submission requirements of paragraph (a) of this section by submitting the required information to the Saint Lawrence Seaway Development Corporation and the Saint Lawrence Seaway Management Corporation of Canada by fax at 315-764-3235 or at 315-764-3200.

(2103) (c) *Seventh Coast Guard District*. Those foreign vessels 300 or less gross tons operating in the Seventh Coast Guard District must submit an NOA to the cognizant Captain of the Port (COTP).

(2104) (d) [Suspended]

(2105) (e) *Submission to the National Vessel Movement Center (NVMC)*. Except as provided in paragraphs (b) and (c) of this section, vessels must submit NOA information required by §160.206 (entries 1-9 to Table 160.206) to the NVMC, United States Coast Guard, 408 Coast Guard Drive, Kearneysville, WV 25430, By:

(2106) (1) Electronic submission via the electronic NOA (e-NOA) available on the NVMC web site at

(2107) http://www.nvmc.uscg.gov.

(2108) (2) Electronic submission via web service of formatted XML (eXtensible Markup Language) documents. E-mail sans@nvmc.uscg.gov to ask for the XML schema details;

(2109) (3) E-mail at sans@nvmc.uscg.gov. Workbook available at http://www.nvmc.uscg.gov;

(2110) (4) Fax at 1-800-547-8724 or 304-264-2684. Workbook available at http://www.nvmc.uscg.gov; or,

(2111) (5) Telephone at 1-800-708-9823 or 304-264-2502.

Table 160.206 – NOA Information Items

Required Information	Vessels Not Carrying CDC	Vessels Carrying CDC	
		Vessels	Towing Vessels Controlling Vessels Carrying CDC
(1) Vessel Information			
(i) Name	X	X	X
(ii) Name of the registered owner	X	X	X
(iii) Country of registry	X	X	X
(iv) Call sign	X	X	X
(v) International Maritime Organization (IMO) international number or, if vessel does not have an assigned IMO international number, substitute with official number	X	X	X
(vi) Name of the operator	X	X	X
(vii) Name of the charterer	X	X	X
(viii) Name of classification society	X	X	X
(2) Voyage Information			
(i) Names of last five ports or places visited	X	X	X
(ii) Dates of arrival and departure for last five ports or places visited	X	X	X
(iii) For each port or place in the United States to be visited list the names of the receiving facility, the port or place, the city, and the state	X	X	X
(iv) For each port or place in the United States to be visited, the estimated date and time of arrival	X	X	X
(v) For each port or place in the United States to be visited, the estimated date and time of departure	X	X	X
(vi) The location (port or place and country) or position (latitude and longitude or waterway and mile marker) of the vessel at the time of reporting	X	X	X
(vii) The name and telephone number of a 24-hour point of contact	X	X	X
(3) Cargo Information			
(i) A general description of cargo, other than CDC, onboard the vessel (e.g. grain, container, oil, etc.)	X	X	X
(ii) Name of each certain dangerous cargo carried, including cargo UN number, if applicable		X	X
(iii) Amount of each certain dangerous cargo carried		X	X
(4) Information for each crewmember onboard			
(i) Full name	X	X	X
(ii) Date of birth	X	X	X
(iii) Nationalitiy	X	X	X
(iv) Passport or mariners document number (type of identification and number)	X	X	X
(v) Position or duties on the vessel	X	X	X
(vi) Where the crewmembers embarked (list port or place and country)	X	X	X
(5) Information for each person onboard in addition to crew			
(i) Full name	X	X	X
(ii) Date of birth	X	X	X
(iii) Nationality	X	X	X
(iv) Passport number	X	X	X
(v) Where the person embarked (list port or place and country)	X	X	X
(6) Operational condition of equipment required by §164.35 of this chapter	X	X	X
(7) International Safety Management (ISM) Code Notice			
(i) The date of issuance for the company's Document of Compliance certificate that covers the vessel	X	X	X
(ii) The date of issuance for the vessel's Safety Management Certificate	X	X	X
(iii) The name of the Flag Administration, or the recognized organization(s) representing the vessel flag administration, that issued those certificates	X	X	X
(8) Cargo Declaration (Customs Form 1302) as described in 19 CFR 4.7	X	X	X
(9) International Ship and Port Facility Code (ISPS) Notice*			
(i) The date of issuance for the vessel's International Ship Security Certificate (ISSC), if any	X	X	X
(ii) Whether the ISSC, if any, is an initial Interim ISSC, subsequent and consecutive Interim ISSC, or final ISSC	X	X	X
(iii) Declaration that the approved ship security plan, if any, is being implemented	X	X	X
(iv) If a subsequent and consecutive Interim ISSC, the reasons therefor	X	X	X
(v) The name and 24-hour contact information for the Company Security Officer	X	X	X
(vi) The name of the Flag Administration, or the recognized security organization(s) representing the vessel flag Administration that issued the ISSC	X	X	X

* The information required by items 9(i)-(iii) need not be submitted before January 1, 2004. All other information required by item 9 need not be submitted before July 1, 2004.

§160.212 When to submit an NOA.

(2112) (a) *Submission of NOA*. (1) Except as set out in paragraph (a)(2) of this section, all vessels must submit NOAs within the times required in paragraph (a)(3) of this section.

(2113) (2) Towing vessels, when in control of a vessel carrying CDC and operating solely between ports or places in the continental United States, must submit an NOA before departure but at least 12 hours before entering the port or place of destination.

(2114) (3) Times for submitting NOAs areas follows:

If your voyage time is–	You must submit an NOA–
(i) 96 hours or more; or	At least 96 hours before entering the port or place of destination; or
(ii) Less than 96 hours	Before departure but at least 24 hours before entering the port or place of destination.

(2115) (b) *Submission of changes to NOA*. (1) Except as set out in paragraph (b)(2) of this section, vessels must submit changes in NOA information within the times required in paragraph (b)(3) of this section.

(2116) (2) Towing vessels, when in control of a vessel carrying CDC and operating solely between ports or places in the continental United States, must submit changes to an NOA as soon as practicable but at least 6 hours before entering the port or place of destination.

(2117) (3) Times for submitting changes to NOAs are as follows:

If your remaining voyage time is–	Then you must submit changes to an NOA–
(i) 96 hours or more;	As soon as practicable but at least 24 hours before entering the port or place of destination;
(ii) Less than 96 hours but not less than 24 hours; or	As soon as practicable but at least 24 hours before entering the port or place of destination; or
(iii) Less than 24 hours	As soon as practicable but at least 12 hours before entering the port or place of destination.

(2118) (c) [Suspended]

§160.214 Waivers.

(2119) The Captain of the Port may waive, within that Captain of the Port's designated zone, any of the requirements of this subpart for any vessel or class of vessels upon finding that the vessel, route area of operations, conditions of the voyage, or other circumstances are such that application of this subpart is unnecessary or impractical for purposes of safety, environmental protection, or national security.

§160.215 Notice of hazardous conditions.

(2120) Whenever there is a hazardous condition either aboard a vessel or caused by a vessel or its operation, the owner, agent, master, operator, or person in charge shall immediately notify the nearest Coast Guard Sector Office or Group Office. (Compliance with this section does not relieve responsibility for the written report required by 46 CFR 4.05–10.)

Part 161–Vessel Traffic Management

Subpart A–Vessel Traffic Services

General Rules

§161.1 Purpose and Intent.

(2121) (a) The purpose of this part is to promulgate regulations implementing and enforcing certain sections of the Ports and Waterways Safety Act (PWSA) setting up a national system of Vessel Traffic Services that will enhance navigation, vessel safety, and marine environmental protection and promote safe vessel movement by reducing the potential for collisions, rammings, and groundings, and the loss of lives and property associated with these incidents within VTS areas established hereunder.

(2122) (b) Vessel Traffic Services provide the mariner with information related to the safe navigation of a waterway. This information, coupled with the mariner's compliance with the provisions set forth in this part, enhances the safe routing of vessels through congested waterways or waterways of particular hazard. Under certain circumstances, a VTS may issue directions to control the movement of vessels in order to minimize the risk of collision between vessels, or damage to property or the environment.

(2123) (c) The owner, operator, charterer, master, or person directing the movement of a vessel remains at all times responsible for the manner in which the vessel is operated and maneuvered, and is responsible for the safe navigation of the vessel under all circumstances. Compliance with these rules or with a direction of the VTS is at all times contingent upon the exigencies of safe navigation.

(2124) (d) Nothing in this part is intended to relieve any vessel, owner, operator, charterer, master, or person directing the movement of a vessel from the consequences of any neglect to comply with this part or any other applicable law or regulations (e.g., the International Regulations for Prevention of Collisions at Sea, 1972 (72 COLREGS) or the Inland Navigation Rules) or

of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

§161.2 Definitions.

(2125) For the purposes of this part:

(2126) *Cooperative Vessel Traffic Services (CVTS)* means the system of vessel traffic management established and jointly operated by the United States and Canada within adjoining waters. In addition, CVTS facilitates traffic movement and anchorages, avoids jurisdictional disputes, and renders assistance in emergencies in adjoining United States and Canadian waters.

(2127) *Hazardous Vessel Operating Condition* means any condition related to a vessel's ability to safely navigate or maneuver, and includes, but is not limited to:

(2128) (1) The absence or malfunction of vessel operating equipment, such as propulsion machinery, steering gear, radar system, gyrocompass, depth sounding device, automatic radar plotting aid (ARPA), radiotelephone, automated dependent surveillance equipment, navigational lighting, sound signaling devices or similar equipment.

(2129) (2) Any condition on board the vessel likely to impair navigation, such as lack of current nautical charts and publications, personnel shortage, or similar condition.

(2130) (3) Vessel characteristics that affect or restrict maneuverability, such as cargo arrangement, trim, loaded condition, underkeel clearance, speed, or similar characteristics.

(2131) *Precautionary Area* means a routing measure comprising an area within defined limits where vessels must navigate with particular caution and within which the direction of traffic may be recommended.

(2132) *Navigable waters* means all navigable waters of the United States including the territorial sea of the United States, extending to 12 nautical miles from United States baselines, as described in Presidential Proclamation No. 5928 of December 27, 1988.

(2133) *Towing Vessel* means any commercial vessel engaged in towing another vessel astern, alongside, or by pushing ahead.

(2134) *Vessel Movement Center (VMC)* means the shore-based facility that operates the vessel tracking system for a Vessel Movement Reporting System (VMRS) area or sector within such an area. The VMC does not necessarily have the capability or qualified personnel to interact with marine traffic, nor does it necessarily respond to traffic situations developing in the area, as does a Vessel Traffic Service (VTS).

(2135) *Vessel Movement Reporting System (VMRS)* means a mandatory reporting system used to monitor and track vessel movements. This is accomplished by a vessel providing information under established procedures as set forth in this part in the areas defined in Table 161.12(c) (VTS and VMRS Centers, Call Signs/MMSI, Designated Frequencies, and Monitoring Areas).

(2136) *Vessel Movement Reporting System (VMRS) User* means a vessel, or an owner, operator, charterer, Master, or person directing the movement of a vessel that is required to participate in a VMRS.

(2137) *Vessel Traffic Center (VTC)* means the shore-based facility that operates the vessel traffic service for the Vessel Traffic Service area or sector within such an area.

(2138) *Vessel Traffic Services (VTS)* means a service implemented by the United States Coast Guard designed to improve the safety and efficiency of vessel traffic and to protect the environment. The VTS has the capability to interact with marine traffic and respond to traffic situations developing in the VTS area.

(2139) *Vessel Traffic Service Area or VTS* Area means the geographical area encompassing a specific VTS area of service. This area of service may be subdivided into sectors for the purpose of allocating responsibility to individual Vessel Traffic Centers or to identify different operating requirements.

(2140) **Note:** Although regulatory jurisdiction is limited to the navigable waters of the United States, certain vessels will be encouraged or may be required, as a condition of port entry, to report beyond this area to facilitate traffic management within the VTS area.

(2141) *VTS Special Area* means a waterway within a VTS area in which special operating requirements apply.

(2142) *VTS User* means a vessel, or an owner, operator, charterer, master, or person directing the movement of a vessel, that is:

(2143) (a) Subject to the Vessel Bridge-to-Bridge Radiotelephone Act; or

(2144) (b) Required to participate in a VMRS within a VTS area (VMRS User).

(2145) *VTS User's Manual* means the manual established and distributed by the VTS to provide the mariner with a description of the services offered and rules in force for that VTS. Additionally, the manual may include chartlets showing the area and sector boundaries, general navigational information about the area, and procedures, radio frequencies, reporting provisions and other information which may assist the mariner while in the VTS area.

§161.3 Applicability.

(2146) The provisions of this subpart shall apply to each VTS User and may also apply to any vessel while underway or at anchor on the navigable waters of the United States within a VTS area, to the extent the VTS considers necessary.

§161.4 Requirement to carry the rules.

(2147) Each VTS User shall carry on board and maintain for ready reference a copy of these rules.

(2148) **Note:** These rules are contained in the applicable U.S. Coast Pilot, the VTS User's Manual which may be obtained by contacting the appropriate VTS, and periodically published in the Local Notice to Mariners. The VTS User's Manual and the World VTS Guide, an International Maritime Organization (IMO) recognized publication, contain additional information which may assist the prudent mariner while in the appropriate VTS area.

§161.5 Deviations from the rules.

(2149) (a) Requests to deviate from any provision in this part, either for an extended period of time or if anticipated before the start of a transit, must be submitted in writing to the appropriate District Commander. Upon receipt of the written request, the District Commander may authorize a deviation if it is determined that such a deviation provides a level of safety equivalent to that provided by the required measure or is a maneuver considered necessary for safe navigation under the circumstances. An application for an authorized deviation must state the need and fully describe the proposed alternative to the required measure.

(2150) (b) Requests to deviate from any provision in this part due to circumstances that develop during a transit or immediately preceding a transit, may be made verbally to the appropriate VTS Director. Requests to deviate shall be made as far in advance as practicable. Upon receipt of the request, the VTS Director may authorize a deviation if it is determined that, based on vessel handling characteristics, traffic density, radar contacts, environmental conditions and other relevant information, such a deviation provides a level of safety equivalent to that provided by the required measure or is a maneuver considered necessary for safe navigation under the circumstances.

Services, VTS Measures, and Operating Requirements

§161.10 Services.

(2151) To enhance navigation and vessel safety, and to protect the marine environment, a VTS may issue advisories, or respond to vessel requests for information, on reported conditions within the VTS area, such as:

(2152) (a) Hazardous conditions or circumstances;

(2153) (b) Vessel congestion;

(2154) (c) Traffic density;

(2155) (d) Environmental conditions;

(2156) (e) Aids to navigation status;

(2157) (f) Anticipated vessel encounters;

(2158) (g) Another vessel's name, type, position, hazardous vessel operating conditions, if applicable, and intended navigation movements, as reported;

(2159) (h) Temporary measures in effect;

(2160) (i) A description of local harbor operations and conditions, such as ferry routes, dredging, and so forth;

(2161) (j) Anchorage availability; or

(2162) (k) Other information or special circumstances.

§161.11 VTS measures.

(2163) (a) A VTS may issue measures or directions to enhance navigation and vessel safety and to protect the marine environment, such as, but not limited to:

(2164) (1) Designating temporary reporting points and procedures;

(2165) (2) Imposing vessel operating requirements; or

(2166) (3) Establishing vessel traffic routing schemes.

(2167) (b) During conditions of vessel congestion, restricted visibility, adverse weather, or other hazardous circumstances, a VTS may control, supervise, or otherwise manage traffic, by specifying times of entry, movement, or departure to, from, or within a VTS area.

§161.12 Vessel operating requirements.

(2168) (a) Subject to the exigencies of safe navigation, a VTS User shall comply with all measures established or directions issued by a VTS.

(2169) (b) If, in a specific circumstance, a VTS User is unable to safely comply with a measure or direction issued by the VTS, the VTS User may deviate only to the extent necessary to avoid endangering persons, property or the environment. The deviation shall be reported to the VTS as soon as is practicable.

(2170) (c) When not exchanging communications, a VTS User must maintain a listening watch as required by §26.04(e) of this chapter on the VTS frequency designated in Table 161.12(c) (VTS and VMRS Centers, Call Signs/MMSI, Designated Frequencies, and Monitoring Areas). In addition, the VTS User must respond promptly when hailed and communicate in the English language.

(2171) **Note to §161.12(c):** As stated in 47 CFR 80.148(b), a very high frequency watch on Channel 16 (156.800 MHz) is not required on vessels subject to the Vessel Bridge-to-Bridge Radiotelephone Act and participating in a Vessel Traffic Service (VTS) system when the watch is maintained on both the vessel bridge-to-bridge frequency and a designated VTS frequency.

(2172) (d) As soon as practicable, a VTS User shall notify the VTS of any of the following:

(2173) (1) A marine casualty as defined in 46 CFR 4.05-1;

(2174) (2) Involvement in the ramming of a fixed or floating object;

(2175) (3) A pollution incident as defined in §151.15 of this chapter:

(2176) (4) A defect or discrepancy in an aid to navigation;

(2177) (5) A hazardous condition as defined in §160.203 of this chapter;

(2178) (6) Improper operation of vessel equipment required by Part 164 of this chapter;

(2179) (7) A situation involving hazardous materials for which a report is required by 49 CFR 176.48; and

(2180) (8) A hazardous vessel operating condition as defined in §161.2.

§161.13 VTS Special Area Operating Requirements.

(2181) The following operating requirements apply within a VTS Special Area:

(2182) (a) A VTS User shall, if towing astern, do so with as short a hawser as safety and good seamanship permits.

(2183) (b) A VMRS User shall: (1) Not enter or get underway in the area without prior approval of the VTS;

(2184) (2) Not enter a VTS Special Area if a hazardous vessel operating condition or circumstance exists;

(2185) (3) Not meet, cross, or overtake any other VMRS User in the area without prior approval of the VTS; and

(2186) (4) Before meeting, crossing, or overtaking any other VMRS User in the area, communicate on the designated vessel bridge-to-bridge radiotelephone frequency, intended navigation movements, and any other information necessary in order to make safe passing arrangements. This requirement does not relieve a vessel of any duty prescribed by the International Regulations for Prevention of Collisions at Sea, 1972 (72 COLREGS) or the Inland Navigation Rules.

Subpart B–Vessel Movement Reporting System

§161.15 Purpose and Intent.

(2187) (a) A Vessel Movement Reporting System (VMRS) is a system used to monitor and track vessel movements within a VTS or VMRS area. This is accomplished by requiring that vessels provide information under established procedures as set forth in this part, or as directed by the Center.

(2188) (b) To avoid imposing an undue reporting burden or unduly congesting radiotelephone frequencies, reports shall be limited to information which is essential to achieve the objectives of the VMRS. These reports are consolidated into three reports (sailing plan, position, and final).

§161.16 Applicability.

(2189) Unless otherwise stated, the provisions of this subpart apply to the following vessels and VMRS Users:

(2190) (a) Every power-driven vessel of 40 meters (approximately 131 feet) or more in length, while navigating;

(2191) (b) Every towing vessel of 8 meters (approximately 26 feet) or more in length, while navigating; or

(2192) (c) Every vessel certificated to carry 50 or more passengers for hire, when engaged in trade.

§161.17 Definitions.

(2193) As used in the subpart:

(2194) *Center* means a Vessel Traffic Center or Vessel Movement Center.

(2195) *Published* means available in a widely-distributed and publicly available medium (e.g., VTS User's Manual, ferry schedule, Notice to Mariners).

§161.18 Reporting requirements.

(2196) (a) A Center may: (1) Direct a vessel to provide any of the information set forth in Table 161.18(a) (IMO Standard Ship Reporting System);

(2197) (2) Establish other means of reporting for those vessels unable to report on the designated frequency; or

(2198) (3) Require reports from a vessel in sufficient time to allow advance vessel traffic planning.

(2199) (b) All reports required by this part shall be made as soon as is practicable on the frequency designated in Table 161.12(c) (VTS and VMRS Centers, Call Signs/MMSI, Designated Frequencies, and Monitoring Areas).

(2200) (c) When not exchanging communications, a VMRS User must maintain a listening watch as described in §26.04(e) of this chapter on the frequency designated in Table 161.12(c) (VTS and VMRS Centers, Call Signs/MMSI, Designated Frequencies, and Monitoring Areas). In addition, the VMRS User must respond promptly when hailed and communicate in the English language.

(2201) **Note:** As stated in 47 CFR 80.148(b), a VHF watch on Channel 16 (156.800 MHz) is not required on vessels subject to the Vessel Bridge-to-Bridge Radiotelephone Act and participating in a Vessel Traffic Service (VTS) system when the watch is maintained on both the vessel bridge-to-bridge frequency and a designated VTS frequency.

(2202) (d) A vessel must report:

(2203) (1) Any significant deviation from its Sailing Plan, as defined in §161.19, or from previously reported information; or

(2204) (2) Any intention to deviate from a VTS issued measure or vessel traffic routing system.

(2205) (e) When reports required by this part include time information, such information shall be given using the local time zone in effect and the 24-hour military clock system.

TABLE 161.12(C)-VTS and VMRS Centers, Call Signs/MMSI, Designated Frequencies, and Monitoring Areas		
Center MMSI[1] Call Sign	**Designated frequency (Channel designation)-purpose[2]**	**Monitoring Area [3,4]**
Berwick Bay 003669950 *Berwick Traffic*	156.550 MHz (Ch. 11)	The waters south of 29°45'N, west of 91°10'W, north of 29°37'N, and east of 91°18'W.
Buzzards Bay *Buzzards Bay Control[5]*	156.600 MHz (Ch. 12)	The waters east and north of a line drawn from the southern tangent of Sakonnet Point, Rhode Island, in approximate position 41°27.2'N, 70°11.7'W to Buzzards Bay Entrance Light in approximate position 41°23.5'N, 71°02.0'W, and then to the southwestern tangent of Cuttyhunk Island, Massachusetts, at approximate position 41°24.6'N, 70°57.0'W, and including all of the Cape Cod Canal to its eastern entrance, except that the area of New Bedford harbor within the confines (north of) the hurricane barrier, and the passages through the Elizabeth Islands, is not considered to be "Buzzards Bay".
Houston-Galveston 003669954		The navigable waters north of 29°N, west of 94°20'W, south of 29°49'N, and east of 95°20'W.
Houston Traffic	156.550 MHz (Ch. 11) 156.250 MHz (Ch. 5A) - for sailing plans only	The navigable waters north of a line extending due west from the southern most end of Exxon Dock #1 (20°43.37'N, 95°01.27'W)
Houston Traffic	156.600 MHz (Ch. 12) 156.250 MHz (Ch. 5A) - for sailing plans only	The navigable waters south of a line extending due west from the southern most end of Exxon Dock #1 (29°43.37'N, 95°01.27'W)
Los Angeles/Long Beach: MMSI to be determined *San Pedro Traffic*	156.700 MHz (Ch. 14)	*Vessel Movement Reporting System Area*: The navigable waters within a 25 nautical mile radius of Point Fermin Light (33°42.3'N, 118°17.6'W)
Louisville: not applicable *Louisville Traffic*	156.650 MHz (Ch. 13)	The waters of the Ohio River between McAlpine Locks (Mile 606) and Twelve Mile Island (Mile 593), only when the McAlpine upper pool gauge is at approximately 13.0 feet or above.
Lower Mississippi River[6] 0036699952 *New Orleans Traffic*	156.700 MHz (Ch. 14)	The navigable waters of the Lower Mississippi River below 30°38.7'N, 91°17.5'W (Port Hudson Light at 255 miles Above Head of Passes (AHP)), the Southwest Pass, and, within a 12 nautical miles radius around 28°54.3'N, 89°25.7'W (Southwest Pass Entrance Light at 19.9 miles Below Head of Passes).
New Orleans Traffic	156.600 MHz (Ch. 12)	*New Orleans Sector*. The navigable waters of the Lower Mississippi River bounded on the north by a line drawn perpendicularly at 29°56.4'N, 90°08.36'W and on the south by a line drawn perpendicularly at 29°56.24'N, 89°59.86'W (88 and 106 miles AHP).
New York 003669951 *New York Traffic*	156.550 MHz (Ch. 11) - for sailing plans only 156.600 MHz (Ch. 12) - for vessels at anchor	The area consists of the navigable waters of the Lower New York Bay bounded on the east by a line drawn from Norton Point to Breezy Point; on the south by a line connecting the entrance buoys at the Ambrose Channel, Swash Channel, and Sandy Hook Channel to Sandy Hook Point; and on the southeast including the waters of Sandy Hook Bay south to a line drawn at 40°25'N; then west in the Raritan Bay to the Raritan River Railroad Bridge, then north into waters of the Arthur Kill and Newark Bay to the Lehigh Valley Draw Bridge at 40°41.9'N; and then east including the waters of the Kill Van Kull and the Upper New York Bay north to a line drawn east-west from the Holland Tunnel ventilator shaft at 40°43.7'N, 74°01.6'W, in the Hudson River; and then continuing east including the waters of the East River to the Throgs Neck Bridge, excluding the Harlem River.
New York Traffic	156.700 MHz (Ch. 14)	The navigable waters of the Lower New York Bay west of a line drawn from Norton Point to Breezy Point; and north of a line connecting the entrance buoys of Ambrose Channel, Swash Channel, and Sandy Hook Channel, to Sandy Hook Point; on the southeast including the waters of the Sandy Hook Bay south to a line drawn at latitude 40°25'N; then west into the waters of Raritan Bay East Reach to a line drawn from Great Kills Light south through Raritan Bay East Reach LGB #14 to Comfort PT, NJ; then north including the waters of the Upper New York Bay south of 40°42.40'N (Brooklyn Bridge) and 40°43.70'N (Holland Tunnel Ventilator Shaft); west through the KVK into the Arthur Kill north of 40°38.25'N (Arthur Kill Railroad Bridge); then north into the waters of the Newark Bay, south of 40°41.95'N (Lehigh Valley Draw Bridge).
New York Traffic	156.600 MHz (Ch. 12)	The navigable waters of the Raritan Bay south to a line drawn at 40°26'N; then west of a line drawn from Great Kills Light south through the Raritan Bay East Reach LGB #14 to Point Comfort, NJ; then west to the Raritan River Railroad Bridge; and north including the waters of the Arthur Kill to 40°28.25'N (Arthur Kill Railroad Bridge); including the waters of the East River north of 40°42.40'N (Brooklyn Bridge) to the Throgs Neck Bridge, excluding the Harlem River.

TABLE 161.12(C)-VTS and VMRS Centers, Call Signs/MMSI, Designated Frequencies, and Monitoring Areas

Center MMSI[1] Call Sign	Designated frequency (Channel designation)-purpose[2]	Monitoring Area [3,4]
Port Authur[6] 003669955 *Sabine Traffic*	(to be determined)	The navigable waters south of 30°10'N, east of 94°20'W, west of 93°22'W, and, north of 29°10'N.
Prince William Sound 003669958 *Valdez Traffic*	156.650 MHz (Ch. 13)	The navigable waters south of 61°05'N, east of 147°20'W, north of 60°N, and west of 146°30'W; and, all navigable waters in Port Valdez.
Puget Sound[7] *Seattle Traffic* 003669957	156.700 MHz (Ch. 14)	The waters of Puget Sound, Hood Canal and adjacent waters south of a line connecting Nodule Point and Bush Point in Admiralty Inlet and south of a line drawn due east from the southernmost tip of Possession Point on Whidbey Island to the shoreline.
Seattle Traffic 003669957	156.250 MHz (Ch. 5A)	The waters of the Strait of Juan de Fuca east of 124°40'W excluding the waters in the central portion of the Strait of Juan de Fuca north and east of Race Rocks; the navigable waters of the Strait of Georgia east of 122°52'W; the San Juan Island Archipelago, Rosario Strait, Bellingham Bay; Admiralty Inlet north of a line connecting Nodule Point and Bush Point and all waters east of Whidbey Island North of a line drawn due east from the southernmost tip of Possession Point on Whidbey Island to the shoreline.
Tofino Traffic 003160012	156.725 MHz (Ch. 74)	The waters west of 124°40'W within 50 nautical miles of the coast of Vancouver Island including the waters north of 48°N, and east of 127°W.
Victoria Traffic 003160010	156.550 MHz (Ch. 11)	The waters of the Strait of Georgia west of 122°52'W, the navigable waters of the central Strait of Juan de Fuca north and east of Race Rocks, including the Gulf Island Archipelago, Boundary Pass and Haro Strait.
San Francisco 003669956 *San Francisco Traffic*	156.700 MHz (Ch. 14)	The navigable waters of the San Francisco Offshore Precautionary Area, the navigable waters shoreward of the San Francisco Offshore Precautionary Area east of 122°42.0'W and north of 37°40.0'N extending eastward through the Golden Gate, and the navigable waters of San Francisco Bay and as far east as the port of Stockton on the San Joaquin River, as far north as the port of Sacramento on the Sacramento River.
San Francisco Traffic	156.600 MHz (Ch. 12)	The navigable waters within a 38 nautical mile radius of Mount Tamalpais (37°55.8'N, 122°34.6'W) west of 122°42.0'W and south of 37°40.0'N and excluding the San Francisco Offshore Precautionary Area.
St. Marys River 003669953 *Soo Traffic*	156.600 MHz (Ch. 12)	The waters of the St. Marys River between 45°57'N (De Tour Reef Light) and 46°38.7'N (lle Parisienne Light), except the St. Marys Falls Canal and those navigable waters east of a line from 46°04.16'N and 46°01.57'N (La Pointe to Sims Point in Potagannissing Bay and Worsley Bay.)

Notes:
[1] Maritime Mobile Service Identifier (MMSI) is a unique nine-digit number assigned that identifies ship stations, ship earth stations, coast stations, coast earth stations, and group calls for use by a digital selective calling (DSC) radio, an INMARSAT ship earth station or AIS. AIS requirements are set forth in §§161.21 and 164.46 of this subchapter. The requirements set forth in §§161.21 and 164.46 of this subchapter apply in those areas denoted with a MMSI number.
[2] In the event of a communication failure, difficulties or other safety factors, the Center may direct or permit a user to monitor and report on any other designated monitoring frequency or the bridge-to-bridge navigational frequency, 156.650 MHz (Channel 13) or 156.375 MHz (Ch. 67), to the extent that doing so provides a level of safety beyond that provided by other means. The bridge-to-bridge navigational frequency, 156.650 MHz (Ch. 13), is used in certain monitoring areas where the level of reporting does not warrant a designated frequency.
[3] All geographic coordinates (latitude and longitude) are expressed in North American Datum of 1983 (NAD 83).
[4] Some monitoring areas extend beyond navigable waters. Although not required, users are strongly encouraged to maintain a listening watch on the designated monitoring frequency in these areas. Otherwise, they are required to maintain watch as stated in 47 CFR 80.148.
[5] In addition to the vessels denoted in Section 161.16 of this chapter, requirements set forth in subpart B of 33 CFR part 161 also apply to any vessel transiting VMRS Buzzards Bay required to carry a bridge-to-bridge radiotelephone by part 26 of this chapter.
[6] Until rules regarding VTS Lower Mississippi River and VTS Port Arthur are published, vessels are exempted of all VTS and VMRS requirements set forth in 33 CFR part 161, except those set forth in §§161.21 and 164.46 of this subchapter.
[7] A Cooperative Vessel Traffic Service was established by the United States and Canada within adjoining waters. The appropriate Center administers the rules issued by both nations; however, enforces only its own set of rules within its jurisdiction. Note, the bridge-to-bridge navigational frequency, 156.650 MHz (Ch. 13), is not so designated in Canadian waters, therefore users are encouraged and permitted to make passing arrangements on the designated monitoring frequencies.

TABLE 161.18(a).–THE IMO STANDARD SHIP REPORTING SYSTEM

A	ALPHA	Ship	Name, call sign or ship station identity, and flag.
B	BRAVO	Dates and time of events	A 6 digit group giving day of month (first two digits), hours and minutes (last four digits). If other than UTC state time zone used.
C	CHARLIE	Position	A 4 digit group giving latitude in degrees and minutes suffixed with N (north) or S (south) and a 5 digit group giving longitude in degrees and minutes suffixed with E (east) or W (west); or,
D	DELTA	Position	True bearing (first 3 digits) and distance (state distance) in nautical miles from a clearly identified landmark (state landmark).
E	ECHO	True course	A 3 digit group.
F	FOXTROT	Speed in knots and tenths of knots	A 3 digit group.
G	GOLF	Port of Departure	Name of last port of call.
H	HOTEL	Date, time and point of entry system.	Entry time expressed as in (B) and into the entry position expressed as in (C) or (D).
I	INDIA	Destination and expected time of arrival.	Name of port and date time group expressed as in (B).
J	JULIET	Pilot	State whether a deep sea or local pilot is on board.
K	KILO	Date, time and point of exit from system.	Exit time expressed as in (B) and exit position expressed as in (C) or (D).
L	LIMA	Route information	Intended track.
M	MIKE	Radio	State in full names of communications stations/frequencies guarded.
N	NOVEMBER	Time of next report	Date time group expressed as in (B).
O	OSCAR	Maximum present static draught in meters.	4 digit group giving meters and centimeters.
P	PAPA	Cargo on board	Cargo and brief details of any dangerous cargoes as well as harmful substances and gases that could endanger persons or the environment.
Q	QUEBEC	Defects, damage, deficiencies or limitations.	Brief detail of defects, damage, deficiencies or other limitations.
R	ROMEO	Description of pollution or dangerous goods lost.	Brief details of type of pollution (oil, chemicals, etc) or dangerous goods lost overboard; position expressed as in (C) or (D).
S	SIERRA	Weather conditions	Brief details of weather and sea conditions prevailing.
T	TANGO	Ship's representative and/or owner.	Details of name and particulars of ship's representative and/or owner for provision of information.
U	UNIFORM	Ship size and type	Details of length, breadth, tonnage, and type, etc., as required.
V	VICTOR	Medical personnel	Doctor, physician's assistant, nurse, no medic.
W	WHISKEY	Total number of persons on board.	State number.
X	XRAY	Miscellaneous	Any other information as appropriate. [i.e., a detailed description of a planned operation, which may include: its duration; effective area; any restrictions to navigation; notification procedures for approaching vessels; in addition, for a towing operation; configuration, length of the tow, available horsepower, etc.; for a dredge or floating plant: configuration of pipeline, mooring configuration, number of assist vessels, etc.].

§161.19 Sailing Plan (SP).

(2206) Unless otherwise stated, at least 15 minutes before navigating a VTS area, a vessel must report the:

(2207) (a) Vessel name and type;

(2208) (b) Position;

(2209) (c) Destination and ETA;

(2210) (d) Intended route;

(2211) (e) Time and point of entry; and

(2212) (f) Dangerous cargo on board or in its tow, as defined in §160.203 of this chapter, and other required information as set out in §160.211 and §160.213 of this chapter, if applicable.

§161.20 Position Report (PR).

(2213) A vessel must report its name and position:

(2214) (a) Upon point of entry into a VMRS area;

(2215) (b) At designated points as set forth in Subpart C; or

(2216) (c) When directed by the Center.

§161.21 Automated reporting.

(2217) (a) Unless otherwise directed, vessels equipped with an Automatic Identification System (AIS) are required to make continuous, all stations, AIS broadcasts, in lieu of voice Position Reports, to those Centers denoted in Table 161.12(c) of this part.

(2218) (b) Should an AIS become non-operational, while or prior to navigating a VMRS area, it should be restored to operating condition as soon as possible, and, until restored a vessel must:

(2219) (1) Notify the Center;

(2220) (2) Make voice radio Position Reports at designated reporting points as required by §161.20(b) of this part; and

(2221) (3) Make any other reports as directed by the Center.

§161.22 Final Report (FR).

(2222) A vessel must report its name and position:

(2223) (a) On arrival at its destination; or

(2224) (b) When leaving a VTS area.

§161.23 Reporting exemptions.

(2225) (a) Unless otherwise directed, the following vessels are exempted from providing Position and Final Reports due to the nature of their operation:

(2226) (1) Vessels on a published schedule and route;

(2227) (2) Vessels operating within an area of a radius of three nautical miles or less; or

(2228) (3) Vessels escorting another vessel or assisting another vessel in maneuvering procedures.

(2229) (b) A vessel described in Paragraph (a) of this section must:

(2230) (1) Provide a Sailing Plan at least 5 minutes but not more than 15 minutes before navigating within the VMRS area; and

(2231) (2) If it departs from its promulgated schedule by more than 15 minutes or changes its limited operating area, make the established VMRS reports, or report as directed.

Subpart C–Vessel Traffic Service and Vessel Movement Reporting System Areas and Reporting Points

(2232) **Note:** All geographic coordinates contained in part 161 (latitude and longitude) are expressed in North American Datum of 1983 (NAD 83).

§161.50 Vessel Traffic Service San Francisco.

(2233) The VTS area consists of all the navigable waters of San Francisco Bay Region south of the Mare Island Causeway Bridge and the Petaluma River Entrance Channel Daybeacon 19 and Petaluma River Entrance Channel Light 20 and north of the Dunbarton Bridge; its seaward approaches within a 38 nautical mile radius of Mount Tamalpais (37°55.8'N., 122°34.6'W.); and its navigable tributaries as far east as the port of Stockton on the San Joaquin River, as far north as the port of Sacramento on the Sacramento River.

§161.55 Vessel Traffic Service Puget Sound and the Cooperative Vessel Traffic Service for the Juan de Fuca Region.

(2234) The Vessel Traffic Service Puget Sound area consists of the navigable waters of the United States bounded by a line drawn from the Washington State coastline at 48°23'08"N., 124°43'37"W. on Cape Flattery to the Cape Flattery Light at 48°23'30"N., 124°44'12"W. on Tatoosh Island, due west to the U.S. Territorial Sea Boundary; thence northward along the U.S. Territorial Sea Boundary to its intersection with the U.S./Canada International Boundary; thence east along the U.S./Canada International Boundary through the waters known as the Strait of Juan de Fuca, Haro Strait, Boundary Pass, and the Strait of Georgia to the Washington State coastline at 49°00'06"N., 122°45'18"W. (International Boundary Range C Rear Light). This area includes: Puget Sound, Hood Canal, Possession Sound, the San Juan Island Archipelago, Rosario Strait, Guemes Channel, Bellingham Bay, the U.S. waters of the Strait of Juan de Fuca and the Strait of Georgia, and all waters adjacent to the above.

(2235) (b) Vessel Traffic Service Puget Sound participates in a U.S./Canadian Cooperative Vessel Traffic Service (CVTS) to jointly manage vessel traffic in the Juan de

Fuca Region. The CVTS for the Juan de Fuca Region consists of all waters of the Strait of Juan de Fuca and its offshore approaches, southern Georgia Strait, the Gulf and San Juan Archipelagos, Rosario Strait, Boundary Pass and Haro Strait, bounded on the northwest by 48°35'45"N.; and on the southwest by 48°23'30"N.; and on the west by the rhumb line joining 48°35'45"N., 124°47'30"W. with 48°23'30"N., 124°48'37"W.; and on the northeast in the Strait of Georgia, by a line drawn along 49°N. from Vancouver Island to Semiahmoo Bay; and on the southeast, by a line drawn from McCurdy Point on the Quimper Peninsula to Point Partridge on Whidbey Island. Canadian and United States Vessel Traffic Centers (Tofino, B.C., Canada, Vancouver, BC, Canada and Seattle, WA) manage traffic within the CVTS area irrespective of the International Boundary.

(2236) (c) VTS Special Areas. (1) The Rosario Strait VTS Special Area consists of those waters bounded to the south by the center of Precautionary Area "RB" (a circular area of 2,500 yards radius centered at 48°26'24"N., 122°45'12"W.), and to the north by the center of Precautionary Area "C" (a circular area of 2,500 yards radius centered at 48°40'34"N., 122°42'44"W.; Lighted Buoy "C"); and

(2237) **Note:** The center of precautionary area "RB" is not marked by a buoy. All precautionary areas are depicted on National Oceanic and Atmospheric Administration (NOAA) nautical charts.

(2238) (2) The Guemes Channel VTS Special Area consists of those waters bounded to the west by Shannon Point on Fidalgo Island and to the east by Southeast Point on Guemes Island.

(2239) (d) Additional VTS Special Area Operating Requirements. The following additional requirements are applicable in the Rosario Strait and Guemes Channel VTS Special Areas:

(2240) (1) A vessel engaged in towing shall not impede the passage of a vessel of 40,000 dead weight tons or more.

(2241) (2) A vessel of less than 40,000 dead weight tons is exempt from the provision set forth in §161.13(b)(1) of this part.

(2242) (3) A vessel of less than 100 meters in length is exempt from the provisions set forth in §161.13(b)(3) of this part. Approval will not be granted for:

(2243) (i) A vessel of 100 meters or more in length to meet or overtake; or cross or operate within 2,000 yards (except when crossing astern) of a vessel of 40,000 dead weight tons or more; or

(2244) (ii) A vessel of 40,000 dead weight tons or more to meet or overtake; or cross or operate within 2,000 yards (except when crossing astern) of a vessel of 100 meters or more in length.

(2245) (e) Reporting Point. Inbound vessels in the Strait of Juan de Fuca upon crossing 124°W.

§161.60 Vessel Traffic Service Prince William Sound.

(2246) (a) The VTS area consists of the navigable waters of the United States north of a line drawn from Cape Hinchinbrook Light to Schooner Rock Light, comprising that portion of Prince William Sound between 146°30'W. and 147°20'W. and includes Valdez Arm, Valdez Narrows and Port Valdez.

(2247) (b) The Valdez Arm VTS Special Area consists of the waters of the Valdez Arm Traffic Separation Scheme (described in §167.1703 of this chapter); the waters northeast of a line drawn from shoreline to shoreline thorough the points 60°58.04'N., 146°46.52'W. and 60°58.93'N., 146°48.86'W.; and southwest of a line bearing **307°** (T) from Tongue Point at 61°02.10'N., 146°40.00'W.

(2248) (c) The Valdez Narrows VTS Special Area consists of those waters of Valdez Arm, Valdez Narrows, and Port Valdez northeast of a line bearing **307°** True from Tongue Point at 61°02'06"N., 146°40'W.; and southwest of a line bearing **307°** True from Entrance Island Light at 61°05'06"N., 146°36'42"W.

(2249) (d) Additional VTS Special Area Operating Requirements. The following additional requirements are applicable in the Valdez Narrows VTS Special Area:

(2250) (1) No VMRS User shall proceed north of 61°N. without prior approval of the VTS.

(2251) (2) For a vessel listed in Paragraph (c)(3) of this section–

(2252) (i) Approval to enter this area will not be granted to a vessel when a tank vessel of more than 20,000 deadweight tons is navigating therein;

(2253) (ii) A northbound vessel shall remain south of 61°N. until the VTS has granted permission to proceed; and

(2254) (iii) A southbound vessel shall remain in Port Valdez east of 146°35'W. and north of 61°06'N. until the VTS has granted permission to proceed.

(2255) (3) Paragraph (c)(2) of this section applies to–

(2256) (i) A vessel of 1,600 gross tons or more; and

(2257) (ii) A towing vessel of 8 meters or more in length, except for a vessel performing duties as an escort vessel as defined in 33 CFR Part 168.

(2258) (e) Reporting Points.

Part 162–Inland Waterways Navigation Regulations

§162.1 General.

(2259) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless

such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

§162.195 Santa Monica Bay, Calif.; restricted area.

(2260) (a) The area. The waters of the Pacific Ocean, Santa Monica Bay, in an area extending seaward from the shoreline a distance of about 5 nautical miles (normal to the shoreline) and basically outlined as follows:

(2261) Station

(2262) A–33°54'59"N., 118°25'41"W.

(2263) B–33°54'59"N., 118°28'00"W.

(2264) C–33°53'59.5"N., 118°31'37"W.

(2265) D–33°56'19.5"N., 118°34'05"W.

(2266) E–33°56'25"N., 118°26'29"W.

(2267) (b) The regulations. (1) Vessels shall not anchor within the area at any time without permission.

(2268) (2) Dredging, dragging, seining, or other fishing operations which might foul underwater installations within the area are prohibited.

(2269) (3) All vessels entering the area, other than vessels operated by or for the United States, the State of California, the county of Los Angeles, or the city of Los Angeles, shall proceed across the area by the most direct route and without unnecessary delay. The area will be open and unrestricted to small recreational craft for recreational activities at all times.

(2270) (4) The placing of buoys, markers, or other devices requiring anchors will not be permitted.

(2271) (5) The city of Los Angeles will maintain a patrol of the area as needed.

§162.200 Marina del Rey, Calif.; restricted area.

(2272) (a) The area. That portion of the Pacific Ocean lying shoreward of the offshore breakwater and the most seaward 1,000 feet of the entrance channel between the north and south jetties, and basically outlined as follows:

(2273) Station

(2274) A–33°57'46.0"N., 118°27'39.5"W.

(2275) B–33°57'52.3"N., 118°27'43.6"W.

(2276) C–33°57'48.6"N., 118°27'48.8"W.

(2277) D–33°57'29.8"N., 118°27'34.7"W.

(2278) E–33°57'30.9"N., 118°27'29.1"W.

(2279) F–33°57'37.4"N., 118°27'33.8"W.

(2280) G–33°57'42.4"N., 118°27'23.0"W.

(2281) H–33°57'50.6"N., 118°27'28.3"W.

(2282) (b) The regulations. (1) Vessels shall not anchor within the area at any time without permission except in an emergency.

(2283) (2) Dredging, dragging, seining, or other fishing operations which might foul underwater installations within the area are prohibited.

(2284) NOTE: The Corps of Engineers also has regulations dealing with this section in 33 CFR 207.

§162.205 Suisun Bay, San Joaquin River, and connecting waters, CA.

(2285) (a) San Joaquin River Deep Water Channel between Suisun Bay and the easterly end of the channel at Stockton; use, administration, and navigation–

(2286) (1) Maximum speed. The maximum speed for all ocean-going craft shall not exceed 10 miles per hour above the lower end of New York Slough, seven miles per hour above Criminal Point, or five miles per hour while passing any wharf, dock, or moored craft. As used in this Paragraph, the speed of a vessel when navigating with the current shall be its rate of movement in excess of the velocity of the current.

(2287) (2) Passing. All craft passing other boats, barges, scows, etc., in motion, moored or anchored, shall slow down and take every necessary precaution to avoid damage.

(2288) (3) Right of way. (i) United States dredges, tugs, launches, derrick boats, and similar plant of contractors executing river and harbor improvement work for the United States, and displaying the signals prescribed by the regulations contained in 33 CFR 80, shall have the right of way and other craft shall exercise special caution to avoid interference with the work on which the plant is engaged. Dredges, whether Federal or contractors' plant, working the channel must, however, take special care to give ocean-going vessels sufficient room for passing, and must lift both spuds and the ladder, and pull clear, if an adequate width of clear channelway cannot otherwise be provided. Ocean-going vessels may show at the masthead a black ball not more than 20 inches in diameter as a signal to the dredge, and may also blow five long blasts of the whistle when within reasonable hearing distance of the dredge, such signal to be followed at the proper time by the passing signal described in the local pilot rules. The dredge shall promptly acknowledge both signals in the usual manner.

(2289) (ii) Light-draft vessels when meeting or being overtaken by ocean-going vessels, shall give the right of way to such vessels by making use of the shallower portions of the waterway.

(2290) (iii) Rafts and tows must promptly give the channel side demanded upon proper signal by a vessel, and must be handled in such a manner as not to obstruct or interfere with the free use of the waterway by other craft.

TABLE 161.60(d)—VTS PRINCE WILLIAM SOUND REPORTING POINTS

Designator	Geographic name	Geographic description	Latitude/ Longitude	Notes
1A	Cape Hinchinbrook	Cape Hinchinbrook	60°16'18"N 146°45'30"W	Northbound Only.
1B	Schooner Rock	Schooner Rock	60°18'42"N 146°51'36"W	Southbound Only.
2A	Naked Island	Naked Island	60°40'00"N 146°01'24"W	Northbound Only.
2B	Naked Island	Naked Island	60°40'00"N 146°05'00"W	Southbound Only.
3A	Bligh Reef	Bligh Reef Light (Pilot Embark) .	60°50'36"N 146°57'30"W	Northbound Only.
3B	Bligh Reef	Bligh Reef Light (Pilot Disembark).	60°51'00"N 146°01'24"W	Southbound Only.
4A	Rocky Point	Rocky Point	60°57'48"N 146°47'30"W	Northbound Only.
4B	Rocky Point	Rocky Point	60°5748”N 146°50’00”W	Southbound Only.
5	Entrance Island	Entrance Island Light.	61°05’24”N 146°37’30”W	

(2291) (4) Collisions. (i) Ocean-going vessels in collision in the channel or turning basin must, if still afloat and in a condition making anchorage necessary, be immediately removed to an approved anchorage ground, or if in such condition that beaching is necessary, they shall be temporarily beached on the northwest side of Mandeville Island or in the Old River.

(2292) (ii) Light-draft vessels suffering collision shall be disposed of as directed by the District Commander or his authorized representative.

(2293) (5) Wrecks. In no case following accidents of fire or collision will a vessel be allowed to remain either anchored or grounded in the channel, or beached at any place where it endangers other vessels, while settlement is pending with the underwriters.

(2294) (6) Other laws and regulations. In all other respects, the existing Federal laws and rules and regulations affecting navigable waters of the United States will govern in this channel.

(2295) (b) Sacramento Deep Water Ship Channel between Suisun Bay and easterly end of Turning Basin at West Sacramento; use, administration, and navigation–(1) Maximum speed for all ocean-going craft–(i) Between Tolands Landing (Mile 6.2) and Rio Vista Bridge. When going against a current of two knots or more, the maximum speed over the bottom shall not exceed 8 knots. When going with the current, in slack water, or against a current of two knots or less, the maximum speed through the water shall not exceed 10 knots.

(2296) (ii) Between Rio Vista Bridge and Port of Sacramento. When going against a current of two knots or more, the maximum speed over the bottom shall not exceed 5 knots. When going with the current, in slack water, or against a current of two knots or less, the maximum speed through the water shall not exceed 7 knots.

(2297) (iii) Speed past docks or moored craft. Within 550 feet of the centerline of the channel the speed shall be the minimum required to maintain steerageway; wind, tide, current, etc., being taken into consideration.

(2298) (iv) Passing. All craft passing other boats, barges, scows, etc., underway, moored or anchored, shall take every necessary precaution to avoid damage.

(2299) (v) Speed, high-water precautions. When passing another vessel (underway, anchored, or tied up); a wharf or other structure; work under construction; plant engaged in river and harbor improvement; levees withstanding flood waters; buildings partially or wholly submerged by high water; or any other structure liable to damage by collision, suction or wave action; vessels shall give as much leeway as circumstances permit and reduce their speed sufficiently to preclude causing damage to the vessel or structure being passed. As deemed necessary for public safety during high river stages, floods, or other emergencies, the District Commander may prescribe, by navigation bulletins or other means, the limiting speed in knots or temporarily close the waterway or any reach of it to traffic. Since this

subparagraph pertains directly to the manner in which vessels are operated, masters of vessels shall be held responsible for strict observance and full compliance herewith.

(2300) (2) Right of way. (i) Dredges, tugs, launches, derrick boats and other similar equipment, executing river and harbor improvement work for the United States, and displaying the signals prescribed by the regulations contained in 33 CFR 80, shall have the right-of-way and other craft shall exercise special caution to avoid interference with the work on which the plant is engaged. Dredges, whether Federal or contractor's plant, working the channel must however, take special care to give ocean-going vessels sufficient room for passing, and must lift both spuds and the ladder, and pull clear, if an adequate width of clear channelway cannot otherwise be provided.

(2301) (ii) Vessels intending to pass dredges or other types of floating plant working in navigable channels, when within a reasonable distance therefrom and not in any case over a mile, shall indicate such intention by one long blast of the whistle, and shall be directed to the proper side for passage by the sounding, by the dredge or other floating plant, of the signal prescribed in the inland pilot rules for vessels underway and approaching each other from opposite directions, which shall be answered in the usual manner by the approaching vessel. If the channel is not clear, the floating plant shall sound the alarm or danger signal and the approaching vessel shall slow down or stop and await further signal from the plant.

(2302) (iii) When the pipeline from a dredge crosses the channel in such a way that an approaching vessel cannot pass safely around the pipeline or dredge, there shall be sounded immediately from the dredge the alarm or danger signal and the approaching vessel shall slow down or stop and await further signal from the dredge. The pipeline shall then be opened and the channel cleared as soon as practicable; when the channel is clear for passage the dredge shall so indicate by sounding the usual passing signal as prescribed in Paragraph (c)(2)(ii) of this section. The approaching vessel shall answer with a corresponding signal and pass promptly.

(2303) (iv) When any pipeline or swinging dredge shall have given an approaching vessel or tow the signal that the channel is clear, the dredge shall straighten out within the cut for the passage of the vessel or tow.

(2304) (v) Shallow draft vessels when meeting or being overtaken by ocean-going vessels, shall give the right-of-way to such vessels by making use of the shallower portions of the waterway, wherever possible.

(2305) (vi) Tows should promptly give the channel side requested by proper signal from a vessel, and should be handled in such a manner as not to obstruct or interfere with the free use of the waterway by other craft.

(2306) (3) Obstruction of traffic. (i) Except as provided in Paragraph (c)(2) of this section no person shall willfully or carelessly obstruct the free navigation of the waterway, or delay any vessel having the right to use the waterway.

(2307) (ii) No vessel shall anchor within the channel except in distress or under stress of weather. Any vessel so anchored shall be moved as quickly as possible to such anchorage as will leave the channel clear for the passage of vessels.

(2308) (iii) Motorboats, sailboats, rowboats, and other small craft shall not anchor or drift in the regular ship channel except under stress of weather or in case of breakdown. Such craft shall be so operated that they will not interfere with or endanger the movement of commercial or public vessels.

(2309) (4) Collisions. (i) Ocean-going vessels in collision in the channel or turning basin, must if still afloat and in a condition making anchorage necessary, be immediately removed to an approved anchorage ground, or if in such condition that beaching is necessary, they shall be temporarily beached on the southwest side of Ryer Island from Mile 15.0 to Mile 16.3 or in the Harbor and Turning Basin at West Sacramento.

(2310) (ii) Light-draft vessels suffering collision shall be disposed of as directed by the District Commander or his authorized representative.

(2311) (5) Marine accidents. Masters, mates, pilots, owners, or other persons using the waterway to which this Paragraph applies shall notify the District Commander, and in the case of undocumented vessels, the State Division of Small Craft Harbors also, by the most expeditious means available of all marine accidents, such as fire, collision, sinking or stranding, where there is possible obstruction of the channel or interference with navigation or where damage to Government property is involved, furnishing a clear statement as to the name, address, and ownership of the vessel or vessels involved, the time and place, and the action taken. In all cases, the owner of the sunken vessel shall take immediate steps to mark the wreck properly.

(2312) (6) Other laws and regulations. In all other respects, existing Federal laws and rules and regulations affecting navigable waters of the United States will govern in this channel.

(2313) (c) Sacramento River, Decker Island Restricted Anchorage for Vessels of the U.S. Government–

(2314) (1) The anchorage ground. An elongated area in the Sacramento River bounded on the west by the shore of Decker Island and the following lines: Beginning on the shore at Decker Island North End Light at

(2315) 38°06'16"N., 121°42'32.5"W.; thence easterly to

(2316) 38°06'15"N., 121°42'27"W.; thence southerly to

(2317) 38°05'22"N., 121°42'30"W.; thence southwesterly to

(2318) 38°05'08"N., 121°42'40"W.; thence west southwesterly to

(2319) 38°05'02"N., 121°42'50"W.; thence northwesterly to the shore of Decker Island at

(2320) 38°05'04"N., 121°42'52.5"W.

(2321) (2) Special Regulation. No Vessel or other craft except those owned by or operating under contract with the United States may navigate or anchor within 50 feet of any moored Government vessel in the area. Commercial and pleasure craft shall not moor to buoys or chains of Government vessels, nor may they, while moored or underway, obstruct the passage of Government or other vessels through the area.

(2322) **NOTE:** The Corps of Engineers also has regulations dealing with this section in 33 CFR 207.

§162.210 Lake Tahoe, Calif.; restricted areas along south shore.

(2323) (a) The areas-(1) Baldwin Beach, under the control of the Forest Service, Department of Agriculture. The waters of Lake Tahoe shoreward of a line described as follows: Beginning at the intersection of the high waterline with the west boundary line of Lot 2, Section 26, Township 13 North (Mount Diablo Base Line), Range 17 East (Mount Diablo Meridian); thence north 300 feet; thence southeasterly about 2,850 feet to the east line of Section 26 at a point 300 feet north of the high waterline; thence northeasterly 1,740 feet to a point 300 feet north of the high waterline; thence southeasterly about 1,810 feet to the projected east line of the former Baldwin property at a point 300 feet north of the high waterline; and thence south 300 feet to the high waterline.

(2324) (2) Camp Richardson, under the control of the Forest Service, Department of Agriculture. The waters of Lake Tahoe shoreward of a line described as follows: Beginning at the southeasterly corner of sec. 25, T. 13 N., R. 17 E., Mount Diablo Base and Meridan; thence north 410 feet along the east line of sec. 25; thence northwesterly 95 feet to the high waterline which is the true point of beginning; thence north 130 feet; thence southeasterly 565 feet; and thence south 130 feet to the high waterline.

(2325) (3) Pope Beach, under the control of the Forest Service, Department of Agriculture. The waters of Lake Tahoe shoreward of a line described as follows: Beginning at the intersection of the high waterline with the west line of the former Pope property, about 750 feet westerly of the west boundary line of Lot 2, Section 6, Township 12 North (Mount Diablo Base Line), Range 18 East (Mount Diablo Meridian); thence north 300 feet; thence southeasterly 4,200 feet to a point 300 feet north of the high waterline; and thence south 300 feet to the high waterline.

(2326) (4) El Dorado County Beach. The waters of Lake Tahoe shoreward of a line described as follows: Beginning at the intersection of the high waterline with the west boundary line of Lot 1, Section 32, Township 13 North (Mount Diablo Base Line), Range 18 East (Mount Diablo Meridian); thence north 500 feet; thence northeasterly about 1,350 feet to the projected east line of Lot 1 at a point 500 feet north of the high waterline; and thence south 500 feet to the high waterline.

(2327) (b) The regulations. No sail or machine-propelled watercraft, except vessels owned or controlled by the U.S. Coast Guard, shall navigate or anchor in the restricted area.

§162.215 Lake Tahoe, Nev.; restricted area adjacent to Nevada Beach.

(2328) (a) The restricted area. The waters of Lake Tahoe shoreward of a line described as follows: Beginning at the intersection of the high waterline with a line projected in a general southerly direction 200 feet from a point lying 310 feet west of section corner common to section 15, 16, 21, and 22, Township 13 North (Mt. Diablo Base Line), Range 18 East (Mt. Diablo Meridian); thence 300 feet lakeward at right angles to the high waterline; thence southeasterly approximately 2,170 feet to the projected south boundary line of the Forest Service property at a point 300 feet west of the high waterline; and thence east 300 feet to the high waterline.

(2329) (b) The regulations. No sail or motor propelled water craft, except vessels owned or controlled by the United States Government and vessels duly authorized by the United States Coast Guard shall navigate or anchor in the restricted area.

§162.220 Hoover Dam, Lake Mead, and Lake Mohave (Colorado River), Ariz.-Nev.

(2330) (a) Lake Mead and Lake Mohave; restricted areas–(1) The areas. That portion of Lake Mead extending 700 feet upstream of the axis of Hoover Dam and that portion of Lake Mohave (Colorado River) extending 4,500 feet downstream of the axis of Hoover Dam.

(2331) (2) The regulations. The restricted areas shall be closed to navigation and other use by the general public. Only vessels owned by or controlled by the U.S. Government and the States of Arizona and Nevada shall navigate or anchor in the restricted areas: Provided, however, The Regional Director, Region 3, U.S. Bureau of Reclamation, Boulder City, Nev., may authorize, by written permit, individuals or groups to navigate or anchor in the restricted areas when it is deemed in the

public interest. Copies of said permits shall be furnished to the enforcing agencies.

(2332) (b) Lake Mead; speed regulation. In that portion of Lake Mead extending 300 feet upstream of the restricted area described in Paragraph (a) of this section, a maximum speed of 5 miles per hour shall not be exceeded.

(2333) (c) Supervision. The regulations in this section shall be supervised by the District Commander, Eleventh Coast Guard District.

§162.225 Columbia and Willamette Rivers, Washington and Oregon; administration and navigation.

(2334) (a) Supervision. The District Commander, Thirteenth Coast Guard District, has certain administrative supervision over the Columbia and Willamette Rivers, and is charged with the enforcement under his direction of emergency regulations to govern navigation of these streams.

(2335) (b) Speed. During very high water stages (usually 25 feet or more on the Vancouver, Washington, gage) when lives, floating plant or major shore installations are endangered, the District Commander shall have authority to prescribe such temporary speed regulations as he may deem necessary for the public safety. During critical periods of freshets under 25 feet on the Vancouver, Washington, gage when construction is in progress, rehabilitation, or other unusual emergency makes a major shore installation susceptible to loss or major damage from wave action, the District Commander shall have authority to prescribe for a particular limited reach of the river as appropriate such temporary speed regulations as he may deem necessary to protect the integrity of such structure. All speed regulations prescribed by the District Commander shall be obeyed for the duration of the emergency and shall be terminated at the earliest practicable time that improved stream conditions permit.

§162.230 Columbia River, Wash.

(2336) (a) Grand Coulee Dam discharge channel; restricted area–(1) The area. That portion of the Columbia River between Grand Coulee Dam (situated at river mile 596.6) and river mile 593.7.

(2337) (2) The regulations. (i) No vessel shall enter or navigate within the area without permission from the enforcing agency.

(2338) (ii) The regulation in this section shall be enforced by the Chief, Power Field Division, Columbia Basin Project, U.S. Department of the Interior, Coulee Dam, Washington.

§162.235 Puget Sound Area, Wash.

(2339) (a) Waterway connecting Port Townsend and Oak Bay; use, administration, and navigation-(1) Works to which regulations apply. The "canal grounds" when used in this Paragraph shall mean that area between the south end of the jetties in Oak Bay and the northerly end of the dredge channel approximately 400 yards northwest of Port Townsend Canal Light. The "canal" is the water lying between these limits and the banks containing the same.

(2340) (2) Speed. The speed limit within the canal grounds shall not exceed five miles per hour.

(2341) (3) Signals. All boats desiring to use the canal shall give one long and one short whistle. Southbound boats shall sound the signal within 600 yards of Port Townsend Canal Light. Northbound boats shall sound this signal at least 500 feet south from the end of the jetties in Oak Bay. If no other boat answers the signal the first boat shall have the right of way through the canal. Any approaching boat that is in the canal shall answer by giving the same signal and the first boat shall not enter the canal until the second boat shall have passed through the canal. In the case of boats going in the same direction the boat which is in the canal shall not answer the signal of the boat desiring to enter.

(2342) (4) Passing. Steamers shall not under any circumstances attempt to pass each other in the canal, either when going in the same or opposite directions.

(2343) (5) Anchoring. No steamers or boats shall anchor or tie up within the canal grounds unless they are well over on the tide flats to the west of the dredged channel, and off the right of way belonging to the United States.

(2344) (6) Tows. No tow shall enter or pass through the canal with a towline more than 200 feet in length.

(2345) (7) Delaying traffic. No person shall cause or permit any vessel or boat of which he is in charge, or on which he is employed, to obstruct the canal in any way or delay in passing through it.

(2346) (b) West Waterway, Seattle Harbor; navigation. (1) The movement of vessels of 250 gross tons or over and all vessels with tows of any kind through the narrow section of West Waterway between the bend at Fisher's Flour Mill dock and the bend at the junction of East Waterway with Duwamish Waterway, and through the draws of the City of Seattle and Northern Pacific Railway Company bridges crossing this narrow section, shall be governed by red and green traffic signal lights mounted on the north and south sides of the west tower of the City Light power crossing at West Spokane Street.

(2347) (2) Two green lights, one vertically above the other, displayed ahead of a vessel, shall indicate that the waterway is clear. Two red lights, one vertically above the

other, displayed ahead of a vessel, shall indicate that the waterway is not clear.

(2348) (3) A vessel approaching the narrow section and drawbridges from either end of the waterway shall give one long blast of a whistle and shall not enter the narrow section until green lights are displayed.

(2349) (4) One vessel may follow another vessel in either direction, but the channel shall not be kept open in the same direction for an unreasonable time if a vessel is waiting at the other end.

(2350) (5) Tugs, launches, and small craft shall keep close to one side of the channel when vessels or boats with tows are passing.

(2351) (6) All craft shall proceed with caution. The display of a green light is not a guarantee that the channel is clear of traffic, and neither the United States nor the City of Seattle will be responsible for any damage to vessels or other property which may be chargeable to mistakes in the operation of the signal lights or to their failure to operate.

(2352) **NOTE:** The Corps of Engineers also has regulations dealing with this section in 33 CFR 207.

§162.270 Restricted areas in vicinity of Maritime Administration Reserve Fleets.

(2353) (a) The regulations in this section shall govern the use and navigation of waters in the vicinity of the following National Defense Reserve Fleets of the Maritime Administration, Department of Transportation.

(2354) (1) James River Reserve Fleet, Fort Eustis, Virginia.

(2355) (2) Beaumont Reserve Fleet, Neches River near Beaumont, Texas.

(2356) (3) Suisun Bay Reserve Fleet near Benicia, California.

(2357) (b) No vessels or other watercraft, except those owned or controlled by the United States Government, shall cruise or anchor between Reserve Fleet units within 500 feet of the end vessels in each Reserve Fleet unit, or within 500 feet of the extreme units of the fleets, unless specific permission to do so has first been granted in each case by the enforcing agency.

(2358) (c) The regulations in this section shall be enforced by the respective Fleet Superintendents and such agencies as they may designate.

Part 164–Navigation Safety Regulations (in part). For a complete description of this part see 33 CFR 164.

§164.01 Applicability.

(2359) (a) This part (except as specifically limited by this section) applies to each self-propelled vessel of 1600 or more gross tons (except as provided in Paragraph (c) and (d) of this section, or for foreign vessels described in §164.02) when it is operating in the navigable waters of the United States except the St. Lawrence Seaway.

(2360) (b) Sections 164.70 through 164.82 of this part apply to each towing vessel of 12 meters (39.4 feet) or more in length operating in the navigable waters of the United States other than the St. Lawrence Seaway; except that a towing vessel is exempt from the requirements of §164.72 if it is–

(2361) (1) Used solely within a limited geographic area, such as a fleeting-area for barges or a commercial facility, and used solely for restricted service, such as making up or breaking up larger tows;

(2362) (2) Used solely for assistance towing as defined by 46 CFR 10.103;

(2363) (3) Used solely for pollution response; or

(2364) (4) Any other vessel exempted by the Captain of the Port (COTP). The COTP, upon written request, may, in writing, exempt a vessel from §164.72 for a specified route if he or she decides that exempting it would not allow its unsafe navigation under anticipated conditions.

(2365) (c) Provisions of §§164.11(a)(2) and (c), 164.30, 164.33, and 164.46 do not apply to warships or other vessels owned, leased, or operated by the United States Government and used only in government noncommercial service when these vessels are equipped with electronic navigation systems that have met the applicable agency regulations regarding navigation safety.

(2366) (d) Provisions of §164.46 apply to some self-propelled vessels of less 1600 gross tonnage.

§164.02 Applicability exception for foreign vessels.

(2367) (a) Except as provided in §164.46(a)(2) of this part including §§164.38 and 164.39, this part does not apply to vessels that:

(2368) (1) Are not destined for, or departing from, a port or place subject to the jurisdiction of the United States; and

(2369) (2) Are in:

(2370) (i) Innocent passage through the territorial sea of the United States; or

(2371) (ii) Transit through navigable waters of the United States which form a part of an international strait.

§164.03 Incorporation by references.

(2372) (a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in Paragraph (b) of this section, the Coast Guard must

publish notice of change in the Federal Register and the material must be available to the public. All approved material is available for inspection at the Navigation Systems Division (CG-5413), Coast Guard Headquarters, 2100 Second Street, SW., Washington, DC 20593-0001 and at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*. All approved material is available from the sources indicated in Paragraph (b) of this section.

(2373) (b) The materials approved for incorporation by reference in this part and the sections affected are as follows:

(2374) *American Petroleum Institute (API)*, 1220 L Street NW., Washington, DC 20005

(2375) API Specifications 9A, Specification for Wire Rope, Section 3, Properties and Tests for Wire and Wire Rope, May 28, 1984. . . . . **164.74**

(2376) *American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.*

(2377) ASTM D4268-93, Standard Test Method for Testing Fiber Ropes **164.74**

(2378) *Cordage Institute*, 350 Lincoln Street, Hingham, MA 02043

(2379) CIA-3, Standard Test Methods for Fiber Rope Including Standard Terminations, Revised, June 1980 . . . . . **164.74**

(2380) *International Electrotechnical Commission (IEC)*, 3, rue de Varemb, Geneva, Switzerland.

(2381) IEC 61993–2, Maritime navigation and radiocommunication equipment and systems—

(2382) Automatic identification systems (AIS)—part 2: Class A shipborne equipment of the universal automatic identification system (AIS)—Operational and performance requirements, methods of test and required test results First edition, 2001–12 . . . **164.46**

(2383) *International Maritime Organization (IMO)*, 4 Albert Embankment, London SE1 7SR, U.K. IMO Resolution A342(IX), Recommendation on Performance Standards for Automatic Pilots, adopted November 12, 1975 . . . . . **164.13**

(2384) Resolution MSC.74(69), Annex 3, Recommendation on Performance Standards for a Universal Shipborne Automatic Identification System (AIS), adopted May 12, 1998 . . . . . **164.46**

(2385) SN/Circ.227, Guidelines for the Installation of a Shipborne Automatic Identification System (AIS), dated January 6, 2003 . . . . . **164.46**

(2386) SOLAS, International Convention for Safety of Life at Sea, 1974, and 1988 Protocol relating thereto, 2000 Amendments, effective January and July 2002, (SOLAS 2000 Amendments) **164.46**

(2387) Conference resolution 1, Adoption of amendments to the Annex to the International Convention for the Safety of Life at Sea, 1974, and amendments to Chapter V of SOLAS 1974, adopted December 12, 2002. .**164.46**

(2388) *International Telecommunication Union Radiocommunication Bureau (ITU-R)*, Place de Nations CH-1211 Geneva 20 Switzerland

(2389) (1) ITU-R Recommendation M.821, Optional Expansion of the Digital Selective-Calling System for Use in the Maritime Mobile Service, 1992 . . . . . **164.43**

(2390) (2) ITU-R Recommendation M.825, Characteristics of a Transponder System Using Digital Selective-Calling Techniques for Use with Vessel Traffic Services and Ship-to-Ship Identification, 1992. . . . . **164.43**

(2391) ITU–R Recommendation M.1371–1, Technical characteristics for a universal shipborne automatic identification system using time division multiple access in the VHF maritime mobile band, 1998-2001 . . . . . **164.46**

(2392) *Radio Technical Commission for Maritime Services*, 655 Fifteenth Street, NW., Suite 300, Washington, DC 20005

(2393) (1) RTCM Paper 12-78/DO-100, Minimum Performance Standards, Loran C Receiving Equipment, 1977 . . . . . **164.41**

(2394) (2) RTCM Paper 194-93/SC104-STD, RTCM Recommended Standards for Differential NAVSTAR GPS Service, Version 2.1, 1994 . . . . . **164.43**

(2395) (3) RTCM Paper 71-95/SC112-STD, RTCM Recommended Standards for Marine Radar Equipment Installed on Ships of Less Than 300 Tons Gross Tonnage, Version 1.1, October 10, 1995 . . . . . **164.72**

(2396) (4) RTCM Paper 191-93/SC112-X, RTCM Recommended Standards for Maritime Radar Equipment Installed on Ships of 300 Tons Gross Tonnage and Upwards, Version 1.2, December 20, 1993 . . **164.72**

§164.11 Navigation underway: General.

(2397) The owner, master, or person in charge of each vessel underway shall ensure that:

(2398) (a) The wheelhouse is constantly manned by persons who–

(2399) (1) Direct and control the movement of the vessel; and

(2400) (2) Fix the vessel's position;

(2401) (b) Each person performing a duty described in Paragraph (a) of this section is competent to perform that duty;

(2402) (c) The position of the vessel at each fix is plotted on a chart of the area and the person directing the movement of the vessel is informed of the vessel's position;

(2403) (d) Electronic and other navigational equipment, external fixed aids to navigation, geographic reference points, and hydrographic contours are used when fixing the vessel's position;

(2404) (e) Buoys alone are not used to fix the vessel's position;

(2405) **Note:** Buoys are aids to navigation placed in approximate positions to alert the mariner to hazards to navigation or to indicate the orientation of a channel. Buoys may not maintain an exact position because strong or varying currents, heavy seas, ice, and collisions with vessels can move or sink them or set them adrift. Although buoys may corroborate a position fixed by other means, buoys cannot be used to fix a position: however, if no other aids are available, buoys alone may be used to establish an estimated position.

(2406) (f) The danger of each closing visual or each closing radar contact is evaluated and the person directing the movement of the vessel knows the evaluation;

(2407) (g) Rudder orders are executed as given;

(2408) (h) Engine speed and direction orders are executed as given;

(2409) (i) Magnetic variation and deviation and gyrocompass errors are known and correctly applied by the person directing the movement of the vessel;

(2410) (j) A person whom he has determined is competent to steer the vessel is in the wheelhouse at all times (See also 46 U.S.C. 8702(d), which requires an able seaman at the wheel on U.S. vessels of 100 gross tons or more in narrow or crowded waters during low visibility);

(2411) (k) If a pilot other than a member of the vessel's crew is employed, the pilot is informed of the draft, maneuvering characteristics, and peculiarities of the vessel and of any abnormal circumstances on the vessel that may affect its safe navigation.

(2412) (1) Current velocity and direction for the area to be transited are known by the person directing the movement of the vessel;

(2413) (m) Predicted set and drift are known by the person directing movement of the vessel;

(2414) (n) Tidal state for the area to be transited is known by the person directing movement of the vessel;

(2415) (o) The vessel's anchors are ready for letting go;

(2416) (p) The person directing the movement of the vessel sets the vessel's speed with consideration for–

(2417) (1) The prevailing visibility and weather conditions;

(2418) (2) The proximity of the vessel to fixed shore and marine structures;

(2419) (3) The tendency of the vessel underway to squat and suffer impairment of maneuverability when there is small underkeel clearance;

(2420) (4) The comparative proportions of the vessel and the channel;

(2421) (5) The density of marine traffic;

(2422) (6) The damage that might be caused by the vessel's wake;

(2423) (7) The strength and direction of the current; and

(2424) (8) Any local vessel speed limit;

(2425) (q) The tests required by §164.25 are made and recorded in the vessel's log; and

(2426) (r) The equipment required by this part is maintained in operable condition.

(2427) (s) Upon entering U.S. waters, the steering wheel or lever on the navigating bridge is operated to determine if the steering equipment is operating properly under manual control, unless the vessel has been steered under manual control from the navigating bridge within the preceding 2 hours, except when operating on the Great Lakes and their connecting and tributary waters.

(2428) (t) At least two of the steering-gear power units on the vessel are in operation when such units are capable of simultaneous operation, except when the vessel is sailing on the Great Lakes and their connecting and tributary waters, and except as required by Paragraph (u) of this section.

(2429) (u) On each passenger vessel meeting the requirements of the International Convention for the Safety of Life at Sea, 1960 (SOLAS 60) and on each cargo vessel meeting the requirements of SOLAS 74 as amended in 1981, the number of steering-gear power units necessary to move the rudder from 35° on either side to 30° on the other in not more than 28 seconds must be in simultaneous operation.

§164.13 Navigation underway: tankers.

(2430) (a) As used in this section, "tanker" means a self-propelled tank vessel, including integrated tug barge combinations, constructed or adapted primarily to carry oil or hazardous material in bulk in the cargo spaces and inspected and certificated as a tanker.

(2431) (b) Each tanker must have an engineering watch capable of monitoring the propulsion system, communicating with the bridge, and implementing manual control measures immediately when necessary. The watch must be physically present in the machinery spaces or in the main control space and must consist of at least a licensed engineer.

(2432) (c) Each tanker must navigate with at least two licensed deck officers on watch on the bridge, one of whom may be a pilot. In waters where a pilot is required, the second officer, must be an individual licensed and assigned to the vessel as master, mate, or officer in charge of a navigational watch, who is separate and distinct from the pilot.

(2433) (d) Except as specified in Paragraph (e) of this section, a tanker may operate with an auto pilot engaged only if all of the following conditions exist:

(2434) (1) The operation and performance of the automatic pilot conforms with the standards recommended by the International Maritime Organization in IMO Resolution A.342(IX).

(2435) (2) A qualified helmsman is present at the helm and prepared at all times to assume manual control.

(2436) (3) The tanker is not operating in any of the following areas:

(2437) (i) The areas of the traffic separation schemes specified in subchapter P of this chapter.

(2438) (ii) The portions of a shipping safety fairway specified in part 166 of this chapter.

(2439) (iii) An anchorage ground specified in part 110 of this chapter.

(2440) (iv) An area within one-half nautical mile of any U.S. shore.

§164.15 Navigation bridge visibility.

(2441) (a) The arrangement of cargo, cargo gear, and trim of all vessels entering or departing from U.S. ports must be such that the field of vision from the navigation bridge conforms as closely as possible to the following requirements:

(2442) (1) From the conning position, the view of the sea surface must not be obscured by more than the lesser of two ship lengths or 500 meters (1640 feet) from dead ahead to 10 degrees on either side of the vessel. Within this arc of visibility any blind sector caused by cargo, cargo gear, or other permanent obstruction must not exceed 5 degrees.

(2443) (2) From the conning position, the horizontal field of vision must extend over an arc from at least 22.5 degrees abaft the beam on one side of the vessel, through dead ahead, to at least 22.5 degrees abaft the beam on the other side of the vessel. Blind sectors forward of the beam caused by cargo, cargo gear, or other permanent obstruction must not exceed 10 degrees each, nor total more than 20 degrees, including any blind sector within the arc of visibility described in Paragraph (a)(1) of this section.

(2444) (3) From each bridge wing, the field of vision must extend over an arc from at least 45 degrees on the opposite bow, through dead ahead, to at least dead astern.

(2445) (4) From the main steering position, the field of vision must extend over an arc from dead ahead to at least 60 degrees on either side of the vessel.

(2446) (b) Clear view must be provided through at least two front windows at all times regardless of weather condition.

§164.19 Requirements for vessels at anchor.

(2447) The master or person in charge of each vessel that is anchored shall ensure that–

(2448) (a) A proper anchor watch is maintained;

(2449) (b) Procedures are followed to detect a dragging anchor; and

(2450) (c) Whenever weather, tide, or current conditions are likely to cause the vessel's anchor to drag, action is taken to ensure the safety of the vessel, structures, and other vessels, such as being ready to veer chain, let go a second anchor, or get underway using the vessel's own propulsion or tug assistance.

§164.25 Tests before entering or getting underway.

(2451) (a) Except as provided in paragraphs (b) and (c) of this section no person may cause a vessel to enter into or get underway on the navigable waters of the United States unless no more than 12 hours before entering or getting underway, the following equipment has been tested:

(2452) (1) Primary and secondary steering gear. The test procedure includes a visual inspection of the steering gear and its connecting linkage, and where applicable, the operation of the following:

(2453) (i) Each remote steering gear control system.

(2454) (ii) Each steering position located on the navigating bridge.

(2455) (iii) The main steering gear from the alternative power supply, if installed.

(2456) (iv) Each rudder angle indicator in relation to the actual position of the rudder.

(2457) (v) Each remote steering gear control system power failure alarm.

(2458) (vi) Each remote steering gear power unit failure alarm.

(2459) (vii) The full movement of the rudder to the required capabilities of the steering gear.

(2460) (2) All internal vessel control communications and vessel control alarms.

(2461) (3) Standby or emergency generator, for as long as necessary to show proper functioning, including steady state temperature and pressure readings.

(2462) (4) Storage batteries for emergency lighting and power systems in vessel control and propulsion machinery spaces.

(2463) (5) Main propulsion machinery, ahead and astern.

(2464) (b) Vessels navigating on the Great Lakes and their connecting and tributary waters, having once completed the test requirements of this sub-part, are considered to remain in compliance until arriving at the next port of call on the Great Lakes.

(2465) (c) Vessels entering the Great Lakes from the St. Lawrence Seaway are considered to be in compliance with this sub-part if the required tests are conducted preparatory to or during the passage of the St. Lawrence Seaway or within one hour of passing Wolfe Island.

(2466) (d) No vessel may enter, or be operated on the navigable waters of the United States unless the emergency steering drill described below has been conducted within 48 hours prior to entry and logged in the vessel logbook, unless the drill is conducted and logged on a regular basis at least once every three months. This drill must include at a minimum the following:

(2467) (1) Operation of the main steering gear from within the steering gear compartment.

(2468) (2) Operation of the means of communications between the navigating bridge and the steering compartment.

(2469) (3) Operation of the alternative power supply for the steering gear if the vessel is so equipped.

§164.30 Charts, publications, and equipment: General.

(2470) No person may operate or cause the operation of a vessel unless the vessel has the marine charts, publications, and equipment as required by §§164.33 through 164.41 of this part.

§164.33 Charts and publications.

(2471) (a) Each vessel must have the following:

(2472) (1) Marine charts of the area to be transited, published by the National Ocean Service, U.S. Army Corps of Engineers, or a river authority that–

(2473) (i) Are of a large enough scale and have enough detail to make safe navigation of the area possible; and

(2474) (ii) Are currently corrected.

(2475) (2) For the area to be transited, a currently corrected copy of, or applicable currently corrected extract from, each of the following publications:

(2476) (i) U.S. Coast Pilot.

(2477) (ii) Coast Guard Light List.

(2478) (3) For the area to be transited, the current edition of, or applicable current extract from:

(2479) (i) Tide tables published by private entities using data provided by the National Ocean Service.

(2480) (ii) Tidal current tables published by private entities using data provided by the National Ocean Service, or river current publication issued by the U.S. Army Corps of Engineers, or a river authority.

(2481) (b) As an alternative to the requirements for Paragraph (a) of this section, a marine chart or publication, or applicable extract, published by a foreign government may be substituted for a U.S. chart and publication required by this section. The chart must be of large enough scale and have enough detail to make safe navigation of the area possible, and must be currently corrected. The publication, or applicable extract, must singly or in combination contain similar information to the U.S. Government publication to make safe navigation of the area possible. The publication, or applicable extract must be currently corrected, with the exceptions of tide and tidal current tables, which must be the current editions.

(2482) (c) As used in this section, "currently corrected" means corrected with changes contained in all Notices to Mariners published by the National Geospatial-Intelligence Agency, or an equivalent foreign government publication, reasonably available to the vessel, and that is applicable to the vessel's transit.

§164.35 Equipment: All vessels.

(2483) Each vessel must have the following:

(2484) (a) A marine radar system for surface navigation.

(2485) (b) An illuminated magnetic steering compass, mounted in a binnacle, that can be read at the vessel's main steering stand.

(2486) (c) A current magnetic compass deviation table or graph or compass comparison record for the steering compass, in the wheelhouse.

(2487) (d) A gyrocompass.

(2488) (e) An illuminated repeater for the gyrocompass required by Paragraph (d) of this section that is at the main steering stand, unless that gyrocompass is illuminated and is at the main steering stand.

(2489) (f) An illuminated rudder angle indicator in the wheelhouse.

(2490) (g) The following maneuvering information prominently displayed on a fact sheet in the wheelhouse:

(2491) (1) A turning circle diagram to port and starboard that shows the time and distance and advance and transfer required to alter course 90 degrees with maximum rudder angle and constant power settings, for either full or half speeds, or for full and slow speeds. For vessels whose turning circles are essentially the same for both directions, a diagram showing a turning circle in one direction, with a note on the diagram stating that turns to port and starboard are essentially the same, may be substituted.

(2492) (2) The time and distance to stop the vessel from either full and half speeds, or from full and slow speeds, while maintaining approximately the initial heading with minimum application of rudder.

(2493) (3) For each vessel with a fixed propeller, a table of shaft revolutions per minute for a representative range of speeds.

(2494) (4) For each vessel with a controllable pitch propeller, a table of control settings for a representative range of speeds.

(2495) (5) For each vessel that is fitted with an auxiliary device to assist in maneuvering, such as a bow thruster, a table of vessel speeds at which the auxiliary device is effective in maneuvering the vessel.

(2496) (6) The maneuvering information for the normal load and normal ballast condition for–

(2497) (i) Calm weather-wind 10 knots or less, calm sea;

(2498) (ii) No current;

(2499) (iii) Deep water conditions-water depth twice the vessel's draft or greater; and

(2500) (iv) Clean hull.

(2501) (7) At the bottom of the fact sheet, the following statement:

Warning

(2502) The response of the (name of the vessel) may be different from that listed above if any of the following conditions, upon which the maneuvering information is based, are varied:

(2503) (1) Calm weather-wind 10 knots or less, calm sea;

(2504) (2) No current;

(2505) (3) Water depth twice the vessel's draft or greater;

(2506) (4) Clean hull; and

(2507) (5) Intermediate drafts or unusual trim.

(2508) (h) An echo depth sounding device.

(2509) (i) A device that can continuously record the depth readings of the vessel's echo depth sounding device, except when operating on the Great Lakes and their connecting and tributary waters.

(2510) (j) Equipment on the bridge for plotting relative motion.

(2511) (k) Simple operating instructions with a block diagram, showing the changeover procedures for remote steering gear control systems and steering gear power units, permanently displayed on the navigating bridge and in the steering gear compartment.

(2512) (1) An indicator readable from the centerline conning position showing the rate of revolution of each propeller, except when operating on the Great Lakes and their connecting and tributary waters.

(2513) (m) If fitted with controllable pitch propellers, an indicator readable from the centerline conning position showing the pitch and operational mode of such propellers, except when operating on the Great Lakes and their connecting and tributary waters.

(2514) (n) If fitted with lateral thrust propellers, an indicator readable from the centerline conning position showing the direction and amount of thrust of such propellers, except when operating on the Great Lakes and their connecting and tributary waters.

(2515) (o) A telephone or other means of communication for relaying headings to the emergency steering station. Also, each vessel of 500 gross tons and over and constructed on or after June 9, 1995 must be provided with arrangements for supplying visual compass-readings to the emergency steering station.

§164.37 Equipment: Vessels of 10,000 gross tons or more.

(2516) (a) Each vessel of 10,000 gross tons or more must have, in addition to the radar system under §164.35(a), a second marine radar system that operates independently of the first.

(2517) **NOTE:** Independent operation means two completely separate systems, from separate branch power supply circuits or distribution panels to antennas, so that failure of any component of one system will not render the other system inoperative.

(2518) (b) On each tanker of 10,000 gross tons or more that is subject to 46 U.S.C. 3708, the dual radar system required by this part must have a short range capability and a long range capability; and each radar must have true north features consisting of a display that is stabilized in azimuth.

§164.38 Automatic radar plotting aids (ARPA). (See 33 CFR 164.)

§164.39 Steering gear; Foreign tankers.

(2519) (a) This section applies to each foreign tanker of 10,000 gross tons or more, except a public vessel, that–

(2520) (1) Transfers oil at a port or place subject to the jurisdiction of the United States; or

(2521) (2) Otherwise enters or operates in the navigable waters of the United States, except a vessel described by §164.02 of this part.

(2522) (b) *Definitions*. The terms used in this section are as follows:

(2523) *Constructed* means the same as in Chapter II-1, Regulationsn1.1.2 and 1.1.3.1, of SOLAS 74.

(2524) *Existing tanker* means a tanker–

(2525) (1) For which the building contract is placed on or after June 1, 1979;

(2526) (2) In the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after January 1, 1980;

(2527) (3) The delivery of which occurs on or after June 1, 1982; or

(2528) (4) That has undergone a major conversion contracted for on or after June 1, 1979; or construction of which was begun on or after January 1, 1980, or completed on or after June 1, 1982.

(2529) *Public vessel, oil hazardous materials, and foreign vessel* mean the same as in 46 U.S.C. 2101.

(2530) *SOLAS 74* means the International Convention for the Safety of Life at Sea, 1974, as amended.

(2531) *Tanker* means a self-propelled vessel defined as a tanker by 46 U.S.C. 2101(38) or as a tank vessel by 46 U.S.C. 2101(39).

(2532) (c) Each tanker constructed on or after September 1, 1984, must meet the applicable requirements of Chapter II-1, Regulations 29 and 30, of SOLAS 74.

(2533) (d) Each tanker constructed before September 1, 1984, must meet the requirements of Chapter II-1, Regulation 29.19, of SOLAS 74.

(2534) (e) Each tanker of 40,000 gross tons or more, constructed before September 1, 1984, that does not meet the single-failure criterion of Chapter II-1, Regulation 29.16, of SOLAS 74, must meet the requirements of Chapter II-1, Regulation 29.20, of SOLAS 74.

(2535) (f) Each tanker constructed before September 1, 1984, must meet the applicable requirements of Chapter II-1, Regulations 29.14 and 29.15, of SOLAS 74.

§164.40 Devices to indicate speed and distance.

(2536) (a) Each vessel required to be fitted with an Automatic Radar Plotting Aid (ARPA) under §164.38 must be fitted with a device to indicate speed and distance of the vessel either through the water, or over the ground. Vessels constructed prior to September 1, 1984, must have this equipment according to the following schedule:

(2537) (1) Each tank vessel constructed before September 1, 1984, operating on the navigable waters of the United States–

(2538) (i) If of 40,000 gross tons or more, by January 1, 1985;

(2539) (ii) If of 10,000 gross tons or more but less than 40,000 gross tons, by January 1, 1986.

(2540) (2) Each self-propelled vessel constructed before September 1, 1984, that is not a tank vessel, operating on the navigable waters of the United States–

(2541) (i) If of 40,000 gross tons or more, by September 1, 1986;

(2542) (ii) If of 20,000 gross tons or more, but less than 40,000 gross tons, by September 1, 1987;

(2543) (iii) If of 15,000 gross tons or more, but less than 20,000 gross tons, by September 1, 1988.

(2544) (b) The device must meet the following specifications:

(2545) (1) The display must be easily readable on the bridge by day or night.

(2546) (2) Errors in the indicated speed, when the vessel is operating free from shallow water effect, and from the effects of wind, current, and tide, should not exceed 5 percent of the speed of the vessel, or 0.5 knot, whichever is greater.

(2547) (3) Errors in the indicated distance run, when the vessel is operating free from shallow water effect, and from the effects of wind, current, and tide, should not exceed 5 percent of the distance run of the vessel in one hour or 0.5 nautical mile in each hour, whichever is greater.

§164.41 Electronic position fixing devices.

(2548) (a) Each vessel calling at a port in the continental United States, including Alaska south of Cape Prince of Wales, except each vessel owned or bareboat chartered and operated by the United States, or by a state or its political subdivision, or by a foreign nation, and not engaged in commerce, must have one of the following:

(2549) (1) A Type I or II LORAN C receiver as defined in Section 1.2(e), meeting Part 2 (Minimum Performance Standards) of the Radio Technical Commission for Marine Services (RTCM) Paper 12-78/DO-100 dated December 20, 1977, entitled "Minimum Performance Standards (MPS) Marine Loran-C Receiving Equipment". Each receiver installed on or after June 1, 1982, must have a label with the information required under Paragraph (b) of this section. If the receiver is installed before June 1, 1982, the receiver must have the label with the information required under Paragraph (b) by June 1, 1985.

(2550) (2) A satellite navigation receiver with:

(2551) (i) Automatic acquisition of satellite signals after initial operator settings have been entered; and

(2552) (ii) Position updates derived from satellite information during each usable satellite pass.

(2553) (3) A system that is found by the Commandant to meet the intent of the statements of availability, coverage, and accuracy for the U.S. Coastal Confluence Zone (CCZ) contained in the U.S. "Federal Radionavigation Plan" (Report No. DOD-NO 4650.4-P, I or No. DOT-TSC-RSPA-80-16, I). A person desiring a finding by the Commandant under this subparagraph must submit a written application describing the device to the Office of Navigation Safety and Waterway Services, 2100 Second Street, SW, Washington, DC 20593-0001. After reviewing the application, the Commandant may request additional information to establish whether or not the device meets the intent of the Federal Radionavigation Plan.

(2554) **NOTE:** The Federal Radionavigation Plan is available from the National Technical Information Service, Springfield, Va. 22161, with the following Government Accession Numbers:

(2555) Vol 1, ADA 116468

(2556) Vol 2, ADA 116469

(2557) Vol 3, ADA 116470

(2558) Vol 4, ADA 116471

(2559) (b) Each label required under Paragraph (a)(1) of this section must show the following:

(2560) (1) The name and address of the manufacturer.

(2561) (2) The following statement by the manufacturer:

(2562) This receiver was designed and manufactured to meet Part 2 (Minimum Performance Standards) of the RTCM MPS for Marine Loran-C Receiving Equipment.

§164.42 Rate of turn indicator.

(2563) Each vessel of 100,000 gross tons or more constructed on or after September 1, 1984, shall be fitted with a rate of turn indicator.

§164.43 Automatic Identification System Shipborne Equipment –Prince William Sound.

(2564) (a) Until December 31, 2004, each vessel required to provide automated position reports to a Vessel Traffic Service (VTS) under §165.1704 of this subchapter must do so by an installed Automated Dependent Surveillance Shipborne Equipment (ADSSE) system consisting of a:

(2565) (1) Twelve-channel all-in-view Differential Global Positioning System (DGPS) receiver;

(2566) (2) Marine band Non-Directional Beacon receiver capable of receiving DGPS error correction messages;

(2567) (3) VHF-FM transceiver capable of Digital Selective Calling (DSC) on the designated DSC frequency; and

(2568) (4) Control unit.

(2569) (b) An ADSSE must have the following capabilities:

(2570) (1) Use DGPS to sense the position of the vessel and determine the time of the position using Universal Coordinated Time (UTC);

(2571) (2) Fully use the broadcast type 1, 2, 3, 5, 6, 7, 9, and 16 messages, as specified in RTCM Recommended Standards for Differential NAVSTAR GPS Service in determining the required information;

(2572) (3) Achieve a position error which is less than ten meters (32.8 feet) 2 distance root mean square (2 drms) from the true North American Datum of 1983 (NAD 83) in the position information transmitted to a VTS;

(2573) (4) Achieve a course error of less than 0.5 degrees from true course over ground in the course information transmitted to a VTS;

(2574) (5) Achieve a speed error of less than 0.05 knots from true speed over ground in the speed information transmitted to a VTS;

(2575) (6) Receive and comply with commands broadcast from a VTS as DSC messages on the designated DSC frequency;

(2576) (7) Receive and comply with RTCM messages broadcast as minimum shift keying modulated medium frequency signals in the marine radiobeacon band, and supply the messages to the DGPS receiver;

(2577) (8) Transmit the vessel's position, tagged with the UTC position solution, course over ground, speed over ground, and Lloyd's identification number to a VTS;

(2578) (9) Display a visual alarm to indicate to shipboard personnel when a failure to receive or utilize the RTCM messages occurs;

(2579) (10) Display a separate visual alarm which is triggered by a VTS utilizing a DSC message to indicate to shipboard personnel that the U.S. Coast Guard DGPS system cannot provide the required error correction messages; and

(2580) (11) Display two RTCM type 16 messages, one of which must display the position error in the position error broadcast.

(2581) (c) An ADSSE is considered non-operational if it fails to meet the requirements of Paragraph (b) of this section.

(2582) **Note:** Vessel Traffic Service (VTS) areas and operating procedures are set forth in Part 161 of this chapter.

§164.46 Automatic Identification System (AIS).

(2583) (a) The following vessels must have an installed, operational AIS that complies with the IMO Resolution MSC.74(69), ITU–R Recommendation M.1371–1, and IEC 61993–2, and that is installed using IMO SN/Circ.277 (Incorporated by reference, see §164.03) as of the date specified. "Length" refers to "registered length" as defined in 46 CFR, part 69.

(2584) (1) Self-propelled vessels of 65 feet or more in length engaged in commercial service and on an international voyage, not later than December 31, 2004.

(2585) (2) Nothwithstanding paragraph (a)(1) of this section, the following vessels subject to the International Convention for Safety at Life at Sea, 1974, (SOLAS) as amended, that are on an international voyage must also comply with SOLAS, chapter V, as amended by SOLAS 2000 Amendments and Conference resolution 1 (Incorporated by reference, see §164.03):

(2586) (i) Passenger vessels, of 150 gross tonnage or more, not later than July 1, 2003;

(2587) (ii) Tankers, regardless of tonnage, not later than the first safety survey for safety equipment on or after July 1, 2003;

(2588) (iii) Vessels, other than passenger vessels or tankers, of 50,000 gross tonnage or more, not later than July 1, 2004; and

(2589) (iv) Vessels, other than passenger vessels or tankers, of 300 gross tonnage or more but less than 50,000 gross tonnage, not later than the first safety survey for safety equipment on or after July 1, 2004, but no later than December 31, 2004.

(2590) (b) Nothwithstanding paragraphs (a)(1) and (a)(2) of this section, the following vessels, transiting an area listed in table 161.12(c) of §161.12 of this part.

(2591) (1) Each self-propelled vessel of 65 feet or more in length, engaged in commercial service;

(2592) (2) Each towing vessel of 26 feet or more in length and more than 600 horsepower;

(2593) (3) Each vessel of 100 gross tons or more carrying one or more passengers for hire; and

(2594) (4) Each passenger vessel certificated to carry 50 or more passengers for hire.

(2595) (c) The vessels listed in paragraph (b) of this section must comply according to the following schedule:

(2596) (1) For VTS St. Marys River, not later than December 31, 2003;

(2597) (2) For VTS Berwick Bay, VMRS Los Angeles/Long Beach, VTS Lower Mississippi River, VTS Port Arthur and VTS Prince William Sound, not later than July 1, 2004; and

(2598) (3) For VTS Houston-Galveston, VTS New York, VTS Puget Sound, and VTS San Francisco, not later than December 31, 2004.

(2599) (d) The requirements for Vessel Bridge-to Bridge radiotelephones in §§26.04(a) and (c), 26.05, 26.06 and 26.07 of this chapter, also apply to AIS. The term "effective operating condition" used in §26.06 includes accurate input and upkeep of all AIS data fields, including estimated time of arrival, destination, and number of people on board.

(2600) (e) The use of a portable AIS is permissible, only to the extent that electromagnetic interference does not affect the proper function of existing navigation and communication equipment on board, and such that only one AIS unit may be in operation at any one time.

(2601) (f) The AIS Pilot Plug, on each vessel over 1,600 gross tons, on international voyage, shall be available for pilot use, easily accessible from the primary conning position of the vessel, and near an AC power receptacle.

§164.51 Deviations from rules: Emergency.

(2602) Except for the requirements of §164.53(b), in an emergency, any person may deviate from any rule in this part to the extent necessary to avoid endangering persons, property, or the environment.

§164.53 Deviations from rules and reporting: Non-operating equipment.

(2603) (a) If during a voyage any equipment required by this part stops operating properly, the person directing the movement of the vessel may continue to the next port of call, subject to the directions of the District Commander or the Captain of the Port, as provided by 33 CFR 160.

(2604) (b) If the vessel's radar, radio navigation receivers, gyrocompass, echo depth sounding device, or primary steering gear stops operating properly, the person directing the movement of the vessel must report or cause to be reported that it is not operating properly to the nearest Captain of the Port, District Commander, or, if participating in a Vessel Traffic Service, to the Vessel Traffic Center, as soon as possible.

§164.55 Deviations from rules: Continuing operation or period of time.

(2605) The Captain of the Port, upon written application, may authorize a deviation from any rule in this part if he determines that the deviation does not impair the safe navigation of the vessel under anticipated conditions and will not result in a violation of the rules for preventing collisions at sea. The authorization may be issued for vessels operating in the waters under the jurisdiction of the Captain of the Port for any continuing operation or period of time the Captain of the Port specifies.

§164.61 Marine casualty reporting and record retention.

(2606) When a vessel is involved in a marine casualty as defined in 46 CFR 4.03–1, the master or person in charge of the vessel shall–

(2607) (a) Ensure compliance with 46 CFR 4.05, "Notice of Marine Casualty and Voyage Records," and

(2608) (b) Ensure that the voyage records required by 46 CFR 4.05–15 are retained for–

(2609) (1) 30 days after the casualty if the vessel remains in the navigable waters of the United States; or

(2610) (2) 30 days after the return of the vessel to a United States port if the vessel departs the navigable waters of the United States within 30 days after the marine casualty.

§164.70 Definitions.

(2611) For purposes of §§164.72 through 164.82, the term–

(2612) *Current edition* means the most recent published version of a publication, chart, or map required by §164.72.

(2613) *Currently corrected edition* means a current or previous edition of a publication required by §164.72, corrected with changes that come from Notice to Mariners (NTMs) or Notices to Navigation reasonably available and that apply to the vessel's transit. Hand-annotated river maps from U.S. Army Corps of Engineers (ACOE) are currently corrected editions if issued within the previous 5 years.

(2614) *Great Lakes* means the Great Lakes and their connecting and tributary waters including the Calumet River as far as the Thomas J. O'Brien Lock and Controlling Works (between miles 326 and 327), the Chicago River as far as the east side of the Ashland Avenue Bridge (between miles 321 and 322), and the Saint Lawrence River as far east as the lower exit of Saint Lambert Lock.

(2615) *Swing-meter* means an electronic or electric device that indicates that rate of turn of the vessel on board which it is installed.

(2616) *Towing vessel* means a commercial vessel engaged in or intending to engage in pulling, pushing or hauling alongside, or any combination of pulling, pushing, or hauling alongside.

(2617) *Western Rivers* means the Mississippi River, its tributaries, South Pass, and Southwest Pass, to the navigational-demarcation lines dividing the high seas from harbors, rivers, and other inland waters of the United States, and the Port Allen-Morgan City Alternative Route, and that part of the Atchafalaya River above its junction with the Port Allen-Morgan City Alternative Route including the Old River and the Red River and those waters specified by §§89.25 and 89.27 of this chapter, and such other, similar waters as are designated by the COTP.

§164.72 Navigational-safety equipment, charts or maps, and publications required on towing vessels.

(2618) (a) Except as provided by §164.01(b), each towing vessel must be equipped with the following navigational-safety equipment:

(2619) (1) *Marine Radar*. By August 2, 1997, a marine radar that meets the following applicable requirements:

(2620) (i) For a vessel of less than 300 tons gross tonnage that engages in towing on navigable waters of the U.S., including Western Rivers, the radar must meet–

(2621) (A) The requirements of the Federal Communications Commission (FCC) specified by 47 CFR part 80; and

(2622) (B) RTCM Standard for Marine Radar Equipment Installed on Ships of Less Than 300 Tons Gross Tonnage, RTCM Paper-71-95/SC112-STD, Version 1.1, display Category II and stabilization Category Bravo.

(2623) (ii) For a vessel of less than 300 tons gross tonnage that engages in towing seaward of navigable waters of the U.S. or more than three nautical miles from shore on the Great Lakes, the radar must meet–

(2624) (A) The requirements of the FCC specified by 47 CFR part 80; and

(2625) (B) RTCM Standard for Marine Radar Equipment Installed on Ships of Less Than 300 Tons Gross Tonnage, RTCM Paper 71-95/SC112-STD, Version 1.1, display Category I and stabilization Category Alpha.

(2626) (iii) For a vessel of 300 tons gross tonnage or more that engages in towing on navigable waters of the U.S., including Western rivers, the radar must meet–

(2627) (A) The requirements of the Federal Communications Commission (FCC) specified by 47 CFR part 80; and

(2628) (B) RTCM Recommended Standards for Marine Radar Equipment Installed on Ships of 300 Tons Gross Tonnage and Upwards, RTCM Paper 191–93/SC112–X, Version 1.2 except the requirements for azimuth stabilization in Paragraph 3.10.

(2629) (iv) For a vessel of 300 tons gross tonnage or more that engages in towing seaward of navigable waters of the U.S. or more than three nautical miles from shore on the Great Lakes, the radar must meet–

(2630) (A) The requirements of the FCC specified by 47 CFR Part 80; and

(2631) (B) RTCM Recommended Standards for Marine Radar Equipment Installed on Ships of 300 Tons Gross Tonnage and Upwards, RTCM Paper 191–93/SC112–X, Version 1.2.

(2632) (v) A towing vessel with an existing radar must meet the applicable requirements of paragraphs (a)(1)(i) through (iv) of this section by August 2, 1998; except that a towing vessel with an existing radar must meet the display and stabilization requirements of Paragraph (a)(1)(ii)(B) of this section by August 2, 2001.

(2633) (2) *Searchlight*. A searchlight, directable from the vessel's main steering station and capable of illuminating objects at a distance of at least two times the length of the tow.

(2634) (3) *VHF-FM Radio*. An installation or multiple installations of VHF-FM radios as prescribed by part 26 of this chapter and 47 CFR part 80, to maintain a continuous listening watch on the designated calling channel, VHF-FM Channel 13 (except on portions of the Lower Mississippi River, where VHF-FM Channel 67 is the designated calling channel), and to separately monitor the International Distress and Calling Channel, VHF-FM Channel 16, except when transmitting or receiving traffic on other VHF-FM channels or when participating in a Vessel Traffic Service (VTS) or monitoring a channel of a VTS. (Each U.S. towing vessel of 26 feet (about 8 meters) or more in length, except a public vessel, must hold a ship-radio-station license for radio transmitters (including radar and EPIRBs), and each operator must hold a restricted operator's license or higher. To get an application for either license, call (800) 418-FORM or (202) 418-FORM, or write to the FCC; Wireless Bureau, Licensing Division; 1270 Fairfield Road; Gettysburg, PA 17325-7245.)

(2635) (4) *Magnetic Compass*. Either–

(2636) (i) An illuminated swing-meter or an illuminated car-type magnetic steering compass readable from the vessel's main steering station, if the vessel engages in towing exclusively on Western Rivers; or

(2637) (ii) An illuminated card-type magnetic steering compass readable from the vessel's main steering station.

(2638) (5) *Echo Depth-Sounding Device*. By August 2, 2001, an echo depth-sounding device readable from the vessel's main steering station, unless the vessel engages in towing exclusively on Western Rivers.

(2639) (6) *Electronic Position-Fixing Device*. An electronic position-fixing device, either a LORAN-C receiver or a satellite navigational system such as the Global Positioning System (GPS) as required by §164.41, if the vessel engages in towing seaward of navigable waters of the U.S. or more than three nautical miles from shore on the Great Lakes.

(2640) (b) Each towing vessel must carry on board and maintain the following:

(2641) (1) *Charts or maps*. Marine charts or maps of the areas to be transited, published by the National Ocean Service (NOS), the ACOE, or a river authority that satisfy the following requirements.

(2642) (i) The charts or maps must be of a large enough scale and have enough detail to make safe navigation of the areas possible.

(2643) (ii) The charts or maps must be either–

(2644) (A) Current editions or currently corrected editions, if the vessel engages in towing exclusively on navigable waters of the U.S., including Western Rivers; or

(2645) (B) Currently corrected editions, if the vessel engages in towing seaward of navigable waters of the U.S. or more than three nautical miles from shore on the Great Lakes.

(2646) (iii) The charts or maps may be, instead of charts or maps required by paragraphs (b)(1) (i) and (ii) of this section, currently corrected marine charts or maps, or applicable extracts, published by a foreign government. These charts or maps, or applicable extracts, must contain information similar to that on the charts or maps required by paragraphs (b)(1) (i) and (ii) of the section, be of large enough scale, and have enough detail to make safe navigation of the areas possible, and must be currently corrected.

(2647) (2) *General publications*. A currently corrected edition of, or an applicable currently corrected extract from, each of the following publications for the area to be transited:

(2648) (i) If the vessel is engaged in towing exclusively on Western Rivers–

(2649) (A) U.S. Coast Guard Light List;

(2650) (B) Applicable Notices to Navigation published by the ACOE, or Local Notices to Marines (LNMs) published by the Coast Guard, for the area to be transited, when available; and

(2651) (c) River-current tables published by the ACOE or a river authority, if available.

(2652) (ii) if the vessel is engaged other than in towing exclusively on Western Rivers–

(2653) (A) Coast Guard Light List;

(2654) (B) Notices to Mariners published by the National Geospatial-Intelligence Agency, or LNMs published by the Coast Guard;

(2655) (C) Tidal-current tables published by private entities using data provided by the NOS, or river-current tables published by the ACOE or a river authority;

(2656) (D) Tide tables published by private entities using data provided by the NOS; and

(2657) (E) U.S. Coast Pilot.

(2658) (c) Table 164.72, following, summarizes the navigational-safety equipment, charts or maps, and publications required for towing vessels of 12 meters or more in length:

§164.74 Towline and terminal gear for towing astern.

(2659) (a) *Towline*. The owner, master, or operator of each vessel towing astern shall ensure that the strength of each towline is adequate for its intended service, considering at least the following factors:

(2660) (1) The size and material of each towline must be–

(2661) (i) Appropriate for the horsepower or bollard pull of the vessel;

(2662) (ii) Appropriate for the static loads and dynamic loads expected during the intended service;

(2663) (iii) Appropriate for the sea conditions expected during the intended service;

(2664) (iv) Appropriate for exposure to the marine environment and to any chemicals used or carried on board the vessel;

(2665) (v) Appropriate for the temperatures of normal stowage and service on board the vessel;

(2666) (vi) Compatible with associated navigational-safety equipment; and

(2667) (vii) Appropriate for the likelihood of mechanical damage.

(2668) (2) Each towline as rigged must be–

(2669) (i) Free of knots;

(2670) (ii) Spliced with a thimble, or have a poured socket at its end; and

(2671) (iii) Free of wire clips except for temporary repair, for which the towline must have a thimble and either five wire clips or as many wire clips as the manufacturer specifies for the nominal diameter and construction of the towline, whichever is more.

(2672) (3) The condition of each towline must be monitored through the–

(2673) (i) Keeping on board the towing vessel or in company files of a record of the towline's initial minimum breaking strength as determined by the manufacturer, by a classification ("class") society authorized in §157.04 of this chapter, or by a tensile test that meets API Specifications 9A, Specification for Wire Rope, Section 3; ASTM D 4268 (incorporated by reference, see §164.03), Standard Test Method for Testing Fiber Ropes; or Cordage Institute CIA 3, Standard Test Methods for Fiber Rope Including Standard Terminations;

TABLE 164.72.—EQUIPMENT, CHARTS OR MAPS, AND PUBLICATIONS FOR TOWING VESSELS OF 12 METERS OR MORE IN LENGTH

	Western Rivers	U.S. Navigable waters other than Western Rivers	Waters seaward of navigable watersand 3 NM or more from shore on the Great Lakes
Marine Radar:			
Towing vessels of less than 300 GT.	RTCM Paper 71–95/SC112–STD Version 1.1, Display Category II[1] Stabilization Category BRAVO.	RTCM Paper 71–95/SC112– STD Version 1.1, Display Category II[1] Stabilization Category BRAVO.	RTCM Paper 71–95/SC112–STD Version 1.1, Display Category I[2] Stabilization Category ALPHA.
Towing vessels of 300 GT or more.	RTCM Paper 191–93/SC112–X Version 1.2 (except the Azimuth stabilization requirement in paragraph 3.10).[1]	RTCM Paper 191–93/SC112–X Version 1.2 (except the Azimuth stabilization requirement in paragraph 3.10).[1]	RTCM Paper 191–93/SC112–X Version 1.2.[1]
Searchlight	X	X	X
VHF-FM Radio	X	X	X
Magnetic Compass.	X[3]	X	X
Swing-meter	X[3]		
Echo-depth-sounding Device.		X	X
Electronic-position-fixing device.			X
Charts or Maps.	(1) Large Enough Scale. . . . . . (2) Current edition or currently corrected edition.	(1) Large Enough Scale (2) Current edition or currently corrected edition.	(1) Large Enough Scale. (2) Currently corrected edition.
General Publications.	(1) U.S. Coast Guard Light List (2) Notices to Navigation or Local Notice to Mariners. (3) River-current Tables	(1) U.S. Coast Guard Light List (2) Local Notice to Mariners (3) Tidal-current Tables. (4) Tide Tables (5) U.S. Coast Pilot	(1) U.S. Coast Guard Light List. (2) Local Notice to Mariners (3) Tidal-current Tables (4) Tide Tables. (5) U.S. Coast Pilot

NOTES:

[1]Towing vessels with existing radar must meet this requirement by August 2, 1998

[2]Towing vessels with existing radar must meet this requirement by August 2, 1998, but do not need to meet the display and stabilization requirement until August 2, 2001.

[3]A towing vessel may carry either a swing-meter or a magnetic compass.

(2674) (ii) If the towline is purchased from another owner, master, or operator of a vessel with the intent to use it as a towline or if it is retested for any reason, keeping on board the towing vessel or in company files of a record of each retest of the towline's minimum breaking strength as determined by a class society authorized in §157.04 of this chapter or by a tensile test that meets API Specification 9A, Section 3; ASTM D 4268 (incorporated by reference, see §164.03); or Cordage Institute CIA 3, Standard Test Methods;

(2675) (iii) Conducting visual inspections of the towline in accordance with the manufacturer's recommendations, or at least monthly, and whenever the serviceability of the towline is in doubt (the inspections being conducted by the owner, master, or operator, or by a person on whom the owner, master, or operator confers the responsibility to take corrective measures appropriate for the use of the towline);

(2676) (iv) Evaluating the serviceability of the whole towline or any part of the towline, and removing the whole or part from service either as recommended by the manufacturer or a class society authorized in §157.04 of this chapter or in accordance with a replacement schedule developed by the owner, master, or operator that accounts for at least the–

(2677) (A) Nautical miles on, or time in service of, the towline;

(2678) (B) Operating conditions experienced by the towline;

(2679) (C) History of loading of the towline;

(2680) (D) Surface condition, including corrosion and discoloration, of the towline;

(2681) (E) Amount of visible damage to the towline;

(2682) (F) Amount of material deterioration indicated by measurements of diameter and, if applicable, measurements of lay extension of the towline; and

(2683) (G) Point at which a tensile test proves the minimum breaking strength of the towline inadequate by the standards of Paragraph (a)(1) of this section, if necessary; and

(2684) (v) Keeping on board the towing vessel or in company files of a record of the material condition of the towline when inspected under paragraphs (a)(3)(iii) and (iv) of this section. Once this record lapses for three months or more, except when a vessel is laid up or out of service or has not deployed its towline, the owner, master, or operator shall retest the towline or remove it from service.

(2685) (b) *Terminal gear*. The owner, master, or operator of each vessel towing astern shall ensure that the gear used to control, protect, and connect each towline meets the following criteria:

(2686) (1) The material and size of the terminal gear are appropriate for the strength and anticipated loading of the towline and for the environment;

(2687) (2) Each connection is secured by at least one nut with at least one cotter pin or other means of preventing its failure;

(2688) (3) The lead of the towline is appropriate to prevent sharp bends in the towline from fairlead blocks, chocks, or tackle;

(2689) (4) There is provided a method, whether mechanical or non-mechanical, that does not endanger operating personnel but that easily releases the towline;

(2690) (5) The towline is protected from abrasion or chafing by chafing gear, lagging, or other means;

(2691) (6) Except on board a vessel towing in ice on Western Rivers or one using a towline of synthetic or natural fiber, there is fitted a winch that evenly spools and tightly winds the towline; and

(2692) (7) If a winch is fitted, there is attached to the main drum a brake that has holding power appropriate for the horsepower or bollard pull of the vessel and can be operated without power to the winch.

§164.76 Towline and terminal gear for towing alongside and pushing ahead.

(2693) The owner, master, or operator of each vessel towing alongside or pushing ahead shall ensure the face wires, spring lines, and push gear used–

(2694) (a) Are appropriate for the vessel's horsepower;

(2695) (b) Are appropriate for the arrangement of the tow;

(2696) (c) Are frequently inspected; and

(2697) (d) Remain serviceable.

§164.78 Navigation under way: Towing vessels.

(2698) (a) The owner, master, or operator of each vessel towing shall ensure that each person directing and controlling the movement of the vessel–

(2699) (1) Understands the arrangement of the tow and the effects of maneuvering on the vessel towing and on the vessel, barge, or object being towed;

(2700) (2) Can fix the position of the vessel using installed navigational equipment, aids to navigation, geographic reference-points, and hydrographic contours;

(2701) (3) Does not fix the position of the vessel using buoys alone (Buoys are aids to navigation placed in approximate positions either to alert mariners to hazards to navigation or to indicate the orientation of a channel. They may not maintain exact charted positions, because strong or varying currents, heavy seas, ice and collisions with vessels can move or sink them or set them adrift. Although they may corroborate a position fixed by other means, they cannot fix a position; however, if no other aids are available, buoys alone may establish an estimated position.);

(2702) (4) Evaluates the danger of each closing visual or radar contact;

(2703) (5) Knows and applies the variation and deviation, where a magnetic compass is fitted and where charts or maps have enough detail to enable this type of correction;

(2704) (6) Knows the speed and direction of the current, and the set, drift, and tidal state for the area to be transited;

(2705) (7) Proceeds at a safe speed taking into account the weather, visibility, density of traffic, draft of tow, possibility of wake damage, speed and direction of the current, and local speed-limits; and

(2706) (8) Monitors the voyage plan required by §164.80.

(2707) (b) The owner, master, or operator of each vessel towing shall ensure that the tests and inspections required by §164.80 are conducted and that the results are entered in the log or other record carried on board.

§164.80 Tests inspections, and voyage planning.

(2708) (a) The owner, master, or operator of each towing vessel of less than 1,600 GT shall ensure that the following tests and inspections of gear occur before the vessel embarks on a voyage of more than 24 hours or when each new master or operator assumes command:

(2709) (1) *Steering-systems*. A test of the steering-gear-control system; a test of the main steering gear from the alternative power supply, if installed; a verification of the rudder-angle indicator relative to the actual position of the rudder; and a visual inspection of the steering gear and its linkage.

(2710) (2) *Navigational equipment*. A test of all installed navigational equipment.

(2711) (3) *Communications*. Operation of all internal vessel control communications and vessel-control alarms, if installed.

(2712) (4) *Lights*. Operation of all navigational lights and all searchlights.

(2713) (5) *Terminal gear*. Visual inspection of tackle; of connections of bridle and towing pendant, if applicable; of chafing gear; and the winch brake, if installed.

(2714) (6) *Propulsion systems*. Visual inspection of the spaces for main propulsion machinery, of machinery, and of devices for monitoring machinery.

(2715) (b) The owner, master, or operator of each towing vessel of 1,600 GT or more shall ensure that the following tests of equipment occur at the frequency required by §164.25 and that the following inspections of gear occur before the vessel embarks on a voyage of more than 24 hours or when each new master or operator assumes command:

(2716) (1) *Navigational equipment*. Tests of onboard equipment as required by §164.25.

(2717) (2) *Terminal gear*. Visual inspection of tackle; of connections of bridle and towing pendant, if applicable; of chafing gear; and of the winch brake, if installed.

(2718) (c)(1) The voyage-planning requirements outlined in this section do not apply to you if your towing vessel is–

(2719) (i) Used solely for any of the following services or any combination of these services–

(2720) (A) Within a limited geographic area, such as fleeting-area for barges or a commercial facility, and used for restricted service, such as making up or breaking up larger tows:

(2721) (B) For harbor assist;

(2722) (C) For assistance towing as defined by 46 CFR 10.103;

(2723) (D) For response to emergency or pollution;

(2724) (ii) A public vessel that is both owned, or demise chartered, and operated by the United States Government or by a government of a foreign country; and that is not engaged in commercial service;

(2725) (iii) A foreign vessel engaged in innocent passage; or

(2726) (iv) Exempted by the Captain of the Port (COTP).

(2727) (2) If you think your towing vessel should be exempt from these voyage planning requirements for a specified route, you should submit a written request to the appropriate COTP. The COTP will provide you with a written response granting or denying your request.

(2728) (3) If any part of a towing vessel's intended voyage is seaward of the baseline (i.e. the shoreward boundary) of the territorial sea of the U.S.,then the owner, master, or operator of the vessel, employed to tow a barge or barges, must ensure that the voyage with the barge or barges is planned, taking into account all pertinent information before the vessel embarks on the voyage. The master must check the planned route for proximity to hazards before the voyage begins. During a voyage, if a decision is made to deviate substantially from the planned route, then the master or mate must plan the new route before deviating from the planned route. The voyage plan must follow company policy and consider the following (related requirements noted in parentheses):

(2729) (i) Applicable information from nautical charts and publication (also see paragraph (b) of section 164.72), including Coast Pilot, Coast Guard Light List, and Coast Guard Local Notice to Mariners for the port of departures, all ports of call, and the destination;

(2730) (ii) Current and forecast weather, including visibility, wind, and sea state for the port of departure, all ports of call, and the destination (also see paragraphs (a)(7) of section 164.78 and (b) of section 164.82);

(2731) (iii) Data on tides and currents for the port of departure, all ports of call, and the destination, and the river staged and forecast, if appropriate;

(2732) (iv) Forward and after drafts of the barge or barges and under-keel and vertical clearances (air-gaps) for all bridges, ports, and berthing areas;

(2733) (v) Pre-departure checklists;

(2734) (vi) Calculated speed and estimated time of arrival at proposed waypoints;

(2735) (vii) Communication contacts at any Vessel Traffic Services, bridges, and facilities, and any port specific requirements for VHF radio;

(2736) (viii) Any master's or operator's standings orders detailing closest points of approach, special conditions, and critical maneuvers; and

(2737) (ix) Whether the towing vessel has sufficient power to control the tow under all foreseeable circumstances.

§164.82 Maintenance, failure, and reporting.

(2738) (a) *Maintenance*. The owner, master, or operator or each towing vessel shall maintain operative the navigational-safety equipment required by §164.72.

(2739) (b) *Failure*. If any of the navigational-safety equipment required by §164.72 fails during a voyage, the owner, master, or operator of the towing vessel shall exercise due diligence to repair it at the earliest practicable time. He or she shall enter its failure in the log or other record carried on board. The failure of equipment, in itself, does not constitute a violation of this rule; nor does it constitute unseaworthiness; nor does it obligate an owner, master, or operator to moor or anchor the vessel. However, the owner, master, or operator shall consider the state of the equipment-along with such factors as weather, visibility, traffic, and the dictates of good seamanship-in deciding whether it is safe for the vessel to proceed.

(2740) (c) *Reporting*. The owner, master, or operator of each towing vessel whose equipment is inoperative or otherwise impaired while the vessel is operating within a Vessel Traffic Service (VTS) Area shall report the fact as required by 33 CFR 161.124. (33 CFR 161.124 requires that each user of a VTS report to the Vessel Traffic Center as soon as practicable:

(2741) (1) Any absence or malfunction of vessel-operating equipment for navigational safety, such as propulsion machinery, steering gear, radar, gyrocompass, echo depth-sounding or other sounding device, automatic dependent surveillance equipment, or navigational lighting;

(2742) (2) Any condition on board the vessel likely to impair navigation, such as shortage of personnel or lack of current nautical charts or maps, or publications; and

(2743) (3) Any characteristics of the vessel that affect or restrict the maneuverability of the vessel, such as arrangement of cargo, trim, loaded condition, under-keel clearance, and speed.)

(2744) (d) *Deviation and authorization*. The owner, master, or operator of each towing vessel unable to repair within 96 hours an inoperative marine radar required by §164.72(a) shall so notify the Captain of the Port (COTP) and shall seek from the COTP both a deviation from the requirements of this section and an authorization for continued operation in the area to be transited. Failure of redundant navigational-safety equipment, including but not limited to failure of one of two installed radars, where each satisfies §164.72(a), does not necessitate either a deviation or an authorization.

(2745) (1) The initial notice and request for a deviation and an authorization may be spoken, but the request must also be written. The written request must explain why immediate repair is impracticable, and state when and by whom the repair will be made.

(2746) (2) The COTP, upon receiving even a spoken request, may grant a deviation and an authorization from any of the provisions of §§164.70 through 164.82 for a specified time if he or she decides that they would not impair the safe navigation of the vessel under anticipated conditions.

Part 165–Regulated Navigation Areas and Limited Access Areas

Subpart A–General

§165.1 Purpose of part.

(2747) The purpose of this part is to–

(2748) (a) Prescribe procedures for establishing different types of limited or controlled access areas and regulated navigation areas;

(2749) (b) Prescribe general regulations for different types of limited or controlled access areas and regulated navigation areas;

(2750) (c) Prescribe specific requirements for established areas; and

(2751) (d) List specific areas and their boundaries.

§165.5 Establishment procedures.

(2752) (a) A safety zone, security zone, or regulated navigation area may be established on the initiative of any authorized Coast Guard official.

(2753) (b) Any person may request that a safety zone, security zone, or regulated navigation area be established. Except as provided in Paragraph (c) of this section, each request must be submitted in writing to either the Captain of the Port or District Commander having jurisdiction over the location as described in 33 CFR 3, and include the following:

(2754) (1) The name of the person submitting the request;

(2755) (2) The location and boundaries of the safety zone, security zone, or regulated navigation area;

(2756) (3) The date, time, and duration that the safety zone, security zone, or regulated navigation area should be established;

(2757) (4) A description of the activities planned for the safety zone, security zone, or regulated navigation area;

(2758) (5) The nature of the restrictions or conditions desired; and

(2759) (6) The reason why the safety zone, security zone, or regulated navigation area is necessary.

(2760) (Requests for safety zones, security zones, and regulated navigation areas are approved by the Office of Management and Budget under control number 1625-0020.)

(2761) (c) Safety Zones and Security Zones. If, for good cause, the request for a safety zone or security zone is made less than 5 working days before the zone is to be established, the request may be made orally, but it must be followed by a written request within 24 hours.

§165.7 Notification.

(2762) (a) The establishment of these limited access areas and regulated navigation areas is considered rulemaking. The procedures used to notify persons of the establishment of these areas vary depending upon the circumstances and emergency conditions. Notification may be made by marine broadcasts, local notice to mariners, local news media, distribution in leaflet form, and on-scene oral notice, as well as publication in the Federal Register.

(2763) (b) Notification normally contains the physical boundaries of the area, the reasons for the rule, its estimated duration, and the method of obtaining authorization to enter the area, if applicable, and special navigational rules, if applicable.

(2764) (c) Notification of the termination of the rule is usually made in the same form as the notification of its establishment.

§165.8 Geographic coordinates.

(2765) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

§165.9 Geographic application of limited and controlled access areas and regulated navigation areas.

(2766) (a) *General*. The geographic application of the limited and controlled access areas and regulated navigation areas in this part are determined based on the statutory authority under which each is created.

(2767) (b) *Safety zones and regulated navigation areas*. These zones and areas are created under the authority of the Ports and Waterways Safety Act, 33 U.S.C. 1221–1232. Safety zones established under 33 U.S.C. 1226 and regulated navigation areas may be established in waters subject to the jurisdiction of the United States as defined in §2.38 of this chapter, including the territorial sea to a seaward limit of 12 nautical miles from the baseline.

(2768) (c) *Security zones*. These zones have two sources of authority—the Ports and Waterways Safety Act, 33 U.S.C. 1221–1232, and the Act of June 15, 1917, as emended by both the Magnuson Act of August 9, 1950 ("Magnuson Act"), 50 U.S.C. 191–195, and sec. 104 the Maritime Transportation Security Act of 2002 (Pub. L. 107-295, 116 Stat. 2064). Security zones established under either 33 U.S.C. 1226 or 50 U.S.C. 191 may be established in waters subject to the jurisdiction of the United States as defined in §2.38 of this chapter, including the territorial sea to a seaward limit of 12 nautical miles from the baseline.

(2769) (d) *Naval vessel protection zones*. These zones are issued under the authority of 14 U.S.C. 91 and 633 and may be established in waters subject to the jurisdiction of the United States as defined in §2.38 of this chapter, including the territorial sea to a seaward limit of 12 nautical miles from the baseline.

Subpart B–Regulated Navigation Areas

§165.10 Regulated navigation area.

(2770) A regulated navigation area is a water area within a defined boundary for which regulations for vessels navigating within the area have been established under this part.

§165.11 Vessel operating requirements (regulations).

(2771) Each District Commander may control vessel traffic in an area which is determined to have hazardous conditions, by issuing regulations–

(2772) (a) Specifying times of vessel entry, movement, or departure to, from, within, or through ports, harbors, or other waters;

(2773) (b) Establishing vessel size, speed, draft limitations, and operating conditions; and

(2774) (c) Restricting vessel operation, in a hazardous area or under hazardous conditions, to vessels which have particular operating characteristics or capabilities which are considered necessary for safe operation under the circumstances.

§165.13 General regulations.

(2775) (a) The master of a vessel in a regulated navigation area shall operate the vessel in accordance with the regulations contained in Subpart F.

(2776) (b) No person may cause or authorize the operation of a vessel in a regulated navigation area contrary to the regulations in this Part.

Subpart C–Safety Zones

§165.20 Safety zones.

(2777) A Safety Zone is a water area, shore area, or water and shore area to which, for safety or environmental purposes, access is limited to authorized persons, vehicles, or vessels. It may be stationary and described by fixed limits or it may be described as a zone around a vessel in motion.

§165.23 General regulations.

(2778) Unless otherwise provided in this part–

(2779) (a) No person may enter a safety zone unless authorized by the COTP or the District Commander.

(2780) (b) No person may bring or cause to be brought into a safety zone any vehicle, vessel, or object unless authorized by the COTP or the District Commander.

(2781) (c) No person may remain in a safety zone or allow any vehicle, vessel, or object to remain in a safety zone unless authorized by the COTP or the District Commander; and

(2782) (d) Each person in a safety zone who has notice of a lawful order or direction shall obey the order or direction of the COTP or District Commander issued to carry out the purposes of this subpart.

Subpart D–Security Zones

§165.30 Security Zones.

(2783) (a) A security zone is an area of land, water, or land and water which is so designated by the Captain of the Port or District Commander for such time as is necessary to prevent damage or injury to any vessel or waterfront facility, to safeguard ports, harbors, territories, or waters of the United States or to secure the observance of the rights and obligations of the United States.

(2784) (b) The purpose of a security zone is to safeguard from destruction, loss, or injury from sabotage or other subversive acts, accidents, or other causes of a similar nature–

(2785) (1) Vessels,

(2786) (2) Harbors,

(2787) (3) Ports and

(2788) (4) Waterfront facilities–in the United States and all territory and water, continental or insular, that is subject to the jurisdiction of the United States.

§165.33 General regulations.

(2789) Unless otherwise provided in the special regulations in Subpart F of this part–

(2790) (a) No person or vessel may enter or remain in a security zone without the permission of the Captain of the Port;

(2791) (b) Each person and vessel in a security zone shall obey any direction or order of the Captain of the Port;

(2792) (c) The Captain of the Port may take possession and control of any vessel in the security zone;

(2793) (d) The Captain of the Port may remove any person, vessel, article, or thing from a security zone;

(2794) (e) No person may board, or take or place any article or thing on board, any vessel in a security zone without the permission of the Captain of the Port; and

(2795) (f) No person may take or place any article or thing upon any waterfront facility in a security zone without the permission of the Captain of the Port.

Subpart E–Restricted Waterfront Areas

§165.40 Restricted waterfront areas.

(2796) The Commandant, may direct the COTP to prevent access to waterfront facilities, and port and harbor areas, including vessels and harbor craft therein. This section may apply to persons who do not possess the credentials outlined in §125.09 of this chapter when certain shipping activities are conducted that are outlined in §125.15 of this chapter.

Subpart F–Specific Regulated Navigation Areas and Limited Access Areas

§165.1101 Security Zone: San Diego Bay, California.

(2797) (a) *Location.* The following area is a security zone: the water area within Naval Station, San Diego enclosed by the following points: Beginning at

(2798) 32°41'16.5"N., 117°08'01"W (Point A); thence running southwesterly to

(2799) 32°40'58.3"N., 117°08'11.0"W. (Point B); to

(2800) 32°40'36.0"N., 117°07'49.1"W. (Point C); to

(2801) 32°40'17.0"N., 117°07'34.6"W. (Point D); to

(2802) 32°39'36.4"N., 117°07'24.8"W. (Point E); to

(2803) 32°39'38.5"N., 117°07'06.5"W. (Point F); thence running generally northwesterly along the shoreline of the Naval Station to the place of the beginning. All coordinates referenced use datum: NAD 1983.

(2804) (b) *Regulations.* (1) In accordance with the general regulations in §165.33 of this part, entry into the area of this zone is prohibited unless authorized by the Captain of the Port San Diego; Commander, Naval Base San Diego; Commander, Navy Region Southwest; or the Commanding Officer, Naval Station, San Diego.

(2805) (2) Persons desiring to transit the area of the security zone may contact the Captain of the Port at telephone number 619-683-6495 or on VHF channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representative.

(2806) (c) *Authority*. In addition to 33 U.S.C. 1231 and 50 U.S.C. 191, the authority for this section includes 33 U.S.C. 1226.

(2807) (d) *Enforcement*. The U.S. Coast Guard may be assisted in the patrol and enforcement of this security zone by the U.S. Navy.

§165.1102 Security Zone: San Diego Bay, California.

(2808) (a) *Location*. The following area is a security zone: The water area adjacent to the Naval Ocean Systems Center, San Diego, California, and the Naval Supply Center, San Diego, California, described as follows:

(2809) Commencing at a point on the shoreline of Point Loma, at

(2810) 32°41'57.8"N., 117°14'17.5"W (Point A), for a place of beginning; thence easterly to

(2811) 32°41'56.0"N., 117°14'09.9"W (Point B); thence northeasterly to

(2812) 32°42'03.8"N., 117°14'04.7"W (Point C); thence northeasterly to

(2813) 32°42'10.2"N., 117°14'00.6"W (Point D); thence northwesterly to

(2814) 32°42'14.6"N., 117°14'02.1"W (Point E); thence northwesterly to

(2815) 32°42'22.7"N., 117°14'05.8"W (Point F); thence northwesterly to

(2816) 32°42'28.3"N., 117°14'08.4"W (Point G); thence westerly to

(2817) 32°42'28.3"N., 117°14'09.6"W (Point H); thence generally southerly along the shorelines of Point Loma to the place of beginning (Point A).

(2818) (b) *Regulations*. In accordance with the general regulations in §165.33 of this part, entry into the area of this zone is prohibited unless authorized by the Captain of the Port, the Commander, Naval Base, San Diego, the Commander, Naval Ocean Systems Center, San Diego, or the Commanding Officer, Naval Supply Center, San Diego. Section 165.33 also contains other general requirements.

§165.1103 Security Zone: San Diego Bay, CA.

(2819) (a) *Location*. The following area is a security zone: The water adjacent to the Naval Submarine Base, San Diego commencing on a point on the shoreline of Ballast Point, at 32°41'11.2"N., 117°13.57.0"W. (Point A), thence northerly to

(2820) 32°41'31.8"N., 117°14'00.6"W. (Point B), thence westerly to

(2821) 32°41'32.7"N., 117°14'03.2"W. (Point C), thence southwesterly to

(2822) 32°41'30.5"N., 117°14'17.5"W. (Point D), thence generally southeasterly along the shoreline of the Naval Submarine Base to the point of beginning. (Point A). All coordinates referenced use datum: NAD 1983.

(2823) (b) R*egulations*. (1) In accordance with the general regulations in §165.33 of this part, entry into the area of this zone is prohibited unless authorized by the Captain of the Port San Diego; Commander, Naval Base Point Loma; or Commander, Navy Region Southwest.

(2824) (2) Persons desiring to transit the area of the security zone may contact the Captain of the Port at telephone number 619-683-6495 or on VHF channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representative.

(2825) (c) *Authority*. In addition to 33 U.S.C. 1231 and 50 U.S.C. 191, the authority for this section includes 33 U.S.C. 1226.

(2826) (d) *Enforcement*. The U.S. Coast Guard may be assisted in the patrol and enforcement of this security zone by the U.S. Navy.

§165.1104 Security Zone: San Diego Bay, CA.

(2827) (a) *Location*. The following area is a security zone: on the waters along the northern shoreline of Naval Base Coronado, the area enclosed by the following points: Beginning at

(2828) 32°42'53.0"N., 117°11'45.0 W. (Point A); thence running northerly to

(2829) 32°42'55.5"N., 117°11'45.0"W., (Point B); thence running easterly to

(2830) 32°42'57.0"N., 117°11'31.0"W., (Point C); thence southeasterly to

(2831) 32°42'42.0"N., 117°11'04.0"W. (Point D); thence southeasterly to

(2832) 32°42'21.0"N., 117°10'47.0"W. (Point E) thence running southerly to

(2833) 32°42'13.0"N., 117°10'51.0"W. (Point F); thence running generally northwesterly along the shoreline of Naval Base Coronado to the place of beginning. All coordinates referenced use datum: NAD 1983.

(2834) (b) *Regulations*. (1) In accordance with the general regulations in Sec. 165.33 of this part, entry into the area of this zone is prohibited unless authorized by the Captain of the Port San Diego; Commander, Naval Base Coronado, or Commander, Navy Region Southwest.

(2835) (2) Persons desiring to transit the area of the security zone may contact the Captain of the Port at telephone number 619-683-6495 or on VHF channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representative.

(2836) (c) *Authority*. In addition to 33 U.S.C. 1231 and 50 U.S.C. 191, the authority for this section includes 33 U.S.C. 1226.

(2837) (d) *Enforcement*. The U.S. Coast Guard may be assisted in the patrol and enforcement of this security zone by the U.S. Navy.

§165.1105 Security Zone: San Diego Bay, California.

(2838) (a) *Location*: (1) The following area is a security zone: The water area adjacent to Naval Air Station North Island, Coronado, California, and within 100 yards (91 meters) of Bravo Pier, and vessels moored thereto, bounded by the following points (when no vessel is moored at the pier):

(2839) (i) 32°41'53.0"N., 117°13'33.6"W.;

(2840) (ii) 32°41'53.0"N., 117°13'40.6"W.;

(2841) (iii) 32°41'34.0"N., 117°13'40.6"W.;

(2842) (iv) 32°41'34.0"N., 117°13'34.1"W.

(2843) (2) Because the area of this security zone is measured from the pier and from vessels moored thereto, the actual area of this security zone will be larger when a vessel is moored at Bravo Pier.

(2844) (b) *Regulations*: In accordance with the general regulations in §165.33 of this part, entry into the area of this zone is prohibited unless authorized by the Captain of the Port or the Commanding Officer, Naval Air Station North Island. Section 165.33 also contains other general requirements.

§165.1106 San Diego Bay, California–safety zone.

(2845) (a) The waters of San Diego Bay enclosed by the following boundaries are a safety zone:

(2846) From a point located on the boundary of Coast Guard Air Station San Diego, California at latitude 32°43'37.2"N., longitude 117°10'45.0"W. (point A), for a point of beginning; thence southeasterly to latitude 32°43'36.2"N., longitude 117°10'41.5"W. (point B); thence southwesterly to latitude 32°43'20.2"N., longitude 117°10'49.5"W. (point C); thence northwesterly to latitude 32°43'25.7"N., longitude 117°11'04.6"W. (point D); thence northeasterly to latitude 32°43'35.7"N., longitude 117°10'59.5"W. (point E); thence generally easterly along the air station boundary to the point of beginning (point A).

(2847) (b) (1) In accordance with the general regulations in §165.23 of this Part, entry into the area of this zone is prohibited unless authorized by the Captain of the Port, except as provided for below.

(2848) (2) Vessels may transit the area of this safety zone without permission, but may not anchor, stop, remain within the zone, or approach within 100 yards (92 meters) of the land area of Coast Guard Air Station San Diego or structures attached thereto.

§165.1107 San Diego Bay, California.

(2849) (a) *Location*. The area encompassed by the following geographic coordinates is a regulated navigation area:

(2850) 32°41'24.6"N., 117°14'21.9"W.

(2851) 32 41'34.2"N., 117°13'58.5"W.

(2852) 32°41'34.2"N., 117°13'37.2"W., thence south along the shoreline to

(2853) 32°41'11.2"N., 117°13'31.3"W.

(2854) 32°41'11.2"N., 117°13'58.5"W., thence north along the shoreline to the point of origin.

(2855) Datum: NAD 1983.

(2856) (b) *Regulations*. (1) During submarine docking/undocking operations at the U.S. Naval Submarine Base on Ballast Point, San Diego Bay, California, mariners transiting within the regulated navigation area shall proceed at a speed that generates no wake from their vessel.

(2857) (2) The Coast Guard will issue a Broadcast Notice to Mariners, and if time permits a Local Notice to Mariners, to inform the maritime community of the dates and times of the submarine docking/undocking operations covered by paragraph (b)(1).

(2858) (3) The master and/or operator of a vessel within the regulated navigation area shall comply with any other orders or directions issued by the Coast Guard as required for the safety of the submarine docking/undocking operations covered by paragraph (b)(1).

§165.1108 Security Zones; Cruise Ships, Port of San Diego, California.

(2859) (a) *Definition*. "Cruise Ship" as used in this section means a passenger vessel, except for a ferry, 100 gross tons or more, authorized to carry more than 12 passengers for hire; capable of making international voyages lasting more than 24 hours, any part of which is on the high seas; and for which passengers are embarked, disembarked or at a port of call in the San Diego port.

(2860) (b) *Location*. The following areas are security zones:

(2861) (1) All waters, extending from the surface to the sea floor, within a 100 yard radius around any cruise ship that is anchored at a designated anchorage within the San Diego port area inside the sea buoys bounding the port of San Diego.

(2862) (2) The shore area and all waters, extending from the surface to the sea floor, within a 100 yard radius around any cruise ship that is moored at any berth within the San Diego port area inside the sea buoys bounding the Port of San Diego; and

(2863) (3) All waters, extending from the surface to the sea floor, within a 100 yard radius around any cruise ship that is underway on the waters inside the sea buoys bounding the Port of San Diego.

(2864) (c) *Regulations*. (1) In accordance with the general regulation in §165.33 of the part, entry into or remaining in these zones is prohibited unless authorized by the Coast Guard Captain of the Port, San Diego or his designated representative.

(2865) (2) Persons desiring to transit the area of the security zones may contact the Captain of the Port at telephone number (619) 683-6495 or on VHF-FM channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representative.

(2866) (d) *Authority*. In addition to 33 U.S.C. 1231 and 50 U.S.C. 191, the authority for this section includes 33 U.S.C. 1226.

(2867) (e) *Enforcement*. The U.S. Coast Guard may be assisted in the patrol and enforcement of the security zones by the San Diego Harbor Police.

§165.1110 Security Zone: Coronado Bay Bridge, San Diego, CA.

(2868) (a) *Location*. All navigable waters of San Diego Bay, from the surface to the sea floor, within 25 yards of all piers, abutments, fenders and pilings of the Coronado Bay Bridge. These security zones will not restrict the main navigational channel nor will it restrict vessels from transiting through the channel.

(2869) (b) *Regulations*. (1) Under §165.33, entry into, transit through, loitering, or anchoring within any of these security zones by all persons and vessels is prohibited, unless authorized by the Captain of the Port, or his designated representative. Mariners seeking permission to transit through a security zone may request authorization to do so from Captain of the Port or his designated representative. The Coast Guard can be contacted on San Diego Bay via VHF-FM channel 16.

(2870) (2) Vessels may enter a security zone if it is necessary for safe navigation and circumstances do not allow sufficient time to obtain permission from the Captain of the Port.

§165.1120 Security Zone; Naval Amphibious Base, San Diego, CA.

(2871) (a) *Location*. The following area is a security zone: the waters of San Diego Bay, enclosed by lines connecting the following points: Beginning at

(2872) 32°40'30.0"N., 117°10'03.0"W. (Point A): thence running northeasterly to

(2873) 32°40'54.0"N., 117°09'35.5"W. (Point B); thence running northeasterly to

(2874) 32°40'55.0"N., 117°09'27.0"W. (Point C); thence running southeasterly to

(2875) 32°40'43.0"N., 117°09'09.0"W. (Point D); thence running southerly to

(2876) 32°40'39.0"N., 117°09'08.0"W. (Point E); thence running southwesterly to

(2877) 32°40'30.0"N., 117°09'12.9"W. (Point F); thence running a short distance to

(2878) 32°40'29.0"N., 117°09'14.0"W. (Point G); thence running southwesterly to

(2879) 32°40'26.0"N., 117°09'17.0"W. (Point H); thence running northwesterly to the shoreline to

(2880) 32°40'31.0"N., 117°09'22.5"W. (Point I), thence running along the shoreline to the beginning point.

(2881) (b) *Regulations*. In accordance with the general regulations in §165.33 of this part, entry into the area of this zone is prohibited unless authorized by the Captain of the Port or the Commander, Navy Region Southwest.

(2882) (c) *Enforcement*. The U.S. Coast Guard may be assisted in the patrol and enforcement of this security zone by the U.S. Navy.

§165.1121 Security Zone: Fleet Supply Center Industrial Pier, San Diego, CA.

(2883) (a) *Location*. The following area is a security zone; the waters of San Diego Bay extending approximately 100 feet from the north, west, and south sides of the Fleet Industrial Supply Center enclosed by lines connecting the following points: Beginning at

(2884) 32°42'50"N., 117°10'25"W. (Point A); to

(2885) 32°42'50"N., 117°10'38"W. (Point B); to

(2886) 32°42'54"N., 117°10'38"W. (Point C); to

(2887) 32°42'54"N., 117°10'25"W. (Point D).

(2888) (b) *Regulations*. In accordance with the general regulations in §165.33, entry into the area of this zone is prohibited unless authorized by the Captain of the Port or the Commander, Navy Region Southwest. Section 165.33 also contains other general requirements.

(2889) (c) *Enforcement*. The U.S. Coast Guard may be assisted in the patrol and enforcement of this security zone by the U.S. Navy.

§165.1122 San Diego Bay, Mission Bay and their Approaches–Regulated navigation area.

(2890) (a) *Regulated navigation area*. The following area is a regulated navigation area (RNA): All waters of San Diego Bay, Mission Bay, and their approaches encompassed by a line commencing at Point La Jolla (32°51'06"N., 117°16'42"W.); thence proceeding seaward on a line bearing **255°**T to the outermost extent of the territorial seas; thence proceeding southerly along the outermost extent of the territorial seas to the intersection of the maritime boundary with Mexico; thence proceeding easterly, along the maritime boundary with Mexico to its intersection with the California coast; thence proceeding northerly, along the shoreline of the California coast–and including the inland waters of San Diego Bay and Mission Bay, California, shoreward of the COLREGS Demarcation Line–back to the point of origin. All coordinates reference 1983 North American Datum (NAD 83).

(2891) (b) *Definitions*. As used in this section–

(2892) *COLREGS Demarcation Line* means the line described at 33 CFR 80.1104 or 80.1106.

(2893) *Public vessel* means a vessel that is owned or demise–(bareboat) chartered by the government of the United States, by a State or local government, or by the government of a foreign country and that is not engaged in commercial service.

(2894) *Vessel* means every description of watercraft or other artificial contrivance used, or capable of being

used, as a means of transportation on water other than a public vessel.

(2895) (c) *Applicability*. This section applies to all vessels of 100 gross tons (GT) or more, including tug and barge combinations of 100 GT or more (combined), operating within the RNA, with the exception of public vessels, vessels not intending to cross the COLREGS Demarcation Line and enter San Diego Bay or Mission Bay, and any vessels exercising rights under principles of international law, including innocent passage or force majeure, within the area of the RNA. Vessels operating properly installed, operational, type approved automatic identification system (AIS) as denoted in 33 CFR 164.46 are exempted from making requests as required in this regulation.

(2896) (d) *Regulations* (1) No vessel to which this rule applies may enter, depart or move within San Diego Bay or Mission Bay unless it complies with the following requirements:

(2897) (i) Obtain permission to enter San Diego Bay or Mission Bay from the Captain of the Port or designated representative immediately upon entering the RNA. However, to avoid potential delays, we recommend seeking permission 30 minutes prior to entering the RNA.

(2898) (ii) Follow all instructions issued by the Captain of the Port or designated representative.

(2899) (iii) Obtain permission for any departure from or movement within the RNA from the Captain of the Port or designated representative prior to getting underway.

(2900) (iv) Follow all instructions issued by the Captain of the Port or designated representative.

(2901) (v) Requests may be made by telephone at 619-278-7033 (select option 2) or via VHF-FM radiotelephone on channel 16 (156.800 Mhz). The call sign for radiotelephone requests to the Captain of the Port or designated representative is "Coast Guard Sector San Diego."

(2902) (2) For purposes of the requirements in paragraph (d)(1) of this section, the Captain of the Port or designated representative means any official designated by the Captain of the Port, including but not limited to commissioned, warrant, and petty officers of the U.S. Coast Guard, and any U.S. Coast Guard patrol vessel. Upon being hailed by a U.S. Coast Guard vessel by siren, radio, flashing light, or other means, the operator of a vessel shall proceed as directed.

(2903) (e) *Waivers*. The Captain of the Port or designated representative may, upon request, waive any regulation in this section.

§165.1131 Security Zone: Wilson Cove, San Clemente Island, California.

(2904) (a) Location. The following area is a security zone: The water area adjacent to San Clemente Island, California within 1.5 nautical miles (1.73 statute miles, 2.8 kilometers) of the shoreline of San Clemente Island from Wilson Cove North End Light (LLNR 2565) to Spruce Pier, approximately 4.1 nautical miles (4.7 statute miles, 7.65 kilometers) southeast of Wilson Cove North End Light, described as follows: Starting at a point on the shoreline of San Clemente Island, California, in position

(2905) 33°01'25.0"N., 118°33'43.0"W. for a place of beginning (point A), thence northeasterly to

(2906) 33°02'11.0"N., 118°32'13.5"W. (point B), thence southeasterly to

(2907) 32°58'40.5"N., 118°29'15.5"W. (point C), thence southwesterly to

(2908) 32°57'54.0"N., 118°31'17.2"W. (point D), thence northwesterly along the shoreline of San Clemente Island to the place of beginning.

(2909) (b) Regulations. In accordance with the general regulations in §165.33 of this part, entry into the area of this zone is prohibited unless authorized by the Captain of the Port, San Diego, California. Section 165.33 also contains other general requirements.

§165.1151 Security Zones; Liquefied Hazardous Gas Tank Vessels, San Pedro Bay, California.

(2910) (a) *Definition*. "Liquefied Hazardous Gas" as used in this section means a liquid containing one or more of the products listed in Table 127.005 of this part that is carried in bulk on board a tank vessel as liquefied petroleum gas, liquefied natural gas, or similar liquefied gas products.

(2911) (b) *Location*. The following areas are security zones:

(2912) (1) All waters, extending from the surface of the sea floor, within a 500 yard radius around any liquefied hazardous gas (LHG) tank vessel that is anchored at a designated anchorage either inside the Federal breakwaters bounding San Pedro Bay or outside at designated anchorages within three nautical miles of the breakwater;

(2913) (2) The shore area and all waters, extending from the surface to the sea floor, within a 500 yard radius around any LHG tank vessel that is moored, or in the process of mooring, at any berth within the Los Angeles or Long Beach port areas inside the Federal breakwaters bounding San Pedro Bay;

(2914) (3) All waters, extending from the surface to the sea floor, within 1000 yards ahead and 500 yards on each side and astern of any LHG tank vessel that is underway either on the waters inside the Federal breakwaters

bounding San Pedro Bay or on the waters within three nautical miles seaward of the Federal breakwaters.

(2915) (c) *Regulations*. (1) In accordance with the general regulations in §165.33 of this part, entry into or remaining in these zones is prohibited unless authorized by the Coast Guard Captain of the Port Los Angeles-Long Beach, or his or her designated representative.

(2916) (2) Persons desiring to transit the area of the security zone may contact the Captain of the Port at telephone number (800) 221-USCG (8724) or on VHF-FM channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels shall comply with the instructions of the Captain of the Port or his or her designated representative.

(2917) (3) When any LHG tank vessels approach within 500 yards of a vessel that is moored or anchored, the stationary vessel must stay moored or anchored while it remains within the LHG tank vessel's security zone unless it is either ordered by or given permission from the Captain of the Port Los Angeles-Long Beach to do otherwise.

(2918) (d) *Authority*. In addition to 33 U.S.C. 1231 and 50 U.S.C. 191, the authority for this section includes 33 U.S.C. 1226.

(2919) *(e) Enforcement*. The U.S. Coast Guard may be assisted in the patrol and enforcement of these security zones by the Los Angeles Port Police and the Long Beach Police Department.

§165.1152 San Pedro Bay, California—Regulated navigation area.

(2920) (a) *Applicability:* This section applies to all vessels unless otherwise specified. (Note: All geographic coordinates are defined using North American Datum 1983 (NAD 83)).

(2921) (b) *Deviations*. The Captain of the Port of Los Angeles-Long Beach or his or her designated representative may authorize a deviation from the requirements of this regulation when it is deemed necessary in the interests of safety.

(2922) (c) *Location*. (1) The San Pedro Bay Regulated Navigation Area (RNA) consists of the water area enclosed by the Los Angeles-Long Beach breakwater and a line connecting Point Fermin Light at 33°42.30'N., 118°17.60'W., with the following geographical positions:

Latitude	Longitude
33°35.50'N.	118°17.60'W.
33°35.50'N.	118°09.00'W.
33°37.70'N.	118°06.50'W.
33°43.40'N.	118°10.80'W.

(2923) (2) The San Pedro Bay RNA consists of the following named sub-areas, defined by lines connecting their respective geographic coordinates:

(2924) (i) *The Los Angeles Pilot Area:*

Latitude	Longitude
33°42.50'N.	118°15.10'W. (Los Angeles Light)
33°42.62'N.	118°14.70'W.
33°41.30'N.	118°13.50'W.
33°40.85'N.	118°14.90'W.
33°42.50'N.	118°15.10'W.

(2925) (ii) *The Long Beach Pilot Area:*

Latitude	Longitude
33°43.40'N.	118°11.20'W. (Long Beach Light)
33°43.40'N.	118°10.80'W.
33°41.50'N.	118°10.22'W.
33°40.52'N.	118°10.22'W.
33°40.52'N.	118°11.82'W.
33°41.50'N.	118°11.82'W.
33°43.40'N.	118°11.20'W.

(2926) (iii) *The Los Angeles Deep Water Traffic Lane:*

Latitude	Longitude
33°42.47'N.	118°14.95'W.
33°42.56'N.	118°14.75'W.
33°39.48'N.	118°13.32'W.
33°39.42'N.	118°13.55W.
33°42.47'N.	118°14.95'W.

(2927) (iv) *The Long Beach Deep Water Traffic Lane:*

Latitude	Longitude
33°43.43'N.	118°11.15'W.
33°43.39'N.	118°10.90'W.
33°41.51'N.	118°10.71'W.
33°41.50'N.	118°10.95'W.
33°43.43'N.	118°11.15'W.

(2928) (v) *Los Angeles Deep Water Pilot Area:* A 0.5 nm radius around 33°39.00'N., 118°13.19'W.

(2929) (d) *General Regulations*. The following regulations contained in paragraphs (d)(1) through (d)(3) of this section apply to power driven vessels of 1,600 or more gross tons, a towing vessel of 8 meters (approximately 26 feet) or over in length engaged in towing, or vessels

of 100 gross tons and upward carrying one or more passengers for hire.

(2930) (1) A vessel shall not exceed a speed of 12 knots through the water within the RNA.

(2931) (2) A vessel navigating within the RNA, shall have its engine(s) ready for immediate maneuver and shall operate its engine(s) in a control mode and on fuel that will allow for an immediate response to any engine order, ahead or astern, including stopping its engine(s) for an extended period of time.

(2932) (3) A vessel navigating within the RNA shall maintain a minimum separation from other vessels of at least 0.25 nm.

(2933) (e) *Specific Regulations*—(1) Los Angeles Pilot Area. (i) No vessel may enter the Los Angeles Pilot Area unless it is entering or departing Los Angeles Harbor entrance (Angels Gate).

(2934) (ii) Vessels entering the Los Angeles Pilot Area shall pass directly through without stopping or loitering except as necessary to embark or disembark a pilot.

(2935) (2) *Long Beach Pilot Area*. (i) No vessel may enter the Long Beach Pilot Area unless it is entering or departing Long Beach Harbor entrance (Queens Gate).

(2936) (ii) Vessels entering the Long Beach Pilot Area shall pass directly through without stopping or loitering except as necessary to embark or disembark a pilot.

(2937) (iii) Every vessel shall leave Long Beach Approach Lighted Whistle Buoy "LB" to port when entering and departing Long Beach Channel and departing vessels shall pass across the southern boundary of the Long Beach Pilot Area.

(2938) (3) *Los Angeles and Long Beach Deep Water Traffic Lanes*. When a vessel of 50 foot draft or greater is using the Los Angeles or Long Beach Deep Water Traffic Lane no other vessel shall enter the Deep Water Traffic Lane if it will result in a meeting, crossing or overtaking situation.

(2939) (4) *Los Angeles Deep Water Pilot Area*. When a vessel of 50 foot draft or greater is embarking or disembarking a pilot in the Los Angeles Deep Water Pilot Area no other vessel shall enter the Deep Water Pilot Area.

(2940) (5) Vessels described in Paragraph (d) of this section may not enter the waters between Commercial Anchorage G and the Middle Breakwater as defined by an area enclosed by the line beginning at Los Angeles Main Channel Entrance Light 2 (33°42.70'N., 118°14.70'W.), thence east along the Middle Breakwater to Long Beach Light (33°43.40'N., 118°11.20'W.), thence south to (33°43.08'N., 118°11.26'W.), thence westerly to (33°43.08'N., 118°12.26'W.), thence southwesterly parallel to the breakwater to (33°42.43'N., 118°14.30'W.), thence to the point of origin, unless such vessel is:

(2941) (i) In an emergency;

(2942) (ii) Proceeding to anchor in or departing Commercial Anchorage G;

(2943) (iii) Standing by with confirmed pilot boarding arrangements; or,

(2944) (iv) Engaged in towing vessels to or from Commercial Anchorage G, or to or from the waters between Commercial Anchorage G and the Middle Breakwater.

§165.1154 Security Zones; Cruise Ships, San Pedro Bay, California.

(2945) (a) *Definition*. "Cruise ship" as used in this section means a passenger vessel, except for a ferry, over 100 feet in length, authorized to carry more than 12 passengers for hire; making voyages lasting more than 24 hours, any part of which is on the high seas; and for which passengers are embarked or disembarked in the Port of Los Angeles or Port of Long Beach.

(2946) (b) *Location*. The following areas are security zones:

(2947) (1) All waters, extending from the surface to the sea floor, within a 100 yard radius around any cruise ship that is anchored at a designated anchorage either inside the Federal breakwaters bounding San Pedro Bay or outside at designated anchorages within 3 nautical miles of the Federal breakwaters;

(2948) (2) The shore area and all waters, extending from the surface to the sea floor, within a 100 yard radius around any cruise ship that is moored, or is in the process of mooring, at any berth within the Los Angeles or Long Beach port areas inside the Federal breakwaters bounding San Pedro Bay; and

(2949) (3) All waters, extending from the surface to the sea floor, within 200 yards ahead, and 100 yards on each side and astern of a cruise ship that is underway either on the waters inside the Federal breakwaters bounding San Pedro Bay or on the waters within 3 nautical miles seaward of the Federal breakwaters.

(2950) (c) *Regulations*.

(2951) (1) In accordance with the general regulations in Sec. 165.33 of this part, entry into or remaining in these zones is prohibited unless authorized by the Coast Guard Captain of the Port, Los Angeles-Long Beach, or his designated representative.

(2952) (2) Persons desiring to transit the area of the security zone may contact the Captain of the Port at telephone number 1-800-221-USCG (8724) or on VHF-FM channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representative.

(2953) (3) When a cruise ship approaches within 100 yards of a vessel that is moored, or anchored, the stationary vessel must stay moored or anchored while it remains within the cruise ship's security zone unless it is either

ordered by, or given permission from, the COTP Los Angeles-Long Beach to do otherwise.

(2954) (d) *Authority*. In addition to 33 U.S.C. 1231 and 50 U.S.C. 191, the authority for this section includes 33 U.S.C. 1226.

(2955) (e) *Enforcement*. The U.S. Coast Guard may be assisted in the patrol and enforcement of the security zone by the Los Angeles Port Police and the Long Beach Police Department.

§165.1155 Security Zone; Diablo Canyon Nuclear Power Plant, Avila Beach, California.

(2956) (a) *Location*. The following area is a security zone: all waters of the Pacific Ocean, from surface to bottom, within a 2,000 yard radius of Diablo Canyon Nuclear Power Plant centered at position 35°12'23"N., 120°51'23"W. [Datum: NAD 83].

(2957) (b) *Regulations*. (1) In accordance with the general regulations in §165.33 of this part, entry into or remaining in this zone is prohibited unless authorized by the Coast Guard Captain of the Port, Los Angeles-Long Beach, or his or her designated representative.

(2958) (2) Persons desiring to transit the area of the security zone may contact the Captain of the Port at telephone number 1-800-221-8724 or on VHF-FM channel 16 (156.8 MHz). If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representative.

(2959) (c) *Authority*. In addition to 33 U.S.C. 1231, the authority for this section includes 33 U.S.C. 1226.

§165.1156 Safety Zone; Offshore Marine Terminal, El Segundo, CA.

(2960) (a) *Location*. The following area is a safety zone: All waters of Santa Monica Bay, from surface to bottom, enclosed by a line beginning at

(2961) 33°54'59"N., 118°26'50"W.; then to

(2962) 33°54'59"N., 118°27'34"W.; then to

(2963) 33°54'00"N., 118°27'34"W.; then to

(2964) 33°54'00"N., 118°26'50"W; then to the point of beginning (NAD 1983).

(2965) (b) *Regulations*. (1) In accordance with the general regulations in §165.23 of this part, entry into or movement within this zone is prohibited except for:

(2966) (i) Commercial vessels authorized to use the offshore marine terminal for loading or unloading;

(2967) (ii) Commercial tugs, lighters, barges, launches, or other vessels authorized to engage in servicing the offshore marine terminal or vessels therein;

(2968) (iii) Public vessels of the United States.

(2969) (2) Persons desiring to transit the area of the safety zone may contact the Captain of the Port at telephone number 1-800-221-8724 or on VHF-FM channel 16 (156.8 MHz). If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representative.

(2970) (3) Nothing in this section shall be construed as relieving the owner or person in charge of any vessel from complying with the Navigation Rules as defined in 33 CFR chapter 1, subchapters D and E and safe navigation practice.

§165.1181 San Francisco Bay Region, California—Regulated navigation area.

(2971) (a) *Applicability*. This section applies to all vessels unless otherwise specified.

(2972) (b) *Deviations*. The Captain of the Port, San Francisco Bay, or the Commanding Officer, Vessel Traffic Service San Francisco, as a representative of the Captain of the Port, may authorize a deviation from the requirements of this regulation when it is deemed necessary in the interests of safety.

(2973) (c) *Regulated Navigation Areas*.–(1) *San Francisco Bay RNA*. (i) The following is a regulated navigation area-The waters bounded by a line connecting the following coordinates, beginning at:

(2974) 37°47'18"N., 122°30'22"W.; thence to

(2975) 37°48'55"N., 122°31'41"W.; thence along the shoreline to

(2976) 37°50'38"N., 122°28'37"W.; thence to

(2977) 37°50'59"N., 122°28'00"W.; thence to

(2978) 37°51'45"N., 122°27'28"W.; thence to

(2979) 37°52'58"N., 122°26'06"W.; thence to

(2980) 37°51'53"N., 122°24'58"W.; thence to

(2981) 37°51'53"N., 122°24'00"W.; thence to

(2982) 37°51'40"N., 122°23'48"W.; thence to

(2983) 37°49'22"N., 122°23'48"W.; thence to

(2984) 37°48'20"N., 122°22'12"W.; thence to

(2985) 37°47'02"N., 122°21'33"W.; thence to

(2986) 37°47'02"N., 122°23'04"W.; thence along the shoreline to the point of beginning.

Datum: NAD 83

(2987) (ii) The San Francisco Bay RNA consists of the following defined sub-areas:

(2988) (A) *Golden Gate Traffic Lanes*.–(1) *Westbound traffic lane*: Bounded by the Golden Gate precautionary area and the COLREGS Demarcation Line (33 CFR 80.1142), between the separation zone and a line connecting the following coordinates:

(2989) 37°48'30"N., 122°31'22"W.; thence to

(2990) 37°49'03"N., 122°29'52"W.

Datum: NAD 83

(2991) (2) *Eastbound traffic lane*. Bounded by the COLREGS Demarcation Line (33 CFR 80.1142) and the Golden Gate precautionary area, between the separation zone and a line connecting the following coordinates:

(2992) 37°47'50"N., 122°30'48"W.; thence to

(2993) 37°48'30"N., 122°29'29"W.;

Datum: NAD 83

(2994) (3) *Golden Gate Separation Zone*: The area 75 yards each side of a line connecting the following coordinates:

(2995) 37°48'08"N., 122°31'05"W.; thence to

(2996) 37°48'46"N., 122°29'40"W.

Datum: NAD 83

(2997) (B) *Golden Gate Precautionary Area*: An area bounded by a line connecting the following coordinates beginning at:

(2998) 37°48'30"N., 122°29'29"W.; thence to

(2999) 37°48'52"N., 122°28'41"W.; thence to

(3000) 37°48'52"N., 122°27'49"W.; thence to

(3001) 37°49'36"N., 122°27'46"W.; thence to

(3002) 37°49'55"N., 122°28'09"W.; thence to

(3003) 37°49'28"N., 122°28'45"W.; thence to

(3004) 37°49'03"N., 122°29'52"W.; thence returning to the point of beginning.

Datum: NAD 83

(3005) (C) *Central Bay Traffic Lanes*.–(1) *Westbound traffic lane*: Bounded by the Central Bay precautionary area and the Golden Gate precautionary area, between the Central Bay and the Deep Water Traffic Lane separation zones.

(3006) (2) *Eastbound traffic lane*: Bounded by the Golden Gate precautionary area and the Central Bay precautionary area, between the Central Bay Separation Zone and a line connecting the following coordinates, beginning at:

(3007) 37°48'41"N., 122°25'17"W.; thence to

(3008) 37°48'50"N., 122°26'14"W.; thence to

(3009) 37°48'52"N.; 122°27'49"W.

Datum: NAD 83

(3010) (3) *Deep Water (two-way) Traffic Lane*: Bounded by the Central Bay precautionary area and the Golden Gate precautionary area, between the Deep Water Traffic Lane separation zone and a line connecting the following coordinates, beginning at:

(3011) 37°49'55"N., 122°28'9"W.; thence to

(3012) 37°50'36"N., 122°27'12"W.; thence to

(3013) 37°50'47"N., 122°26'26"W.

Datum: NAD 83

(3014) (D) *Central Bay Separation Zone*: The area 75 yards each side of a line connecting the following coordinates, beginning at:

(3015) 37°49'17"N., 122°27'47"W.; thence to

(3016) 37°49'35"N., 122°25'25"W.

Datum: NAD 83

(3017) (E) *Deep Water Traffic Lane Separation Zone*: The area 75 yards each side of a line connecting the following coordinates beginning at:

(3018) 37°49'36"N., 122°27'46"W.; thence to

(3019) 37°50'22"N., 122°26'49"W.; thence to

(3020) 37°50'25"N., 122°26'22"W.;

Datum: NAD 83

(3021) (F) *Central Bay Precautionary Area*: An area bounded by a line connecting the following coordinates, beginning at:

(3022) 37°48'41"N., 122°25'17"W.; thence to

(3023) 37°49'32"N., 122°25'13"W.; thence to

(3024) 37°50'25"N., 122°26'22"W.; thence to

(3025) 37°50'47"N., 122°26'26"W.; thence to

(3026) 37°51'04"N., 122°24'58"W.; thence to

(3027) 37°51'53"N., 122°24'58"W.; thence to

(3028) 37°51'53"N., 122°24'00"W.; thence to

(3029) 37°51'40"N., 122°23'48"W.; thence to

(3030) 37°49'22"N., 122°23'48"W.; thence to

(3031) 37°48'20"N., 122°22'12"W.; thence to

(3032) 37°47'02"N., 122°21'33"W.; thence to

(3033) 37°47'02"N., 122°23'04"W.; thence returning along the shoreline to the point of beginning.

Datum: NAD 83

(3034) (2) *North Ship Channel RNA*. The following is a regulated navigation area-The waters bounded by a line connecting the following coordinates, beginning at:

(3035) 37°51'53"N., 122°24'58"W.; thence to

(3036) 37°54'15"N., 122°27'27"W.; thence to

(3037) 37°56'06"N., 122°26'49"W.; thence to

(3038) 37°56'06"N., 122°26'34"W.; thence to

(3039) 37°54'48"N., 122°26'42"W.; thence to

(3040) 37°54'02"N., 122°26'10"W.; thence to

(3041) 37°51'53"N., 122°24'00"W.; thence returning to the point of beginning.

Datum: NAD 83

(3042) (3) *San Pablo Strait Channel RNA*. The following is a regulated navigation area-The waters bounded by a line connecting the following coordinates, beginning at:
(3043) 37°56'06"N., 122°26'49"W.; thence to
(3044) 37°57'26"N., 122°27'21"W.; thence to
(3045) 38°00'48"N., 122°24'45"W.; thence to
(3046) 38°01'54"N., 122°22'24"W.; thence to
(3047) 38°01'44"N., 122°22'18"W.; thence to
(3048) 37°57'37"N., 122°26'23"W.; thence to
(3049) 37°56'06"N., 122°26'34"W.; thence returning to the point of beginning.

Datum NAD 83

(3050) (4) *Pinole Shoal Channel RNA*. The following is a regulated navigation area-The waters bounded by a line connecting the following coordinates, beginning at:
(3051) 38°01'54"N., 122°22'25"W.; thence to
(3052) 38°03'13"N., 122°19'50"W.; thence to
(3053) 38°03'23"N., 122°18'31"W.; thence to
(3054) 38°03'13"N., 122°18'29"W.; thence to
(3055) 38°03'05"N., 122°19'28"W.; thence to
(3056) 38°01'44"N., 122°22'18"W.; thence returning to the point of beginning.

Datum: NAD 83

(3057) (5) *Benicia-Martinez Railroad Drawbridge Regulated Navigation Area (RNA)*: The following is a regulated navigation area–The waters bounded by the following longitude lines:
(3058) (i) 122°13'31"W. (coinciding with the charted location of the Carquinez Bridge)
(3059) (ii) 121°53'17"W. (coinciding with the charted location of New York Point)

Datum: NAD 83

(3060) (6) *Southampton Shoal Channel/Richmond Harbor RNA*: The following, consisting of two distinct areas, is a regulated navigation area–
(3061) (i) The waters bounded by a line connecting the following coordinates, beginning at:
(3062) 37°54'17"N., 122°22'00"W.; thence to
(3063) 37°54'08"N., 122°22'00"W.; thence to
(3064) 37°54'15"N., 122°23'12"W.; thence to
(3065) 37°54'30"N., 122°23'09"W.; thence along the shoreline to the point of beginning.

Datum: NAD 83

(3066) (ii) The waters bounded by a line connecting the following coordinates, beginning at:
(3067) 37°54'28"N., 122°23'36"W.; thence to
(3068) 37°54'20"N., 122°23'38"W.; thence to
(3069) 37°54'23"N., 122°24'02"W.; thence to
(3070) 37°54'57"N., 122°24'51"W.; thence to
(3071) 37°55'05"N., 122°25'02"W.; thence to
(3072) 37°54'57"N., 122°25'22"W.; thence to
(3073) 37°53'26"N., 122°25'03"W.; thence to
(3074) 37°53'24"N., 122°25'13"W.; thence to
(3075) 37°55'30"N., 122°25'35"W.; thence to
(3076) 37°55'40"N., 122°25'10"W.; thence to
(3077) 37°54'54"N., 122°24'30"W.; thence to
(3078) 37°54'30"N., 122°24'00"W.; thence returning to the point of beginning.

Datum: NAD 83

(3079) (7) *Oakland Harbor RNA*. The following is a regulated navigation area–The waters bounded by a line connecting the following coordinates, beginning at:
(3080) 37°48'40"N., 122°19'58"W.; thence to
(3081) 37°48'50"N., 122°20'02"W.; thence to
(3082) 37°48'29"N., 122°20'39"W.; thence to
(3083) 37°48'13"N., 122°21'26"W.; thence to
(3084) 37°48'10"N., 122°21'39"W.; thence to
(3085) 37°48'20"N., 122°22'12"W.; thence to
(3086) 37°47'36"N., 122°21'50"W.; thence to
(3087) 37°47'52"N., 122°21'40"W.; thence to
(3088) 37°48'03"N., 122°21'00"W.; thence to
(3089) 37°47'48"N., 122°19'46"W.; thence to
(3090) 37°47'55"N., 122°19'43"W.; thence returning along the shoreline to the point of the beginning.

Datum: NAD 83

(3091) (d) *General regulations*. (1) A power-driven vessel of 1600 or more gross tons, or a tug with a tow of 1600 or more gross tons, navigating within the RNAs defined in Paragraph (c) of this section, shall not exceed a speed of 15 knots through the water.
(3092) (2) A power-driven vessel of 1600 or more gross tons, or a tug with a tow of 1600 or more gross tons, navigating within the RNAs defined in Paragraph (c) of this section, shall have its engine(s) ready for immediate maneuver and shall operate its engine(s) in a control mode and on fuel that will allow for an immediate response to any engine order, ahead or astern, including stopping its engine(s) for an extended period of time.
(3093) (3) The master, pilot or person directing the movement of a vessel within the RNAs defined in Paragraph

(c) of this regulation shall comply with Rule 9 of the Inland Navigation Rules (INRs) (33 U.S.C. 2009) in conjunction with the provisions of the associated INRs.

(3094) (e) *Specific Regulations*.–(1) *San Francisco Bay RNA*: (i) A vessel shall navigate with particular caution in a precautionary area, or in areas near the terminations of traffic lanes or channels, as described in this regulation.

(3095) (ii) A power-driven vessel of 1600 or more gross tons, or a tug with a tow of 1600 or more gross tons, shall:

(3096) (A) use the appropriate traffic lane and proceed in the general direction of traffic flow for that lane;

(3097) (B) use the Central Bay Deep Water Traffic Lane if eastbound with a draft of 45 feet or greater or westbound with a draft of 28 feet or greater;

(3098) (C) not enter the Central Bay Deep Water Traffic Lane when another power-driven vessel of 1600 or more gross tons or tug with a tow of 1600 or more gross tons is navigating therein when either vessel is:

(3099) (1) carrying certain dangerous cargoes (as denoted in section 160.203 of this subchapter);

(3100) (2) carrying bulk petroleum products; or

(3101) (3) a tank vessel in ballast if such entry would result in meeting, crossing, or overtaking the other vessel.

(3102) (D) normally join or leave a traffic lane at the termination of the lane, but when joining or leaving from either side, shall do so at as small an angle to the general direction of traffic flow as practicable;

(3103) (E) So far as practicable keep clear of the Central Bay Separation Zone and the Deep Water Traffic Lane Separation Zone;

(3104) (F) not cross a traffic lane separation zone unless crossing, joining, or leaving a traffic lane.

(3105) (2) *Pinole Shoal Channel RNA*:

(3106) (i) A vessel less than 1600 gross tons or a tug with a tow of less than 1600 gross tons is not permitted within this RNA.

(3107) (ii) A power-driven vessel of 1600 or more gross tons or a tug with a tow of 1600 or more gross tons shall not enter Pinole Shoal Channel RNA when another power-driven vessel of 1600 or more gross tons or tug with a tow of 1600 or more gross tons is navigating therein if such entry would result in meeting, crossing, or overtaking the other vessel, when either vessel is:

(3108) (A) Carrying certain dangerous cargoes (as denoted in §160.203 of this subchapter);

(3109) (B) Carrying bulk petroleum products; or

(3110) (C) A tank vessel in ballast.

(3111) (iii) Vessels permitted to use this channel shall proceed at a reasonable speed so as not to endanger other vessels or interfere with any work which may become necessary in maintaining, surveying, or buoying the channel, and they shall not anchor in the channel except in case of a deviation authorized under Paragraph (b) of this section.

(3112) (iv) This Paragraph shall not be construed as prohibiting any necessary use of the channel by any public vessels while engaged in official duties, or in emergencies by pilot boats.

(3113) (3) *Benicia-Martinez Railroad Drawbridge Regulated Navigation Area (RNA)*:

(3114) (i) *Eastbound vessels*:

(3115) (A) The master, pilot, or person directing the movement of a power-driven vessel of 1600 or more gross tons or a tug with a tow of 1600 or more gross tons traveling eastbound and intending to transit under the lift span (centered at coordinates 38°02'18"N., 122°07'17"W.) of the railroad bridge across Carquinez Strait at mile 7.0 shall, immediately after entering, the RNA, determine whether the visibility around the lift span is ½ nautical mile or greater.

(3116) (B) If the visibility is less than ½ nautical mile, or subsequently becomes less than ½ nautical mile, the vessel shall not transit under the lift span.

(3117) (ii) *Westbound vessels*:

(3118) (A) The master, pilot, or person directing the movement of a power-driven vessel of 1600 or more gross tons or a tug with a tow of 1600 or more gross tons traveling westbound and intending to transit under the lift span (centered at coordinates 38°02'18"N., 122°07'17"W.) of the railroad bridge across Carquinez Strait at mile 7.0 shall, immediately after entering the RNA determine whether the visibility around the lift span is ½ nautical mile or greater.

(3119) (B) If the visibility is less than ½ nautical mile, the vessel shall not pass beyond longitude line 121°55'19"W. (coinciding with the charted position of the westernmost end of Mallard Island) until the visibility improves to greater than ½ nautical mile around the lift span.

(3120) (C) If after entering the RNA visibility around the lift span subsequently becomes less than ½ nautical mile, the master, pilot, or person directing the movement of the vessel either shall not transit under the lift span or shall request a deviation from the requirements of the RNA as prescribed in paragraph (b) of this section.

(3121) (D) Vessels that are moored or anchored within the RNA with the intent to transit under the lift span shall remain moored or anchored until visibility around the lift span becomes greater than ½ nautical mile.

(3122) (4) *Southampton Shoal/Richmond Harbor RNA*: A power-driven vessel of 1600 or more gross tons, or a tug with a tow of 1600 or more gross tons, shall not enter Southampton Shoal/Richmond Harbor RNA when another power-driven vessel of 1600 or more gross tons,

or a tug with a tow of 1600 or more gross tons, is navigating therein, if such entry would result in meeting, crossing or overtaking the other vessel.

(3123) (5) *Oakland Harbor RNA*: A power-driven vessel of 1600 or more gross tons or a tug with a tow of 1600 or more gross tons shall not enter the Oakland Harbor RNA when another power-driven vessel of 1600 or more gross tons, or a tug with a tow of 1600 or more gross tons, is navigating therein, if such entry would result in meeting, crossing, or overtaking the other vessel.

§165.1182 Safety/Security Zone: San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay, CA.

(3124) (a) *Regulated area*. The following area is established as a moving safety/security zone:

(3125) (1) All waters 200 yards ahead and astern and 100 yards to each side of every vessel transporting nuclear materials on behalf of the United States Department of Energy while such vessels transit from a line drawn between San Francisco Main Ship Channel buoys 7 and 8 (LLNR 4190 & 4195, positions 37°46.9'N, 122°35.4'W & 37°46.5'N, 122°35.2'W, respectively) until safely moored at the Weapons Support Facility Seal Beach Detachment Concord on Suisun Bay (position 38°03.3'N, 122°02.5'W). All coordinates referenced use datum: NAD 1983.

(3126) (2) All waters within 100 yards of such vessels described in Paragraph (a)(1) of this section while such vessels are conducting cargo operations at the Weapons Support Facility Seal Beach Detachment Concord.

(3127) (b) *Notification*. Commander, Eleventh Coast Guard District, will cause notice of the activation of this safety/security zone to be made by all appropriate means to effect the widest publicity among the affected segments of the public, including publication in the **Federal Register** as practicable, in accordance with the provisions of 33 CFR 165.7(a); such means of announcement may include, but are not limited to, Broadcast Notice to Mariners. The Coast Guard will issue a Broadcast Notice to Mariners notifying the public when nuclear materials cargo handling has been completed.

(3128) (c) *Effective Period*. The safety/security zone will be effective commencing at the time any vessel described in Paragraph (a)(1) of this section enters the zone described in Paragraph (a)(1) of this section and will remain in effect until all spent nuclear materials cargo handling operations have been completed at Weapons Support Facility Seal Beach Detachment Concord.

(3129) (d) *Regulations*. The general regulations governing safety and security zones contained in both 33 CFR 165.23 in 33 CFR 165.33 apply. Entry into, transit through, or anchoring within this moving safety/security zone is prohibited unless authorized by Commander, Eleventh Coast Guard District, or his designated representative.

§165.1183 Security Zones; Cruise Ships, Tankers and High Interest Vessels, San Francisco Bay and Delta Ports, Monterey Bay and Humboldt Bay, California.

(3130) (a) *Definitions*. As used in this section—

(3131) *Cruise ship* means any vessel over 100 gross register tons, carrying more than 12 passengers for hire which makes voyages lasting more than 24 hours, of which any part is on the high seas. Passengers from cruise ships are embarked or disembarked in the U.S. or its territories. Cruise ships do not include ferries that hold Coast Guard Certificates of Inspection endorsed for "Lakes, Bays and Sounds" that transit international waters for only short periods of time on frequent schedules.

(3132) *High Interest Vessel* or *HIV* means any vessel deemed by the Captain of the Port, or higher authority, as a vessel requiring protection based upon risk assessment analysis of the vessel and is therefore escorted by a Coast Guard or other law enforcement vessel with an embarked Coast Guard commissioned, warrant, or petty officer.

(3133) *Tanker* means any self-propelled tank vessel constructed or adapted primarily to carry oil or hazardous materials in bulk in the cargo spaces.

(3134) (b) *Locations*. The following areas are security zones:

(3135) (1) *San Francisco Bay*. All waters, extending from the surface to the sea floor, within 100 yards ahead, astern and extending 100 yards along either side of any cruise ship, tanker or HIV that is underway, anchored, or moored within the San Francisco Bay and Delta port areas shoreward of the line drawn between San Francisco Main Ship Channel buoys 7 and 8 (LLNR 4190 & 4195, positions 37º46.9'N., 122º35.4'W. and 37º46.5'N., 122º35.2'W., respectively);

(3136) (2) *Monterey Bay*. All waters, extending from the surface to the sea floor, within 100 yards ahead, astern and extending 100 yards along either side of any cruise ship, tanker or HIV that is underway, anchored, or moored within the Monterey Bay area shoreward of a line drawn between Santa Cruz Light (LLNR 305) to the north in position 36º57.10'N., 122º01.60'W., and Cypress Point, Monterey to the south, in position 36º34.90'N., 121º58.70'W.

(3137) (3) *Humboldt Bay*. All waters, extending from the surface to the sea floor, within 100 yards ahead, astern and extending 100 yards along either side of any cruise

ship, tanker or HIV that is underway, anchored, or moored within the Humboldt Bay area shoreward of a 4 nautical mile radius line drawn to the west of the Humboldt Bay Entrance Lighted Whistle Buoy HB (LLNR 8130), in position 40º46.25'N., 124º16.13'W.

(3138) (c) *Regulations*. (1) In accordance with the general regulations in §165.33 of this part, entry into or remaining in this zone is prohibited unless authorized by the Coast Guard Captain of the Port, San Francisco Bay, or his designated representative.

(3139) (2) Persons desiring to transit the area of the security zone may contact the Captain of the Port at telephone number 415-399-3547 or on VHF-FM channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port, or his designated representative.

§165.1185 Regulated Navigation Area; San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay, Sacramento River, San Joaquin River, and connecting waters in California.

(3140) (a) *Location*. All waters of San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay, Sacramento River, San Joaquin River, and connecting waters in California are a Regulated Navigation Area.

(3141) (b) *Definitions*. "Liquefied hazardous gas (LHG)" is a liquid containing one or more of the products listed in Table 127.005 of 33 CFR 127.005 that is carried in bulk on board a tank vessel as a liquefied gas product. The hazards normally associated with these products include toxic or flammable properties or a combination of both.

(3142) (c) *Regulations*. All vessels loaded with a cargo of liquefied hazardous gas (LHG) within this Regulated Navigation Area must proceed directly to their intended cargo reception facility to discharge their LHG cargo, unless:

(3143) (1) The vessel is otherwise directed or permitted by the Captain of the Port. The Captain of the Port can be reached at telephone number 415-399-3547 or on VHF-FM channel 16 (156.8 MHz). If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representative.

(3144) (2) The vessel is in an emergency situation and unable to proceed as directed in paragraph (a) of this section without endangering the safety of persons, property, or the environment.

§165.1187 Security Zones; Golden Gate Bridge and the San Francisco-Oakland Bay Bridge, San Francisco Bay, California.

(3145) (a) *Location*. All waters extending from the surface to the sea floor, within 25 yards of all piers, abutments, fenders and pilings of the Golden Gate Bridge and the San Francisco-Oakland Bay Bridge, in San Francisco Bay, California.

(3146) (b) *Regulations*. (1) In accordance with the general regulations in §165.33 of this part, entry into these security zones is prohibited, unless doing so is necessary for safe navigation, to conduct official business such as scheduled maintenance or retrofit operations, or unless specifically authorized by the Captain of the Port San Francisco Bay or his designated representative.

(3147) (2) Persons desiring to transit the area of the security zone may contact the Captain of the Port at telephone number 415-399-3547 or on VHF-FM channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representative.

(3148) (c) *Enforcement*. All persons and vessels shall comply with the instructions of the Coast Guard Captain of the Port or the designated on-scene patrol personnel. Patrol personnel comprise commissioned, warrant, and petty officers of the Coast Guard onboard Coast Guard, Coast Guard Auxiliary, local, state, and federal law enforcement vessels. Upon being hailed by U.S. Coast Guard patrol personnel by siren, radio, flashing light, or other means, the operator of a vessel shall proceed as directed.

§165.1190 Security Zone; San Francisco Bay, Oakland Estuary, Alameda, CA.

(3149) (a) *Location*. The following area is a security zone: All navigable waters of the Oakland Estuary, California, from the surface to the sea floor, approximately 50 yards into the Oakland Estuary surrounding the Coast Guard Island Pier. The perimeter of the security zone follows the same perimeter as the floating security barrier installed around the Coast Guard Island pier. The perimeter of the security barrier is located along the following coordinates: commencing at a point on land approximately 50 yards northwest of the northwestern end of the Coast Guard Island Pier at latitude 37°46'53.60"N and longitude 122°15'06.10"W; thence to the edge of the navigable channel at latitude 37°46'51.83"N and longitude 122°15'07.47"W; thence to a position approximately 10 yards into the charted navigation channel at latitude 37°46'51.27"N and longitude 122°15'07.22"W; thence closely paralleling the edge of the charted navigation channel to latitude 37°46'46.75"N and longitude 122°15'00.21"W; thence

closely paralleling the edge of the charted navigation channel to a point approximately 20 yards into the charted navigation channel at latitude 37°46'42.36"N and longitude 122°14'51.55"W; thence to a point on land approximately 50 yards southeast of the southeastern end of the Coast Guard Island Pier at latitude 37°46'44.80"N and longitude 122°14'48.80"W; thence northwest along the shoreline back to the beginning point.

(3150) (b) *Regulations*. (1) Under §165.33, entry into or remaining in this zone is prohibited unless authorized by the Coast Guard Captain of the Port, San Francisco Bay, or his designated representative.

(3151) (2) Persons desiring to transit the area of the security zone may contact the Captain of the Port at telephone number 415-399-3547 or on VHF-FM channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his designated representative.

(3152) (c) *Enforcement*. The Captain of the Port will enforce this security zone and may be assisted in the patrol and enforcement of this security zone by any Federal, State, county, municipal, or private agency.

§165.1192 Security Zones; Waters surrounding San Francisco International Airport and Oakland International Airport, San Francisco Bay, California.

(3153) (a) *Locations*. The following areas are security zones:

(3154) (1) *San Francisco International Airport Security Zone*. This security zone includes all waters extending from the surface to the sea floor within approximately 200 yards seaward from the shoreline of the San Francisco International Airport and encompasses all waters in San Francisco Bay within a line connecting the following geographical positions—

Latitude	Longitude
37°36'19"N.	122°22'36"W.
37°36'45"N.	122°22'18"W.
37°36'26"N.	122°21'30"W.
37°36'31"N.	122°21'21"W.
37°36'17"N.	122°20'45"W.
37°36'37"N.	122°20'40"W.
37°36'50"N.	122°21'08"W.
37°37'00"N.	122°21'12"W.
37°37'21"N.	122°21'53"W.
37°37'39"N.	122°21'44"W.
37°37'56"N.	122°21'51"W.
37°37'50"N.	122°22'20"W.
37°38'25"N.	122°22'54"W.
37°38'23"N.	122°23'01"W.

(3155) and along the shoreline back to the beginning point.

(3156) (2) *Oakland International Airport Security Zone*. This security zone includes all waters extending from the surface to the sea floor within approximately 200 yards seaward from the shoreline of the Oakland International Airport and encompasses all waters in San Francisco Bay within a line connecting the following geographical positions—

Latitude	Longitude
37°43'35"N.	122°15'00"W.
37°43'40"N.	122°15'05"W.
37°43'34"N.	122°15'12"W.
37°43'24"N.	122°15'11"W.
37°41'54"N.	122°13'05"W.
37°41'51"N.	122°12'48"W.
37°41'53"N..	122°12'44"W.
37°41'35"N.	122°12'18"W.
37°41'46"N.	122°12'08"W.
37°42'03"N.	122°12'34"W.
37°42'08"N.	122°12'32"W.
37°42'35"N.	122°12'30"W.
37°42'40"N.	122°12'06"W.

(3157) and along the shoreline back to the beginning point.

(3158) (b) *Regulations*. (1) Under §165.33, entering, transiting through, or anchoring in this zone is prohibited unless authorized by the Coast Guard Captain of the Port, San Francisco Bay, or his designated representative.

(3159) (2) Persons desiring to transit the area of a security zone may contact the Captain of the Port at telephone number 415-399-3547 or on VHF-FM channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representative.

(3160) (c) *Enforcement*. All persons and vessels shall comply with the instructions of the Coast Guard Captain of the Port or the designated on-scene patrol personnel. Patrol personnel comprise commissioned, warrant, and petty officers of the Coast Guard onboard Coast Guard, Coast Guard Auxiliary, local, State, and Federal law enforcement vessels. Upon being hailed by U.S. Coast Guard patrol personnel by siren, radio, flashing light, or other means, the operator of a vessel shall proceed as directed.

§165.1195 Regulated Navigation Area; Humboldt Bay Bar Channel and Humboldt Bay Entrance Channel, Humboldt Bay, California.

(3161) (a) *Location*. The Regulated Navigation Area (RNA) includes all navigable waters of the Humboldt Bay Bar Channel and the Humboldt Bay Entrance Channel, Humboldt Bay, California.

(3162) (b) *Definitions*. As used in this section—

(3163) *COTP* means the Captain of the Port as defined in Title 33, Code of Federal Regulations, Section 1.01–30 and 3.55–20.

(3164) *Sector* means Coast Guard Sector/Air Station Humboldt Bay.

(3165) *Sector Commander* means the Commanding Officer of Coast Guard Sector/Air Station Humboldt Bay.

(3166) *Hazardous material* means any of the materials or substances listed in 46 CFR 153.40.

(3167) *Humboldt Bay Area* means the area described in the location section of this regulation.

(3168) *Oil* means oil of any kind or in any form, including but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

(3169) *Station* means Coast Guard Station Humboldt Bay.

(3170) *Tank Vessel* means any vessel that is constructed or adapted to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue.

(3171) (c) *Applicability*. These regulations apply to the owners and operators of tank vessels transporting oil or hazardous material as cargo within the Humboldt Bay Area.

(3172) (d) *Regulations*. (1) In addition to the arrival and departure notification requirements listed in title 33 CFR, part 160, Ports and Waterways Safety—General, subpart C—Notifications of "Arrivals, Departures, Hazardous Conditions, and Certain Dangerous Cargoes", the owner, master, agent or person in charge of a vessel to which this notice applies shall obtain permission to cross within four hours of crossing the Humboldt Bay Bar. Between 6:30 a.m. and 10 p.m., notification/requests for permission can be made to Station Humboldt Bay on VHF–FM Channel 16, or at (707) 443–2213. If between 10 p.m. and 6:30 a.m., or if unable to reach the Station, notification/requests for permission can be made directly to Sector/Air Station Humboldt Bay on VHF–FM Channel 16 or at (707) 839–6113.

(3173) (2) Permission for a bar crossing by vessels or towing vessels and their tows to which this regulation applies is dependent on environmental and safety factors, including but not limited to: Sea state, winds, visibility, size and type of vessel or tow, wave period, time of day/night, and tidal currents. The final decision to close the bar rests with Humboldt Bay Sector Commander or his designated representative. At a minimum, Humboldt Bay Bar Channel crossings by vessels subject to this advisory will generally not be permitted unless all of the following conditions exist: Proper permission to cross has been received, sea conditions at the bar are less than 6 feet, winds at the bar are less than 30 knots, the transit will take place during daylight hours, the vessel has only a single tow or no tow, the visibility at the bar is greater than 1,000 yards, and the vessel and tow are in proper operating condition.

(3174) (3) If the bar is closed to vessels to which this regulation applies, waiver requests will be accepted within four hours of crossing the entrance channel. If the waiver request is made between 6:30 a.m. and 10 p.m., the request should be made to Station Humboldt Bay on VHF–FM Channel 16, or at (707) 443–2213. If between 10 p.m. and 6:30 a.m., or if unable to reach the Station, the request can be made directly to Sector/Air Station Humboldt Bay on VHF–FM Channel 16 or at (707) 839–6113. Waiver requests must be made by the vessel master and must provide the following: A description of the proposed operation, the conditions for which the waiver is requested, the reasons for requesting the waiver, the reasons that the requester believes the proposed operation can be accomplished safely, and a callback phone number. The Station or Sector Watchstander receiving the request will brief the Officer in Charge of the Station who will then brief the Sector Commander. The authority to grant waivers rests with the Sector Commander or his designated representative.

(3175) (4) In addition to the requirements in paragraphs (d)(1)–(3) of this section, vessels transporting liquefied hazardous gases or compressed hazardous gases in bulk as cargo into or out of Humboldt Bay are required to be aided by two assist tugs. If the vessel carrying the gases is towed, the assist tug requirement is in addition to the towing tug. The assist tugs shall escort the vessel through its transit and must be stationed so as to provide immediate assistance in response to the loss of power or steering of the cargo vessel, its towing tug, or loss of control over the tow.

(3176) (5) Vessels to which this regulation applies may be required by the Sector Commander or his designated representative to be escorted by a Coast Guard vessel during their transit. In addition, if a vessel master, agent, or pilot has concerns about the safety of a vessel's transit through the Humboldt Bay Entrance Channel, a Coast Guard escort may be requested. Requests for an escort should be directed to Station on VHF–FM channel 16 or at (707) 443–2213 between 6:30 a.m. and 10 p.m., or to Sector on VHF–FM channel 16 or at (707) 839–6113 if between 10 p.m. and 6:30 a.m.

(3177) (e) *Enforcement*. Acting as a representative of the Captain of the Port, the Humboldt Bay Sector Commander will enforce this regulation and has the authority to take steps necessary to ensure the safe transit of vessels in Humboldt Bay. The Sector Commander can enlist the aid and cooperation of any Federal, State, county, and municipal agency to assist in the enforcement of the regulation. All persons and vessels shall comply with the instructions of the Sector Commander or the designated on-scene patrol personnel. Patrol personnel comprise commissioned, warrant, and petty officers of the Coast Guard onboard Coast Guard, Coast Guard Auxiliary, local, State, and Federal law enforcement vessels.

(3178) Upon being hailed by U.S. Coast Guard patrol personnel by siren, radio, flashing light, or other means, the operator of a vessel shall proceed as directed.

§165.1197 Security Zones; San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisun Bay, California.

(3179) (a) *Locations*. The following areas are security zones:

(3180) (1) *Chevron Long Wharf, San Francisco Bay*. This security zone includes all waters extending from the surface to the sea floor within approximately 100 yards of the Chevron Long Wharf, Richmond, CA, and encompasses all waters in San Francisco Bay within a line connecting the following geographical positions–

(3181) 37°55'52.2"N., 122°24'04.7"W.
(3182) 37°55'41.8"N., 122°24'07.1"W.
(3183) 37°55'26.8"N., 122°24'35.9"W.
(3184) 37°55'47.1"N., 122°24'55.5"W.
(3185) 37°55'42.9"N., 122°25'03.5"W.
(3186) 37°55'11.2"N., 122°24'32.8"W.
(3187) 37°55'14.4"N., 122°24'27.5"W.
(3188) 37°55'19.7"N., 122°24'23.7"W.
(3189) 37°55'22.2"N., 122°24'26.2"W.
(3190) 37°55'38.5"N., 122°23'56.9"W.
(3191) 37°55'47.8"N., 122°23'53.3"W.
(3192) and along the shoreline back to the beginning point.

(3193) (2) *Conoco-Phillips, San Pablo Bay*. This security zone includes all waters extending from the surface to the sea floor within approximately 100 yards of the Conoco-Phillips Wharf, Rodeo, CA, and encompasses all waters in San Pablo Bay within a line connecting the following geographical positions–

(3194) 38°03'06.0"N., 122°15'32.4"W.
(3195) 38°03'20.7"N., 122°15'35.8"W.
(3196) 38°03'21.8"N., 122°15'29.8"W.
(3197) 38°03'29.1"N., 122°15'31.8"W.
(3198) 38°03'23.8"N., 122°15'55.8"W.
(3199) 38°03'16.8"N., 122°15'53.2"W.
(3200) 38°03'18.6"N., 122°15'45.2"W.
(3201) 38°03'04.0"N., 122°15'42.0"W.
(3202) and along the shoreline back to the beginning point.

(3203) (3) *Shell Terminal, Carquinez Strait*. This security zone includes all waters extending from the surface to the sea floor within approximately 100 yards of the Shell Terminal, Martinez, CA, and encompasses all waters in San Pablo Bay within a line connecting the following geographical positions–

(3204) 38°01'39.8"N., 122°07'40.3"W.
(3205) 38°01'54.0"N., 122°07'43.0"W.
(3206) 38°01'56.9"N., 122°07'37.9"W.
(3207) 38°02'02.7"N., 122°07'42.6"W.
(3208) 38°01'49.5"N., 122°08'08.7"W.
(3209) 38°01'43.7"N., 122°08'04.2"W.
(3210) 38°01'50.1"N., 122°07'50.5"W.
(3211) 38°01'36.3"N., 122°07'47.6"W.
(3212) and along the shoreline back to the beginning point.

(3213) (4) *Amorco Pier, Carquinez Strait*. This security zone includes all waters extending from the surface to the sea floor within approximately 100 yards of the Amorco Pier, Martinez, CA, and encompasses all waters in the Carquinez Strait within a line connecting the following geographical positions–

(3214) 38°02'03.1"N., 122°07'11.9"W.
(3215) 38°02'05.6"N., 122°07'18.9"W.
(3216) 38°02'07.9"N., 122°07'14.9"W.
(3217) 38°02'13.0"N., 122°07'19.4"W.
(3218) 38°02'05.7"N., 122°07'35.9"W.
(3219) 38°02'00.5"N., 122°07'31.1"W.
(3220) 38°02'01.8"N., 122°07'27.3"W.
(3221) 38°01'55.0"N., 122°07'11.0"W.
(3222) and along the shoreline back to the beginning point.

(3223) (5) *Valero, Carquinez Strait*. This security zone includes all waters extending from the surface to the sea floor within approximately 100 yards of the Valero Pier, Benicia, CA, and encompasses all waters in the Carquinez Strait within a line connecting the following geographical positions–

(3224) 38°02'37.6"N., 122°07'51.5"W.
(3225) 38°02'34.7"N., 122°07'48.9"W.
(3226) 38°02'44.1"N., 122°07'34.9"W.
(3227) 38°02'48.0"N., 122°07'37.9"W.
(3228) 38°02'47.7"N., 122°07'42.1"W.
(3229) and along the shoreline back to the beginning point.

(3230) (6) *Avon Pier, Suisun Bay*. This security zone includes all waters extending from the surface to the sea floor within approximately 100 yards of the Avon Pier, Martinez, CA, and encompasses all waters in Suisun Bay within a line connecting the following geographical positions–

(3231) 38°02'24.6"N., 122°04'52.9"W.
(3232) 38°02'54.0"N., 122°05'19.5"W.
(3233) 38°02'55.8"N., 122°05'16.1"W.
(3234) 38°03'02.1"N., 122°05'19.4"W.
(3235) 38°02'55.1"N., 122°05'42.6"W.
(3236) 38°02'48.8"N., 122°05'39.2"W.
(3237) 38°02'52.4"N., 122°05'27.7"W.
(3238) 38°02'46.5"N., 122°05'22.4"W.
(3239) and along the shoreline back to the beginning point.

(3240) (b) *Regulations*. (1) In accordance with the general regulations in §165.33, entry into the security zones described in paragraph (a) of this section is prohibited, unless specifically authorized by the Captain of the Port San Francisco Bay, or his designated representative.

(3241) (2) Persons desiring to transit the area of a security zone may contact the Captain of the Port at telephone number 415-399-3547 or on VHF-FM channel 16 (156.8 MHz) to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his designated representative.

(3242) (c) *Enforcement*. The U.S. Coast Guard may be assisted in the patrol and enforcement of these security zones by federal, state and local law enforcement as necessary.

§165.1199 Security Zones; Military Ocean Terminal Concord (MOTCO), Concord, California.

(3243) (a) *Location*. The security zone(s) encompass the navigable waters of Suisun Bay, California, extending from the surface to the sea floor, within 500 yards of the three Military Ocean Terminal Concord (MOTCO) piers in Concord, California.

(3244) (b) *Regulations*. (1) The Captain of the Port (COTP) San Francisco Bay will enforce the security zone(s) established by this section during military onload or offload operations only upon notice. Upon notice of enforcement by the COTP, entering, transiting through or anchoring in the zone(s) is prohibited unless authorized by the COTP or his designated representative. Upon notice of suspension of enforcement by the COTP, all persons and vessels are granted general permissions to enter, transit, and exit the security zone(s).

(3245) (2) If more than 1 pier is involved in onload or offload operations at the same time, the 500-yard security zone for each involved pier will be enforced.

(3246) (3) Persons desiring to transit the area of a security zone may contact the Patrol Commander on scene on VHF-FM channel 13 or 16 or the COTP at telephone number 415-399-3547 to seek permission to transit the area. If permission is granted, all persons and vessels must comply with the instructions of the COTP or his designated representative.

(3247) (c) *Enforcement*. All persons and vessels must comply with the instructions of the Coast Guard Captain of the Port or the designated on-scene patrol personnel. Patrol personnel comprise commissioned, warrant, and petty offices of the Coast Guard onboard Coast Guard, Coast Guard Auxiliary, local, state, and federal law enforcement vessels. The U.S. Coast Guard may be assisted in the patrol and enforcement of the security zones by local law enforcement and the MOTCO police as necessary. Upon begin hailed by U.S. Coast Guard patrol personnel by siren, radio, flashing light, or other means, the operator of a vessel must proceed as directed.

(3248) (d) *Notice of enforcement or suspension of enforcement of security zone(s)*. The COTP San Francisco Bay will cause notification of enforcement of the security zone(s) to be made by issuing a Local Notice to Mariners and a Broadcast Notice to Mariners to inform the affected segments of the public. During periods that the security zone(s) are being enforced, Coast Guard patrol personnel will notify mariners to keep out of the security zone(s) as they approach the area. In addition, Coast Guard Sector San Francisco Bay maintains a telephone line that is maintained 24 hours a day, 7 days week. The public can contact Sector San Francisco Bay at 415-399-3530 to obtain information concerning enforcement of this rule. When the security zone(s) are no longer needed, the COTP will cease enforcement of the security zone(s) and issue a Broadcast Notice to Mariners to notify the public. Upon notice of suspension of enforcement, all persons and vessels are granted general permissions to enter, move within and exit the security zone(s).

§165.1301 Puget Sound and Adjacent Waters in Northwestern Washington—Regulated Navigation Area.

(3249) The following is a regulated navigation area—All of the following northwestern Washington waters under the jurisdiction of the Captain of the Port, Puget Sound: Puget Sound, Hood Canal, Possession Sound, Elliott Bay, Commencement Bay, the San Juan Archipelago, Rosario Strait, Guemes Channel, Bellingham Bay, U.S. waters of the Strait of the Strait of Juan de Fuca, Haro Strait, Boundary Pass, and Georgia Strait, and all lesser bays and harbors adjacent to the above.

(3250) (a) Definitions as used in this section:

(3251) (1) *Vessels engaged in fishing* are as identified in the definition found in Rule 3 of the International Regulations for Prevention of Collisions at Sea, 1972, (72 COLREGS), found in Appendix A, Part 81 of this chapter.

(3252) (2) *Hazardous levels of vessel traffic congestion are as* defined at the time by Puget Sound Vessel Traffic Service.

(3253) (b) Nothing in this section shall be construed as relieving any party from their responsibility to comply with applicable rules set forth in the 72 COLREGS.

(3254) (c) General Regulations: The provisions of this Paragraph apply at all times.

(3255) (1) Vessels engaged in fishing or other operations—that are distinct from vessels following a TSS or a connecting precautionary area east of New Dungeness and which are not required by the Bridge to Bridge Radiotelephone Regulations to maintain a listening watch, are highly encouraged to maintain a listening watch on the Puget Sound Vessel Traffic Service (PSVTS) VHF-FM radio frequency for the area in which the vessel is operating. A safe alternative to the radio listening watch is to stay clear of the TSS and connecting precautionary area.

(3256) (2) Vessels engaged in gill net fishing at any time between sunset and sunrise in any of the waters defining the regulated navigation area of this section shall, in addition to the navigation lights and shapes required by Part 81 of this title (72 COLREGS), display at the end of the net most distant from the vessel on all-round (32-point) white light visible for a minimum of two nautical miles and displayed from at least three feet above the surface of the water.

(3257) (3) Vessels engaged in fishing, including gill net and purse seine fishing, are prohibited in the following Prohibited Fishing Area: The Hood Canal Bridge, to include the waters within a one-half nautical mile radius of the center of the main ship channel draw span during the immediate approach and transit of the draw by public vessels of the United States.

(3258) (4) East of New Dungeness, vessels engaged in fishing in a traffic lane or connecting precautionary area shall tend nets or other gear placed in the water so as to facilitate the movement of the vessel or gear from the traffic lane or precautionary area upon the approach of a vessel following the TSS.

(3259) (d) Congested Regulations: The provisions under this Paragraph apply only when imposed in specific locations by Puget Sound Vessel Traffic Service. They are intended to enhance vessel traffic safety during periods and in locations where hazardous levels of vessel traffic congestion are deemed to exist by Puget Sound Vessel Traffic Service. Operations potentially creating vessel traffic congestion include, but are not limited to, vessels engaged in fishing, including gill net, or purse seine, recreational fishing derbies, regattas, or permitted marine events.

(3260) (1) Vessels engaged in fishing or other operations—that are distinct from vessels following a Traffic Separation Scheme (TSS) or a connecting precautionary area east of New Dungeness, may not remain in, nor their gear remain in, a traffic lane or a connecting precautionary area east of New Dungeness when a vessel following a TSS approaches. Such vessels not following a TSS or a connecting precautionary area shall draw in their gear, maneuver, or otherwise clear these areas so that their action is complete at least fifteen minutes before the arrival of a vessel following the TSS. Vessels which are required by this Paragraph to remain clear of a connecting precautionary area east of New Dungeness or a traffic lane must also remain clear of the adjacent separation zone when in a TSS east of New Dungeness.

(3261) (2) A vessel following the TSS may not exceed a speed of 11 knots through the water.

(3262) (3) Vessels engaged in fishing, including gill net and purse seine fishing, are prohibited in the following Prohibited Fishing Area: Edmonds/Kingston ferry crossing lanes, to include the waters within one-quarter nautical mile on either side of a straight line connecting the Edmonds and Kingston ferry landings during the hours that the ferry is operating.

(3263) (e) Authorization to deviate from this section.

(3264) (1) Commander, Thirteenth Coast Guard District may, upon written request, issue an authorization to deviate from this section if the proposed deviation provides a level of safety equivalent to or beyond that provided by the required procedure. An application for authorization must state the need for the deviation and describe the proposed alternative operation.

(3265) (2) PSVTS may, upon verbal request, authorize a deviation from this section for a voyage, or part of a voyage, if the proposed deviation provides a level of safety equivalent to or beyond that provided by the required procedure. The deviation request must be made well in advance to allow the requesting vessel and the Vessel Traffic Center (VTC) sufficient time to assess the safety of the proposed deviation. Discussions between the requesting vessel and the VTC should include, but are not limited to, information on vessel handling characteristics, traffic density, radar contracts and environmental conditions.

(3266) (3) In an emergency, the master, pilot, or person directing the movement of the vessel following the TSS may deviate from this section to the extent necessary to avoid endangering persons, property, or the environment, and shall report the deviation to the VTC as soon as possible.

§165.1302 Bangor Naval Submarine Base, Bangor, Washington.

(3267) (a) *Location*. The following is a security zone: The waters of the Hood Canal encompassed by a line commencing on the east shore of Hood Canal at

(3268) 47°43'17"N., 122°44'44"W., thence to

(3269) 47°43'32"N., 122°44'40"W.; thence to

(3270) 47°43'50"N., 122°44'40"W.; thence to

(3271) 47°44'24"N., 122°44'22"W.; thence to

(3272) 47°45'47"N., 122°43'22"W.; thence to

(3273) 47°46'23"N., 122°42'42"W.; thence to

(3274) 47°46'23"N., 122°42'20"W.; thence to

(3275) 47°46'20"N., 122°42'12"W.; thence southerly along the shoreline to the point of beginning.

(3276) (b) *Security zone anchorage*. The following is a security zone anchorage: Area No. 2. Waters of Hood Canal within a circle of 1,000 yards diameter centered on a point located at

(3277) 47°46'26"N., 122°42'49"W.

(3278) (c) *Special Regulations*. (i) Section 165.33 paragraphs, (a), (e), and (f) do not apply to the following vessels or individuals on board those vessels:

(3279) (i) Public vessels of the United States, other than United States Naval vessels.

(3280) (ii) Vessels that are performing work at Naval Submarine Base Bangor pursuant to a contract with the United States Navy which requires their presence in the security zone.

(3281) (iii) Any other vessels or class of vessels mutually agreed upon in advance by the Captain of the Port and Commanding Officer, Naval Submarine Base Bangor. Vessels operating in the security zone under this exemption must have previously obtained a copy of a certificate of exemption permitting their operation in the security zone from the Security Office, Naval Submarine Base Bangor. This written exemption shall state the date(s) on which it is effective and may contain any further restrictions on vessel operations within the security zone as have been previously agreed upon by the Captain of the Port and Commanding Officer, Naval Submarine Base Bangor. The certificate of exemption shall be maintained on board the exempted vessel so long as such vessel is operating in the security zone.

(3282) (2) Any vessel authorized to enter or remain in the security zone may anchor in the security zone anchorage.

(3283) (3) Other vessels desiring access to this zone shall secure permission from the Captain of the Port through the Security Office of the Naval Submarine Base Bangor. The request shall be forwarded in a timely manner to the Captain of the Port by the appropriate Navy official.

(3284) (d) *Enforcement*. The U.S. Coast Guard may be assisted in the patrol and monitoring of this security zone by the U.S. Navy.

§165.1303 Puget Sound and adjacent waters, WA-regulated navigation areas.

(3285) (a) The following is a regulated navigation area: the waters of the United States east of a line extending from Discovery Island Light to New Dungeness Light and all points in the Puget Sound area north and south of these lights.

(3286) (b) *Regulations*. (1) Tank vessel navigation restrictions: Tank vessels larger than 125,000 deadweight tons bound for a port or place in the United States may not operate in the regulated navigation area.

(3287) (2) A vessel in a precautionary area which is depicted on National Oceanic and Atmospheric Administration (NOAA) nautical charts, except precautionary area "BB" (a circular area of 2,500 yards radius centered at 48°26'24"N., 122°15'12"W.), must keep the center of the precautionary area to port.

(3288) **Note:** The center of precautionary area "RB" is not marked by a buoy.

§165.1304 Bellingham Bay, Bellingham, WA.

(3289) (a) *Location.* The following area is a safety zone: All portions of Bellingham Bay bounded by the following coordinates:

(3290) 48°44'09"N., 122°30'07"W.; thence to

(3291) 48°44'09"N., 122°29'57"W.; thence to

(3292) 48°44'02"N., 122°29'57"W.; thence to

(3293) 48°44'02"N., 122°30'07"W.; thence returning to the origin. This safety zone resembles a square centered around the barge from which the fireworks demonstration will be launched. Floating markers will be placed by the sponsor of the fireworks demonstration to delineate the boundaries of the safety zone. [Datum: NAD 1983].

(3294) (b) *Effective dates.* This section is effective annually on July fourth from 9:30 p.m. to 11 p.m. unless otherwise specified by **Federal Register** notice.

(3295) (c) *Regulation*. In accordance with the general regulations in §165.23 of this part, entry into this safety zone is prohibited unless authorized by the Captain of the Port, Puget Sound, Seattle, WA.

§165.1305 Commencement Bay, Tacoma, WA.

(3296) (a) *Location.* The following area is a safety zone: All portions of Commencement Bay bounded by the following coordinates:

(3297) 47°17'34"N., 122°28'36"W.; thence to

(3298) 47°17'06"N., 122°27'40"W.; thence to

(3299) 47°16'42"N., 122°28'06"W.; thence to

(3300) 47°17'10"N., 122°29'02"W.; thence returning to the origin. This safety zone resembles a rectangle lying adjacent to the shoreline along Ruston Way. Floating markers will be placed by the sponsor of the event to delineate the boundaries of the safety zone. [Datum: NAD 1983].

(3301) (b) *Effective dates.* This section is effective annually on July the fourth from 2 p.m. to 12:30 a.m. July the fifth unless otherwise specified by **Federal Register** notice.

(3302) (c) *Regulation.* In accordance with the general regulations in §165.23 of this part, entry into this safety zone is prohibited unless authorized by the Captain of the Port, Puget Sound, Seattle, WA.

§165.1306 Lake Union, Seattle, WA.

(3303) (a) *Location*. The following area is a safety zone: All portions of the waters of Lake Union bounded by the following coordinates:

(3304) 47°38'32"N., 122°20'34"W.; thence to

(3305) 47°38'32"N., 122°19'48"W., thence to

(3306) 47°38'10"N., 122°19'45"W.; thence to

(3307) 47°38'10"N., 122°20'24"W.; thence returning to the origin. This safety zone begins 1,000 feet south of Gas Works Park and encompasses all waters from east to west for 2,500 feet. Floating markers will be placed by the sponsor of the fireworks demonstration to delineate the boundaries of the safety zone. [Datum: NAD 1983].

(3308) (b) *Effective dates*. This section is effective annually on July fourth from 9:30 p.m. to 11 p.m. unless otherwise specified by **Federal Register** notice.

(3309) (c) *Regulation*. In accordance with the general regulations in §165.23 of this part, entry into the safety zone is prohibited unless authorized by the Captain of the Port, Puget Sound, Seattle, WA. The Captain of the Port may establish transit lanes along the east and west shorelines of Lake Union and may allow boaters to transit north and south through the safety zone in these lanes. If established, these transit lanes will remain open until 10 p.m. and then be closed until the end of the fireworks display (approximately 30 minutes).

§165.1307 Elliott Bay, Seattle, WA.

(3310) (a) *Location.* The following area is a safety zone: All portions of Elliott Bay bounded by the following coordinates:

(3311) 47°37'22"N., 122°22'06"W.; thence to

(3312) 47°37'06"N., 122°21'55"W.; thence to

(3313) 47°36'54"N., 122°22'05"W.; thence to

(3314) 47°36'09"N., 122°22'25"W.; thence returning to the origin. This safety zone resembles a square centered around the barge from which the fireworks will be launched and begins 100 yards from the shoreline of Myrtle Edwards Park. Floating markers will be placed by the sponsor of the fireworks display to delineate the boundaries of the safety zone. [Datum: NAD 1983].

(3315) (b) *Effective dates.* This section is effective annually on July fourth from 9:30 p.m. to 11 p.m. unless otherwise specified by **Federal Register** notice.

(3316) (c) *Regulation.* In accordance with the general regulations in §165.23 of this part, entry into this safety zone is prohibited unless authorized by the Captain of the Port, Puget Sound, Seattle, WA.

§165.1308 Columbia River, Vancouver, WA.

(3317) (a) *Location.* The following area is a safety zone: All waters of the Columbia River at Vancouver, Washington, bounded by a line commencing at the northern base of the Interstate 5 highway bridge at

(3318) 45°37'17"N., 122°40'22"W.; thence south along the Interstate 5 highway bridge to

(3319) 45°37'03"N., 122°40'32"W.; thence to

(3320) 45°36'28"N., 122°38'35"W.; thence to Ryan's Point at

(3321) 45°36'42"N., 122°38'35"W.; thence along the Washington shoreline to the point of origin. [Datum: NAD 83].

(3322) (b) *Effective dates.* This section is effective annually on July fourth from 9 p.m. to 11 p.m. (PDT) unless otherwise specified by **Federal Register** notice.

(3323) (c) *Regulation.* In accordance with the general regulations in §165.23 of this part, entry into this safety zone is prohibited Oregon.

§165.1309 Eagle Harbor, Bainbridge Island, WA.

(3324) (a) *Regulated area*. A regulated navigation area is established on that portion of Eagle Harbor bounded by a line beginning at:

(3325) 47°36'56"N., 122°30'36"W.; thence to

(3326) 47°37'11"N., 122°30'36"W.; thence to

(3327) 47°37'25"N., 122°30'17"W.; thence to

(3328) 47°37'24"N., 122°30'02"W.; thence to

(3329) 47°37'16"N., 122°29'55"W.; thence to

(3330) 47°37'03"N., 122°30'02"W.; thence returning along the shoreline to point of origin. [Datum NAD 1983].

(3331) (b) Regulations. All vessels and persons are prohibited from anchoring, dredging, laying cable, dragging, seining, bottom fishing, conducting salvage operations, or any other activity which could potentially disturb the seabed in the designated area. Vessels may otherwise transit or navigate within this area without reservation.

(3332) (c) Waiver. The Captain of the Port, Puget Sound, upon advice from the U.S. EPA Project Manager and the Washington State Department of Natural Resources, may, upon written request, authorize a waiver from

this section if it is determined that the proposed operation supports USEPA remedial objectives, or can be performed in a manner that ensures the integrity of the sediment cap. A written request must describe the intended operation, state the need, and describe the proposed precautionary measures. Requests should be submitted in triplicate, to facilitate review by U.S. EPA, Coast Guard, and Washington State Agencies. USEPA managed remedial design, remedial action, habitat mitigation, or monitoring activities associated with the Wyckoff/Eagle Harbor Superfund Site are excluded from the waiver requirement. USEPA is required, however, to alert the Coast Guard in advance concerning any of the above mentioned activities that may, or will, take place in the Regulated Area.

§165.1310 Strait of Juan de Fuca and Adjacent Coastal Waters of Northwest Washington; Makah Whale Hunting—Regulated Navigation Area.

(3333) (a) The following area is a Regulated Navigation Area (RNA): From 48°02.25'N., 124°42.1'W. northward along the mainland shoreline of Washington State to Cape Flattery and thence eastward along the mainland shoreline of Washington State to

(3334) 48°22'N., 124°34'W.; thence due north to

(3335) 48°24.55'N., 124°34'W.; thence northwesterly to

(3336) 48°27.1'N., 124°41.7'W.; thence due west to

(3337) 48°27.1'N., 124°45.5'W.; thence southwesterly to

(3338) 48°20.55'N., 124°51.05'W., thence west-southwest to

(3339) 48°18.0'N., 124°59.0'W., thence due south to

(3340) 48°02.25'N., 124°59.0'W.; thence due east back to the shoreline of Washington at

(3341) 48°02.25'N., 124°42.1'W. Datum: NAD 1983.

(3342) (b) During a whale hunt, while the international numeral pennant five (5) is flown by a Makah whale hunt vessel, the following area within the RNA is a Moving Exclusion Zone: The column of water from the surface to the seabed with a radius of 500 yards centered on the Makah whale hunt vessel displaying international numeral pennant five (5). This Moving Exclusionary Zone is activated only when surface visibility exceeds one nautical mile, between sunrise and sunset, and the Makah whale hunt vessel displays the international numeral pennant five (5). The Moving Exclusionary Zone is deactivated upon sunset, visibility is reduced to less than one nautical mile, or when the Makah hunt vessel strikes international numeral pennant five (5).

(3343) (c) Unless otherwise authorized by the Commander, Thirteenth Coast Guard District or his or her representative, no person or vessel may enter the active Moving Exclusionary Zone except for:

(3344) (1) Authorized Makah whale hunt vessel actively engaged in hunting operations under direction to the master of the Makah vessel flying international numeral pennant five (5), and

(3345) (2) A single authorized media pool vessel operating in accordance with Paragraph (f) of this section.

(3346) (d) The international numeral pennant five (5) is only authorized to be displayed from one Makah whale hunt vessel during actual whale hunt operations. No other vessels may display this pennant within the RNA at any time. Whale hunt operations commence when a whale hunt vessel is underway and its master intends to have a whale killed during the voyage. Whale hunt operations cease once this intent is abandoned, a whale is landed, or when the international numeral pennant five (5) is struck.

(3347) (e) The Makah Tribe shall make SECURITE Broadcasts beginning one hour before the commencement of a hunt and every half hour thereafter until hunting activities are concluded. This broadcast shall be made on channel 16 VHF-FM and state:

(3348) *A whale hunt is proceeding today within the Regulated Navigation Area established for Makah whaling activities. The (name of vessel) is a (color and description of vessel) and will be flying international numeral pennant five (5) while engaged in whaling operations. This pennant is yellow and blue in color. Mariners are required by federal regulations to stay 500 yards away from (name of vessel), and are strongly urged to remain even further away from whale hunt activities as an additional safety measure.*

(3349) (f)(1) Credentialed members of the media interested in entering the Moving Exclusionary Zone may request permission to operate a single media vessel in the Moving Exclusionary Zone by telephoning Coast Guard Public Affairs, as soon as practicable at (206) 220-7237 during normal working hours, and (206) 220-7001 after hours. Coast Guard preauthorization is required prior to entry into the Moving Exclusionary Zone by a single media pool vessel.

(3350) (2) The media pool vessel must be a U.S. documented vessel. The media pool vessel must be under command at all times within the Moving Exclusionary Zone by a master licensed in the U.S. to carry passenger for hire. All expenses, liabilities and risks associated with operation of the media pool vessel lie with members of the pool and the pool vessel owners and operators.

(3351) (3) The master of the media pool vessel shall maneuver to avoid positioning the pool vessel between whales and hunt vessel(s), out of the line of fire, at a prudent distance and location relative to whale hunt operations, and in a manner that avoids hindering the hunt or path of the whale in any way.

(3352) (4) Although permitted to maneuver within the Moving Exclusionary Zone, personnel aboard the media pool vessel are still required to follow safety and law enforcement related instructions of Coast Guard personnel.

§165.1311 Olympic View Resource Area, Tacoma, WA.

(3353) (a) *Regulated area*. A regulated navigation area is established on that portion of Commencement Bay bounded by a line beginning at:

(3354) 47°15'40.20"N., 122°26'09.28"W; thence to

(3355) 47°15'42.21"N., 122°26'10.65"W.; thence to

(3356) 47°15'41.85"N., 122°26'11.80"W.; thence to

(3357) 47°15'45.58"N., 122°26'14.35" W.; thence to

(3358) 47°15'53.06"N., 122°26'06.61"W.; thence to

(3359) 47°15'46.74"N., 122°26'02.50"W.; thence returning along the shoreline to the point of origin. [Datum NAD 1983].

(3360) (b) *Regulations*. All vessels and persons are prohibited from anchoring, dredging, laying cable, dragging, seining, bottom fishing, conducting salvage operations, or any other activity which could potentially disturb the seabed in the designated area. Vessels may otherwise transit or navigate within this area without reservation.

(3361) (c) *Waiver*. The Captain of the Port, Puget Sound, upon advice from the United States Environmental Protection Agency (USEPA) Project Manager and the Washington State Department of Natural Resources, may, upon written request, authorize a waiver from this section if it is determined that the proposed operation supports USEPA remedial objectives, or can be performed in a manner that ensures the integrity of the sediment cap. A written request must describe the intended operation, state the need, and describe the proposed precautionary measures. Requests shall be submitted in triplicate, to facilitate review by USEPA, Coast Guard, and Washington State Agencies. USEPA managed remedial design, remedial action, habitat mitigation, or monitoring activities associated with the Olympic View Resource Area Superfund Site are excluded from the waiver requirement. USEPA is required, however, to alert the Coast Guard in advance concerning any of the above-mentioned activities that may, or will, take place in the Regulated Area.

§165.1313 Security Zone Regulations, Tank Ship Protection, Puget Sound and adjacent waters, Washington.

(3362) (a) Notice of enforcement or suspension of enforcement. The tank ship security zone established by this section will be enforced only upon notice by the Captain of the Port Puget Sound. Captain of the Port Puget Sound will cause notice of the enforcement of the tank ship security zone to be made by all appropriate means to effect the widest publicity among the affected segments of the public including publication in the **Federal Register** as practicable, in accordance with 33 CFR 165.7(a). Such means of notification may also include but are not limited to, Broadcast Notice to Mariners or Local Notice to Mariners. The Captain of the Port Puget Sound will issue a Broadcast Notice to Mariners and Local Notice to Mariners notifying the public when enforcement of the tank ship security zone is suspended.

(3363) (b) The following definitions apply to this section:

(3364) (1) F*ederal Law Enforcement Officer* means any employee or agent of the United States government who has the authority to carry firearms and make warrantless arrests and whose duties involve the enforcement of criminal laws of the United States.

(3365) (2) *Navigable waters of the United States* means those waters defined as such in 33 CFR part 2.

(3366) (3) *Navigation Rules* means the Navigation Rules, International-Inland.

(3367) (4) *Official patrol* means those persons designated by the Captain of the Port to monitor a tank ship security zone, permit entry into the zone, give legally enforceable orders to persons or vessels with in the zone and take other actions authorized by the Captain of the Port. Persons authorized in paragraph (k) to enforce this section are designated as the official patrol.

(3368) (5) *Public vessel* means vessels owned, chartered, or operated by the United States, or by a State or political subdivision thereof.

(3369) (6) *Tank ship security zone* is a regulated area of water, established by this section, surrounding tank ships for a 500-yard radius that is necessary to provide for the security of these vessels.

(3370) (7) *Tank ship* means a self-propelled tank vessel that is constructed or adapted primarily to carry oil or hazardous material in bulk as cargo or cargo residue in the cargo spaces. The definition of tank ship does not include tank barges.

(3371) (8) *Washington Law Enforcement Officer* means any General Authority Washington Peace Officer, Limited Authority Washington Peace Officer, or Specially Commissioned Washington Peace Officer as defined in Revised Code of Washington section 10.93.020.

(3372) (c) Security zone: There is established a tank ship security zone extending for a 500-yard radius around all tank ships located in the navigable waters of the United States in Puget Sound, WA, east of 123 degrees, 30 minutes West Longitude. [Datum: NAD 1983]

(3373) (d) Compliance: The tank ship security zone established by this section remains in effect around tank ships at all times, whether the tank ship is underway, anchored, or moored. Upon notice of enforcement by

the Captain of the Port Puget Sound, the Coast Guard will enforce the tank ship security zone in accordance with rules set out in this section. Upon notice of suspension of enforcement by the Captain of the Port Puget Sound, all persons and vessels are authorized to enter, transit, and exit the tank ship security zone, consistent with the Navigation Rules.

(3374) (e) The Navigation Rules shall apply at all times within a tank ship security zone.

(3375) (f) When within a tank ship security zone all vessels shall operate at the minimum speed necessary to maintain a safe course and shall proceed as directed by the on-scene official patrol or tank ship master. No vessel or person is allowed within 100 yards of a tank ship, unless authorized by the on-scene official patrol or tank ship master.

(3376) (g) To request authorization to operate within 100 yards of a tank ship, contact the on-scene official patrol or tank ship master on VHF–FM channel 16 or 13.

(3377) (h) When conditions permit, the on-scene official patrol or tank ship master should:

(3378) (1) Permit vessels constrained by their navigational draft or restricted in their ability to maneuver to pass within 100 yards of a tank ship in order to ensure a safe passage in accordance with the Navigation Rules;

(3379) (2) Permit commercial vessels anchored in a designated anchorage area to remain at anchor when within 100 yards of a passing tank ship; and

(3380) (3) Permit vessels that must transit via a navigable channel or waterway to pass within 100 yards of a moored or anchored tank ship with minimal delay consistent with security.

(3381) (i) Exemption. Public vessels as defined in paragraph (b) of this section are exempt from complying with paragraphs (c), (d), (f), (g), (h), (j), and (k) of this section.

(3382) (j) Exception. 33 CFR Part 161 promulgates Vessel Traffic Service regulations. Measures or directions issued by Vessel Traffic Service Puget Sound pursuant to 33 CFR Part 161 shall take precedence over the regulations in this section.

(3383) (k) Enforcement. Any Coast Guard commissioned, warrant or petty officer may enforce the rules in this section. In the navigable waters of the United States to which this section applies, when immediate action is required and representatives of the Coast Guard are not present or not present in sufficient force to provide effective enforcement of this section in the vicinity of a tank ship, any Federal Law Enforcement Officer or Washington Law Enforcement Officer may enforce the rules contained in this section pursuant to 33 CFR §6.04–11. In addition, the Captain of the Port may be assisted by other federal, state or local agencies in enforcing this section.

§165.1317 Security and Safety Zone; Large Passenger Vessel Protection, Puget Sound and adjacent waters, Washington.

(3384) (a) *Notice of enforcement or suspension of enforcement*. The large passenger vessel security and safety zone established by this section will be enforced only upon notice by the Captain of the Port Puget Sound. Captain of the Port Puget Sound will cause notice of the enforcement of the large passenger vessel security and safety zone to be made by all appropriate means to effect the widest publicity among the affected segments of the public including publication in the **Federal Register** as practicable, in accordance with 33 CFR 165.7(a). Such means of notification may also include but are not limited to, Broadcast Notice to Mariners or Local Notice to Mariners. The Captain of the Port Puget Sound will issue a Broadcast Notice to Mariners and Local Notice to Mariners notifying the public when enforcement of the large passenger vessel security and safety zone is suspended.

(3385) (b) *Definitions*. The following definitions apply to this section:

(3386) *Federal Law Enforcement Officer* means any employee or agent of the United States government who has the authority to carry firearms and make warrantless arrests and whose duties involve the enforcement of criminal laws of the United States.

(3387) *Large Passenger Vessel* means any cruise ship over 100 feet in length carrying passengers for hire, and any auto ferries and passenger ferries over 100 feet in length carrying passengers for hire such as the Washington State Ferries, M/V COHO and Alaskan Marine Highway Ferries. Large Passenger Vessel does not include vessels inspected and certificated under 46 CFR, Chapter I, Subchapter T such as excursion vessels, sight seeing vessels, dinner cruise vessels, and whale watching vessels.

(3388) *Large Passenger Vessel Security and Safety Zone* is a regulated area of water established by this section, surrounding large passenger vessels for a 500-yard radius to provide for the security and safety of these vessels.

(3389) *Navigable waters of the United States* means those waters defined as such in 33 CFR part 2.

(3390) *Navigation Rules* means the Navigation Rules, International–Inland.

(3391) *Official Patrol* means those persons designated by the Captain of the Port to monitor a large passenger vessel security and safety zone, permit entry into the zone, give legally enforceable orders to persons or vessels within the zone and take other actions authorized by the Captain of the Port. Persons authorized in paragraph (l) to enforce this section are designated as the Official Patrol.

(3392) *Public vessel* means vessels owned, chartered, or operated by the United States, or by a State or political subdivision thereof.

(3393) *Washington Law Enforcement Officer* means any General Authority Washington Peace Officer, Limited Authority Washington Peace Officer, or Specially Commissioned Washington Peace Officer as defined in Revised Code of Washington section 10.93.020.

(3394) (c) *Security and safety zone*. There is established a large passenger vessel security and safety zone extending for a 500-yard radius around all large passenger vessels located in the navigable waters of the United States in Puget Sound, WA, east of 123°30' West Longitude. [Datum: NAD 1983].

(3395) (d) *Compliance*. The large passenger vessel security and safety zone established by this section remains in effect around large passenger vessels at all times, whether the large passenger vessel is underway, anchored, or moored. Upon notice of enforcement by the Captain of the Port Puget Sound, the Coast Guard will enforce the large passenger vessel security and safety zone in accordance with rules set out in this section. Upon notice of suspension of enforcement by the Captain of the Port Puget Sound, all persons and vessels are authorized to enter, transit, and exit the large passenger vessel security and safety zone, consistent with the Navigation Rules.

(3396) (e) The Navigation Rules shall apply at all times within a large passenger vessel security and safety zone.

(3397) (f) When within a large passenger vessel security and safety zone all vessels must operate at the minimum speed necessary to maintain a safe course and must proceed as directed by the on-scene official patrol or large passenger vessel master. No vessel or person is allowed within 100 yards of a large passenger vessel that is underway or at anchor, unless authorized by the on-scene official patrol or large passenger vessel master. No vessel or person is allowed within 25 yards of a large passenger vessel that is moored.

(3398) (g) To request authorization to operate within 100 yards of a large passenger vessel that is underway or at anchor, contact the on-scene official patrol or large passenger vessel master on VHF-FM channel 16 or 13.

(3399) (h) When conditions permit, the on-scene official patrol or large passenger vessel master should:

(3400) (1) Permit vessels constrained by their navigational draft or restricted in their ability to maneuver to pass within 100 yards of a large passenger vessel in order to ensure a safe passage in accordance

(3401) with the Navigation Rules; and

(3402) (2) Permit vessels that must transit via a navigable channel or waterway to pass within 100 yards of an anchored large passenger vessel or within 25 yards of a moored large passenger vessel with minimal delay consistent with security.

(3403) (i) When a large passenger vessel approaches within 100 yards of any vessel that is moored or anchored, the stationary vessel must stay moored or anchored while it remains within the large passenger vessel's security and safety zone unless it is either ordered by, or given permission by the Captain of the Port Puget Sound, his designated representative or the on-scene official patrol to do otherwise.

(3404) (j) *Exemption*. Public vessels as defined in paragraph (b) of this section are exempt from complying with paragraphs (c), (d), (f), (g), (h), and (i), of this section.

(3405) (k) *Exception*. 33 CFR part 161 contains Vessel Traffic Service regulations. When measures or directions issued by Vessel Traffic Service Puget Sound pursuant to 33 CFR part 161 also apply, the measures or directions govern rather than the regulations in this section.

(3406) (l) *Enforcement*. Any Coast Guard commissioned, warrant or petty officer may enforce the rules in this section. In the navigable waters of the United States to which this section applies, when immediate action is required and representatives of the Coast Guard are not present or not present in sufficient force to provide effective enforcement of this section in the vicinity of a large passenger vessel, any Federal Law Enforcement Officer or Washington Law Enforcement Officer may enforce the rules contained in this section pursuant to 33 CFR 6.04-11. In addition, the Captain of the Port may be assisted by other federal, state or local agencies in enforcing this section.

(3407) (m) *Waiver*. The Captain of the Port Puget Sound may waive any of the requirements of this section for any vessel or class of vessels upon finding that a vessel or class of vessels, operational conditions or other circumstances are such that application of this section is unnecessary or impractical for the purpose of port security, safety or environmental safety.

§165.1318 [Suspended].

§165.1321 Security Zone; Protection of Military Cargo, Captain of the Port Zone Puget Sound, WA.

(3408) (a) *Notice of enforcement or suspension of enforcement*. The Captain of the Port Puget Sound will enforce the security zones established by this section only upon notice. Captain of the Port Puget Sound will cause notice of the enforcement of these security zone to be made by all appropriate means to effect the widest publicity among the affected segments of the public including publication in the Federal Register as practicable, in accordance with 33 CFR 165.7(a). Such

means of notification may also include but are not limited to, Broadcast Notice to Mariners or Local Notice to Mariners. The Captain of the Port Puget Sound will issue a Broadcast Notice to Mariners and Local Notice to Mariners notifying the public when enforcement of these security zones is suspended.

(3409) (b) *Definitions*. The following definitions apply to this section:

(3410) *Designated Representative* means those persons designated by the Captain of the Port to monitor these security zones, permit entry into these zones, give legally enforceable orders to persons or vessels with in these zones and take other actions authorized by the Captain of the Port. Persons authorized in paragraph (g) to enforce this section and Vessel Traffic Service Puget Sound (VTS) are Designated Representatives.

(3411) *Federal Law Enforcement Officer* means any employee or agent of the United States government who has the authority to carry firearms and make warrantless arrests and whose duties involve the enforcement of criminal laws of the United States.

(3412) *Navigable waters of the United States* means those waters defined as such in 33 CFR Part 2.

(3413) *Public vessel* means vessels owned, chartered, operated by the United States, or by a State or political subdivision thereof.

(3414) *Washington Law Enforcement Officer* means any General Authority Washington Peace Officer, Limited Authority Washington Peace Officer, or Specially Commissioned Washington Peace Officer as defined in Revised Code of Washington section 10.93.020.

(3415) (c) *Security zone*. The following areas are security zones:

(3416) (1) *Blair Waterway Security Zone*: The Security Zone in the Blair Waterway, Commencement Bay, WA, includes all waters enclosed by a line connecting the following points: 47°16'57"N., 122°24'39"W., which is approximately the beginning of Pier No. 23 (also known as the Army pier); then northwesterly to 47°17'05"N., 122°24'52"W., which is the end of the Pier No. 23 (Army pier); then southwesterly to 47°16'42"N., 122°25'18"W., which is the approximate location of a private buoy on the end of the sewage outfall; then southeasterly to 47°16'33"N., 122°25'04"W., which is approximately the northwestern end of Pier 5; then northeasterly to the northwestern end of Pier No. 1; then southeasterly along the shoreline of the Blair Waterway to the Blair Waterway turning basin; then along the shoreline around the Blair Waterway turning basin; then northwesterly along the shoreline of the Blair Waterway to the Commencement Bay Directional Light (light list number 17159); then northeasterly along the shoreline to the point of origin [Datum: NAD 1983].

(3417) (2) *Sitcum Waterway Security Zone*: The Security Zone in the Sitcum Waterway, Commencement Bay, WA, includes all waters enclosed by a line connecting the following points: 47°16'33"N., 122°25'04"W., which is approximately the northwestern end of Pier No. 5; then northwesterly to 47°16'42"N., 122°25'18"W., which is the approximate location of a private buoy on the end of the sewage outfall; then southwesterly to 47°16'23"N., 122°25'36"W.; then southeasterly to 47°16'10"N., 122°25'27"W., which is the northwestern corner of Pier No. 2; then extending northeasterly to 47°16'13"N., 122°25'13"W.; then extending southeasterly along the shoreline of the Sitcum Waterway; then northeasterly along the shoreline at the terminus of the Sitcum Waterway and then northwesterly along the shoreline of the Sitcum Waterway; then northeasterly along the shoreline of Pier No. 5 to the point of origin [Datum: NAD 1983]

(3418) (3) *Budd Inlet Security Zone:* The Security Zone in Budd Inlet, West Bay, Olympia WA includes all waters enclosed by a line connecting the following points: 47°03'12"N., 122°54'21"W., which is approximately the northwestern end of the fence line enclosing Berth 1 at Port of Olympia; then northerly to 47°03'15"N., 122°54'21"W., which is the approximate 300 feet north along the shoreline; then westerly to 47°03'15"N., 122°54'26"W., then southerly to 47°03'06"N., 122°54'26"W.; then southeasterly to 47°03'03"N., 122°54'20"W., which is approximately the end of the T-shaped pier; then north to 47°03'04"N., 122°54'19.5"W., which is approximately the southwestern corner of Berth 1; then northerly along the shoreline to the point of origin.[Datum NAD 1983]

(3419) (d) *Obtaining permission to enter, move within, or exit the security zones*. All vessels must obtain permission from the COTP or a Designated Representative to enter, move within, or exit the security zones established in this section when these security zones are enforced. Vessels 20 meters or greater in length should seek permission from the COTP or a Designated Representative at least 4 hours in advance. Vessels less than 20 meters in length should seek permission at least 1 hour in advance. VTS Puget Sound may be reached on VHF channel 14.

(3420) (e) *Compliance*. Upon notice of enforcement by the Captain of the Port Puget Sound, the Coast Guard will enforce these security zones in accordance with rules set out in this section. Upon notice of suspension of enforcement by the Captain of the Port Puget Sound, all persons and vessels are authorized to enter, transit, and exit these security zones.

(3421) (f) *Regulations*. Under the general regulations in 33 CFR part 165 subpart D, this section applies to any vessel or person in the navigable waters of the United

States to which this section applies. No person or vessel may enter the security zones established in this section unless authorized by the Captain of the Port or his designated representatives. Vessels and persons granted permission to enter the security zone shall obey all lawful orders or directions of the Captain of the Port or his designated representatives. All vessels shall operate at the minimum speed necessary to maintain a safe course.

(3422) (g) *Enforcement*. Any Coast Guard commissioned, warrant or petty officer may enforce the rules in this section. In the navigable waters of the United States to which this section applies, when immediate action is required and representatives of the Coast Guard are not present or not present in sufficient force to provide effective enforcement of this section, any Federal Law Enforcement Officer or Washington Law Enforcement Officer may enforce the rules contained in this section pursuant to 33 CFR 6.04-11. In addition, the Captain of the Port may be assisted by other federal, state or local agencies in enforcing this section pursuant to 33 CFR 6.04-11.

(3423) (b) *Exemption*. Public vessels as defined in paragraph (b) of this section are exempt from the requirements in this section.

(3424) (i) *Waiver*. For any vessel, the Captain of the Port Puget Sound may waive any of the requirements of this section, upon finding that operational conditions or other circumstances are such that application of this section is unnecessary or impractical for the purpose of port security, safety or environmental safety.

§165.1401 Apra Harbor, Guam–safety zones.

(3425) (a) The following is designated as Safety Zone A–The waters of the Pacific Ocean and Apra Outer Harbor encompassed within an arc of 725 yards radius centered at the center of Wharf H. (Located at 13°27'47"N. and 144°39'01.9"E. Based on World Geodetic System 1984 Datum)

(3426) (b) The following is designated Safety Zone B–The waters of Apra Outer Harbor encompassed within an arc of 680 yards radius centered at the center of Naval Wharf Kilo. (Located at 13°26'43"N., 144°37'46.7"E. Based on World Geodetic system 1984 Datum)

(3427) (c) Special regulations. (1) Section 165.23 does not apply to Safety Zone A and/or Safety Zone B, except when Wharf H and/or Naval Wharf Kilo, or a vessel berthed at Wharf H and/or Naval Wharf Kilo, is displaying a red (BRAVO) flag by day or a red light by night.

(3428) (2) In accordance with the general regulations in 165.23 of this part, entry into these zones is prohibited unless authorized by the Captain of the Port, Guam.

§165.1402 Apra Outer Harbor, Guam–regulated navigation area.

(3429) (a) The following is a regulated navigation area–The waters of the Pacific Ocean and Apra Outer Harbor enclosed by a line beginning at

(3430) 13°26'47"N., 144°35'07"E; thence to Spanish Rocks at

(3431) 13°27'09.5"N., 144°37'20.6"E; thence along the shoreline of Apra Outer Harbor to

(3432) 13°26'28.1"N., 144°39'52.5"E (the northwest corner of Polaris Point); thence to

(3433) 13°26'40.2"N., 144°39'28.1"E; thence to

(3434) 13°26'32.1"N., 144°39'02.8"E; thence along the shoreline of Apra Outer Harbor to Orote Point at

(3435) 13°26'42"N., 144°36'58.5"E; thence to the beginning. (Based on WGS 84 Datum)

(3436) (b) Regulations:

(3437) (1) Except for public vessels of the United States, vessels may not enter Apra Outer Harbor without permission of the Captain of the Port if they have on board more than 25 tons of high explosives.

(3438) (2) Except for vessels not more than 65 feet in length, towboats or tugs without tows, no vessel may pass another vessel in the vicinity of the Outer Harbor entrance.

(3439) (3) Vessels over 100 gross tons shall:

(3440) (i) Steady on the entrance range at least 2 miles west of the entrance when approaching Apra Outer Harbor and;

(3441) (ii) [Reserved]

(3442) (iii) Steady on the range when departing Apra Outer Harbor.

(3443) (4) Vessels may not anchor in the fairway. The fairway is the area within 375 feet on either side of a line beginning at

(3444) 13°26'47.0"N., 144°35'07.0"E; thence to

(3445) 13°27'14.1"N., 144°39'14.4"E; thence to

(3446) 13°26'35.2"N., 144°39'46.4"E; thence to

(3447) 13°26'30.8"N., 144°39'44.4"E. (Based on WGS 84 Datum)

(3448) (5) Vessels over 100 gross tons may not proceed at a speed exceeding 12 knots within the harbor.

(3449) (6) No vessel may leave Apra Outer Harbor until any inbound vessel over 65 feet in length has cleared the Outer Harbor Entrance.

§165.1403 Security Zones; Tinian, Commonwealth of the Northern Mariana Islands.

(3450) (a) *Location*. The following areas are security zones:

(3451) (1) The waters of the Pacific Ocean off Tinian between

(3452) 14°59'04.9"N., 145°34'58.6"E to

(3453) 14°59'20.1"N., 145°35'41.5"E to

(3454) 14°59'09.8"N., 145°36'02.1"E to
(3455) 14°57'49.3"N., 145°36'28.7"E to
(3456) 14°57'29.1"N., 145°35'31.1"E and back to
(3457) 14°59'04.9"N., 145°34'58.6"E. This zone will be enforced when one, or more, of the Maritime Preposition Ships is in the zone or moored at Mooring A located at
(3458) 14°58'57.0"N., 145°35'40.8"E or Mooring B located at
(3459) 14°58'15.9"N., 145°35'54.8"E
(3460) (2) Additionally, a 50-yard security zone in all directions around Moorings A and B will be enforced when no vessels are moored thereto but mooring balls are anchored and on station.
(3461) **Note to §165.1403(a):** All positions of latitude and longitude are from International Spheroid, Astro Pier 1944 (Saipan) Datum (NOAA Chart 81071).

§165.1404 Apra Harbor, Guam–Security Zone.

(3462) (a) The following is designated as Security Zone C–The waters of Apra Outer Harbor, Guam surrounding Naval Mooring Buoy No. 702 (Located at 13°27'30.1"N. and 144°38'12.9"E. Based on World Geodetic System 1984 Datum) and the Maritime Propositioning ships moored thereto. The security zone will extend 100 yards in all directions around the vessel and its mooring. Additionally, a 50 yard security zone will remain in effect in all directions around buoy No. 702 when no vessel is moored thereto.
(3463) (b) In accordance with the general regulations in §165.33 of this part, entry into Security Zone C is prohibited unless authorized by the Captain of the Port, Guam.

§165.1405 Regulated Navigation Areas and Security Zones; Designated Escorted Vessels–Philippine Sea and Apra Harbor, Guam (including Cabras Island Channel), and Tanapag Harbor, Saipan, Commonwealth of the Northern Mariana Islands (CNMI).

(3464) (a) *Regulated navigation area*. The following areas, designated by coordinates referencing World Geodetic Datum (1984), are regulated navigation areas (RNAs).
(3465) (1) *Philippine Sea, Guam*–All waters from the surface to the bottom of the Philippine Sea, Guam, encompassed by lines connecting the following points, beginning at
(3466) 13°27'10"N., 144°35'05"E., thence easterly to
(3467) 13°27'17"N., 144°37'27"E., thence south westerly to
(3468) 13°26'52"N., 144°37'05"E., thence westerly to
(3469) 13°26'37"N., 144°35'05"E., thence due north back to point of origin.
(3470) (2) *Apra Harbor, Guam*–All waters from surface to bottom of Apra Harbor, Guam, shoreward of the COLREGS Demarcation as described in 33 CFR part 80.
(3471) (3) *Tanapag Harbor, Saipan*–The waters from surface to bottom of Tanapag Harbor, Saipan (CNMI), encompassed by lines connecting the following points, beginning at
(3472) 15°12'10"N., 145°40'28"E., thence north easterly to
(3473) 15°14'08"N., 145°42'00"E., thence due east to
(3474) 15°14'08"N., 145°44'02"E., thence south easterly to
(3475) 15°13'54"N., 144°44'20"E., thence south westerly along the shoreline to
(3476) 15°13'11"N., 145°43'01"E., thence south westerly to
(3477) 15°12'10"N., 145°40'28"E.
(3478) (4) Cabras Island Channel, Guam–All waters from surface to bottom of Cabras Island Channel, Guam, beginning at point
(3479) 13°27'34"N., 144°39'39"E and extending south easterly to position
(3480) 13°27'24"N., 144°39'59"E then heading easterly along the shoreline to position
(3481) 13°27'31"N., 144°40'22"E then heading north to position
(3482) 13°27'37"N., 144°40'22"E following the shoreline in a westerly direction back to point of origin.
(3483) (b) *Security zones*. A 100-yard radius security zone is established around, and is centered on, each escorted vessel within the regulated navigation areas in paragraph (a) of this section. A security zone is activated when an escorted vessel enters an RNA and remains active until the escorted vessel leaves the RNA. This is a moving security zone when the escorted vessel is in transit and becomes a fixed zone when the escorted vessel is anchored or moored. A security zone will not extend beyond the boundary of the RNA in this section.
(3484) (c) *Definitions*. As used in this section:
(3485) (1) *Designated representative* means any Coast Guard commissioned, warrant, or petty officer that has been authorized to act on behalf of the COTP.
(3486) (2) *Escorted Vessel* means any vessel operating in the RNA deemed by the COTP to be in need of escort protection for security reasons or under other circumstances. A designated representative aboard a Coast Guard cutter or patrol boat will accompany vessels deemed in need of escort protection into the RNA.
(3487) (3) *Navigation rules* mean international and inland navigation rules in 33 CFR chapter I, subchapters D and E.
(3488) (4) *Vessel* means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, except U.S. Coast Guard or U.S. naval vessels.
(3489) (d) *Regulations*. (1) No person or vessel may enter into the security zones under this section unless authorized by the COTP Guam or a designated representative.

(3490) (2) A vessel in the RNA established under paragraph (a) of this section operating within 500 yards of an escorted vessel must proceed at a minimum speed necessary to maintain a safe course, unless required to maintain speed by the navigation rules.

(3491) (3) When an escorted vessel in the RNA approaches within 100 yards of a vessel that is moored, or anchored in a designated anchorage area, the stationary vessel must stay moored or anchored while it remains within the escorted vessel's security zone unless it is either ordered by, or given permission from the COTP Guam or a designated representative to do otherwise.

(3492) (4) The COTP will inform the public of the existence or status of the security zones around escorted vessels in the RNA periodically by Broadcast Notice to Mariners.

(3493) (5) Persons or vessels that must enter a security zone or exceed speed limits established in this section may contact the COTP at command center telephone number (671) 339-6100 or on VHF channel 16 (156.8 Mhz) to request permission.

(3494) (6) All persons and vessels within 500 yards of an escorted vessel in the RNA must comply with the orders of the COTP Guam or his designated representatives.

(3495) (e) *Authority*. In addition to 33 U.S.C. 1231 and 50 U.S.C. 191, the authority for this section includes 33 U.S.C. 1226.

§165.1406 Safety Zone: Pacific Missile Range Facility (PMRF), Barking Sands, Island of Kauai, Hawaii.

(3496) (a) *Location*. The following area is established as a safety zone during launch operations at PMRF, Kauai, Hawaii: The waters bounded by the following coordinates:

(3497) (22°01.2'N., 159°47.3'W.),

(3498) (22°01.2'N., 159°50.7'W.),

(3499) (22°06.3'N., 159°50.7'W.),

(3500) (22°06.3'N, 159°44.8'W.).

(3501) (b) *Activation*. The above safety zone will be activated during launch operations at PMRF, Kauai, Hawaii. The Coast Guard will provide notice that the safety zone will be activated through published and broadcast local notice to mariners prior to scheduled launch dates.

(3502) (c) *Regulation*. The area described in Paragraph (a) of this section will be closed to all vessels and persons, except those vessels and persons authorized by the Commander, Fourteenth Coast Guard District, or the Captain of the Port (COTP) Honolulu, Hawaii, whenever Strategic Target System (STARS) vehicles are to be launched by the United States Government from the PMRF, Barking Sands, Kauai, Hawaii.

(3503) (d) The general regulations governing safety zones contained in 33 CFR 165.23 apply.

§165.1407 Security Zones; Oahu, HI.

(3504) (a) *Location*. The following areas, from the surface of the water to the ocean floor, are security zones that are activated and enforced subject to the provisions of paragraphs (c) and (d). All coordinates below are expressed in degrees, minutes, and tenths or hundredths of minutes.

(3505) (1) *Honolulu Harbor*. All waters of Honolulu Harbor and Honolulu entrance channel commencing at a line between entrance channel buoys no. 1 and no. 2, to a line between the fixed daybeacons no. 14 and no. 15 west of Sand Island Bridge.

(3506) (2) *Honolulu Harbor Anchorages B, C, and D*. All waters extending 100 yards in all directions from each vessel in excess of 300 gross tons anchored in Honolulu Harbor Anchorage B, C, or D, as defined in 33 CFR 110.235(a).

(3507) (3) *Kalihi Channel and Keehi Lagoon, Oahu*. All waters of Kalihi Channel and Keehi Lagoon beginning at Kalihi Channel entrance buoy no. 1 and continuing along the general trend of Kalihi Channel to daybeacon no. 13, thence continuing on a bearing of **332.5ºT** to shore, thence east and south along the general trend of the shoreline to daybeacon no. 15, thence southeast to daybeacon no. 14, thence southeast along the general trend of the shoreline of Sand Island, to the southwest tip of Sand Island at 21º18.0'N.; 157º53.05'W., thence southwest on a bearing of **233ºT** to Kalihi Channel entrance buoy no. 1.

(3508) (4) *Honolulu International Airport*. (i) *Honolulu International Airport, North Section*. All waters surrounding Honolulu International Airport from 21º18.25'N.; 157º 55.58'W., thence south to 21º18.0'N.; 157º 55.58'W., thence east to the western edge of Kalihi Channel, thence north along the western edge of the channel to daybeacon no. 13, thence northwest at a bearing of **332.5ºT** to shore.

(3509) (ii) *Honolulu International Airport, South Section*. All waters near Honolulu International Airport from

(3510) 21º18.0'N.; 157º55.58'W., thence south to

(3511) 21º16.5'N.; 157º55.58'W., thence east to

(3512) 21º16.5'N.; 157º54.0'W. (the extension of the western edge of Kalihi Channel), thence north along the western edge of the channel to Kalihi Channel buoy "5", thence west to

(3513) 21º18.0'N.; 157º55.58'W.

(3514) (5) *Barbers Point Offshore Moorings*. All waters around the Tesoro Single Point and the Chevron Conventional Buoy Moorings beginning at

(3515) 21º16.43'N.; 158º06.03'W., thence northeast to

(3516) 21º17.35'N.; 158º3.95'W., thence southeast to

(3517) 21°16.47'N.; 158°03.5'W., thence southwest to

(3518) 21°15.53'N.; 158°05.56'W., thence north to the beginning point.

(3519) (6) *Barbers Point Harbor, Oahu*. All waters contained within the Barbers Point Harbor, Oahu, enclosed by a line drawn between Harbor Entrance Channel Light 6 and the jetty point daybeacon at 21°19.5'N.; 158°07.26'W.

(3520) (7) *Kahe Point, Oahu*. All waters adjacent to the Hawaiian Electric Company power plant at Kahe Point within 500 yards of 21°21.30'N., 158°07.7'W. (lighted tower)

(3521) (b) *Definitions*. As used in this section, MARSEC Level 2 or Maritime Security Level 2 means, as defined in 33 CFR 101.105, the level for which appropriate additional protective security measures shall be maintained for a period of time as a result of heightened risk of a transportation security incident.

(3522) (c) *Regulations*. (1) Under 33 CFR 165.33, entry into the security zones described in this section is prohibited unless authorized by the Coast Guard Captain of the Port, Honolulu or his or her designated representatives.

(3523) (2) Persons desiring to transit the areas of the security zones may contact the Captain of the Port at Command Center telephone number (808) 842-2600 or on VHF channel 16 (156.8 MHz) to seek permission to transit the area. Written requests may be submitted to the Captain of Port, U.S. Coast Guard Sector Honolulu, Sand Island Access Road, Honolulu, Hawaii 96819, or faxed to (808) 842-2622. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representatives. For all seaplane traffic entering or transiting the security zones, a seaplane's compliance with all Federal Aviation Administration regulations (14 CFR parts 91 and 99) regarding flight-plan approval is deemed adequate permission to transit the waterway security zones described in this section.

(3524) (d) *Notice of enforcement or suspension of enforcement of security zones*.

(3525) (1) The security zones described in paragraphs (a)(3) (Kalihi Channel and Keehi Lagoon, Oahu), (a)(4)(i) (Honolulu International Airport, North Section), (a)(4)(ii) (Honolulu International Airport, South Section), (a)(6) (Barbers Point Harbor, Oahu), and (a)(7) (Kahe Point, Oahu) of this section, will be enforced only upon the occurrence of one of the following events–

(3526) (i) Whenever the Maritime Security (MARSEC) level, as defined in 33 CFR part 101, is raised to 2 or higher; or

(3527) (ii) Whenever the Captain of the Port, after considering all available facts, determines that there is a heightened risk of a transportation security incident or other serious maritime incident, including but not limited to any incident that may cause a significant loss of life, environmental damage, transportation system disruption, or economic disruption in a particular area.

(3528) (2) A notice will be published in the **Federal Register** reporting when events in paragraph (d)(1)(i) or (d)(1)(ii) have occurred.

(3529) (3) The Captain of the Port of Honolulu will cause notice of the enforcement of the security zones listed in paragraph (d)(1) of this section and notice of suspension of enforcement to be made by appropriate means to affect the widest publicity, including the use of broadcast notice to mariners and publication in the local notice to mariners.

(3530) (e) *Informational notices*. The Captain of the Port will cause notice of the presence of the security zones established in paragraph (a)(2) of this section, Honolulu Harbor Anchorages B, C, and D, to be made by appropriate means to affect the widest publicity, including the use of broadcast notice to mariners and publication in the local notice to mariners.

(3531) (f) *Enforcement*. Any Coast Guard commissioned, warrant, or petty officer, and any other Captain of the Port representative permitted by law, may enforce the rules in this section.

(3532) (g) *Waiver*. The Captain of the Port, Honolulu may waive any of the requirements of this section for any vessel or class of vessels upon his or her determination that application of this section is unnecessary or impractical for the purpose of port and maritime security.

(3533) (h) *Penalties*. Vessels or persons violating this section are subject to the penalties set forth in 33 U.S.C. 1232 and 50 U.S.C. 192.

§165.1408 Security Zones; Maui, HI.

(3534) (a) *Location*. The following areas, from the surface of the water to the ocean floor, are security zones that are activated and enforced subject to the provisions in paragraph (c):

(3535) (1) *Kahului Harbor, Maui*. All waters extending 100 yards in all directions from each large passenger vessel in Kahului Harbor, Maui, HI or within 3 nautical miles seaward of the Kahului Harbor COLREGS DEMARCATION (See 33 CFR 80.1460). This is a moving security zone when the LPV is in transit and becomes a fixed zone when the LPV is anchored, position-keeping, or moored.

(3536) (2) *Lahaina, Maui*. All waters extending 100 yards in all directions from each large passenger vessel in Lahaina, Maui, whenever the LPV is within 3 nautical

miles of Lahaina Light (LLNR 28460). The security zone around each LPV is activated and enforced whether the LPV is underway, moored, position-keeping, or anchored, and will continue in effect until such time as the LPV departs Lahaina and the 3-mile enforcement area.

(3537) (b) *Definitions*. As used in this section, *large passenger vessel* or *LPV* means a cruise ship more than 300 feet in length that carries passengers for hire, and any passenger ferry more than 300 feet in length that carries passengers for hire.

(3538) (c) *Regulations*.(1) Under 33 CFR 165.33, entry into the security zones created by this section is prohibited unless authorized by the Coast Guard Captain of the Port, Honolulu or his or her designated representatives. When authorized passage through a large passenger vessel security zone, all vessels must operate at the minimum speed necessary to maintain a safe course and must proceed as directed by the Captain of the Port or his or her designated representatives. No person is allowed within 100 yards of an LPV that is underway, moored, position-keeping, or at anchor, unless authorized by the Captain of the Port or his or her designated representative.

(3539) (2) When conditions permit, the Captain of the Port, or his or her designated representative, may permit vessels that are at anchor, restricted in their ability to maneuver, or constrained by draft to remain within an LPV security zone in order to ensure navigational safety..

(3540) (3) Persons desiring to transit the areas of the security zones in this section may contact the Captain of the Port at Command Center telephone number (808) 842-2600 or on VHF channel 16 (156.8 MHz) to seek permission to transit the area. Written requests may be submitted to the Captain of Port, U.S. Coast Guard Sector Honolulu, Sand Island Access Road, Honolulu, Hawaii 96819, or faxed to (808) 842-2622. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representatives. For all seaplane traffic entering or transiting the security zones, compliance with all Federal Aviation Administration regulations (14 CFR parts 91 and 99) regarding flight-plan approval is deemed adequate permission to transit the waterway security zones described in this section.

(3541) (d) *Enforcement*. Any Coast Guard commissioned, warrant, or petty officer, and any other Captain of the Port representative permitted by law, may enforce the rules in this section.

(3542) (e) *Waiver*. The Captain of the Port, Honolulu may waive any of the requirements of this section for any vessel or class of vessels upon his or her determination that application of this section is unnecessary or impractical for the purpose of port and maritime security.

(3543) (f) *Penalties*. Vessels or persons violating this section are subject to the penalties set forth in 33 U.S.C. 1232 and 50 U.S.C. 192.

§165.1409 Security Zones; Hawaii, HI.

(3544) (1) *Hilo Harbor, Hawaii*. All waters extending 100 yards in all directions from each large passenger vessel in Hilo Harbor, Hawaii, HI or within 3 nautical miles seaward of the Hilo Harbor COLREGS DEMARCATION (See 33 CFR 80.1480). This is a moving security zone when the LPV is in transit and becomes a fixed zone when the LPV is anchored, position-keeping, or moored.

(3545) (2) *Kailua-Kona, Hawaii*. All waters extending 100 yards in all directions from each large passenger vessel in Kailua-Kona, Hawaii, whenever the LPV is within 3 nautical miles of Kukailimoku point. The 100-yard security zone around each LPV is activated and enforced whether the LPV is underway, moored, position-keeping, or anchored and will continue in effect until such time as the LPV departs Kailua-Kona and the 3-mile enforcement area.

(3546) (3) *Kawaihae Harbor, Hawaii*. All waters extending 100 yards in all directions from each large passenger vessel in Kawaihae Harbor, Hawaii, or within 3 nautical miles seaward of the Kawaihae Harbor COLREGS DEMARCATION (See 33 CFR 80.1470). The 100-yard security zone around each LPV is activated and enforced whether the LPV is underway, moored, position-keeping, or anchored.

(3547) (b) *Definitions*. As used in this section, *large passenger vessel* or *LPV* means a cruise ship more than 300 feet in length that carries passengers for hire, and any passenger ferry more than 300 feet in length that carries passengers for hire.

(3548) (c) *Regulations*. (1) Under 33 CFR 165.33, entry into the security zones created by this section is prohibited unless authorized by the Coast Guard Captain of the Port, Honolulu or his or her designated representative. When authorized passage through a large passenger vessel security zone, all vessels must operate at the minimum speed necessary to maintain a safe course and must proceed as directed by the Captain of the Port or his or her designated representatives. No person is allowed within 100 yards of a large passenger vessel that is underway, moored, position-keeping, or at anchor, unless authorized by the Captain of the Port or his or her designated representatives.

(3549) (2) When conditions permit, the Captain of the Port, or his or her designated representatives, may permit vessels that are at anchor, restricted in their ability to maneuver, or constrained by draft to remain within

an LPV security zone in order to ensure navigational safety.

(3550) (3) Persons desiring to transit the areas of the security zones in this section may contact the Captain of the Port at Command Center telephone number (808) 842-2600 or on VHF channel 16 (156.8 MHz) to seek permission to transit the area. Written requests may be submitted to the Captain of Port, U.S. Coast Guard Sector Honolulu, Sand Island Access Road, Honolulu, Hawaii 96819, or faxed to (808) 842-2622. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representatives. For all seaplane traffic entering or transiting the security zones, compliance with all Federal Aviation Administration regulations (14 CFR parts 91 and 99) regarding flight-plan approval is deemed adequate permission to transit the waterway security zones described in this section.

(3551) (d) *Enforcement*. Any Coast Guard commissioned, warrant, or petty officer, and any other Captain of the Port representative permitted by law, may enforce the rules in this section.

(3552) (e) *Waiver*. The Captain of the Port, Honolulu may waive any of the requirements of this section for any vessel or class of vessels upon his or her determination that application of this section is unnecessary or impractical for the purpose of port and maritime security.

(3553) (f) *Penalties*. Vessels or persons violating this section are subject to the penalties set forth in 33 U.S.C. 1232 and 50 U.S.C. 192.

§165.1410 Security Zones; Kauai, HI.

(3554) (1) *Nawiliwili Harbor, Lihue, Kauai*. All waters extending 100 yards in all directions from each large passenger vessel in Nawiliwili Harbor, Kauai, HI or within 3 nautical miles seaward of the Nawiliwili Harbor COLREGS DEMARCATION (See 33 CFR 80.1480). This is a moving security zone when the LPV is in transit and becomes a fixed zone when the LPV is anchored, position-keeping, or moored.

(3555) (2) *Port Allen, Kauai*. All waters extending 100 yards in all directions from each large passenger vessel in Port Allen, Kauai, HI or within 3 nautical miles seaward of the Port Allen COLREGS DEMARCATION (See 33 CFR 80.1440). This is a moving security zone when the LPV is in transit and becomes a fixed zone when the LPV is anchored, position-keeping, or moored.

(3556) (b) *Definitions*. As used in this section, *large passenger vessel* or *LPV* means a cruise ship more than 300 feet in length that carries passengers for hire, and any passenger ferry more than 300 feet in length that carries passengers for hire.

(3557) (c) *Regulations*. (1) Under 33 CFR 165.33, entry into the security zones created by this section is prohibited unless authorized by the Coast Guard Captain of the Port, Honolulu or his or her designated representative. When authorized passage through an LPV security zone, all vessels must operate at the minimum speed necessary to maintain a safe course and must proceed as directed by the Captain of the Port or his or her designated representative. No person is allowed within 100 yards of a large passenger vessel that is underway, moored, position-keeping, or at anchor, unless authorized by the Captain of the Port or his or her designated representative.

(3558) (2) When conditions permit, the Captain of the Port, or his or her designated representative, may permit vessels that are at anchor, restricted in their ability to maneuver, or constrained by draft to remain within an LPV security zone in order to ensure navigational safety.

(3559) (3) Persons desiring to transit the areas of the security zones may contact the Captain of the Port at Command Center telephone number (808) 842-2600 or on VHF channel 16 (156.8 MHz) to seek permission to transit the area. Written requests may be submitted to the Captain of Port, U.S. Coast Guard Sector Honolulu, Sand Island Access Road, Honolulu, Hawaii 96819, or faxed to (808) 842-2622. If permission is granted, all persons and vessels must comply with the instructions of the Captain of the Port or his or her designated representatives. For all seaplane traffic entering or transiting the security zones, compliance with all Federal Aviation Administration regulations (14 CFR parts 91 and 99) regarding flight-plan approval is deemed adequate permission to transit the waterway security zones described in this section.

(3560) (d) *Enforcement*. Any Coast Guard commissioned, warrant, or petty officer, and any other Captain of the Port representative permitted by law, may enforce the rules in this section.

(3561) (e) *Waiver*. The Captain of the Port, Honolulu may waive any of the requirements of this section for any vessel or class of vessels upon his or her determination that application of this section is unnecessary or impractical for the purpose of port and maritime security.

(3562) (f) *Penalties*. Vessels or persons violating this section are subject to the penalties set forth in 33 U.S.C. 1232 and 50 U.S.C. 192.

§165.1411 Security zone; waters surrounding U.S. Forces vessel SBX-1, HI.

(3563) (a) *Location*. The following area, in U.S. navigable waters within the Honolulu Captain of the Port Zone (see 33 CFR 3.70–10), from the surface of the water to the ocean floor, is a security zone: All waters extending 500 yards in all directions from U.S. Forces vessel SBX–1. The security zone moves with the SBX–1 while

it is in transit and becomes fixed when the SBX–1 is anchored, position-keeping, or moored.

(3564) (b) *Regulations*. The general regulations governing security zones contained in 33 CFR 165.33 apply. Entry into, transit through, or anchoring within this zone while it is activated, and thus subject to enforcement, is prohibited unless authorized by the Captain of the Port or a designated representative thereof.

(3565) (c) *Suspension of enforcement*. The Coast Guard will suspend enforcement of the security zone described in this section whenever the SBX–1 is within the Honolulu Defensive Sea Area (see 6 FR 6675).

(3566) (d) *Information notice*. The Captain of the Port of Honolulu will cause notice of the enforcement of the security zone described in this section to be made by broadcast notice to mariners. The SBX–1 is easy to recognize because it contains a large white object shaped like an egg supported by a platform that is larger than a football field. The platform in turn is supported by six pillars similar to those on large oil-drilling platforms.

(3567) (e) *Authority to enforce*. Any Coast Guard commissioned, warrant, or petty officer, and any other Captain of the Port representative permitted by law, may enforce the security zone described in this section.

(3568) (f) *Waiver*. The Captain of the Port may waive any of the requirements of this rule for any person, vessel, or class of vessel upon finding that application of the security zone is unnecessary or impractical for the purpose of maritime security.

(3569) (g) *Penalties*. Vessels or persons violating this rule are subject to the penalties set forth in 33 U.S.C. 1232 and 50 U.S.C. 192.

Subpart G-Protection of Naval Vessels

§165.2010 Purpose.

(3570) This subpart establishes the geographic parameters of naval vessel protection zones surrounding U.S. naval vessels in the navigable waters of the United States. This subpart also establishes when the U.S. Navy will take enforcement action in accordance with the statutory guideline of 14 U.S.C. 91. Nothing in the rules and regulations contained in this subpart shall relieve any vessel, including U.S. naval vessels, from the observance of the Navigation Rules. The rules and regulations contained in this subpart supplement, but do not replace or supercede, any other regulation pertaining to the safety or security of U.S. naval vessels.

§165.2015 Definitions.

(3571) The following definitions apply to this subpart:

(3572) *Atlantic Area* means that area described in 33 CFR 3.04–1 Atlantic Area.

(3573) *Large U.S. naval vessel* means any U.S. naval vessel greater than 100 feet in length overall.

(3574) *Naval defensive sea area* means those areas described in 32 CFR part 761.

(3575) *Naval vessel protection zone* is a 500-yard regulated area of water surrounding large U.S. naval vessels that is necessary to provide for the safety or security of these U.S. naval vessels.

(3576) *Navigable waters of the United States* means those waters defined as such in 33 CFR part 2.

(3577) *Navigation rules* means the Navigation Rules, International-Inland.

(3578) *Official patrol* means those personnel designated and supervised by a senior naval officer present in command and tasked to monitor a naval vessel protection zone, permit entry into the zone, give legally enforceable orders to persons or vessels within the zone, and take other actions authorized by the U.S. Navy.

(3579) *Pacific Area* means that area described in 33 CFR 3.04–3 Pacific Area.

(3580) *Restricted area* means those areas established by the Army Corps of Engineers and set out in 33 CFR part 334.

(3581) *Senior naval officer present in command i*s, unless otherwise designated by competent authority, the senior line officer of the U.S. Navy on active duty, eligible for command at sea, who is present and in command of any part of the Department of Navy in the area.

(3582) *U.S. naval vessel* means any vessel owned, operated, chartered, or leased by the U.S. Navy; any pre-commissioned vessel under construction for the U.S. Navy, once launched into the water; and any vessel under the operational control of the U.S. Navy or a Combatant Command.

(3583) *Vessel* means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, except U.S. Coast Guard or U.S. naval vessels.

§165.2020 Enforcement authority.

(3584) (a) *Coast Guard*. Any Coast Guard commissioned, warrant or petty officer may enforce the rules and regulations contained in this subpart.

(3585) (b) *Senior naval officer present in command*. In the navigable waters of the United States, when immediate action is required and representatives of the Coast Guard are not present or not present in sufficient force to exercise effective control in the vicinity of large U.S. naval vessels, the senior naval officer present in command is responsible for the enforcement of the rules and regulations contained in this subpart to ensure the safety and security of all large naval vessels present. In meeting this responsibility, the senior naval officer

present in command may directly assist any Coast Guard enforcement personnel who are present.

§165.2030 Pacific Area.

(3586) (a) This section applies to any vessel or person in the navigable waters of the United States within the boundaries of the U.S. Coast Guard Pacific Area, which includes the Eleventh, Thirteenth, Fourteenth, and Seventeenth U.S. Coast Guard Districts.

(3587) **Note to paragraph** (a): The boundaries of the U.S. Coast Guard Pacific Area and the Eleventh, Thirteenth, Fourteenth, and Seventeenth U.S. Coast Guard Districts are set out in 33 CFR part 3.

(3588) (b) A naval vessel protection zone exists around U.S. naval vessels greater than 100 feet in length overall at all times in the navigable waters of the United States, whether the large U.S. naval vessel is underway, anchored, moored, or within a floating dry dock, except when the large naval vessel is moored or anchored within a restricted area or within a naval defensive sea area.

(3589) (c) The Navigation Rules shall apply at all times within a naval vessel protection zone.

(3590) (d) When within a naval vessel protection zone, all vessels shall operate at the minimum speed necessary to maintain a safe course, unless required to maintain speed by the Navigation Rules, and shall proceed as directed by the Coast Guard, the senior naval officer present in command, or the official patrol. When within a naval vessel protection zone, no vessel or person is allowed within 100 yards of a large U.S. naval vessel unless authorized by the Coast Guard, the senior naval officer present in command, or official patrol.

(3591) (e) To request authorization to operate within 100 yards of a large U.S. naval vessel, contact the Coast Guard, the senior naval officer present in command, or the official patrol on VHF-FM channel 16.

(3592) (f) When conditions permit, the Coast Guard, senior naval officer present in command, or the official patrol should:

(3593) (1) Give advance notice on VHF-FM channel 16 of all large U.S. naval vessel movements;

(3594) (2) Permit vessels constrained by their navigational draft or restricted in their ability to maneuver to pass within 100 yards of a large U.S. naval vessel in order to ensure a safe passage in accordance with the Navigation Rules; and

(3595) (3) Permit commercial vessels anchored in a designated anchorage area to remain at anchor when within 100 yards of passing large U.S. naval vessels; and

(3596) (4) Permit vessels that must transit via a navigable channel or waterway to pass within 100 yards of a moored or anchored large U.S. naval vessel with minimal delay consistent with security.

(3597) **Note to paragraph (f)**: The listed actions are discretionary and do not create any additional right to appeal or otherwise dispute a decision of the Coast Guard, the senior naval officer present in command, or the official patrol.

Part 166–Shipping Safety Fairways

Subpart A–General

§166.100 Purpose.

(3598) The purpose of these regulations is to establish and designate shipping safety fairways and fairway anchorages to provide unobstructed approaches for vessels using U.S. ports.

§166.103 Geographic coordinates.

(3599) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts reference to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

§166.105 Definitions.

(3600) (a) *Shipping safety fairway or fairway* means a lane or corridor in which no artificial island or fixed structure, whether temporary or permanent, will be permitted. Temporary underwater obstacles may be permitted under certain conditions described for specific areas in Subpart B. Aids to navigation approved by the U.S. Coast Guard may be established in a fairway.

(3601) (b) *Fairway anchorage* means an anchorage area contiguous to and associated with a fairway, in which fixed structures may be permitted within certain spacing limitations, as described for specific areas in Subpart B.

§166.110 Modification of areas.

(3602) Fairways and fairway anchorages are subject to modification in accordance with 33 U.S.C. 1223(c); 92 Stat. 1473.

Subpart B–Designations of Fairways and Fairway Anchorages

§166.300 Areas along the coast of California.

(3603) (a) *Purpose*. Fairways as described in this section are established to control the erection of structures therein to provide safe vessel routes along the coast of California.

(3604) (b) *Designated Areas*.–(1) *Port Hueneme Safety Fairway*. An area one nautical mile in width centered on the alinement of Port Hueneme Entrance Channel and extending seaward from the 30-foot-depth curve for a distance of 1.5 nautical miles, thence turning southerly and widening to 1.5 nautical miles at the 3-mile limit, all between lines joining the following points:

(3605) 34°06'30"N., 119°15'00"W.

(3606) 34°07'37"N., 119°14'25"W.

(3607) 34°08'49"N., 119°13'21"W. thence generally along the 30-foot-depth curve to the seaward end of the west entrance jetty; seaward end of the east entrance jetty, thence generally along the 30-foot-depth curve to:

(3608) 34°08'21"N., 119°12'15"W.

(3609) 34°07'10"N., 119°13'20"W.

(3610) 34°05'48"N., 119°13'23"W.

(3611) (2) (Reserved)

Part 167–Offshore Traffic Separation Schemes

Subpart A–General

§167.1 Purpose.

(3612) The purpose of the regulations in this part is to establish and designate traffic separation schemes and precautionary areas to provide access routes for vessels proceeding to and from U.S. ports.

§167.3 Geographic coordinates.

(3613) Geographic coordinates are defined using North American 1927 Datum (NAD 27) unless indicated otherwise.

§167.5 Definitions.

(3614) (a) *Area to be avoided* means a routing measure comprising an area within defined limits in which either navigation is particularly hazardous or it is exceptionally important to avoid casualties and which should be avoided by all ships or certain classes of ships.

(3615) (b) *Traffic separation Scheme (TSS)* means a designated routing measure which is aimed at the separation of opposing streams of traffic by appropriate means and by the establishment of traffic lanes.

(3616) (c) *Traffic lane* means an area within defined limits in which one-way traffic is established. Natural obstacles, including those forming separation zones, may constitute a boundary.

(3617) (d) *Separation zone or line* means a zone or line separating the traffic lanes in which ships are proceeding in opposite or nearly opposite directions; or separating a traffic lane from the adjacent sea area; or separating traffic lanes designated for particular classes of ships proceeding in the same direction.

(3618) (e) *Precautionary area* means a routing measure comprising an area within defined limits where ships must navigate with particular caution and within which the direction of traffic flow may be recommended.

(3619) (f) *Deep-water route* means an internationally recognized routing measure primarily intended for use by ships that, because of their draft in relation to the available depth of water in the area concerned, require the use of such a route.

(3620) (g) *Two-way route* means a route within defined limits inside which two-way traffic is established, aimed at providing safe passage of ships through waters where navigation is difficult or dangerous.

§167.10 Operating rules.

(3621) The operator of a vessel in a TSS shall comply with Rule 10 of the International Regulations for Preventing Collision at Sea, 1972, as amended.

§167.15 Modification of schemes.

(3622) (a) A traffic separation scheme or precautionary area described in this Part may be permanently amended in accordance with 33 U.S.C. 1223 (92 Stat. 1473), and with international agreements.

(3623) (b) A traffic separation scheme or precautionary area in this Part may be temporarily adjusted by the Commandant of the Coast Guard in an emergency, or to accommodate operations which would create an undue hazard for vessels using the scheme or which would contravene Rule 10 of the International Regulations for Preventing Collisions at Sea, 1972. Adjustment may be in the form of a temporary traffic lane shift, a temporary suspension of a section of the scheme, a temporary precautionary area overlaying a lane, or other appropriate measure. Adjustments will only be made where, in the judgment of the Coast Guard, there is no reasonable alternative means of conducting an operation and navigation safety will not be jeopardized by the adjustment. Notice of adjustments will be made in the appropriate Notice to Mariners and in the FEDERAL REGISTER. Requests by members of

the public for temporary adjustments to traffic separation schemes must be submitted 150 days prior to the time the adjustment is desired. Such Requests, describing the interference that would otherwise occur to a TSS, should be submitted to the District Commander of the Coast Guard District in which the TSS is located.

Subpart B–Description of Traffic Separation Schemes and Precautionary Areas

§167.400 Off San Francisco Traffic Separation Scheme: General.

(3624) The Off San Francisco Traffic Separation Scheme consists of six parts: a Precautionary Area, a Northern Approach, a Southern Approach, a Western Approach, a Main Ship Channel, and an Area To Be Avoided. The specific areas in the Off San Francisco TSS and Precautionary Area are described in §§167.401 through 167.406 of this chapter. The geographic coordinates in §§167.401 through 167.406 are defined using North American Datum 1983 (NAD 83).

§167.401 Off San Francisco: Precautionary area.

(3625) (a)(1) A precautionary area is established bounded to the west by an arc of a circle with a radius of 6 miles centering upon geographical position 37°45.00'N., 122°41.50'W. and connecting the following geographical positions:

Latitude	Longitude
37°42.70'N.	122°34.60'W.
37°50.30'N.	122°38.00'W.

(3626) (2) The precautionary area is bounded to the east by a line connecting the following geographic positions:

Latitude	Longitude
37°42.70'N.	122°34.60'W.
37°45.90'N.	122°38.00'W.
37°50.30'N.	122°38.00'W.

(3627) (b) A pilot boarding area is located near the center of the precautionary area described in paragraph (a) of this section. Due to heavy vessel traffic, mariners are advised not to anchor or linger in this precautionary area except to pick up or disembark a pilot.

§167.402 Off San Francisco: Northern approach.

(3628) (a) A separation zone is bounded by a line connecting the following geographical positions:

Latitude	Longitude
37°48.40'N.	122°47.60'W.
37°56.70'N.	122°03.70'W.
37°55.20'N.	122°04.90'W.
37°47.70'N.	122°48.20'W.

(3629) (b) A traffic lane for north-westbound traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
37°49.20'N.	122°46.70'W.
37°58.00'N.	123°02.70'W.

(3630) (c) A traffic lane for south-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
37°53.90'N.	123°06.10'W.
37°46.70'N.	122°48.70'W.

§167.403 Off San Francisco: Southern approach.

(3631) (a) A separation zone is bounded by a line connecting the following geographical positions:

Latitude	Longitude
37°39.10'N.	122°40.40'W.
37°27.00'N.	122°40.40'W.
37°27.00'N.	122°43.00'W.
37°39.10'N.	122°43.00'W.

(3632) (b) A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
37°39.30'N.	122°39.20'W.
37°27.00'N.	122°39.20'W.

(3633) (c) A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
37°27.00'N.	122°44.30'W.
37°39.40'N.	122°44.30'W.

§167.404 Off San Francisco: Western approach.

(3634) (a) A separation zone is bounded by a line connecting the following geographical positions:

Latitude	Longitude
37°41.90'N.	122°48.00'W.
37°38.10'N.	122°58.10'W.
37°36.50'N.	122°57.30'W.
37°41.10'N.	122°47.20'W.

(3635) (b) A traffic lane for south-westbound traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
37°42.80'N.	122°48.50'W.
37°39.60'N.	122°58.80'W.

(3636) (c) A traffic lane for north-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
37°35.00'N.	122°56.50'W.
37°40.40'N.	122°46.30'W.

§167.405 Off San Francisco: Main ship channel.

(3637) (a) A separation line connects the following geographical positions:

Latitude	Longitude
37°45.90'N.	122°38.00'W.
37°47.00'N.	122°34.30'W.
37°48.10'N.	122°31.00'W.

(3638) (b) A traffic lane for eastbound traffic is established between the separation line and a line connecting the following geographical positions:

Latitude	Longitude
37°45.80'N.	122°37.70'W.
37°47.80'N.	122°30.80'W.

(3639) (c) A traffic lane for westbound traffic is established between the separation line and a line connecting the following geographical positions:

Latitude	Longitude
37°46.20'N.	122°37.90'W.
37°46.90'N.	122°35.30'W.
37°48.50'N.	122°31.30'W.

§167.406 Off San Francisco: Area to be avoided.

(3640) A circular area to be avoided, with a radius of half of a nautical mile, is centered upon geographical position:

Latitude	Longitude
37°45.00'N.	122°41.50'W.

§167.450 In the Santa Barbara Channel Traffic Separation Scheme: General.

(3641) The Traffic Separation Scheme in the Santa Barbara Channel is described in §§167.451 and 167.452. The geographic coordinates in §§167.451 and 167.452 are defined using North American Datum 1983 (NAD 83).

§167.451 In the Santa Barbara Channel: Between Point Vicente and and Point Conception.

(3642) (a) A separation zone is bounded by a line connecting the following geographical positions:

Latitude	Longitude
34°20.90'N.	120°30.16'W.
34°04.00'N.	119°15.96'W.
33°44.90'N.	118°33.75'W.
33°43.20'N.	118°36.95'W.
34°02.20'N.	119°17.46'W.
34°18.90'N.	120°30.96'W.

(3643) (b) A traffic lane for north-westbound traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
34°21.80'N.	120°29.96'W.
34°04.80'N.	119°15.16'W.
33°45.80'N.	118°35.15'W.

(3644) (c) A traffic lane for south-eastbound traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
33°42.30'N.	118°37.55'W.
34°01.40'N.	119°18.26'W.
34°18.00'N.	122°31.16'W.

§167.500 In the approaches to Los Angeles-Long Beach Traffic Separation Scheme: General.

(3645) The Traffic Separation Scheme in the approaches to Los Angeles-Long Beach consists of three parts: a Precautionary Area, a Western Approach, and a Southern Approach. The specific areas in the approaches to Los Angeles-Long Beach are described in §§167.501 through 167.503. The geographic coordinates in §§167.501 through 167.503 are defined using North American Datum 1983 (NAD 83).

§167.501 In the approaches to Los Angeles/Long Beach: Precautionary area.

(3646) (a) The precautionary area consists of the water area enclosed by the Los Angeles-Long Beach breakwater and a line connecting Point Fermin Light at 33°42.30'N., 118°17.60'W., with the following geographical positions:

Latitude	Longitude
33°35.50'N.	118°17.60'W.
33°35.50'N.	118°09.00'W.
33°37.70'N.	118°06.50'W.
33°43.40'N.	118°10.80'W.

(3647) (b) Pilot boarding areas area located within the precautionary area described in Paragraph (a) of this section. Specific regulations pertaining to vessels operating in these areas are contained in 33 CFR 165.1109(d).

§167.502 In the approaches to Los Angeles-Long Beach: Western approach.

(3648) (a) A separation zone is bounded by a line connecting the following geographical positions:

Latitude	Longitude
33°37.70'N.	118°17.60'W.
33°36.50'N.	118°17.60'W.
33°36.50'N.	118°23.10'W.
33°43.20'N.	118°36.90'W.
33°44.90'N.	118°35.70'W.
33°37.70'N.	118°20.90'W.

(3649) (b) A traffic lane for northbound coastwise traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
33°38.70'N.	118°17.60'W.
33°38.70'N.	118°20.60'W.
33°45.80'N.	118°35.10'W.

(3650) (c) A traffic lane for southbound coastwise traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
33°35.50'N.	118°17.60'W.
33°35.50'N.	118°23.43'W.
33°42.30'N.	118°37.50'W.

§167.503 In the approaches to Los Angeles-Long Beach TSS: Southern approach.

(3651) (a) A separation zone is established bounded by a line connecting the following geographic positions:

Latitude	Longitude
33°35.50'N.	118°10.30'W.
33°35.50'N.	118°12.75'W.
33°19.70'N.	118°03.50'W.
33°19.00'N.	118°05.60'W.

(3652) (b) A traffic lane for northbound traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
33°35.50'N.	118°09.00'W.
33°20.00'N.	118°02.30'W.

(3653) (c) A traffic lane for southbound traffic is established between the separation zone and a line connecting the following geographical positions:

Latitude	Longitude
33°35.50'N.	118°14.00'W.
33°18.70'N.	118°06.75'W.

Part 168–Escort Requirements for Certain Tankers

§168.01 Purpose.

(3654) (a) This part prescribes regulations in accordance with section 4116(c) of the Oil Pollution Act of 1990 (OPA 90) (Pub. L. 101-380). The regulations will reduce the risk of oil spills from laden, single hull tankers over 5,000 GT by requiring that these tankers be escorted by at least two suitable escort vessels. The escort vessels will be immediately available to influence the tankers'

speed and course in the event of a steering or propulsion equipment failure, thereby reducing the possibility of groundings or collisions.

(3655) (b) The regulations in this part establish minimum escort vessel requirements. Nothing in these regulations should be construed as relieving the master of a tanker from the duty to operate the vessel in a safe and prudent manner, taking into account the navigational constraints of the waterways to be traversed, other vessel traffic, and anticipated weather, tide, and sea conditions, which may require reduced speeds, greater assistance from escort vessels, or other operational precautions.

§168.05 Definitions.

(3656) As used in this part–

(3657) *Disabled tanker* means a tanker experiencing a loss of propulsion or steering control.

(3658) *Escort transit* means that portion of the tanker's voyage through waters where escort vessels are required.

(3659) *Escort vessel* means any vessel that is assigned and dedicated to a tanker during the escort transit, and that is fendered and outfitted with towing gear as appropriate for its role in an emergency response to a disabled tanker.

(3660) *Laden* means transporting in bulk any quantity of applicable cargo, except for clingage and residue in otherwise empty cargo tanks.

(3661) *Single hull tanker* means any self-propelled tank vessel that is not constructed with both double bottom and double sides in accordance with the provisions of 33 CFR 157.10d.

(3662) *Tanker master* means the licensed onboard person in charge of the tanker.

(3663) *Tanker owner or operator* means the owner or shoreside organization (individual, corporation, partnership, or association), including a demise charterer, responsible for the overall management and operation of the tanker.

§168.10 Responsibilities.

(3664) (a) The tanker owner or operator shall:

(3665) (1) select escort vessels that can meet the performance requirements of this part; and

(3666) (2) inform the tanker master of the performance capabilities of the selected escort vessels. This information must be provided to the master before beginning the escort transit.

(3667) (b) The tanker master shall operate the tanker within the performance capabilities of the escort vessels, taking into account speed, sea and weather conditions, navigational considerations, and other factors that may change or arise during the escort transit.

(3668) (c) In an emergency, the tanker master may deviate from the requirements of this part to the extent necessary to avoid endangering persons, property, or the environment, but shall immediately report the deviation to the cognizant Coast Guard Captain of the Port (COTP).

§168.20 Applicable vessels.

(3669) The requirements of this part apply to laden, single hull tankers of 5,000 gross tons or more.

§168.30 Applicable cargoes.

(3670) The requirements of this part apply to any petroleum oil listed in 46 CFR Table 30.25–1 as a pollution category I cargo.

§168.40 Applicable waters and number of escort vessels.

(3671) The requirements of this part apply to the following waters:

(3672) (a) Prince William Sound: Each tanker to which this part applies must be escorted by at least two escort vessels in those navigable waters of the United States within Prince William Sound, Alaska, and the adjoining tributaries, bays, harbors, and ports, including the navigable waters of the United States within a line drawn from Cape Hinchinbrook Light, to Seal Rocks Light, to a point on Montague Island at 60°14.6'N., 146°59'W., and the waters of Montague Strait east of a line between Cape Puget and Cape Cleare.

(3673) (b) Puget Sound and certain associated waters: Each tanker to which this part applies must be escorted by at least two escort vessels in those navigable waters of the United States and Washington State east of a line connecting New Dungeness Light with Discovery Island Light and all points in the Puget Sound area north and south of these lights. This area includes all the navigable waters of the United States within Haro Strait, Rosario Strait, the Strait of Georgia, Puget Sound, and Hood Canal, as well as those portions of the Strait of Juan de Fuca east of the New Dungeness-Discovery Island line.

§168.50 Performance and operational requirements.

(3674) (a) Except as provided in Paragraph (c) of §168.10, at all times during the escort transit each tanker to which this part applies:

(3675) (1) Must be accompanied by escort vessels that meet the performance requirements of Paragraph (b) of this section (but not less than the number of escorts required by §168.40).

(3676) (2) Must have the escort vessels positioned relative to the tanker such that timely response to a propulsion or steering failure can be effected.

(3677) (3) Must not exceed a speed beyond which the escort vessels can reasonably be expected to safely bring the tanker under control within the navigational limits of the waterway, taking into consideration ambient sea and weather conditions, surrounding vessel traffic, hazards, and other factors that may reduce the available sea room.

(3678) (b) The escort vessels, acting singly or jointly in any combination as needed, and considering their applied force vectors on the tanker's hull, must be capable of–

(3679) (1) Towing the tanker at 4 knots in calm conditions, and holding it in steady position against a 45-knot headwind;

(3680) (2) [Reserved]

(3681) (3) Holding the tanker on a steady course against a 35-degree locked rudder at a speed of 6 knots; and

(3682) (4) Turning the tanker 90 degrees, assuming a free-swinging rudder and a speed of 6 knots, within the same distance (advance and transfer) that it could turn itself with a hard-over rudder.

§168.60 Pre-escort conference.

(3683) (a) Before commencing an escort transit, the tanker master shall confer, by radio or in person, with the tanker pilot and the masters of the escort vessels regarding the escort operation.

(3684) (b) The purpose of the pre-escort conference is for all parties to plan and discuss particulars of the escort transit.

(3685) (c) At a minimum, the following topics must be addressed during the pre-escort conference:

(3686) (1) The destination, route, planned speed, other vessel traffic, anticipated weather, tide, and sea conditions, and other navigational considerations;

(3687) (2) The type and operational status of communication, towing, steering, and propulsion equipment on the tanker and escort vessels;

(3688) (3) The relative positioning and reaction time for the escort vessels to move into assist positions, including, if appropriate, pre-tethering the escort vessels at crucial points along the route;

(3689) (4) The preparations required on the tanker and escort vessels, and the methods employed in making an emergency towline connection, including stationing of deck crews, preparation of messenger lines, bridles, and other towing gear, and energizing appropriate deck equipment;

(3690) (5) The manner in which an emergency towline connection would be made (which escort vessel will respond, how messengers and towlines will be passed, etc.);

(3691) (6) Other relevant information provided by the tanker master, pilot or escort vessel masters.

Part 169–Ship Reporting Systems

Subpart A–General

§169.1 What is the purpose of this part?

(3692) This subpart prescribes the requirements for mandatory ship reporting systems. Ship reporting systems are used to provide, gather, or exchange information through radio reports. The information is used to provide data for many purposes including, but not limited to: navigation safety, maritime security and domain awareness, environmental protection, vessel traffic services, search and rescue, weather forecasting and prevention of marine pollution.

§169.5 How are terms used in this part defined?

(3693) As used in this part–

(3694) *Administration* means the Government of the State whose flag the ship is entitled to fly.

(3695) *Cargo ship* means any ship which is not a passenger ship.

(3696) *Flag Administration* means the Government of a State whose flag the ship is entitled to fly.

(3697) *Gross tonnage* means tonnage as defined under the International Convention on Tonnage Measurement of Ships, 1969 (Incorporated by reference, see §169.15).

(3698) *Gross tons* means vessel tonnage measured in accordance with the method utilized by the flag state administration of that vessel.

(3699) *High speed craft* means a craft that is operable on or above the water and is capable of a maximum speed equal to or exceeding $V=3.7\times displ^{.1667}$, where "V" is the maximum speed and "displ" is the vessel displacement corresponding to the design waterline in cubic meters.

(3700) *High speed passenger craft* means a high speed craft carrying more than 12 passengers.

(3701) *International voyage* means a voyage from a country to which the present International Convention for the Safety of Life at Sea (SOLAS), 1974 applies to a port outside such country, or conversely. For U.S. ships, such voyages will be considered to originate at a port in the United States, regardless of when the voyage actually began. Such voyages for U.S. ships will continue until the ship returns to the United States from its last foreign port.

(3702) *Long range identification and tracking (LRIT) information or position report* means report containing the following information:

(3703) (1) The identity of the ship;

(3704) (2) The position of the ship (latitude and longitude); and

(3705) (3) The date and time of the position provided.

(3706) *LRIT Data Center* means a center established by a SOLAS Contracting Government or a group of Contracting Governments, or in the case of International Data Center, by IMO, to request, receive, process, and archive LRIT information. An LRIT Data Center may be National, Regional, Co-operative or International.

(3707) *Mandatory ship reporting system* means a ship reporting system that requires the participation of specified vessels or classes of vessels, and that is established by a government or governments after adoption of a proposed system by the International Maritime Organization (IMO) as complying with all requirements of regulation V/8-1 of the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS), except paragraph (e) thereof.

(3708) *Mobile offshore drilling unit* means a self-propelled vessel capable of engaging in drilling operations for the exploration or exploitation of subsea resources.

(3709) *Passenger ship* means a ship that carries more than 12 passengers.

(3710) *Self-propelled ships* means ships propelled by mechanical means.

(3711) *Shore-based authority* means the government appointed office or offices that will receive the reports made by ships entering each of the mandatary ship reporting systems. The office or offices will be responsible for the management and coordination of the system, interaction with participating ships, and the safe and effective operation of the system. Such an authority may or may not be an authority in charge of a vessel traffic service.

(3712) *United States* means the States of the United States, the District of Columbia, Guam, Puerto Rico, the Virgin Islands, American Samoa, the Northern Mariana Islands, and any other territory or possession of the United States.

§169.10 What geographic coordinates are used?

(3713) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts where the referenced horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

§169.15 Incorporation by reference: Where can I get a copy of the publications mentioned in this part?

(3714) (a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Coast Guard must publish notice of change in the **Federal Register** and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030 or go to **http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html**. Also, it is available for inspection at the Coast Guard, Office of Navigation Systems (CG-54132), 2100 Second Street, SW., Washington, DC 20593-0001, and is available from the sources indicated in this section.

(3715) (b) *International Electrotechnical Commission (IEC) Bureau Central de la Commission Electrotechnique Internationale*, 3 rue de Varembé, P.O. Box 131, 1211 Geneva 20, Switzerland.

(3716) (1) IEC 60945, Fourth edition 2002-08, Maritime navigation and radiocommunication equipment and systems–General requirements–Methods of testing and required test results, incorporation by reference approved for §169.215.

(3717) (2) [Reserved]

(3718) (c) *International Maritime Organization (IMO)*, 4 Albert Embankment, London SE1 7SR, U.K.

(3719) (1) IMO Resolution MSC.202(81), adopted on May 19, 2006, Adoption of Amendments to the International Convention for the Safety of Life at Sea, 1974, as Amended, incorporation by reference approved for §160.240.

(3720) (2) IMO Resolution MSC. 210(81), adopted on May 19, 2006, Performance Standards and Functional Requirements for the Long-Range Identification and Tracking of Ships, incorporation by reference approved for §§169.215 and 169.240.

(3721) (3) IMO Resolution MSC.254(83), adopted on October 12, 2007, Adoption of Amendments to the Performance Standards and Functional Requirements for the Long-Range Identification and Tracking of Ships, incorporation by reference approved for §§169.215 and 169.240.

(3722) (4) IMO Resolution A.694(17), adopted on November 6, 1991, General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids, incorporation by reference approved for §165.215.

(3723) (5) International Convention on Tonnage Measurement of Ships, 1969, incorporation by reference approved for §169.5.

Subpart C–Transmission of Long Range Identification and Tracking Information

§169.200 What is the purpose of this subpart?

(3724) This subpart implements Regulation 19-1 of SOLAS Chapter V (SOLAS V/19-1) and requires certain ships engaged on an international voyage to transmit vessel identification and position information electronically. This requirement enables the Coast Guard to obtain long range identification and tracking (LRIT) information and thus heightens our overall maritime domain awareness, enhances our search and rescue operations, and increases our ability to detect anomalies and deter transportation security incidents.

§169.205 What types of ships are required to transmit LRIT information (position reports)?

(3725) The following ships, while engaged on an international voyage, are required to transmit position reports:

(3726) (a) A passenger ship, including high speed passenger craft.

(3727) (b) A cargo ship, including high speed craft, of 300 gross tonnage or more.

(3728) (c) A mobile offshore drilling unit while underway and not engaged in drilling operations.

§169.210 Where during its international voyage must a ship transmit position reports?

(3729) The requirements for the transmission of position reports, imposed by the United States, vary depending on the relationship of the United States to a ship identified in §169.205.

(3730) (a) *Flag State relationship*. A U.S. flag ship engaged on an international voyage must transmit position reports wherever they are located.

(3731) (b) *Port State relationship*. A foreign flag ship engaged on an international voyage must transmit position reports after the ship has announced its intention to enter a U.S. port or place under requirements in 33 CFR part 160, subpart C.

(3732) (c) *Coastal State relationship*. A foreign flag ship engaged on an international voyage must transmit position reports when the ship is within 1,000 nautical miles of the baseline of the United States, unless their Flag Administration, under authority of SOLAS V/19-1.9.1, has directed them not to do so.

§169.215 How must a ship transmit position reports?

(3733) A ship must transmit position reports using Long Range Identification and Tracking (LRIT) equipment that has been type-approved by their Administration. To be type-approved by the Coast Guard, LRIT equipment must meet the requirements of IMO Resolutions A.694(17), MSC.210(81), and MSC.254(83), and IEC standard IEC 60945 (Incorporated by reference, see §169.15).

§169.220 When must a ship be fitted with LRIT equipment?

(3734) A ship identified in §169.205 must be equipped with LRIT equipment–

(3735) (a) Before getting underway, if the ship is constructed on or after December 31, 2008.

(3736) (b) By the first survey of the radio installation after December 31, 2008, if the ship is–

(3737) (1) Constructed before December 31, 2008, and

(3738) (2) Operates within–

(3739) (i) One hundred (100) nautical miles of the United States baseline, or

(3740) (ii) Range of an Inmarsat geostationary satellite, or other Application Service Provider recognized by the Administration, with continuous alerting is available.

(3741) (c) By the first survey of the radio installation after July 1, 2009, if the ship is–

(3742) (1) Constructed before December 31, 2008, and

(3743) (2) Operates within the area or range specified in paragraph (b)(2) of this section as well as outside the range of an Inmarsat geostationary satellite with which continuous alerting is available. While operating in the area or range specified in paragraph (b)(2) of this section, however, a ship must install LRIT equipment by the first survey of the radio installation after December 31, 2008.

§169.225 Which Application Service Providers may a ship use?

(3744) A ship may use an application Service Provider (ASP) recognized by its administration. Some Communication Service Providers may also serve as an ASP.

§169.230 How often must a ship transmit position reports?

(3745) A ship's LRIT equipment must transmit position reports at 6-hour intervals unless a more frequent interval is requested remotely by an LRIT Data Center.

§169.235 What exemptions are there from reporting?

(3746) A ship is exempt from this subpart if it is–

(3747) (a) Fitted with an operating automatic identification system (AIS), under 33 CFR 164.46, and operates only within 20 nautical miles of the United States baseline,

(3748) (b) A warship, naval auxiliaries or other ship owned or operated by a SOLAS Contracting Government and used only on Government non-commercial service, or

(3749) (c) A ship solely navigating the Great Lakes of North America and their connecting and tributary waters as far east as the lower exit of the St. Lambert Lock at Montreal in the Province of Quebec, Canada.

§169.240 When may LRIT equipment be switched off?

(3750) A ship engaged on an international voyage may switch off its LRIT equipment only when it is permitted by its Flag Administration, in circumstances detailed in SOLAS V/19-1.7, or in paragraph 4.4.1, of resolution MSC.210(81), as amended by resolution MSC.254(83) (Incorporated by reference, see §169.15).

§169.245 What must a ship master do if LRIT equipment is switched off or fails to operate?

(3751) (a) If a ship's LRIT equipment is switched off or fails to operate, the ship's master must inform his or her Flag Administration without undue delay.

(3752) (b) The master must also make an entry in the ship's logbook that states–

(3753) (1) His or her reason for switching the LRIT equipment off, or an entry that the equipment has failed to operate, and

(3754) (2) The period during which the LRIT equipment was switched off or non-operational.

(3755) Note to §169.245: for U.S. vessels, the U.S. Coast Guard serves as the Flag Administration for purposes of this section. All LRIT notifications for the U.S. Flag administration, in addition to requests or questions about LRIT, should be communicated to the U.S. Coast Guard by e-mail addressed to LRIT@uscg.mil.

Part 207–Navigation Regulations.

§207.680 Willamette River, Oreg.; use, administration, and navigation of canal and locks at Willamette Falls, Oreg.

(3756) (a) *Administration*–(1) *Administrative jurisdiction*. The canal and locks and all appurtenances shall be in charge of the District Engineer, Portland District, Corps of Engineers, Department of the Army, 319 S.W. Pine Street, Portland, Oreg. 97208. The representative of the District Engineer at the locality shall be the lockmaster, who shall receive his orders and instructions from the District Engineer. In case of emergency, however, the lockmaster shall have authority to take such steps as may be immediately necessary without waiting for instruction from the District Engineer.

(3757) (2) *Operational jurisdiction*. The lock master shall be charged with the immediate control and management of the canal and locks and the grounds and public property pertaining thereto. He shall see that all laws, rules and regulations, for the use of the canal and grounds are duly complied with, to which end he is authorized to give all necessary orders and directions in accordance therewith, both to employees of the Government and to any and every person within the limits of the canal and locks or grounds pertaining thereto, whether navigating the canal or not. In case of the absence or disability of the lock master, his duty shall be performed by an assistant or other employee to be designated by the District Engineer.

(3758) (b) *Use and navigation*–(1) *Authority of lock master*. The lock master or his assistants shall direct the movement, operation, and moorage and all vessels, boats, rafts, barges, or other floating things using the locks, while they are in the locks, the canal basin, or in either the upstream or downstream lock approaches. Crews of vessels, boats, rafts, barges, or other floating things seeking lockage shall render such assistance as the lock master or his assistants may require.

(3759) (2) *Signals*. All vessels desiring lockage shall signal the same by one long and one short blast of the whistle, delivered at a distance of approximately 1,000 feet from the locks. Requests for lockage may also be made by contacting the lockmaster on VHF-FM radio on channel 14, at WUJ 363, Willamette Falls Locks or by telephone or otherwise notifying the lockmaster's office. Notice to vessels desiring lockage will be given by red and green traffic lights. Vessels may enter locks on green lights, but must await green signal when lights are red. Permission to leave the lock will be given in the same manner. In the event a failure occurs and the referenced lights cannot be operated, the lockmaster will indicate by voice or by hand or lantern signals when vessels may enter or leave the locks.

(3760) (3) *Controlling dimensions*. For lockage purposes the maximum length of space available is 175 feet and the maximum clear width available is 37 feet. All vessels, boats, rafts, barges, or other floating things of less size than the foregoing dimensions can pass through the locks. The controlling water depth over the intermediate miter sills throughout the locks is 6.5 feet. However, the depth on the sill of the upstream gate at low water is 7.5 feet and over the downstream sill is 8.4 feet. The elevation of the upstream sill is 43.7 feet and of the downstream sill is –6.4 feet, corresponding to the elevations shown on the gages provided at both the downstream and upstream approaches to the locks. All vessels, boats, rafts, barges, and other floating things of which the dimensions or draft are greater than will permit clearing any of the above indicated elevations shall be prohibited from entering the locks. All vessels, boats, rafts, barges or other floating things entering the locks in violation of the above shall be responsible for all resulting damages.

(3761) (4) *Precedence at locks*. Ordinarily the vessel, boat, raft, barge, or other floating thing arriving first at the lock will be locked through first. In the event of a simultaneous approach from opposite directions ascending craft will ordinarily be locked through first. When several boats are to be passed through the locks, the order of precedence shall be as follows:

(3762) (i) To boats owned by the United States or employed upon river and harbor improvement work.

(3763) (ii) To passenger boats.

(3764) (iii) To freight and tow boats.

(3765) (iv) To rafts.

(3766) (v) To small vessels and pleasure craft. The lock master shall have authority to digress from the above precedence in order to eliminate reversing the flow of traffic through the locks when both upbound and downbound lockages are in waiting.

(3767) (5) *Entrance to locks*. The lock master shall decide whether one or more vessels may be locked through at the same time. No one shall attempt to enter the locks with a vessel or attempt to cause a vessel to enter the locks until he is authorized by the lock master to do so. No one shall take a vessel, or cause a vessel to be taken, within the limits of 500 feet above the upper gate and 300 feet below the lower gate, except for the purpose of entering the locks; and not for this purpose until it has been indicated to him by a proper person by signal that the lock is ready to receive the vessel. All vessels within the foregoing limits must be operated under "slow bell" and be kept constantly under control.

(3768) (6) *Lockage of small boats*. Pleasure boats, skiffs, fishing boats, and other small craft may be passed through the locks singularly, in groups, or as part of a lockage of other than pleasure craft. A continual flow of traffic in one direction will not be interrupted or reversed to accommodate these small pleasure boats. However, any such small boat will be accommodated at such time as the lock master upon receipt of a request for lockage deems such action will not interfere with other traffic. The decision of the lock master shall be final as to whether craft requesting lockage is defined as a pleasure boat.

(3769) (7) *Use of canal locks*. No person, unless authorized by the lockmaster or his assistants, shall open or close any bridge, lock gate, wicket gate, or operate any lock machinery, or in any way interfere with any mechanism or appliance connected with the operation of the locks, nor shall anyone interfere with the employees in the discharge of their duties. The lockmaster or his assistants may call for aid from the persons in charge of any craft, vessel, or raft using the lock, should such aid be necessary. Persons rendering such assistance shall be strictly under the orders of the lockmaster. The Government reserves the right to refuse lockage to any vessel, craft or raft when the persons in charge thereof refuse to give such assistance when it is requested. The persons in charge of vessels with tows or rafts, barges and other craft must provide sufficient personnel, lines and towing equipment of sufficient power to insure at all times full control of such tows, rafts, barges and other craft while moving into and through the locks, unless otherwise prearranged with the lockmaster. A copy of these regulations shall be kept on board each vessel regularly engaged in navigating the locks. Copies may be obtained without charge from the lockmaster or from the District Engineer, Corps of Engineers, Department of the Army, 319 S.W. Pine Street, Post Office Box 2946, Portland, Oreg. 97208.

(3770) (8) *Petroleum vessels*. All tankers, barges, and other floating equipment, used for transporting inflammable liquids, either with or without cargo, shall be equipped with fixed timber fenders and, if not so equipped, shall have aboard an adequate number of suitable fenders of timber, rubber, or rope which are to be placed between the vessel and unfendered lock structures. All such barges or other vessels navigating without power within the canal or locks must be assisted by one or more tugs of sufficient power to insure full control at all times whether passing upstream or downstream through the locks with or without cargo.

(3771) (9) *Mooring in locks*. All boats, barges, rafts, and other craft when in the locks shall be moored by head and spring lines and such other lines as may be necessary to the fastenings provided for that purpose; and the line shall not be unloosed until the signal is given for the vessel to leave the lock.

(3772) (10) *Mooring while waiting for lockage*. The mooring of boats, tows or other craft in the approaches to the locks where such mooring will interfere with navigation or other vessels to or from the locks is prohibited.

(3773) (11) *Delays*. Boats, barges, rafts, or other craft must not obstruct navigation by unnecessary delay in entering or leaving the locks. Vessels failing to enter the locks with reasonable promptness, when signaled to do so, and vessels arriving at the locks with their tows in such shape so as to impede lockage shall forfeit their turn.

(3774) (12) *Landing of freight*. No freight or baggage shall be unloaded on or over the walls of the canal or locks. Freight and baggage consigned to the Willamette Falls locks shall be unloaded only at such places as may be provided for this purpose or as directed by the lock master.

(3775) (13) *Refuse in canal or locks*. No refuse or other material shall be thrown or dumped from vessels into the canal and locks, or deposited in the lock area, or placed on the berm of the canal so that it is liable to be thrown or washed into the waterway. Violations of this

Paragraph (b)(13) shall be subject to sections 13 and 16 of the River and Harbor Act of March 3, 1899 (33 U.S.C. 407, 411).

(3776) (14) *Damage to locks or other structures*. The regulations contained in this section shall not affect the liability of the owners and operators of vessels for any damage caused by their operations to the locks or other structures. Persons in charge of vessels and log rafts passing through the locks must use great care to prevent the vessels or log rafts from striking any gate or appurtenance thereto. All boats or barges with metal nosings, or projecting irons, or rough surfaces, and log rafts with dragging cables that may damage any part of the lock structures will not be permitted to enter the locks unless said craft are provided with suitable protective buffers and fenders and log rafts are free of loose, dragging cables.

(3777) (c) (Reserved)

(3778) (d) *Trespass*. No one shall trespass on the grounds or buildings, and everyone shall be deemed guilty of trespass within the meaning of this Paragraph who shall willfully or carelessly damage or disfigure the canal and locks or any part thereof, or any building or appliance on the grounds, or who shall carry on business or trading of any sort, or shall build any fishing stand or lead, or set any fish net within the limits of the reservation, or do any act to or on the grounds or buildings which would be recognized by law as a trespass.

(3779) (e) *Definitions*. Except as otherwise provided in Paragraph (b)(6) of this section, whenever such a word as "vessel", "boat", "barge", "raft", or the like is used in this section, it shall include all types of floating things which may be subject to lockage. Failure to refer specifically to a type of floating thing by its name shall not mean exclusion thereof from applicability of this section.

§207.718 Navigation locks and approach channels, Columbia and Snake Rivers, Oregon and Washington.

(3780) (a) *General*. All locks, approach channels, and all lock appurtenances, shall be under the jurisdiction of the District Engineer, Corps of Engineers, U.S. Army, in charge of the locality. The district engineer may, after issuing a public notice and providing a 30-day opportunity for public comment, set (issue) a schedule for the daily lockage of recreational vessels. Recreational vessels are pleasure boats such a row, sail, or motor boats used for recreational purposes. Commercial vessels include licensed commercial passenger vessels operating on a published schedule or regularly operating in the "for hire" trade. Any recreational schedule shall provide for a minimum of one scheduled recreation lockage upstream and downstream (two lockages) each day. At the discretion of the district engineer, additional lockages may be scheduled. Each schedule and any changes to the schedule will be issued at least 30 days prior to implementation. Prior to issuing any schedule or any change to the schedule, the district engineer will consider all public comments and will evaluate the expected energy situation, water supply, and recreation use of the lock to determine the seasonal need for the schedule or change in schedule. The district engineer's representative at the locks shall be the project engineer, who shall issue orders and instructions to the lockmaster in charge of the lock. Hereinafter, the term "lockmaster" shall be used to designate the person in immediate charge of the lock at any given time. In case of emergency and on all routine work in connection with the operation of the lock, the lockmaster shall have authority to take action without waiting for instructions from the project engineer.

(3781) (b) *Lockage control*. The Lock Master shall be charged with immediate control and management of the lock, and of the area set aside as the lock area, including the lock approach channels. Upstream and downstream approach channels extend to the end of the wing or the guide wall, whichever is longer. At Bonneville lock the upstream approach channel extends to the mooring tie offs at Fort Rains and the downstream approach channel extends to the downstream tip of Robins Island. The Lock Master shall demand compliance with all laws, rules and regulations for the use of the lock and lock area and is authorized to issue necessary orders and directions, both to employees of the Government or to other persons within the limits of the lock or lock area, whether navigating the lock or not. Use of lock facilities is contingent upon compliance with regulations, Lock Master instructions and the safety of people and property.

(3782) (c) *Authority of Lock Master*. No one shall initiate any movement of any vessel in the lock or approaches except by or under the direction of the Lock Master. ("Vessel" as used herein includes all connected units, tugs, barges, tows, boats or other floating objects.)

(3783) (d) *Signals*–(1) *Radio*. All locks are equipped with two-way FM radio operating on channel 14, frequency of 156.700 MHz, for both the calling channel and the working channel. Vessels equipped with two-way radio desiring a lockage shall call WUJ 33 Bonneville, WUJ 34 The Dalles, WUJ 35 John Day, WUJ 41 McNary, WUJ 42 Ice Harbor, WUJ 43 Lower Monumental, WUJ 44 Little Goose, or WUJ 45 Lower Granite, at least one-half hour in advance of arrival since the Lock Master is not in constant attendance of the locks. Channel 14 shall be monitored constantly in the vessel pilot house from the time the vessel enters the approach channel until its completion of exit. Prior to entering the lock chamber,

the commercial freight or log-tow vessel operator shall report the nature of any cargo, the maximum length, width and draft of the vessel and whether the vessel is in any way hazardous because of its condition or the cargo it carries or has carried.

(3784) (2) *Pull-cord signal stations*. Pull-cord signal stations marked by large instructional signs and located near the end of the upstream and downstream lock entrance walls may be used in place of radios to signal the Lock Master for a lockage.

(3785) (3) *Entering and exit signals*. Signal lights are located outside each lock gate. When the green (go) light is on, all vessels will enter in the sequence prescribed by the Lock Master. When the red (stop) light is on, the lock is not ready for entrance and vessels shall stand clear. In addition to the above visual signals, the Lock Master will signal that the lock is ready for entrance by sounding one long blast on the lock air horn. The Lock Master will signal that the lock is ready for exit by lighting the green exit light and sounding one short blast on the air horn.

(3786) (4) *Craft lockage-readiness signal*. Upon query from Lock Master, a vessel operator will signal when he is properly moored and ready for the lockage to begin.

(3787) (e) *Permissible dimensions of vessels*. Nominal overall dimensions of vessels allowed in the lock chamber are 84 feet wide and 650 feet long. Depth of water in the lock depends upon river levels which may vary from day to day. Staff gauges showing the minimum water level depth over gate sills are located inside the lock chamber near each lock gate and outside the lock chamber near the end of both upstream and downstream guide walls, except at Bonneville where the staff gauges show water levels in feet above MSL and are located on the southern guide walls at the upstream and downstream miter gates. Bonneville's upstream sill elevation is 51 feet MSL and the downstream sill elevation is -12 feet MSL. Depth over sill at Bonneville is determined by subtracting the sill elevation from the gauge reading. Vessels shall not enter the navigation lock unless the vessel draft is at least one foot less than the water depth over the sill. Information concerning allowable draft for vessel passage through the locks may be obtained from the Lock Master. Minimum lock chamber water level depth is 15 feet except at Ice Harbor where it is 14 feet and at Bonneville where it is 19 feet. When the river flow at Lower Granite exceeds 330,000 cubic feet per second the normal minimum 15-foot depth may be decreased to as little as eight feet.

(3788) (f) *Precedence at lock*. Subject to the order of precedence, the vessel or tow arriving first; at the lock will be locked through first, however, this precedence may be modified at the discretion of the lockmaster. If immediate passage is required, lockage of vessels owned or operated by the United States shall take precedence. The precedence of all other vessels shall be as follows:

(3789) (1) When a recreational vessel lockage schedule is in effect, at the appointed time for lockage of recreation craft, recreation craft shall take precedence; however, commercial vessels may be locked through with recreation craft if safety and space permit. At other than the appointed time, the lockage of commercial and tow vessels shall take precedence and recreational craft may (only) lock through with commercial vessels only as provided in Paragraph (h) of this sections.

(3790) (2) If a recreational vessel lockage schedule is not in effect, commercial and tow vessels shall take precedence. Recreational craft may be locked through with commercial craft. If no commercial vessels are scheduled to be locked through within a reasonable time, not to exceed one hour after the arrival of the recreational vessels at the lock, the recreational vessel may be locked through separately. If a combined lockage cannot be arranged, the recreational craft shall be locked through after waiting three commercial lockages.

(3791) (g) *Loss of turn*. Vessels that fail to enter the lock with reasonable promptness, after being authorized to do so, shall lose their turn.

(3792) (h) *Lockage*.–(1) *Multiple lockage*. The Lock Master shall decide whether one or more vessels or tows may be locked through at the same time. Vessels with flammable or highly hazardous cargo will be passed separately from all other vessels. Hazardous materials are described in Part 171, Title 49, Code of Federal Regulations. Flammable materials are defined in the National Fire Code of the National Fire Protection Association.

(3793) (2) *Recreational craft*. By mutual agreement of (all parties,) the lockmaster and captains of the vessels involved, recreational vessels may be locked through with commercial vessels. Under the recreational vessel schedule, separate lockage will not be made by recreational vessels except in accordance with the recreational lockage schedule or when circumstances warrant, such as in an emergency. When recreational craft are locked simultaneously with commercial vessels, the recreational vessel will enter the lock chamber after the commercial vessel is secured in the chamber and when practicable will depart while the commercial vessel remains secured.

(3794) (3) *Special schedules*. Recreational boating groups may request special schedules by contacting the district engineer. The schedule for the daily lockage of recreational vessels will indicate the number of boats required for a special schedule and how many days' notice is required in order to arrange a special schedule.

(3795) (i) *Mooring in approaches prohibited*. Mooring or anchoring in the approaches to the lock is prohibited where such mooring will interfere with navigation.

(3796) (j) *Waiting for lockage*. Vessels waiting for lockage shall wait in the clear outside of the lock approach channel, or contingent upon permission by the Lock Master, may at their own risk, lie inside the approach channel at a place specified by the Lock Master. At Bonneville, vessels may at their own risk, lay-to at the downstream moorage facility on the north shore downstream from the north guide wall provided a 100-foot-wide open channel is maintained.

(3797) (k) *Mooring in lock*. All vessels must be moored within the lock chamber so that no portion of any vessel extends beyond the lines painted on the lock walls. Moorage within the lock chamber will be to floating mooring bits only and will be accomplished in a proper no-slip manner. Small vessels will not be locked with a large vessel unless the large vessel is so moored (two mooring bits) that no lateral movement is possible. The vessel operator will constantly monitor the position of his vessel and his mooring bit ties to assure that there is no fore or aft movement of his vessel and lateral movement is minimized. Propulsion by vessels within the lock chamber will not be permitted during closure operation of a lock chamber gate or as otherwise directed by the Lock Master.

(3798) (l) *Crew to move craft*. During the entire lockage, the vessel operator shall constantly attend the wheelhouse, be aware of the vessel's position, and monitor radio channel 14 on frequency 156.700 MHz, or otherwise be constantly able to communicate with the Lock Master. At a minimum, vessels shall be as vigilantly manned as if underway.

(3799) (m) *Speed*. Vessels shall be adequately powered to maintain a safe speed and be under control at all times. Vessels shall not be raced or crowded alongside another in the approach channels. When entering the lock, speed shall be reduced to a minimum consistent with safe navigation. As a general rule, when a number of vessels are entering the lock, the following vessel shall remain at least 200 feet astern of the vessel ahead.

(3800) (n) *Delay in lock*. Vessels shall not unnecessarily delay any operation of the locks.

(3801) (o) *Landing of freight*. No freight, baggage, personnel, or passengers shall be landed on or over the walls of the lock, except by permission and direction of the Lock Master.

(3802) (p) *Damage to lock or other structures*. The regulations in this section shall not relieve owners and/or operators of vessels from liability for any damage to the lock or other structures or for the immediate removal of any obstruction. No vessel in less than stable floating condition or having unusual sinking potential shall enter the locks or its approaches. Vessels must use great care not to strike any part of the lock, any gate or appurtenance thereto, or machinery for operating the gates, or the walls protecting the banks of the approach channels. All vessels with projecting irons, or rough surfaces which may damage the gates or lock walls, shall not enter the lock unless provided with suitable buffers and fenders. Vessels having chains, lines, or drags either hanging over the sides or ends or dragging on the bottom for steering or other purposes will not be permitted to pass.

(3803) (q) *Tows*. Prior to a lockage, the person in charge of a vessel towing a second vessel by lines shall, at a safe distance outside of the incoming approach channel, secure the second vessel to the towing vessel and keep it secured during the entire course of a lockage and until safely clear of the outgoing approach channel.

(3804) (r) *Violation of regulations*. Any violation of these regulations may subject the owner or master of any vessel to any or all of the following: (1) Penalties prescribed by law of the United States Government (33 U.S.C. 1); (2) Report of violation to the titled owner of the vessel; (3) Report of violation to the U.S. Coast Guard; (4) Refusal of lockage at the time of violation.

(3805) (s) *Refuse in locks*. No material of any kind shall be thrown or discharged into the lock, or be deposited in the lock area. Vessels leaking or spilling cargo will be refused lockage and suitable reports will be made to the U.S. Coast Guard. Deck cargo will be so positioned so as not to be subject to falling overboard.

(3806) (t) *Handling valves, gates, bridges, and machinery*. No person, unless authorized by the Lock Master, shall open or close any bridge, gate, valve, or operate any machinery in connection with the lock. However, the Lock Master may call for assistance from the master of any vessel using the lock, should such aid be necessary; and when rendering such assistance, the person so employed shall be directly under the orders of the Lock Master. Masters of vessels refusing to provide such assistance when it is requested of them may be denied the use of the lock by the Lock Master.

(3807) (u) (Reserved)

(3808) (v) (Reserved)

(3809) (w) *Restricted areas*. No vessel shall enter or remain in any restricted area at any time without first obtaining permission from the District Engineer, Corps of Engineers, U.S. Army, or his duly authorized representative.

(3810) (1) *At Bonneville Lock and Dam*. The water restricted to all vessels, except Government vessels, are described as all waters of the Columbia River and Bradford Slough within 1,000 feet above the first powerhouse, spillway, and second powerhouse (excluding the new navigation lock channel) and all waters below the

first powerhouse, spillway, second powerhouse, and old navigation lock. This is bounded by a line commencing from the westernmost tip of Robins Island on the Oregon side of the river and running in a South 65 degrees West direction a distance of approximately 2,100 feet to a point 50 feet upstream of the Hamilton Island Boat Ramp on the Washington shore. Signs designate the restricted areas. The approach channel to the new navigation lock is outside the restricted area.

(3811) (2) *At the Dalles Dam*. The waters restricted to only Government vessels are described as all downstream waters other than those of the navigation lock downstream approach channel which lie between the Wasco County Bridge and the project axis including those waters between the powerhouse and the Oregon shore and all upstream waters other than those of the navigation lock upstream approach channel which lie between the project axis and a line projected from the upstream end of the navigation lock guide wall to the junction of the concrete structure with the earth fill section of the dam near the upstream end of the powerhouse.

(3812) (3) *At the John Day Dam*. The waters restricted to only Government vessels are described as all of the waters within a distance of about 1,000 yards above the dam lying south of the navigation channel leading to the lock and bounded by a line commencing at the upstream end of the guide wall, and running in a direction 54°01'37" true for a distance of 771 yards, thence 144°01'37" true across the river to the south shoreline. The downstream limit is marked by orange and white striped monuments on the north and south shores.

(3813) (4) *At McNary Lock and Dam*. The waters restricted to all vessels, except to Government vessels, are described as all waters commencing at the upstream end of the Oregon fish ladder thence running in the direction of 39°28' true for a distance of 540 yards; thence 7°49' true for a distance of 1,078 yards; thence 227° 10' for a distance of 468 yards to the upstream end of the navigation lock guidewall. The downstream limits commence at the downstream end of the navigation lock guidewall thence to the south (Oregon) shore at right angles and parallel to the axis of the dam. Signs designate the restricted areas.

(3814) (5) *At Ice Harbor Lock and Dam*. The waters restricted to all vessels, except Government vessels, are described as all waters within a distance of about 800 yards upstream of the dam lying south of the navigation lock and bound by the line commencing at the upstream end of the guidewall, and running a direction of 91°10' true for a distance of 575 yards; thence 162° 45' to the south shore, a distance of about 385 yards. The downstream limits commencing at the downstream end of the guidewall; thence to the south shore, at right angles and parallel to the axis of the dam. Signs designate the restricted areas.

(3815) (6) *At Lower Monumental Lock and Dam*. The waters restricted to all vessels, except Government vessels, are described as all waters commencing at the upstream of the navigation lock guidewall and running in a direction of 46°25' true for a distance of 344 yards; thence 326°19' true for a distance of 362 yards; thence 243°19' true for a distance of 218 yards; thence 275°59' true to the north shore a distance of about 290 yards. The downstream limits commence at the downstream end of the navigation lock guidewall; thence to the north shore, at right angles and parallel to the axis of the dam. Signs designate the restricted areas.

(3816) (7) *At Little Goose Lock and Dam*. The waters restricted to all vessels, except Government vessels, are described as all waters commencing at the upstream of the navigation lock guidewall and running in a direction of 60°37' true for a distance of 676 yards; thence 345°26' true for a distance of 494 yards; thence 262°37'47" true to the dam embankment shoreline. The downstream limits commence 512 yards downstream and at right angles to the axis of the dam of the south shore; thence parallel to the axis of the dam to the north shore. Signs designate the restricted areas.

(3817) (8) *At Lower Granite Lock and Dam*. The waters restricted to all vessels, except Government vessels, are described as all waters commencing at the upstream of the navigation lock guidewall thence running in the direction of 131°31' true for a distance of 608 yards; thence 210° 46' true to the south shore, a distance of about 259 yards. The downstream limits commence at the downstream end of navigation lock guidewall; thence to the south shore, at right angles and parallel to the axis of the dam. Signs designate the restricted areas.

(3818) Drawings which depict the hazardous and restricted areas in paragraphs (v) and (w) of this section are available from the District Engineers for areas within their respective jurisdictions.

§207.750 Puget Sound Area, WA.

(3819) (a) *Waterway connecting Port Townsend and Oak Bay; use, administration and navigation–*

(3820) (1) *Works to which the regulations apply*. The "canal grounds" when used in this Paragraph shall mean that area between the south end of the jetties in Oak Bay and the northern end of the dredge channel approximately 400 yards northwest of Port Townsend Canal Light. The "canal" is the water lying between these limits and the banks containing the same.

(3821) (2) (Reserved)

(3822) (3) *Trading, landing, etc*. No business, loading, or landing of freight or baggage will be allowed on or over the canal piers or bulkheads.

(3823) (4) *Refuse*. No person shall throw material of any kind into the canal.

(3824) (5) (Reserved)

(3825) (6) *Obstructions*. On the canal's being obstructed by a vessel, raft, or other craft, by sinking, grounding or otherwise, the District Engineer, Seattle, shall be notified by telephone or telegraph as soon as possible by the person in charge of the obstructing vessel, raft, or craft.

(3826) (b) *Lake Washington Ship Canal; use, administration and navigation*–

(3827) (1) *Definitions*. The term "canal" as used in the regulations in this Paragraph shall include the water area in the locks and the channel and adjacent waters from a point 5,500 feet northwest of the Burlington Northern, Inc. railway bridge to the east end of the channel opposite Webster Point, Lake Washington. The term "canal grounds" shall include all grounds set aside for the use of the canal or occupied in its construction.

(3828) (2) *Supervision*. The canal and all its appurtenances shall be under the supervision of the District Engineer, Corps of Engineers, Seattle. The District Engineer will detail as many assistants as may be necessary for the efficient operation of the canal and the enforcement of the regulations in this Paragraph. The movement of all vessels and other floating things in the canal and approaches thereto shall be under the direction of the District Engineer and his authorized assistants. All orders given under the regulations to any master or person in charge of any vessel, raft, or other watercraft by the District Engineer or his authorized assistants, either in person or through any canal operative, shall be acknowledged and obeyed. Failure to see, understand, or comply with signals or instructions shall constitute a violation of the regulations. Any person refusing to comply with the regulations or any orders given in pursuance thereof may be denied the privileges of the canal or canal grounds.

(3829) (3) *Speed*. To avoid damage to other vessels and to property along the shores, all vessels shall proceed at reduced speed in the canal as follows:

(3830) (i) From the west entrance of the Lake Washington Ship Canal to the western end of the west guide pier of the Hiram M. Chittenden Locks, and from the east end of the easternmost guide pier of said Locks to the white flashing dolphin located south of Webster Point on Lake Washington, including all of Salmon Bay, Lake Union, Portage Bay, and Union Bay, it shall be unlawful for any person to operate any watercraft or vessel at a speed in excess of 7 nautical miles per hour within 200 feet of any shoreline, pier, restricted area or shore installation.

(3831) (ii) From the western end of the aforesaid west guide pier to the eastern end of the aforesaid east guide pier at said Locks, it shall be unlawful for any person to operate any watercraft or vessel at a speed in excess of 4 nautical miles per hour.

(3832) **NOTE**. Signs are located along the canal to indicate permissible speeds.

(3833) (4) *Traffic signal lights*. In addition to the lock signal lights described in Paragraph (g)(5)(ii) of this section, a red light, and a green light are installed on the west side of the Ballard Bridge, on the east side of the Fremont Bridge, 1,000 feet west of the Montlake Bridge, and 1,000 feet east of the Montlake Bridge, for the guidance of vessels approaching the sections of the canal between Salmon Bay and Lake Union and between Lake Union and Lake Washington, respectively. Vessels of 300 gross tons and over and all vessels with tows, except as hereinafter provided, shall not pass the red lights. The green lights will indicate that vessels may proceed. Vessels of less than 300 gross tons without tows may disregard these signals, but they shall travel at very slow speed when passing other vessels. Vessels of 300 gross tons and over and vessels with tows, except logs, whose destination is easterly between the Ballard Bridge and a point 2,500 feet east of the Ballard Bridge, may pass the red signals on the Ballard Bridge, provided, such passage will not interfere with approaching traffic.

(3834) (5) *Approaching and passing through locks*–

(3835) (i) *Signals for locks*. Vessels with tows desiring to use the locks shall so indicate by two long and three short blasts of a whistle, horn or megaphone. All other vessels desiring to use the locks shall so indicate by two long and two short blasts. NOTE: The term "long blasts" means blasts of four seconds duration, and the term "short blasts" means blasts of one second duration.

(3836) (ii) *Lock signal lights*. Red and green signal lights are installed on the guide pier west of the Burlington Northern, Inc. railway bridge below the locks. The green light will indicate to vessels bound for the large lock that the lock has been made ready. If the red light is burning, vessels bound for the large lock shall moor at the pier. Vessels bound for the small lock shall be guided into the small lock by traffic signals thereon. The masters of all vessels approaching the locks from Puget Sound shall be alert to receive and shall immediately comply with instructions by voice or signal from the employee on the west pier.

(3837) (iii) *Precedence at locks*. All vessels approaching the locks shall stop at the points indicated by signs placed on the canal piers or as directed by a lockman until ordered to proceed into the lock. Unless otherwise directed by the District Engineer or his authorized

assistants, vessels owned or operated by the United States or the City of Seattle and passenger vessels operating on a regular schedule shall have precedence over all others in passing through the locks. Registered merchant vessels shall have precedence over pleasure craft, which shall pass through in the order of their arrival at the locks, and both shall have precedence over vessels towing floated timber or logs. Tows of floated timber and logs may be denied the use of the locks during certain hours when both locks are busy passing other traffic. However, advance notice will be given towboat companies as to the periods when log tows will be denied lockage.

(3838) (iv) *Entering locks*. Masters of vessels shall exercise the greatest care when entering either lock. The forward movement of vessels while taking position in the locks shall be very slow, and boats entering the small lock shall reduce their speed to not more than two and one-half miles per hour when within 200 feet of the outer gate and come to practically a full stop before entering the lock so that in case the engine mechanism fails to operate properly the momentum of the boat may be stopped easily by its lines. The masters of vessels entering either lock from either direction shall be alert to receive and shall immediately comply with instructions by voice or signal from the lock attendants.

(3839) (v) *Mooring in locks*. Vessels entering the locks shall be equipped with adequate lines, at least 50 feet in length being required fore and aft. While in the large lock vessels and rafts will be moored at the top of the lock wall. While in the small lock vessels shall be moored to the floating mooring wall. Lines shall not be released until the signal has been given by the lock force to leave the lock, after which there shall be no delay in leaving. All vessels not equipped to handle tie-up lines with power winches shall be equipped with suitable mooring lines of manila, or other suitable fiber, of sufficient size and strength to hold the vessel against the currents to be met within the lock chamber. The use of wire rope for tie-up by vessels not equipped to handle such lines with power winches is prohibited. Vessels may be denied the use of the locks if their lines are not in good condition, or if the mooring bits on barges are not accessible or are not equipped to prevent lines from slipping off when the water is lowered in the lock. All vessels entering the locks should have, in addition to the master, at least one person on deck to handle lines. Mates and deckhands, when preparing to moor within the lock chambers, should not throw heavy mooring lines at the lockmen on the walls, but should wait for a heaving line to be passed to them unless otherwise directed. All towboat crews, while locking or moving a tow out of the lock chamber, should station themselves so as to preclude the possibility of being injured by the parting of cable or lines under strain. Persons attempting to take vessels through the locks without assistance on deck may be required to wait until the lock is clear of other traffic before passing through. All operators of vessels are especially cautioned to use extreme care while crowded in the locks to avoid accident or fire on their boats. Under no circumstances will small craft, such as rowboats, launches and houseboats, or any other type of pleasure boats, be locked through with barges used for carrying any type of petroleum product or other hazardous material. At the discretion of the lockmaster, small craft as described above may be locked through with barge tows containing other than dangerous material. Operators of small vessels and larger vessels operating in the proximity of each other shall be alert to the danger arising from the limited maneuverability of the larger vessels, and shall exercise all precautions to prevent accident.

(3840) (6) *Damage to locks or other structures*.

(3841) (i) The regulations in this Paragraph shall not affect the liability of the owners and operators of vessels for any damage caused by their operations to the locks or other structures. The sides and corners of all vessels and rafts passing through the locks should be free from spikes or projections of any kind which might damage the locks or other structures. Vessels with appurtenances or projections which might damage the locks or other structures shall be fitted with adequate fenders. Lockage of leaking vessels or vessels with overhanging loads may be refused. Such barge or craft shall be moored in a location outside of the channel approach to the lock so as to not interfere with passing navigation. Vessels of unusual dimensions, or other characteristics which, in the opinion of the lockmaster, pose a threat to the integrity or safety of the locks or canal will be refused passage until written permission to pass is provided by the District Engineer. Sufficient written data and drawings shall be provided the District Engineer that an engineering determination can be made as to the safety of the vessel. The District Engineer shall have the right to inspect any such vessels prior to passage. The operators of all vessels shall use care to avoid striking the guide walls or other structures pertaining to the canal.

(3842) (ii) In the interest of safety and fire prevention, all woven rope fenders used with barges carrying flammable cargo should be water-soaked or otherwise fireproofed prior to entering the lock approaches.

(3843) (iii) Burning fenders should be dropped overboard immediately rather than being placed on the deck of a barge or towboat.

(3844) (iv) A minimum of one man with a portable fender shall be stationed at the head end of every tow of

hazardous cargo and at the aft end if the lockmaster so directs so as to protect the lock and guide walls from damage while entering or departing the lock structures.

(3845) (v) All cylinders or containers holding gases under pressure, or any other chemical or substance, shall be securely fastened to the hull of the vessel to prevent their rolling overboard into the lock chamber and becoming a hazard.

(3846) (vi) All containers holding paint, gasoline or other volatile materials shall be securely fastened with tight-fitting covers. To preclude a concentration of potentially explosive vapors, no paint will be allowed to be applied to the exterior of vessel hulls, houses, machinery or other equipment while the vessels are in the lock chamber.

(3847) (vii) All hatches of tank barges must be closed prior to entering lock. Tank barges with open hatch or hatches will be denied lockage.

(3848) (viii) No smoking will be permitted aboard vessels with cargoes of fuel or explosives.

(3849) (ix) All vessels carrying hazardous cargoes shall so be identified with the lockmaster. They shall be in compliance with Department of Transportation (U.S. Coast Guard) regulations (46 CFR 30-40, 146-154 and 49 CFR 171-179) and shall accordingly carry required markings. All DOT safety regulations for transit of hazardous cargoes shall be adhered to, whether or not specifically cited or duplicated herein.

(3850) (7) (Reserved)

(3851) (8) *Rafts*. (i) No log raft exceeding 700 feet in length or 76 feet in width shall pass through the canal. Boom sticks shall be smooth, with rounded ends, and securely tied together with cables, chains, or log swifters to prevent the raft from spreading while in the lock. Rafts containing logs that do not float above water for their entire length, or are in danger of being submerged when they enter fresh water, shall not be towed in the canal until such logs are securely fastened so as to prevent their escape from the raft.

(3852) (ii) Whenever required, log rafts passing in through the lock will be given a number that shall be fastened on one of the logs in the raft. This number will identify the raft and shall not be removed until the logs are used.

(3853) (iii) Two floats are maintained in Shilshole Bay near the entrance of the canal channel to facilitate the handling of logs in the canal. Rafts bound for the canal may be moored at one of these floats, only the portion of the raft that is to be taken through at a single lockage being brought into the canal. The remainder of the raft may be left at the float until the first portion has been towed to its destination above the lock.

(3854) (9) *Tows*. All vessels engaged in towing shall use tow lines of the least practicable length and shall have full control of their tows at all times. Towing more than one craft abreast is forbidden if the total width of the tow, including the towboat, exceeds 70 feet.

(3855) (10) *Obstructing navigation*. (i) All vessels and tows passing through the canal shall be kept as close as practicable to the center or, when safer, to the right side of the waterway, except when passing other craft or preparing to moor at a pier or wharf. Slowly moving log rafts, tows, or vessels shall, whenever practicable, pull out of the way when meeting other vessels or when other traffic proceeding in the same direction desires to pass. Vessels are forbidden to obstruct the canal in any way or to delay by slow passage through the canal the progress of other vessels. Small and readily maneuverable vessels operating in the vicinity of larger, less maneuverable vessels shall, in all cases, keep clear and operate with caution in order that the large vessels may maintain safe steerage way and that hazards to all vessels may be reduced. All vessels shall operate with extreme caution and movements shall be made only when adequate precautions for the safety of other vessels and property are being effectively employed.

(3856) (ii) The placing of logs, vessels, or other floating objects within the limits of the dredged channels or anywhere in the canal where they may interfere with navigation to or from piers or industrial plants is prohibited.

(3857) (11) *Turning*. Vessels exceeding 100 feet in length shall not turn around, or attempt to turn around, in the concrete revetted portions of the canal at the Fremont Cut or Portage Cut sections of the canal.

(3858) (12) *Excessive working of propellers or engines*. Excessive working of the propellers of a vessel for purposes of testing or for other purposes when this creates objectionable or dangerous currents in the canal is forbidden. In case of grounding, the rapid or strong working of the vessel's engines is forbidden.

(3859) (13) *Landing or mooring*. No business, trading, or landing of passengers, freight, or baggage will be allowed on or over the canal piers or lock walls, or over the piers or grounds forming a part of the canal or its appurtenances. All persons in charge of or employed on any boat are prohibited from landing or mooring such boat at any of the canal piers, unless in transit through the canal or specially permitted to do so by the District Engineer or his authorized assistants.

(3860) (14) *Deposit of refuse*. The deposit, either from watercraft or from the shore, of any oil or refuse matter in the canal or upon the canal grounds is prohibited, nor shall water discharged from the side of a vessel be allowed to spill on the lock wall.

(3861) (15) *Aids to navigation*. Persons in charge of log rafts or other tows, and the masters of vessels and boats using the canal, shall keep a careful watch when passing buoys or other aids to navigation and promptly report to the District Engineer or his authorized assistants any displacement or damage to such aids.

(3862) **Note:** Aids to navigation and other related data are shown on Nautical Chart No. 18447 published by the National Ocean Service.

(3863) (16) *Operation of salt water barrier in the large lock of the Hiram M. Chittenden Locks*.

(3864) (i) A salt water barrier is installed across the east end of the large lock. This barrier, while in the depressed position, reduces the depth of the water available at the east end of this chamber from 36 feet to 33.75 feet at low lake elevation (20 feet above MLLW). In the raised position, the depth of water will be reduced to 16 feet. In comparison, the depth of water available for navigation at the west end of the large lock chamber is 29 feet at mean lower low water. The purpose of this barrier is to reduce salt water intrusion into Lake Washington through normal operations of the locks.

(3865) (ii) The least depth of water available over the barrier when raised will be shown on signs placed near the ends of the guide piers to the large lock. A yellow light mounted on these signs will be lighted only while the barrier is in a raised position.

(3866) (iii) Vessels transiting the lock from east to west having draft requirements that exceed the water depth available over the barrier will advise the lockmaster by sounding one long and two short blasts of a horn or whistle. When the yellow light is extinguished on the signboard, the operator of the vessel may assume the barrier has been lowered.

(3867) (iv) Vessels transiting the lock from west to east having draft requirements that exceed the depth available over the intrusion barrier will advise the lockmaster by sounding one long and two short blasts of a horn or whistle. A yellow light mounted on a standard on the south lock wall and opposite the intrusion barrier will be lighted only when the barrier is in the raised position.

(3868) (v) It shall be the responsibility of the vessel operator to satisfy himself of the position of this barrier prior to passing over it.

(3869) (c) *West Waterway, Seattle Harbor; navigation*.

(3870) (1) The movement of vessels of 250 gross tons or over and all vessels with tows of any kind through the narrow section of West Waterway between the bend at Fisher's Flour Mill dock and the bend at the junction of East Waterway with Duwamish Waterway, and through the draws of the City of Seattle and Northern Pacific Railway Company bridges crossing this narrow section, shall be governed by red and green traffic signal lights mounted on the north and south sides of the west tower of the City Light power crossing at West Spokane Street.

(3871) (2) Two green lights, one vertically above the other, displayed ahead of a vessel, shall indicate that the waterway is clear. Two red lights, one vertically above the other, displayed ahead of a vessel, shall indicate that the waterway is not clear.

(3872) (3) A vessel approaching the narrow section and drawbridges from either end of the waterway shall give one long blast of a whistle and shall not enter the narrow section until green lights are displayed.

(3873) (4) One vessel may follow another vessel in either direction, but the channel shall not be kept open in the same direction for an unreasonable time if a vessel is waiting at the other end.

(3874) (5) Tugs, launches, and small craft shall keep close to one side of the channel when vessels or boats with tows are passing.

(3875) (6) All craft shall proceed with caution. The display of a green light is not a guarantee that the channel is clear of traffic, and neither the United States nor the City of Seattle will be responsible for any damage to vessels or other property which may be chargeable to mistakes in the operation of the signal lights or to their failure to operate.

§207.800 Collection of navigation statistics.

(3876) (a) *Definitions*. For the purpose of this regulation the following terms are defined:

(3877) (1) *Navigable waters of the United States* means those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce. (See 33 CFR part 329 for a more complete definition of this term.)

(3878) (2) *Offenses and Violations* mean:

(3879) (i) Failure to submit a required report.

(3880) (ii) Failure to provide a timely, accurate, and complete report.

(3881) (iii) Failure to submit monthly listings of idle vessels or vessels in transit.

(3882) (iv) Failure to submit a report required by the lockmaster or canal operator.

(3883) (3) *Leased or chartered vessel* means a vessel that is leased or chartered when the owner relinquishes control of the vessel through a contractual agreement with a second party for a specified period of time and/or for a specified remuneration from the lessee. Commercial movements on an affreightment basis are not considered a lease or charter of a particular vessel.

(3884) (4) *Person or entity* means an individual, corporation, partnership, or company.

(3885) (5) *Timely* means vessel and commodity movement data must be received by the Waterborne Commerce Statistics Center within 30 days after the close of the month in which the vessel movement or nonmovement takes place.

(3886) (6) *Commercial vessel* means a vessel used in transporting by water, either merchandise or passengers for compensation or hire, or in the course of business of the owner, lessee, or operator of the vessel.

(3887) (7) *Reporting situation* means a vessel movement by an operator that is required to be reported. Typical examples are listed in the instructions on the various ENG Forms. Five typical movements that are required to be reported by vessel operating companies included the following examples: Company A is the barge owner, and the barge transports corn from Minneapolis, MN to New Orleans, LA, with fleeting at Cairo, IL.

(3888) (i) *Lease/Charter*: If Company A leases or charters the barge to Company B, then Company B is responsible for reporting the movements of the barge until the lease/charter expires.

(3889) (ii) *Interline Movement*: A barge is towed from Minneapolis to Cairo by Company A, and from Cairo to New Orleans by Company B. Since Company A is the barge owner, and the barge is not leased. Company A reports the entire movement of the barge with an origin of Minneapolis and a destination of New Orleans.

(3890) (iii) *Vessel Swap/Trade*: Company A swaps barge with Company B to allow Company B to meet a delivery commitment to New Orleans. Since Company A has not leased/chartered the barge, Company A is responsible for filing the report. Company B is responsible for filing the report on the barge which is traded to Company A. The swap or trade will not affect the primary responsibility for reporting the individual vessel movements.

(3891) (iv) *Re-Consignment*: Barge is reconsigned to Mobile, AL. Company A reports the movements as originating in Minneapolis and terminating in Mobile. The point from which barge is reconsigned is not reported, only points of loading and unloading.

(3892) (v) *Fleeting*: Barge is deposited at a New Orleans fleeting area by Company A and towed by Company B from fleeting area to New Orleans area dock for unloading. Company A, as barge owner, reports entire movements from Minneapolis to the unloading dock in New Orleans. Company B does not report any barge movement.

(3893) (b) Implementation of the waterborne commerce statistics provisions of the River and Harbor Act of 1922, as amended by the Water Resources Development Act of 1986 (Pub. L. 99-662), mandates the following.

(3894) (1) *Filing Requirements*. Except as provided in Paragraph (b)(2) of this section, the person or entity receiving remuneration for the movement of vessels or for the transportation of goods or passengers on the navigable waters is responsible for assuring that the activity report of commercial vessels is timely filed.

(3895) (i) For vessels under lease/charter agreements, the lessee or chartered of any commercial vessel engaged in commercial transportation will be responsible for the filing of said reports until the lease/charter expires.

(3896) (ii) The vessel owner, or his designated agent, is always the responsible party for ensuring that all commercial activity of the vessel is timely reported.

(3897) (2) The following Vessel Information Reports are to be filed with the Army Corps of Engineers, at the address specified on the ENG Form, and are to include:

(3898) (i) *Monthly Reports*. These reports shall be made on ENG Forms furnished upon written request of the vessel operating companies to the Army Corps of Engineers. The forms are available at the following address: U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, P.O. Box 61280, New Orleans, LA 70161-1280.

(3899) (A) All movements of domestic waterborne commercial vessels shall be reported, including but not limited to: Dry cargo ship and tanker moves, loaded and empty barge moves, towboat moves, with or without barges in tow, fishing vessels, movements of crew boats and supply boats to offshore locations, tugboat moves and movements of newly constructed vessels from the shipyard to the point of delivery.

(3900) (B) Vessels idle during the month must also be reported.

(3901) (C) Notwithstanding the above requirements, the following waterborne vessel movements need not be reported:

(3902) (1) Movements of recreational vessels.

(3903) (2) Movements of fire, police, and patrol vessels.

(3904) (3) Movements of vessels exclusively engaged in construction (e.g., piledrivers and crane barges). **Note:** however, that movements of supplies, materials, and crews to or from the construction site must be timely reported.

(3905) (4) Movements of dredges to or from the dredging site. However, vessel movements of dredge material from the dredging site to the disposal site must be reported.

(3906) (5) Specific movements granted exemption in writing by the Waterborne Commerce Statistics Center.

(3907) (D) ENG Forms 3925 and 3925b shall be completed and filed by vessel operating companies each month for all voyages or vessel movements completed during the month. Vessels that did not complete a move during the month shall be reported as idle or in transit.

(3908) (E) The vessel operating company may request a waiver from the Army Corp of Engineers, and upon written approval by the Waterborne Commerce Center, the company may be allowed to provide the requisite information of the above Paragraph (D), on computer printouts, magnetic tape, diskettes, or alternate medium approved by the Center.

(3909) (F) Harbor Maintenance Tax information is required on ENG Form 3925 for cargo movements into or out of ports that are subject to the provisions of section 1402 of the Water Resources Development Act of 1986 (Pub. L. 99-662).

(3910) (1) The name of the shipper of the commodity, and the shipper's Internal Revenue Service number or Social Security number, must be reported on the form.

(3911) (2) If a specific exemption applies to the shipper, the shipper should list the appropriate exemption code. The specific exemption codes are listed in the directions for ENG Form 3925.

(3912) (3) Refer to 19 CFR part 24 for detailed information on exemptions and ports subject to the Harbor Maintenance Tax.

(3913) (ii) *Annual Reports*. Annually an inventory of vessels available for commercial carriage of domestic commerce and vessel characteristics must be filed on ENG Forms 3931 and 3932.

(3914) (iii) *Transaction Reports*. The sale, charter, or lease of vessels to other companies must also be reported to assure that proper decisions are made regarding each company's duty for reporting vessel movements during the year. In the absence of notification of the transaction, the former company of record remains responsible until proper notice is received by the Corps.

(3915) (iv) *Reports to Lockmasters and Canal Operators*. Masters of self-propelled non-recreational vessels which pass through locks and canals operated by the Army Corps of Engineers will provide the data specified on ENG Forms 3102b, 3102c, and/or 3102d to the lockmaster, canal operator, or his designated representative in the manner and detail dictated.

(3916) (c) *Penalties for Noncompliance*. The following penalties for noncompliance can be assessed for offenses and violations.

(3917) (1) *Criminal Penalties*. Every person or persons violating the provisions of this regulation shall, for each and very offenses, be liable to a fine of not more than $5,000, or imprisonment not exceeding two months, to be enforced in any district court in the United States within whose territorial jurisdiction such offense may have been committed.

(3918) (2) *Civil Penalties*. In addition, any person or entity that fails to provide timely, accurate, and complete statements or reports required to be submitted by this regulation may also be assessed a civil penalty of up to $2,500 per violation under 33 U.S.C. 555, as amended.

(3919) (3) *Denial of Passage*. In addition to these fines, penalties, and imprisonments, the lockmaster or canal operator can refuse to allow vessel passage.

(3920) (d) *Enforcement Policy*. Every means at the disposal of the Army Corps of Engineers will be utilized to monitor and enforce these regulations.

(3921) (1) To identify vessel operating companies that should be reporting waterborne commerce data, the Corps will make use of, but is not limited to, the following sources.

(3922) (i) Data on purchase and sale of vessels.

(3923) (ii) U.S. Coast Guard vessel documentation and reports.

(3924) (iii) Data collected at Locks, Canals, and other facilities operated by the Corps.

(3925) (iv) Data provided by terminals on ENG Form 3926.

(3926) (v) Data provided by the other Federal agencies including the Internal Revenue Service, Customs Service, Maritime Administration, Department of Transportation, and Department of Commerce.

(3927) (vi) Data provided by ports, local facilities, and State or local governments.

(3928) (vii) Data from trade journals and publications.

(3929) (viii) Site visits and inspections.

(3930) (2) *Notice of Violation*. Once a reporting violation is determined to have occurred, the Chief of the Waterborne Commerce Statistics Center will notify the responsibility party and allow 30 days for the reports to be filed after the fact. If the reports are not filed within this 30-day notice period, then appropriate civil or criminal actions will be undertaken by the Army Corps of Engineers, including the proposal of civil or criminal penalties for noncompliance. Typical cases for criminal or civil action include, but not limited to, those violations which are willful, repeated, or have a substantial impact in the opinion of the Chief of the Waterborne Commerce Statistics Center.

(3931) (3) *Administrative Assessment of Civil Penalties*. Civil penalties may be assessed in the following manner.

(3932) (i) *Authorization*. If the Chief of the Waterborne Commerce Statistics Center finds that a person or entity has failed to comply with any of the provisions specified herein, he is authorized to assess a civil penalty in accordance with the Class I penalty provisions of 33 CFR part 326. Provided, however, that the procedures in 33 CFR part 326 specifically implementing the Clean Water Act (33 U.S.C. 1319(g)(4)), public notice, comment period, and state coordination, shall not apply.

(3933) (ii) *Initiation*. The Chief of the Waterborne Commerce Statistics Center will prepare and process a

proposed civil penalty order which shall state the amount of the penalty to be assessed, describe by reasonable specificity the nature of the violation and indicate the applicable provisions of 33 CFR part 326.

(3934) (iii) *Hearing Requests*. Recipients of a proposed civil penalty order may file a written request for a hearing or other proceeding. This request shall be as specified in 33 CFR part 326 and shall be addressed to the Director of the Water Resources Support Center, Casey Building, Fort Belvoir, Virginia 22060-5586, who will provide the requesting person or entity with a reasonable opportunity to present evidence regarding the issuance modification, or revocation of the proposed order. Thereafter, the Director of the Water Resources Center shall issue a final order.

(3935) (4) *Additional Remedies*. Appropriate cases may also be referred to the local U.S. Attorney for prosecution, penalty collection, injunctive, and other relief by the Chief of the Waterborne Commerce Statistics Center.

Part 334–Danger Zones and Restricted Area Regulations

§334.1 Purpose.

(3936) The purpose of this part is to:

(3937) (a) Prescribe procedures for establishing, amending and disestablishing danger zones and restricted areas;

(3938) (b) List the specific danger zones and restricted areas and their boundaries; and

(3939) (c) Prescribe specific requirements, access limitations and controlled activities within the danger zones and restricted areas.

§334.2 Definitions.

(3940) (a) *Danger zone*. A defined water area (or areas) used for target practice, bombing, rocket firing or other especially hazardous operations, normally for the armed forces. The danger zones may be closed to the public on a full-time or intermittent basis, as stated in the regulations.

(3941) (b) *Restricted area*. A defined water area for the purpose of prohibiting or limiting public access to the area. Restricted areas generally provide security for Government property and/or protection to the public from the risks of damage or injury arising from the Government's use of that area.

§334.3 Special policies.

(3942) (a) *General*. The general regulatory policies stated in 33 CFR part 320 will be followed as appropriate. In addition, danger zone and restricted area regulations shall provide for public access to the area to the maximum extent practicable.

(3943) (b) *Food fishing industry*. The authority to prescribe danger zone and restricted area regulations must be exercised so as not to unreasonably interfere with or restrict the food fishing industry. Whenever the proposed establishment of a danger zone or restricted area may affect fishing operations, the District Engineer will consult with the Regional Director, U.S. Fish and Wildlife Service, Department of the Interior and the Regional Director, National Marine Fisheries Service, National Oceanic & Atmospheric Administration (NOAA),

(3944) (c) *Temporary, occasional or intermittent use*. If the use of the water area is desired for a short period of time, not to exceed thirty days in duration, and that planned operations can be conducted safely without imposing unreasonable restrictions on navigation, and without promulgating restricted area regulations in accordance with the regulations in this section, applicants may be informed that formal regulations are not required. Activities of this type shall not reoccur more often than biennially (every other year), unless danger zone/restricted area rules are promulgated under this Part. Proper notices for mariners requesting that vessels avoid the area will be issued by the Agency requesting such use of the water area, or if appropriate, by the District Engineer, to all known interested persons. Copies will also be sent to appropriate State agencies, the Commandant, U.S. Coast Guard, Washington, DC 20590, and Director, National Geospatial-Intelligence Agency, Hydrographic Center, Washington, DC 20390, ATTN: Code NS 12. Notification to all parties and Agencies shall be made at least two weeks prior to the planned event, or earlier, if required for distribution of Local Notice to Mariners by the Coast Guard.

§334.4 Establishment and amendment procedures.

(3945) (a) *Application*. Any request for the establishment, amendment or revocation of a danger zone or restricted area must contain sufficient information for the District Engineer to issue a public notice, and as a minimum must contain the following:

(3946) (1) Name, address and telephone number of requestor including the identity of the command and DoD facility and the identity of a point of contact with phone number.

(3947) (2) Name of waterway and if a small tributary, the name of a larger connecting waterbody.

(3948) (3) Name of closest city or town, county/parish and state.

(3949) (4) Location of proposed or existing danger zone or restricted area with a map showing the location, if possible.

(3950) (5) A brief statement of the need for the area, its intended use and detailed description of the times, dates and extent of restriction.

(3951) (b) *Public notice*. (1) The Corps will normally publish public notices and **Federal Register** documents concurrently. Upon receipt of a request for the establishment, amendment or revocation of a danger zone or restricted area, the District Engineer should forward a copy of the request with his/her recommendation, a copy of the draft public notice and a draft **Federal Register** document to the Office of the Chief of Engineers, ATTN: CECW-OR. The Chief of Engineers will publish the proposal in the **Federal Register** concurrent with the public notice issued by the District Engineer.

(3952) (2) *Content*. The public notice and **Federal Register** documents must include sufficient information to give a clear understanding of the proposed action and should include the following items of information:

(3953) (i) Applicable statutory authority or authorities; (40 Stat. 266; 33 U.S.C. 1) and (40 Stat. 892; 33 U.S.C. 3).

(3954) (ii) A reasonable comment period. The public notice should fix a limiting date within which comments will be received, normally a period not less than 30 days after publication of the notice.

(3955) (iii) The address of the District Engineer as the recipient of any comments received.

(3956) (iv) The identity of the applicant/proponent;

(3957) (v) The name or title, address and telephone number of the Corps employee from whom additional information concerning the proposal may be obtained;

(3958) (vi) The location of the proposed activity accompanied by a map of sufficient detail to show the boundaries of the area(s) and its relationship to the surrounding area.

(3959) (3) *Distribution*. Public notice will be distributed in accordance with 33 CFR 325.3(d)(1). In addition to this general distribution, public notices will be sent to the following Agencies:

(3960) (i) The Federal Aviation Administration (FAA) where the use of airspace is involved.

(3961) (ii) The Commander, Service Force, U.S. Atlantic Fleet, if a proposed action involves a danger zone off the U.S. Atlantic coast.

(3962) (iii) Proposed danger zones on the U.S. Pacific coast must be coordinated with the applicable commands as follows:

(3963) Alaska, Oregon and Washington:

(3964) Commander, Naval Base, Seattle

(3965) California:

(3966) Commander, Naval Base, San Diego

(3967) Hawaii and Trust Territories:

(3968) Commander, Naval Base, Pearl Harbor

(3969) (c) *Public hearing*. The District Engineer may conduct a public hearing in accordance with 33 CFR part 327.

(3970) (d) *Environmental documentation*. The District Engineer shall prepare environmental documentation in accordance with appendix B to 33 CFR part 325.

(3971) (e) *District Engineer's recommendation*. After closure of the comment period, and upon completion of the District Engineer's review he/she shall forward the case through channels to the Office of the Chief of Engineers, ATTN: CECW-OR with a recommendation of whether or not the danger zone or restricted area regulation should be promulgated. The District Engineer shall include a copy of environmental documentation prepared in accordance with appendix B to 33 CFR part 325, the record of any public hearings, if held, a summary of any comments received and a response thereto, and a draft of the regulation as it is to appear in the **Federal Register**.

(3972) (f) *Final decision*. The Chief of Engineers will notify the District Engineer of the final decision to either approve or disapprove the regulations. The District Engineer will notify the applicant/proponent and publish a public notice of the final decision. Concurrent with issuance of the public notice the Office of the Chief of Engineers will publish the final decision in the **Federal Register** and either withdraw the proposed regulation or issue the final regulation as appropriate. The final rule shall become effective no sooner than 30 days after publication in the **Federal Register** unless the Chief of Engineers finds that sufficient cause exists and publishes that rationale with the regulations.

§334.5 Disestablishment of a danger zone.

(3973) (a) Upon receipt of a request from any agency for the disestablishment of a danger zone, the District Engineer shall notify that agency of its responsibility for returning the area to a condition suitable for use by the public. The agency must either certify that it has not used the area for a purpose that requires cleanup or that it has removed all hazardous materials and munitions, before the Corps will disestablish the area. The agency will remain responsible for the enforcement of the danger zone regulations to prevent unauthorized entry into the area until the area is deemed safe for use by the public and the area is disestablished by the Corps.

(3974) (b) Upon receipt of the certification required in Paragraph (a) of this section, the District shall forward the request for disestablishment of the danger zone through channels to CECW-OR, with its recommendations. Notice of proposed rulemaking and public procedures as outlined in §334.4 are not normally required before publication of the final rule revoking a restricted

area or danger zone regulation. The disestablishment/revocation of the danger zone or restricted area regulation removes a restriction on a waterway.

§334.6 Datum.

(3975) (a) Geographic coordinates expressed in terms of latitude or longitude, or both, are not intended for plotting on maps or charts whose reference horizontal datum is the North American Datum of 1983 (NAD 83), unless such geographic coordinates are expressly labeled NAD 83. Geographic coordinates without the NAD 83 reference may be plotted on maps or charts referenced to NAD 83 only after application of the appropriate corrections that are published on the particular map or chart being used.

(3976) (b) For further information on NAD 83 and National Service nautical charts please contact: Director, Coast Survey (N/CG2), National Ocean Service, NOAA, 1315 East-West Highway, Station 6417, Silver Spring, MD 20910-3282.

§334.860 San Diego Bay, California: Naval restricted area.

(3977) (a) *The Area*. The water of the Pacific Ocean in Middle San Diego Bay in an area extending from the northern and eastern boundary of the Naval Amphibious Base about 0.1 nautical miles and 0.6 nautical miles from the southern shoreline and basically outlined as follows:

(3978) Station

(3979) 1-32°40'33.0"N., 117°10'02.4"W.

(3980) 2-32°40'34.7"N., 117°09'54.0"W.

(3981) 3-32°40'46.0"N., 117°09'44.2"W.

(3982) 4-32°41'00.0"N., 117°09'24.6"W.

(3983) 5-32°40'20.0"N., 117.08'36.7"W.

(3984) 6-32°40'00.0"N., 117°09'00.0"W.

(3985) 7-32°39'18.0"N., 117°08'45.0"W.

(3986) 8-32°39'16.0"N., 117°08'48.5"W.

(3987) (b) *The Regulations*. (1) Swimming, fishing, water-skiing, mooring or anchoring shall not be allowed within the restricted area.

(3988) (2) A portion of the restricted area extending 120 feet from pierheads and from the low water mark on shore where piers do not exist is closed to all persons and vessels except those owned by, under hire to, or performing work for, the Naval Amphibious Base.

(3989) (3) All vessels entering the restricted area shall proceed across the area by the most direct route and without unnecessary delay. For vessels under sail, necessary tacking shall constitute a direct route.

(3990) (4) The regulations in this section shall be enforced by the Commanding Officer, Naval Amphibious Base, Coronado, California, and such agencies as he/she shall designate. Organized activities (such as sail races and regattas) within the restricted area may be allowed providing that a request has been made to the Commanding Officer, Naval Amphibious Base, Coronado, San Diego, California 92155 or by calling, telephone number (619) 522-4833 at least 10 days prior to the event.

§334.865 Naval Air Station North Island, San Diego, California, Restricted Area.

(3991) (a) *The area*. The waters within an area beginning at

(3992) 32°42'55.0"N., 117°11'30.5"W.; to

(3993) 32°42'57.0"N., 117°11'22.5"W.; to

(3994) 32°42'56.0"N., 117°11'19.0"W.; to

(3995) 32°42'49.0"N., 117°11'08.5"W.; to

(3996) 32°42'44.5"N., 117°11'06.5"W.; and thence to

(3997) 32°42'40.0"N., 117°11'06.5"W.

(3998) (b) *The regulation.* (1) The restricted area shall not be open to swimming, fishing, water-skiing, mooring or anchorage.

(3999) (2) Dragging, seining, other fishing operations, and other activities not under the direction of the United States, which might foul underwater installations within the restricted area, are prohibited.

(4000) (3) All tows entering the restricted area shall be streamed and shortened to the seaward of the area and towing appendages and catenaries shall not be dragged along the bottom while proceeding through the area.

(4001) (4) All vessels entering the restricted area shall proceed across the area by the most direct route and without unnecessary delay.

(4002) (5) No vessel or craft of any size shall lie-to or anchor in the restricted area at any time other than a vessel operated by or for components, or other vessels authorized by Commander, Navy Region Southwest, or his/her designee.

(4003) (6) When security conditions dictate, Naval security forces may impose strict enforcement of stand-off distances within the restricted area. This enforcement will not prevent utilization of navigable channels, but will serve to control its use in order to protect vital National interests.

(4004) (c) *Enforcement*. The regulation in this section, promulgated by the United States Army Corps of Engineers, shall be enforced by the Commander, Navy Region Southwest, and such agencies or persons as he/she may designate.

§334.870 San Diego Harbor, Calif.; restricted areas.

(4005) (a) *Restricted area at Bravo Pier, Naval Air Station*.

(4006) (1) *The area*. The water of the Pacific Ocean in North San Diego Bay in an area extending from the western boundary of North Island about 0.2 nautical miles bayward and basically outlined as follows:

(4007) 32°41'51.3"N., 117°13'34.0"W.;

(4008) 32°41'51.3"N., 117°13'46.6"W.;
(4009) 32°41'43.3"N., 117°13'50.0"W.;
(4010) 32°41'35.8"N., 117°13'48.0"W.;
(4011) 32°41'35.8"N., 117°13'35.0"W.
(4012) (2) *The regulations*. (i) The restricted area shall not be open to swimming, fishing, mooring or anchorage.
(4013) (ii) Transit will be allowed through the restricted area except that no transit will be allowed within 100 feet of the ammunition pier (Bravo Pier). All unauthorized vessels entering the restricted area shall proceed across the area by the most direct route and without unnecessary delay. Only vessels owned by, under hire to, or performing work for the Naval Air Station or the Naval Weapons Station may operate within 100 feet of the ammunition pier.
(4014) (b) *Restricted area at U.S. Naval Degaussing Station*. (1) *The area*. That portion of San Diego Bay near Point Loma, inclosed by lines connecting the following points, which are rectangular coordinates and are referred to U.S. Coast and Geodetic Survey station "Old Town" as their origin:
(4015) "a" S. 18,738.80, W. 16,299.50.
(4016) "b" S. 18,817.60, W. 15,791.30.
(4017) "c" S. 19,376.09, W. 14,270.73.
(4018) "d" S. 20,023.15, W. 14,462.94.
(4019) "e" S. 21,080.24, W. 14,333.14.
(4020) "f" S. 22,074.40, W. 16,371.48.
(4021) (2) *The regulations*. (i) There shall be no introduction of external magnetic field sources within the area.
(4022) (ii) Craft of any size shall not be excluded from transiting the area. However, they shall proceed through the area by the most direct route without delay or loitering. On occasion, access to the bait barges may be delayed for intermittent periods not exceeding 30 minutes.
(4023) (iii) No craft of any size shall lay-to or anchor within the area except on prior permission granted by the Officer in Charge, U.S. Naval Degaussing Station.
(4024) (c) *Restricted area between Ballast Point and Zuniga Point*–(1) The area. An area in San Diego Bay between Ballast Point and Zuniga Point inclosed by lines connecting the following stations:
(4025) Station
(4026) A–32°41'17"N., 117°13'58"W.
(4027) B–32°41'19"N., 117°13'36.5"W.
(4028) C–32°41'01"N., 117°13'34"W.
(4029) D–32°40'59"N., 117°13'55"W.
(4030) E–32°41'03"N., 117°13'56"W.
(4031) A–32°41'17"N., 117°13'58"W.
(4032) (2) *The regulations*. (i) No vessel shall anchor within the restricted area at any time.
(4033) (ii) Dredging, dragging, seining, other fishing operations, and other activities not under the direction of the United States, which might foul underwater installations within the restricted area, are prohibited.
(4034) (iii) All tows entering the restricted area shall be streamed and shortened to the seaward of the area and towing appendages and catenaries shall not be dragged along the bottom while proceeding through the area.
(4035) (iv) All vessels entering the restricted area shall proceed across the area by the most direct route and without unnecessary delay.
(4036) (d) *Restricted area at the Naval Supply Center Pier*-(1) *The area*. The waters of San Diego Bay extending approximately 100 feet out from the north, west and south sides of the Naval Supply Center Pier enclosed by lines connecting the following stations: Station
(4037) A–32°42'50"N., 117°10'25"W.
(4038) B–32°42'50"N., 117°10'38"W.
(4039) C–32°42'54"N., 117°10'38"W.
(4040) D–32°42'54"N., 117°10'25"W.
(4041) (2) *The regulations*. (i) No vessel or craft of any size shall lie-to or anchor in the restricted area at any time or than a vessel operated by or for the U.S. Navy, U.S. Coast Guard, other authorized military components, or other vessels authorized by Commander Naval Base, San Diego or his designee.
(4042) (ii) Loitering, dredging, dragging, seining, fishing and similar activities within the restricted area are prohibited.
(4043) (e) *Enforcement*. The regulations in this section shall be enforced by the Commander, Naval Base, San Diego, California, and such agencies as he/she may designate.

§334.880 San Diego Harbor, Calif.; naval restricted area adjacent to Point Loma.

(4044) (a) *The area*. That portion of San Diego Bay southerly of Ballast Point, exclusive of the southwesterly portion of the restricted area described in §334.870(b) located westerly of the entrance channel, bounded on the west by the shoreline at Point Loma, on the east by the entrance channel west project line, and on the south by latitude 32°40'.
(4045) (b) *The regulations*. (1) The area is reserved for anchorage of vessels of the U.S. Government and authorized harbor pilot and patrol boats. All other craft may navigate and operate through the area, and temporary mooring of vessels (not to exceed 24 hours) is permissible.
(4046) (2) No other vessels shall anchor or moor permanently in the area except by special permission obtained in advance from the Commander, Naval Base, San Diego, Calif.

(4047) (3) The regulations in this section shall be enforced by the Commandant, 11th Naval District, San Diego, Calif., and such agencies as he may designate.

§334.890 Pacific Ocean off Point Loma, Calif.; naval restricted area.

(4048) (a) *The area*. The waters of the Pacific Ocean within an area extending southerly from Point Loma, California, described as follows: Beginning at latitude 32°39'54", longitude 117°13'18"; thence southeasterly to latitude 32°34'31", longitude 117°09'41"; thence 270° true to longitude 117°16'40"; thence due north to latitude 32°39'54"; and thence 90° true to the point of beginning.

(4049) (b) *The regulations*. (1) No vessel shall anchor within the restricted area at any time without specific permission of the enforcing agency.

(4050) (2) Dredging, dragging, seining, and other similar operations within the restricted area are prohibited.

(4051) (3) The regulations in this section shall be enforced by the Commandant, Eleventh Naval District, San Diego, California, and such agencies as he may designate.

§334.900 Pacific Ocean, U.S. Marine Corps Base, Camp Pendleton, California; restricted area.

(4052) (a) *The area*. Beginning at the shoreline north of the boat basin,

(4053) 33°13'10"N., 117°24'19"W.; thence westward to

(4054) 33°12'48"N., 117°24'56"W.; thence southward to

(4055) 33°12'32"N., 117°24'44"W.; thence eastward to

(4056) 33°12'47"N., 117°24'17"W. (a point on the breakwater); thence northeastward along breakwater to

(4057) 33°12'58"N., 117°24'09"W.; thence northward along shoreline to point of beginning.

(4058) (b) *The regulations*. (1) No vessels shall anchor within the restricted area at any time.

(4059) (2) Dredging, dragging, seining, fishing operations, and other activities, which might foul underwater installations within the restricted area, are prohibited.

(4060) (3) All vessels entering the restricted area shall proceed across the area by the most direct route and without unnecessary delay.

(4061) (4) The regulations in this section shall be enforced by the Commanding General, U.S. Marine Corps Base, Camp Pendleton, California, and such agencies as he may designate.

§334.905 Pacific Ocean, Offshore of Camp Pendleton, California; Fallbrook restricted area.

(4062) (a) *The area*. The waters of the Gulf of Santa Catalina, offshore of Camp Pendleton in the Pacific Ocean, San Diego County, California. The center of the restricted area is located at 33°18.6'N. latitude, 117°32.0'W. longitude, with a radius of 9,000 feet.

(4063) (b) *The regulations*. (1) No vessel or craft of any size shall lie-to or anchor in the restricted area at any time other than a vessel operated by or for the U.S. Coast Guard, local, State or Federal law enforcement agencies.

(4064) (2) Loitering, dredging, dragging, anchoring, seining, fishing, and similar activities within the restricted area during vertical replacement operations use is prohibited.

(4065) (c) *Enforcement*. The regulations in this section shall be enforced by the U.S. Coast Guard, local, State, or Federal law enforcement agencies.

§334.910 Pacific Ocean, Camp Pendleton Boat Basin, U.S. Marine Corps Base, Camp Pendleton, Calif.; restricted area.

(4066) (a) *The area*. All of the waters of Camp Pendleton Boat Basin entrance channel lying northerly of a line between a light on the north Camp Pendleton jetty at

(4067) 33°12'22", 117°24'07", and a light on the north Oceanside Harbor groin at

(4068) 33°12'29", 117°23'55".

(4069) (b) *The regulations*. (1) The area is reserved exclusively for use by vessels owned or operated by the Federal Government. Permission to enter the area must be obtained from the enforcing agency.

(4070) (2) The regulations in this section shall be enforced by the Commanding General, U.S. Marine Corps Base, Camp Pendleton, California, or such agencies as he may designate.

§334.920 Pacific Ocean off the east coast of San Clemente Island, Calif.; naval restricted area.

(4071) (a) *The area*. The waters of the Pacific Ocean within an area extending easterly from the east coast of San Clemente Island, California, described as follows: The northerly boundary to be a continuation, to seaward of the existing southerly boundary of the restricted anchorage area, as described in 33 CFR 110.218, of this chapter, to

(4072) 33°00.3'N., 118°31.3'W.; thence to

(4073) 32°58.6'N., 118°30.0'W.; thence to

(4074) 32°57.9'N., 118°31.3'W. on the shoreline; thence northerly along the shoreline to point of beginning.

(4075) (b) *The regulations*. (1) No person or vessels, other than Naval Ordnance Test Station craft, and those cleared for entry by the Naval Ordnance Test Station, shall enter the area at any time except in an emergency, proceeding with extreme caution.

(4076) (2) Dredging, dragging, seining or other fishing operations within these boundaries are prohibited.

(4077) (3) No seaplanes, other than those approved for entry by Naval Ordnance Test Station, may enter the area.

(4078) (4) The regulations in this section shall be enforced by security personnel attached to the U.S. Naval Ordnance Test Station, China Lake, California, and by such agencies as may be designated by the Commandant, Eleventh Naval District, San Diego, California.

§334.921 Pacific Ocean at San Clemente Island, Calif.; naval restricted area.

(4079) (a) *The area*. All waters between the northern and southern boundaries of the area known as West Cove seaward approximately four miles.

(4080) The northern boundary is defined by the coordinates:

(4081) 33°00'52"N., 118°36'18"W.

(4082) 32°59'30"N., 118°37'30"W.

(4083) 32°59'20"N., 118°38'38"W.

(4084) The southern boundary is defined by the coordinates:

(4085) 33°00'40"N., 118°35'27"W.

(4086) 32°58'30"N., 118°36'40"W.

(4087) 32°57'45"N., 118°38'38"W.

(4088) (b) *The regulation*. (1) The use of this area for anchorage is prohibited to all craft at all times.

(4089) (2) The regulations in this section shall be enforced by the Commander, Naval Base, San Diego, and such agencies as he/she shall designate.

§334.930 Anaheim Bay Harbor, California; Naval Weapons Station, Seal Beach.

(4090) (a) *The restricted area*. The water of Anaheim Bay Harbor between the east and west jetties at the United States Naval Weapons Station, Seal Beach, California, and the contiguous tidal channel and basin as far east as the Anaheim Bay bridge.

(4091) (b) *The regulation*. (1) The authority of the Naval Weapons Station Commanding Officer in this area extends to restricting and disallowing the navigating or anchorage of craft during such times as the Commanding Officer determines that considerations of national security or safety warrant such action(s).

(4092) (2) All craft authorized transit of this area shall stay within the limits of the entrance channel in the Outer Harbor, and confine their movement to within the limits of the marked small craft channel at the southern portion of the Inner Harbor.

(4093) (3) Recreational craft, such as water skis, jet skis (personal water craft), row boats, canoes, kayaks, wind surfers, sail boards, surf boards, etc, and any activity involving persons in the water, are specifically prohibited within the restricted area.

(4094) (4) Boats unable to throttle down or to maintain steerage way at 5 miles per hour speed shall proceed at the minimum speed consistent with seamanship in an area regularly subject to waterborne explosive handling operations. In case of doubt, boat operators of inbound boats will remain in the west end of the basin and outbound boats in the east end of the basin until informed by a representative of the Naval Weapons Station or U.S. Coast Guard of the completion of the waterborne explosive handling hazard.

(4095) (5) Smoking, open flames and barbecues in boats are prohibited during the transit of this area.

(4096) (6) Nothing in the regulations in this section shall be construed as relieving the owner or persons in command of any vessels or plant from the penalties of the law for obstructing navigation or for not complying with the navigation laws in regard to lights or signals or for otherwise violating law.

(4097) (7) All vessel operators shall heed and obey all posted signs and/or instructions issued by security personnel of the U.S. Naval Weapons Station.

(4098) (8) The regulations in this section shall be enforced by the Commanding Officer, U.S. Naval Weapons Station, Seal Beach, California, and such agencies as he/she may designate. For clarification or other information, the U.S. Naval Weapons Station Command Duty Officer should be contacted at 213-594-7101.

§334.938 Federal Correctional Institution, Terminal Island, San Pedro Bay, California; restricted area.

(4099) (a) *The area*. The waters of San Pedro Bay on the east side of Reservation Point extending 150 feet (50 yards), from the Federal Correctional Institution fence along the shore to the following stations:

Station	Latitude	Longitude
1	33°43'45.5"N.	118°16'02.0"W.
2	33°43'37.0"N.	118°15'58.0"W.
3	33°43'27.5"N.	118°15'54.5"W.

(4100) The stations will be marked by three special purpose buoys (white with an orange diamond in the center).

(4101) (b) *The regulations*. No person or vessel of any kind shall enter, navigate, anchor or moor within the restricted area without first obtaining the permission of the Warden, Federal Correctional Institution, Terminal Island. The regulations in this section shall be enforced by the U.S. Coast Guard, the Warden of the Federal Correctional Institution, Terminal Island, and such agencies and he/she may designate.

§334.940 Pacific Ocean in vicinity of San Pedro, Calif.; practice firing range for United States Army Reserve, National Guard, and Coast Guard units.

(4102) (a) *The danger zone*. (1) (Reserved)

(4103) (2) Zone B. An area extending southwest and northwest from Point Vicente, described as follows: Beginning at Point Vicente Light,

(4104) 33°44'30"N., 118°24'36"W.; thence southwesterly to

(4105) 33°43'42"N., 118°25'24"W.; thence northwesterly to

(4106) 33°46'30"N., 118°27'06"W.; thence southeasterly to the shore,

(4107) 33°44'54"N., 118°24'42"W.; and thence southerly along the shore to the point of beginning.

(4108) (b) The regulations. (1) Intermittent firing may take place in the danger zone on any day from sunrise to sunset.

(4109) (2) Except as otherwise provided in this Paragraph, the danger zone will be open to fishing and general navigation. When firing is not scheduled the danger zone may be occupied without restriction. When firing is in progress safety observers will be maintained to warn all vessels. Notice to vacate the area, or to stop at the boundaries, will be given by siren, patrol vessel, or other effective means, and such notice shall be promptly obeyed. All vessels permitted to enter the danger zone during a firing period, other than those owned by and operated by or under the direction of the United States Government, shall proceed across the area by the most direct route and clear the area with the greatest possible dispatch. No person shall enter the water and no vessel, fishing boat, or recreational craft shall anchor in the danger zone during an actual firing period.

(4110) (3) Nothing in this section shall be construed as relieving the owner or person in charge of a vessel from any penalties for obstructing navigation, or for obstructing or interfering with range lights, or for not complying with the navigation laws in regard to lights and fog signals, or for otherwise violating any law or regulations.

(4111) (4) The regulations in this section shall be enforced by the Commanding Officer, Fort MacArthur, California, and such agencies as he may designate.

§334.950 Pacific Ocean at San Clemente Island, California; Navy shore bombardment areas.

(4112) (a) *The danger zones*. (1) The waters of the Pacific Ocean within an area beginning at China Point Light; extending in a direction of 181 degrees true, 2.0 nautical miles; thence 072.5 degrees true, 5.375 nautical miles; thence 313 degrees true to Pyramid Head Light.

(4113) (2) The waters of the Pacific Ocean within an area beginning at China Point Light; extending in a direction of 181 degrees true, 2.0 nautical miles; thence 303 degrees true, 5.35 nautical miles; thence 040.4 degrees true to the beach.

(4114) (3) The waters of the Pacific Ocean within an area beginning at Pyramid Head Light; extending in a direction of 133 degrees true, 2.0 nautical miles; thence 024 degrees true, 2.14 nautical miles, thence 313 degrees true, 7.6 nautical miles; thence 220 degrees true to the beach.

(4115) (b) *The regulations*. (1) All persons and all vessels shall promptly vacate the areas when ordered to do so by the Navy or the Coast Guard. Persons and vessels shall not enter the areas during periods scheduled for firing. These areas are used for various surface and air gunnery and aerial bombing exercises by the United States Navy, Coast Guard and Marine Corps. Hazardous conditions exist during shore bombardment by naval ships in the area seaward of that described in paragraphs (a)(1) and (a)(2) of this section between the firing vessel and the shore. The area described in Paragraph (a)(3) of this section is hazardous due to the possibility of rounds landing in the waters east of San Clemente Island.

(4116) (2) All persons in the area are warned that unexploded ordinance exists within the shore bombardment area on San Clemente Island and in the surrounding waters. All persons should exercise extreme caution when operating in the area.

(4117) (3) Information about scheduled exercises will be published in the Local Notice to Mariners and also may be obtained by calling the shore bombardment area scheduler at (619) 437-2844. Vessels in the vicinity of San Clemente Island may obtain information on the status of the range by contacting the Navy Observation Post by marine radio on channel 16. However, the Navy Observation Post is normally manned only during firing exercises. In addition, since the Navy Observation Post may not be able to receive radio transmissions or answer a vessel calling from the area described in Paragraph (A)(3) of this section due to interference from the land mass, it is recommended that callers position their craft for line-of-sight transmission with the Navy Observation Posts near Pyramid Cove prior to assuming that the range is not in use.

(4118) (4) Except in an emergency, no vessel shall anchor in these areas without first obtaining permission from the Commander, Naval Base, San Diego or from the senior officer present in the area who may grant permission to anchor not exceeding the period of time that he, himself, is authorized to remain there. The senior officer present shall advise the Commander, Naval Base, San Diego when and to whom a berth is assigned.

(4119) (5) The regulations in this section shall be enforced by the Commander, Naval Base, San Diego, and such agencies as he/she shall designate.

§334.960 Pacific Ocean, San Clemente Island, Calif.; naval danger zone off West Cove.

(4120) (a) *The danger zone*. The waters of the Pacific Ocean in an area about one-half mile off the west coast of San Clemente Island basically outlined as follows:

(4121) 33°00'40"N., 118°35'45"W.

(4122) 32°57'40"N., 118°34'25"W.

(4123) 32°57'10"N., 118°35'40"W.

(4124) 33°00'10"N., 118°37'00"W.

(4125) 33°00'40"N., 118°35'45"W.

(4126) (b) *The regulations*. (1) Intermittent firing may take place in the danger zone on any day from 8:00 a.m. until 1:00 p.m.

(4127) (2) Except as otherwise provided in this section, the danger zone will be open to fishing and general navigation.

(4128) (3) The operations officer, Naval Ordnance Test Station, Pasadena Annex, Pasadena, California, will announce firing schedules. Each week, public notices will be issued giving advance firing schedules. Such notices will appear in the local newspapers and in local "Notice to Mariners" and "Notice to Airmen." For the benefit of the fishermen and small-craft operators, announcements will be made on the marine radio.

(4129) (4) When a scheduled firing is about to be undertaken, fishing boats and other small craft will be contacted by surface patrol boats or aircraft equipped with loudspeaker system. When so notified, all persons and vessels shall leave the area immediately by the shortest route. Upon completion of firing or if the scheduled firing is canceled for any reason, fishermen and small-boat operators will be notified as far in advance as possible by Marine Radio Broadcast.

(4130) (5) The regulations in this section shall be enforced by security personnel attached to the Naval Ordnance Test Station, Pasadena Annex, and by such agencies as may be designated by the Commandant, Eleventh Naval District, San Diego.

§334.961 Pacific Ocean, San Clemente Island, California; naval danger zone off northwest shore.

(4131) (a) *The danger zone*: The waters of the Pacific Ocean adjacent to San Clemente Island, California, bounded by the following coordinates and San Clemente Island:

(4132) Point A–33°01'38.0"N., 118°36'20"W.

(4133) Point B–33°01'11.0"N., 118°37'25"W.

(4134) Point C–33°00'11.0"N., 118°37'00"W.

(4135) Point D–33°00'05.0"N., 118°38'53"W.

(4136) Point E–33°02'55.0"N., 118°39'05"W.

(4137) Point F–33°04'25.0"N., 118°37'41"W.

(4138) Point G–33°02'02.5"N., 118°35'53"W.

(4139) (b) *The regulations*: (1) No person shall enter this area during closure periods unless authorized to do so by the enforcing agency. No vessel or other craft, except vessels of the U.S. Government or vessels duly authorized by the enforcing agency shall enter this area during closure periods.

(4140) (2) The regulations in this section shall be enforced by the Commander, Naval Base, San Diego, California and such agencies as he/she shall designate.

§334.980 Pacific Ocean around San Nicolas Island, Calif., naval restricted area.

(4141) (a) *The area*. The waters of the Pacific Ocean around San Nicolas Island, Calif., extending about 3 miles seaward from the shoreline, described as follows:

(4142) Point A–33°10'10"N., 119°24'20"W.

(4143) Point C–33°10'10"N., 119°31'10"W.

(4144) Point D–33°12'00"N., 119°35'30"W.

(4145) Point E–33°14'20"N., 119°37'40"W.

(4146) Point F–33°16'40"N., 119°38'10"W.

(4147) Point G–33°19'10"N., 119°37'10"W.

(4148) Point I–33°20'10"N., 119°31'10"W.

(4149) Point K–33°17'40"N., 119°24'50"W.

(4150) Point L–33°13'50"N., 119°21'50"W.

(4151) (b) *Sections of Area*. (1) ALPHA section is the northerly section of the area and is described as follows:

(4152) Point G–33°19'10"N., 119°37'10"W.

(4153) Point I–33°20'10"N., 119°31'10"W.

(4154) Point J–33°18'18"N., 119°26'29"W.

(4155) Point O–33°15'43"N., 119°28'40"W.

(4156) Thence northwesterly along shoreline to Point N

(4157) Point N–33°16'30"N., 119°30'40"W.

(4158) Point G–33°19'10"N., 119°37'10"W.

(4159) (2) BRAVO section is the westerly section of the area, and is described as follows:

(4160) Point N–33°16'30"N., 119°30'40"W.

(4161) Thence westerly, southerly and easterly along the shoreline to Point M

(4162) Point M–33°13'10"N., 119°29'40"W.

(4163) Point B–33°10'10"N., 119°29'40"W.

(4164) Point C–33°10'10"N., 119°31'10"W.

(4165) Point D–33°12'00"N., 119°35'30"W.

(4166) Point E–33°14'20"N., 119°37'40"W.

(4167) Point F–33°16'40"N., 119°38'10"W.

(4168) Point G–33°19'10"N., 119°37'10"W.

(4169) Point N–33°16'30"N., 119°30'40"W.

(4170) (3) CHARLIE section is the easterly section of the area, and is described as follows:

(4171) Point J–33°18'18"N., 119°26'29"W.

(4172) Point O–32°15'43"N., 119°28'40"W.

(4173) Thence easterly, southerly and westerly along the shoreline to Point M

(4174) Point M–33°13'10"N., 119°29'40"W.

(4175) Point B–33°10'10"N., 119°29'40"W.

(4176) Point A–33°10'10"N., 119°24'20"W.

(4177) Point L–33°13'50"N., 119°21'50"W.

(4178) Point K–33°17'40"N., 119°24'50"W.

(4179) Point J–33°18'18"N., 119°26'29"W.

(4180) (c) *Markers*. Range markers, as delineated below, are installed at Points M, N, and O for navigational purposes to indicate the boundaries between sections ALPHA, BRAVO, and CHARLIE.

(4181) (1) At Point M two triangular markers are installed facing southward, 10 feet in length on each side, with red and white diagonal stripes, each marker mounted atop 80–foot poles spaced 100 yards apart, each pole being located on the line of longitude 119°29'40"W. and near the southerly shoreline at latitude 33°13'10"N. The southernmost marker is 20 feet below the other.

(4182) (2) At Point N two triangular markers are installed facing northwesterly, 10 feet in length on each side, with red and white diagonal stripes, each marker mounted atop 80–foot poles spaced 100 yards apart, the poles being located near the northwesterly shoreline at latitude 33°16'30"N., longitude 119°30'40"W. The northernmost marker is 20 feet below the other.

(4183) (3) At Point O two triangular markers are installed facing northeasterly, 10 feet in length on each side, with red and white diagonal stripes, each marker mounted atop 80–foot poles spaced 100 yards apart, the poles being located near the northeasterly shoreline at latitude 33°15'43"N., longitude 119°28'40"W. The northernmost marker is 20 feet below the other.

(4184) (d) *The regulations*. (1) No seaplanes, other than those approved for entry by the Commander, Pacific Missile Range (COMPMR) may enter any section of the area.

(4185) (2) Subject to the provisions of Paragraph (d) (4) of this section, relating to sections BRAVO and CHARLIE, no vessels other than Pacific Missile Range craft and those cleared for entry by COMPMR, or the Officer-in-Charge, San Nicolas Island shall enter any section of the area at any time except in an emergency, proceeding with extreme caution.

(4186) (3) Dredging, dragging, seining, anchoring and other fishing operations within ALPHA section of the area are prohibited at all times.

(4187) (4) Dredging, dragging, seining, anchoring and other fishing operations are allowed within the boundaries of BRAVO and CHARLIE sections at all times except when declared closed by COMPMR. Notice that sections BRAVO and/or CHARLIE are closed to fishing shall be given by publication of notices to mariners, or may be obtained by monitoring standard Coast Guard radio broadcasts or by contacting the Pacific Missile Range by telephone or radio. Boats must remain at least 300 yards from the shoreline of San Nicolas Island at all times. Nothing in this provision shall be construed as authorization for personnel to land on San Nicolas Island, except in an emergency.

(4188) (5) The regulations in this section shall be enforced by personnel attached to the Pacific Missile Range, Point Mugu, Calif., and by such agencies as may be designated by the Commandant, 11th Naval District, San Diego, Calif.

§334.990 Long Beach Harbor, Calif.; naval restricted area.

(4189) (a) *The area*. All the waters between the Navy mole and Terminal Island to the westward of longitude 118°13'10".

(4190) (b) *The regulations*. (1) The area is reserved exclusively for use by naval vessels. Permission for any person or vessel to enter the area must be obtained from the enforcing agency.

(4191) (2) The regulations in this section shall be enforced by the Commander, U.S. Naval Base Los Angeles, Long Beach, California, and such agencies as he may designate.

§334.1010 San Francisco Bay in vicinity of Hunters Point; naval restricted area–

(4192) (a) *The area*. Bounded by the shore of the San Francisco Naval Shipyard and the following lines: Beginning at a point on the northerly shore of the Shipyard bearing 292°40', 950 yards, from Hunters Point Light; thence 035°27', 730 yards to the U.S. Pierhead Line; thence 142°55', 1,300 yards, along the Pierhead Line; thence 180°, 2,450 yards, to the San Francisco-San Mateo County Line; thence 270°, 430 yards, along the County Line; thence 305°27', 1,313 yards, to and along the southwesterly side of South Basin; and thence due north, 413 yards, to the southwesterly shore of the Shipyard.

(4193) **Note**: All bearings in this section are referred to true meridian.

(4194) (b) *The regulations*. No person may enter the area and no vessel or other craft, except vessels of the U.S. Government or vessels duly authorized by the Commander, San Francisco Naval Shipyard, shall navigate, anchor or moor in this area.

§334.1020 San Francisco Bay and Oakland Inner Harbor; restricted areas in vicinity of Naval Air Station, Alameda–

(4195) (a) *The areas*. (1) The waters of San Francisco Bay bounded by the shore of Naval Air Station, Alameda,

and a line beginning at a point on the north side of Oakland Inner Harbor Entrance Channel at approximately:

(4196) 37°47'57"N., 122°19'43"W; WSW to

(4197) 37°47'53"N., 122°19'57"W; SE to

(4198) 37°47'46"N., 122°20'00"W; SE to

(4199) 37°47'41"N., 122°19'52"W; S to

(4200) 37°46'49"N., 122°19'52"W; E to

(4201) 37°46'49"N., 122°19'28"W; SE to

(4202) 37°46'46"N., 122°19'21"W; E to

(4203) 37°46'45"N., 122°19'05"W; SE to

(4204) 37°46'38"N., 122°18'59"W; SSW to

(4205) 37°46'18"N., 122°19'05"W, SE to

(4206) 37°46'00"N., 122°18'28"W; E to

(4207) 37°46'00"N., 122°18'22"W; N to

(4208) 37°46'03"N., 122°18'22"W; E to

(4209) 37°46'00"N., 122°17'28"W; NE to

(4210) 37°46'03"N., 122°17'26"W; where it joins the naval air station breakwater.

(4211) (2) The waters of the entrance channel to Oakland Inner Harbor (San Antonio Estuary) between the westerly end of the rock wall on the south side of the channel and the easterly boundary of the Naval Air Station.

(4212) (b) *The regulations*. (1) No person shall enter this area and no vessel or other craft, except vessels of the U.S. Government or vessels duly authorized by the Commanding Officer, U.S. Naval Air Station, Alameda, California, shall navigate, anchor or moor in the area described in Paragraph (a)(1) of this section.

(4213) (2) No person shall enter this area and no vessel without special authorization of the Commander, Twelfth Coast Guard District, shall lie, anchor or moor in the area described in Paragraph (a)(2) of this section. Vessels may proceed through the entrance channel in process of ordinary navigation or may moor alongside wharves on the Oakland side of the channel.

§334.1030 Oakland Inner Harbor adjacent to Alameda Facility, Naval Supply Center, Oakland; restricted area–

(4214) (a) *The area*. Within 100 feet of the Alameda Facility wharf.

(4215) (b) *The regulations*. No persons and no vessels or other craft, except vessels of the United States Government or vessels duly authorized by the Commanding Officer, Naval Supply Center, Oakland, shall enter this area.

§334.1040 Oakland Harbor in vicinity of Naval Supply Center, Oakland; restricted area and navigation–

(4216) (a) *The area*. Bounded by the shore of the Naval Supply Center and the following lines: Beginning at a point on the north shore located at about 37°48'26"N., 122°19'34"W.; thence 225°12', 290 yards; and thence 173°10', 620 yards to a point on the south shore at about 37°48'02"N., 122°19'39"W.

(4217) (b) *The regulations*. (1) No persons and no vessels or other craft, except vessels of the U.S. Government or vessels duly authorized by the Commanding Officer, Naval Supply Center, Oakland, shall enter this area.

(4218) (2) All vessels over 1,000 tons displacement, bound for the Naval Supply Center, Oakland, shall use a qualified pilot regularly licensed for the waters of Oakland Harbor.

§334.1050 Oakland Outer Harbor adjacent to the Military Ocean Terminal, Bay Area, Pier No. 8 (Port of Oakland Berth No. 10); restricted area–

(4219) (a) *The area*. Within 100 feet of the pier.

(4220) (b) *The regulations*. No persons and no vessels or other craft, except vessels of the U.S. Government or vessels duly authorized by the Commander, Oakland Army Base, shall enter this area.

§334.1060 Oakland Outer Harbor adjacent to the Oakland Army Base; restricted area–

(4221) (a) *The area*. Within 100 feet of the pier.

(4222) (b) *The regulations*. No persons and no vessels or other craft, except vessels of the U.S. Government or vessels duly authorized by the Commander, Oakland Army Base, shall enter this area.

§334.1065 U.S. Coast Guard Station, San Francisco Bay, Yerba Buena Island, San Francisco Bay, California; Restricted Area.

(4223) (a) *The area*. San Francisco Bay on the east side of Yerba Buena Island: From a point along the southeastern shore of Yerba Buena Island at

(4224) 37°48'27"N., 122°21'44"W.; east to

(4225) 37°48'27"N., 122°21'35"W.; north to

(4226) 37°48'49"N., 122°21'35"W., a point on the northeastern side of Yerba Buena Island.

(4227) (b) *The regulation*. (1) All persons and vessels are prohibited from entering the waters within the Restricted Area for any reason without prior written permission from the Commanding Officer of the Coast Guard Group San Francisco on Yerba Buena Island.

(4228) (2) Mooring, anchoring, fishing, transit and/or swimming shall not be allowed within the Restricted Area without prior written permission from the Commanding Officer of the Coast Guard Group San Francisco on Yerba Buena Island.

(4229) (c) *Enforcement*. The regulation in this section shall be enforced by the Commanding Officer of the Coast Guard Group San Francisco on Yerba Buena Island, and such agencies and persons as he/she shall designate.

§334.1070 San Francisco Bay between Treasure Island and Yerba Buena Island; naval restricted area–

(4230) (a) *The area*. All the water of the cove bounded by the south shore of Treasure Island, the north shore of Yerba Buena Island, and the connecting causeway, west of a line extending from the southeast corner of the most southerly of the four finger piers along the east side of Treasure Island, at about 37°49'11"N., 122°21'40"W., approximately 153°20' to the northeasterly point of Yerba Buena Island, at about 37°48'55"N., 122°21'30"W.

(4231) (b) *The regulations*. No person and no vessel or other craft, except vessels owned and operated by the U.S. Government or vessels duly authorized by the Commanding Officer, Naval Station, Treasure Island, shall enter the restricted area.

§334.1080 San Francisco Bay adjacent to northeast corner of Treasure Island; naval restricted area–

(4232) (a) *The area*. Beginning at the intersection of Pier 21 and the bulkhead line, thence northwesterly along the bulkhead to the northernmost point of Treasure Island; thence 288° true, 290 yards; thence 26° true, 475 yards; thence 115°30' true, 520 yards; thence 152° true, 500 yards to Pier 21; thence along the pier to the point of beginning.

(4233) (b) *The regulations*. No person shall enter the restricted area. No vessels, except those engaged in naval operations, shall lie, anchor, moor or unnecessarily delay in the area. Vessels may pass through the area in the process of ordinary navigation except as directed by patrol boats. The regulations in this Paragraph shall be enforced by the Commandant, Twelfth Naval District, and such agencies as he may designate.

§334.1090 San Francisco Bay in vicinity of NSC Fuel Department, Molate Point; restricted area–

(4234) (a) *The area*. Bounded by the easterly shore of upper San Francisco Bay and the following lines: Beginning at a point on shore bearing 017° 800 yards, from "Tree" at Molate Point thence 270°, 870 yards; thence 189° 1,100 yards; and thence 123° to the shore.

(4235) (b) *The regulations*. Persons and vessels not operating under supervision of the local military or naval authority or public vessels of the United States, shall not enter this area except by specific permission of the Commanding Officer, Naval Supply Center.

§334.1100 San Pablo Bay, Carquinez Strait and Mare Island Strait in vicinity of U.S. Naval Shipyard, Mare Island; restricted area–

(4236) (a) *The area*. The waters of San Pablo Bay, Carquinez Strait, and Mare Island Strait, within 100 yards of the shore of that part of the Navy Yard, Mare Island, south of the causeway between the City of Vallejo and Mare Island and extending continuously therefrom southeasterly, southwesterly, and northwesterly around the Navy Yard to its northwesterly limit on the waters of San Pablo Bay, and the waters within 50 yards of any part of the berthing piers at the Navy Yard.

(4237) (b) *The regulations*. No persons shall enter this area and no vessels or other craft, except vessels of the U.S. Government or vessels duly authorized by the Commander, Mare Island Naval Shipyard, Vallejo, California, shall navigate, anchor or moor in this area.

§334.1110 Suisun Bay at Naval Weapons Station, Concord; restricted area–

(4238) (a) *The area*. Beginning at a point on the shore and on the easterly side of the mouth of a small slough (known as Hastings Slough) bearing 189°, 2,412 yards from Tripon at Preston Point on Roe Island; thence 340°30', 400 yards to the shoreline of the westerly of the two Seal Islands; thence 060°30', 940 yards; thence 75°, 1,650 yards; thence 102°, 1,850 yards; thence 99°, 1,880 yards; thence 180°, 435 yards, to the shoreline; thence following the high water shoreline in a general westerly direction to the point of beginning.

(4239) (b) *The regulations*. (1) No person, vessel, watercraft, conveyance or device shall enter or cause to enter or remain in this area. No person shall refuse or fail to remove any person or property in his custody or under his control from this area upon the request of the Commanding Officer of the Naval Weapons Station Concord or his/her authorized representative.

(4240) (2) The regulations in this section shall be enforced by the Commanding Officer, Naval Weapons Station Concord, and such agencies as he/she shall designate.

§334.1120 Pacific Ocean in the vicinity of Point Mugu, Calif.; naval small arms firing range.

(4241) (a) *The danger zone*. A triangular area extending westerly into the waters of the Pacific Ocean from a point on the beach north of Point Mugu, California, described as follows: Beginning at

(4242) 34°05'32", 119°03'57"; thence southwesterly approximately 4,000 yards to

(4243) 34°04'22", 119°05'55"; thence northwesterly approximately 1,500 yards to

(4244) 34°05'01", 119°06'17"; thence northeasterly to the point of beginning.

(4245) (b) *The regulations*. (1) Range firing will normally take place between 6 a.m. and 6 p.m., Thursday through Monday, and between 6 a.m. and 11:30 p.m., Tuesday and Wednesday of each week. Within the above periods, firing will be conducted as determined by the Commanding Officer, U.S. Naval Construction Battalion Center, Port Hueneme, Calif.

(4246) (2) Except as otherwise provided in this section, the danger zone will be open to fishing and general navigation.

(4247) (3) The Commanding Officer, U.S. Naval Construction Battalion Center, Port Hueneme, California, will announce firing schedules. Each week, public notices will be issued giving advance firing schedules. Such notices will appear in the local newspapers and in local "Notice to Mariners," and "Notice to Airmen." For the benefit of fishermen and small-craft operators, announcements will be made on the marine radio.

(4248) (4) When a scheduled firing is about to be undertaken or is in progress, a large red flag will be displayed from the control tower situated at latitude 34°05'32", longitude 119°03'57", so as to be clearly visible for a distance of at least three (3) miles offshore. Safety observers will be on duty at all times when the warning flag is being displayed from the tower. Upon completion of firing, or if the scheduled firing is canceled for any reason, fishermen and small-boat operators will be notified as far in advance as possible by Marine Radio Broadcast.

(4249) (5) Persons, vessels or other craft shall not enter or remain in the danger zone when the warning flag is being displayed unless authorized to do so by the range officer in the control tower.

(4250) (6) The regulations in this section shall be enforced by the Commandant, Eleventh Naval District, San Diego, California, and such agencies as he may designate.

§334.1125 Pacific Ocean Naval Air Weapons Station, Point Mugu Small Arms Range, Ventura County, California; danger zone.

(4251) (a) *The area*. A triangular area extending southerly into the waters of the Pacific Ocean from a point on the beach north of Point Mugu, California, as follows:

Station	Latitude	Longitude
1	34°05'48"N.	119°07'03"W.
2	34°03'20"N.	119°08'16"W.
3	34°03'11"N.	119°07'39"W.
4	34°05'42"N	119°06'59"W.
5	34°05'41"N.	119°06'51"W.
6.	34°05'45"N.	119°06'52"W.

(4252) (b) *The regulations*. (1) Range firing will normally take place between 7 a.m. and 5 p.m. Monday through Friday.

(4253) (2) The danger zone may be used at all times for navigation and fishing, except when advance notice of intention to use this area has been given by the enforcing agency by one or more of the following means:

(4254) (i) Notice published in Ventura County daily newspaper, at least two days in advance of the date of said use and in the local "Notice to Mariners."

(4255) (ii) Display of red flag from the tower at 34°05'53"N., 119°06'59"W.; or display of red flashing beacons in the case of night firing.

(4256) (iii) Radio broadcast on VHF-FM channel 16.

(4257) (iv) Notice to individual craft by visit of United States vessel.

(4258) (v) Telephone advice to such fisherman's organizations as may request, in writing, that such advice be given.

(4259) (3) Safety observers will be on duty at all times when the range is in use. Upon completion of firings, or if the scheduled firing is canceled for any reason, fishermen and small boat operators will be notified as far in advance as possible by Marine Radio Broadcast.

(4260) (4) Persons, vessels or other craft shall not enter or remain in the danger zone when the warning flag or beacon is being displayed unless authorized to do so by the range officer in the control tower.

(4261) (5) The regulations in this section shall be enforced by personnel attached to the Naval Air Weapons Station, Point Mugu, California, and by such other agencies as the Commandant, Eleventh Naval District, San Diego, California, may designate.

§334.1126 Naval Base Ventura County, Point Mugu, California; Restricted Area.

(4262) (a) *The area*. The restricted area at Naval Base Ventura County Point Mugu incorporates its shorelines and connects the following points:

(4263) 34°7'9.9"N., 119°9'35.6"W. (up-coast shoreline point);

(4264) 34°7'00.0"N., 119°9'46.7"W.;

(4265) 34°6'44.9"N., 119°9'22.5"W.;

(4266) 34°6'30.2"N., 119°8'59.0"W.;

(4267) 34°6'20.5"N., 119°8'46.7"W.;

(4268) 34°6'08.4"N., 119°8'25.2"W.;

(4269) 34°5'53.7"N., 119°7'59.5"W.;

(4270) 34°5'45.9"N., 119°7'41.5"W.;

(4271) 34°5'40.1"N., 119°7'21.0"W.;

(4272) 34°5'33.6"N., 119°6'58.1"W.;

(4273) 34°5'31.2"N., 119°6'37.9"W.;

(4274) 34°5'31.0"N., 119°6'22.2"W.;

(4275) 34°5'32.9"N., 119°6'14.4"W.;

(4276) 34°5'44.7"N., 119°5'54.0"W.;

(4277) 34°5'45.2"N., 119°5'43.5"W.;

(4278) 34°5'41.0"N., 119°5'21.2"W.;

(4279) 34°5'42.2"N., 119°5'13.3"W.;

(4280) 34°5'27.8"N., 119°4'49.5"W.;

(4281) 34°5'17.9"N., 119°4'27.9"W.;

(4282) 34°5'05.7"N., 119°3'59.9"W.;

(4283) 34°5'17.9"N., 119°3'55.4"W. (down-coast shoreline point).

(4284) (b) *The regulation*. No vessels may enter the restricted area unless permission is obtained in advance from the Commanding Officer of Naval Base Ventura County, Contact Naval Base Ventura County Security at 805-989-7907.

(4285) (c) *Enforcement*. The regulation in this section, promulgated by the United States Army Corps of Engineers, shall be enforced by the Commanding Officer of Naval Base Ventura County, and such agencies or persons as he/she may designate.

§334.1127 Naval Base Ventura County, Port Hueneme, California; Restricted Area.

(4286) (a) *The area*. The waters within Port Hueneme Harbor, beginning at the seaward ends of the two Port Hueneme Harbor entrance jetties, with the northwestern entrance jetty end occurring at 34°8'37.0"N., 119°12'58.8"W., and the southeastern entrance jetty occurring at 34°8'34.8"N, 119°12'43.2"W., and extending northeasterly to the shoreline.

(4287) (b) *The regulation*. No vessels or persons may enter the restricted area unless permission is obtained in advance from the Commanding Officer of Naval Base Ventura County. Commercial vessels that are required to make Advanced Notifications of Arrival shall continue to do so. All vessels must obtain clearance from "Control 1" over marine radio channel 06 VHF-FM prior to crossing the COLREGS (Collision Regulations) demarcation line. Vessels without marine radio capability must obtain clearance in advance by contacting "Control 1" via telephone at 805-982-3938 prior to crossing the COLREGS demarcation line. The COLREGS demarcation line is defined as a line approximately 1,500 feet in length connecting the seaward limits or ends of the two Port Hueneme Harbor entrance jetties, with the northwestern jetty end occurring at 34°8'37.0"N., 119°12'58.8"W., and the southeastern entrance jetty occurring at 34°8'34.8"N., 119°12'43.2"W. (NAD 83).

(4288) (c) *Enforcement*. The regulation in this section, promulgated by the United States Army Corps of Engineers, shall be enforced by the Commanding Officer of Naval Base Ventura County, and such agencies or persons as he/she may designate.

§334.1130 Pacific Ocean, Western Space and Missile Center (WSMC), Vandenberg AFB, Calif.; danger zones.

(4289) (a) *The area*. (1) The waters of the Pacific Ocean in an area extending seaward from the shoreline a distance of about three nautical miles and basically outlined as follows:

(4290) Station

(4291) Point Sal–34°54'08"N., 120°40'15"W.

(4292) 1–34°54'08"N., 120°44'00"W.

(4293) 2–34°52'48"N., 120°44'00"W.

(4294) 3–34°50'00"N., 120°40'30"W.

(4295) 4–34°44'50"N., 120°42'15"W.

(4296) 5–34°41'50"N., 120°40'12"W.

(4297) 6–34°35'12"N., 120°42'45"W.

(4298) 7–34°33'00"N., 120°41'05"W.

(4299) 8–34°30'40"N., 120°37'29"W.

(4300) 9–34°24'18"N., 129°30'00"W.

(4301) 10–34°23'34"N., 120°27'05"W.

(4302) 11–34°24'21"N., 120°24'40"W.

(4303) 12–34°27'20"N., 120°24'40"W.

(4304) Point Sal–34°54'08"N., 120°40'15"W.

(4305) (2) The danger area described in Paragraph (a) (1) of this section will be divided into zones in order that certain firing tests and operations, whose characteristics as to range and reliability permit, may be conducted without requiring complete evacuation of the entire area. These zones are described as follows:

(4306) (i) *Zone 1*. An area extending seaward about three nautical miles from the shoreline beginning at Point Sal,

(4307) 34°54'08", 120°40'15"; thence due west to

(4308) 34°54'08", 120°44'00"; thence to

(4309) 34°52'48", 120°44'00"; thence to

(4310) 34°50'00", 120°40'30"; thence due east to the shoreline at

(4311) 34°50'00", 120°36'30".

(4312) (ii) *Zone 2*. An area extending seaward about three nautical miles from the shoreline beginning at

(4313) 34°50'00", 120°36'30"; thence due west to

(4314) 34°50'00", 120°40'30", thence to

(4315) 34°45'28", 120°42'05"; thence due east to the shoreline at Purisima Point,

(4316) 34°45'28", 120°38'15".

(4317) (iii) *Zone 3*. An area extending seaward about three nautical miles from the shoreline beginning at Purisima Point

(4318) 34°45'28", 120°38'15"; thence due west to

(4319) 34°45'28", 120°42'05"; thence to

(4320) 34°44'50", 120°42'15"; thence to

(4321) 34°41'50", 120°40'12"; thence due east to the shoreline at the mouth of the Santa Ynez River,

(4322) 34°41'50", 120°36'20".

(4323) (iv) *Zone 4*. An area extending seaward about three nautical miles from the shoreline beginning at the mouth of the Santa Ynez River

(4324) 34°41'50", 120°36'20"; thence due west to

(4325) 34°41'50", 120°40'12"; thence to

(4326) 34°35'12", 120°42'45"; thence

(4327) 34°34'32", 120°42'15"; thence due east to the shoreline at Point Arguello,

(4328) 34°34'32", 120°39'03".

(4329) (v) *Zone 5*. An area extending seaward about three nautical miles from the shoreline beginning at Point Arguello,

(4330) 34°34'32", 120°39'03"; thence due west to

(4331) 34°34'32", 120°42'15"; thence to

(4332) 34°33'00", 120°41'05"; thence to

(4333) 34°30'40", 120°37'29"; thence due north to the shoreline at

(4334) 34°33'15", 120°37'29".

(4335) (vi) *Zone 6*. An area extending seaward about three nautical miles from the shoreline beginning at

(4336) 34°33'15", 120°37'29"; thence due south to

(4337) 34°30'40", 120°37'29"; thence due east to the shoreline at

(4338) 34°30'40", 120°30'10".

(4339) (vii) *Zone 7*. An area extending seaward about three nautical miles from the shoreline beginning at

(4340) 34°30'40", 120°30'10"; thence due west to

(4341) 34°30'40", 120°37'29"; thence to

(4342) 34°26'56", 120°33'06"; thence due east to the shoreline at Point Conception,

(4343) 34°26'56", 120°28'10".

(4344) (viii) *Zone 8*. An area extending seaward about three nautical miles from the shoreline beginning at Point Conception,

(4345) 34°26'56", 120°28'10"; thence due west to

(4346) 34°26'56", 120°33'06"; thence to

(4347) 34°24'18", 120°30'00"; thence to

(4348) 34°23'34", 120°27'05"; thence shoreward to Point Conception,

(4349) 34°26'56", 120°28'10".

(4350) (ix) *Zone 9*. An area extending seaward about three nautical miles from the shoreline beginning at Point Conception,

(4351) 34°26'56", 120°28'10"; thence seaward to

(4352) 34°23'34", 120°27'05"; thence to

(4353) 34°24'21", 120°24'40"; thence due north to the shoreline at

(4354) 34°27'20", 120°24'40".

(4355) (b) *The regulations*. (1) Except as prescribed in this section or in other regulations, danger zones will be open to fishing, location of fixed or movable oil drilling platforms and general navigation without restrictions.

(4356) (2) The stopping or loitering by any person or vessel is expressly prohibited within Danger Zone 4, between the mouth of the Santa Ynez River and Point Arguello, unless prior permission is obtained from the Commander, Western Space and Missile Center (WSMC) at Vandenberg AFB, California.

(4357) (3) The impacting or missile debris from launch operations will take place in any one or any group of zones in the danger areas at frequent and irregular intervals throughout the year. The Commander, WSMC, will announce in advance, the closure of zones hazarded by missile debris impact. Such advance announcements will appear in the weekly "Notice to Mariners." For the benefit of fishermen, small craft operators and drilling platform operators, announcements will also be made on radio frequency 2182 kc, 2638 kc, VHF channel 6 (156.30 MHz), VHF channel 12 (156.60 MHz), and VHF channel 16 (156.80 MHz) for daily announcements. Additionally, information will be posted on notice boards located outside Port Control Offices (Harbormasters) at Morro Bay, Port San Luis, Santa Barbara, Ventura, Channel Islands, and Port Hueneme Harbors, and any established harbor of refuge between Santa Barbara and Morro Bay.

(4358) (4) All fishing boats, other small craft, drilling platforms and shipping vessels with radios are requested to monitor radio frequency 2182 kc, 2638 kc, VHF channel 6 (156.30 MHz), channel 12 (156.60 MHz), or channel 16 (156.80 MHz) while in these zones for daily announcements of zone closures.

(4359) (5) When a scheduled launch operation is about to begin, radio broadcast notifications will be made periodically, starting at least 24 hours in advance. Additional contact may be made by surface patrol boats or aircraft equipped with a loudspeaker system. When so notified, all persons and all vessels shall leave the specified zone or zones immediately by the shortest route.

(4360) (6) The Commander, WSMC, will extend full cooperation relating to the public use of the danger area and will fully consider every reasonable request for its use in light of requirements for national security and safety of persons and property.

(4361) (7) Where an established harbor of refuge exists, small craft may take shelter for the duration of zone closure.

(4362) (8) Fixed or movable oil drilling platforms located in zones identified as hazardous and closed in accordance with this regulation shall cease operations for the duration of the zone closure. The zones shall be closed continuously no longer than 72 hours at any one time. Such notice to evacuate personnel shall be accomplished in accordance with procedures as established by the Commander, WSMC, the U.S. Department of the Interior, Minerals Management Service and the oil industry in the adjacent waters of the outer continental shelf.

(4363) (9) No seaplanes, other than those approved by the Commander, WSMC, may enter the danger zones during launch closure periods.

(4364) (10) The regulations in this section shall be enforced by personnel attached to WSMC and by such other agencies as may be designated by the Commander, WSMC.

(4365) (11) The regulations in this section shall be in effect until further notice. They shall be reviewed again during August 1994.

§334.1140 Pacific Ocean at San Miguel Island, Calif.; naval danger zone.

(4366) (a) *The area*. The waters around San Miguel Island, extending about 3 miles seaward from the shoreline within the following points:

(4367) A–34°01'32"N., 120°23'17"W.

(4368) B–33°58'48"N., 120°23'17"W.

(4369) C–33°58'48"N., 120°15'00"W.

(4370) D–34°02'50"N., 120°15'00"W.

(4371) E–34°05'45"N., 120°17'25"W.

(4372) F–34°07'00"N., 120°20'05"W.

(4373) G–34°09'18"N., 120°23'17"W.

(4374) H–34°03'09"N., 120°23'17"W.

(4375) (b) *Markers*. Range markers, as delineated below, are installed at points A and H for navigational purposes for both surface vessels and aircraft:

(4376) (1) At point A two triangular markers are installed facing southward, 10 feet in length on each side, with red and white diagonal stripes, each marker mounted atop 80-foot poles spaced 100 yards apart, each pole being placed on the line of longitude 120°23'17"W. and near the southerly shoreline at latitude 34°01'32"N. The southernmost marker is 20 feet below the other.

(4377) (2) At point H two triangular markers are installed facing true north 10 feet in length on each side, with red and white diagonal stripes, each marker mounted atop 80-foot poles spaced 100 yards apart, each pole being placed on the line of longitude 120°23'17"W. and near the northwesterly shoreline at latitude 34°03'09"N. The northernmost marker is 20 feet below the other.

(4378) (c) *The regulations*. (1) Except as prescribed in this section or in other regulations, the danger zone will be open to fishing and general navigation. Bomb drops between designated hours are expected to be intermittent, and when safe to do so, commercial fishing boats and other small craft will be granted permission to proceed through the danger zone. All vessels permitted to enter the zone during a scheduled bomb drop period, other than those owned or operated by the U.S. Government, shall proceed across the zone by the most direct route and clear the area as soon as possible. When bomb drops are not scheduled, the zone may be occupied without restriction.

(4379) (2) The anchoring, stopping or loitering by any person, vessel, fishing boat or recreational craft within the danger zone during scheduled firing/drop hours is expressly prohibited.

(4380) (3) The bomb drops will take place in the danger zone at frequent and irregular intervals throughout the year. Danger zone usage demands are identified in the Eleventh Coast Guard District, "Local Notice to Mariners". Announcements will also be made on marine radio channel 16, at 0800 local time, 1200 local time and/or 1 hour prior to bomb drop operations. Status of the zone and/or permission to enter, may be requested by calling "Plead Control" on marine channel 16 or by calling the Pacific Missile Test Center (PMTC) on telephone number (805) 982-8280 or 982-8841.

(4381) (4) The Commander, PMTC will extend full cooperation relating to the public use of the danger zone area and will fully consider every reasonable request for its use in light of requirements for national security and safety of persons and property.

(4382) (5) No seaplanes, other than those approved for entry by the Commander, PMTC, may enter the danger zone during firing periods.

(4383) (6) Landing by any vessel or going ashore by any person on San Miguel Island is specifically prohibited without prior permission of the Superintendent, Channel Islands National Park. Applications for such permission should be made to: Superintendent, Channel Islands National Park, 1699 Anchors Way Drive, Ventura, California 93003.

(4384) (7) The regulations in this section shall be enforced by personnel attached to the Pacific Missile Test Center, Point Mugu, California, and by such other agencies as the Commandant, 11th Naval District, San Diego, Calif., may designate.

(4385) (8) The regulations in this section shall be in effect until further notice. They shall be reviewed in 1986.

§334.1150 Monterey Bay, Calif.

(4386) (a) *Firing range, Fort Ord, Calif.*–

(4387) (1) *The danger zone*. (i) A rectangular area in Monterey Bay, the southerly limit of which is an extension seaward of the southerly line of the Fort Ord Military Reservation boundary and bears 307° true, 8,000 yards from a point on the shore at latitude 36°37'47", longitude 121°50'28", and the northerly limit of which is a line bearing 307° true, 8,000 yards, from a point on the shore at latitude 36°41'57", longitude 121°48'30", opposite Marina, Monterey County, Calif. The seaward boundary is a straight line joining the outer ends of the southerly and the northerly boundaries at the 8,000 yard range and is approximately parallel to the shore.

(4388) (ii) The danger zone is divided into a short range area, extending seaward from the shore a distance of 5,000 yards measured along the southerly and northerly boundaries, and a long range area embracing the entire danger zone.

(4389) (2) *The regulations*. (i) The 5,000 yard shore range is prohibited to all persons, vessels and craft, except those authorized by the enforcing agency, each week, between dawn and midnight from Monday through

Friday and between dawn and dusk on Saturday and Sunday.

(4390) (ii) The area between the 5,000 yard short range and the 8,000 yard seaward boundary of the danger zone may be used at all times for navigation and fishing, except when advance notice of intention to use this area has been given by the enforcing agency by one or more of the following means.

(4391) (a) Notice published in Monterey County and Santa Cruz County daily newspapers, at least two days in advance of the date of said use.

(4392) (b) Display of red flags at Indian Head Beach and near the Point Pinos Lighthouse.

(4393) (c) Radio Broadcast.

(4394) (d) Notice to individual craft by a visit of a United States vessel.

(4395) (e) Telephone advice to such fishermen's organizations as may request, in writing, that such advice be given.

(4396) (iii) The regulations in this Paragraph will be enforced by the Commanding General, Fort Ord, California.

(4397) (b) *Navy mining operations area*–(1) *The danger zone*. Shoreward of a line beginning at the stack at about latitude 36°58'06", longitude 121°54'06"; thence 230° true, 6.0 miles; thence 140° true, 7.5 miles; thence 50° true to the shore.

(4398) (2) *The regulations*. The danger zone will be used for training in various phases of mine warfare operations. During the period from August 1 to February 15, inclusive, each year, no operations will be carried on which will involve placing any obstructions in the water nor will any operations be carried on at night. During the period from February 16 to July 31, inclusive, each year, operations may be carried on which will involve laying exercise mines and other moored or bottom obstructions. In each case when moored or bottom obstructions are laid a notice to mariners will be issued giving notice of their approximate location within the danger zone and all persons and vessels shall keep clear.

§334.1160 San Pablo Bay, Calif.; target practice area, Mare Island Naval Shipyard, Vallejo.

(4399) (a) *The danger zone*. A sector in San Pablo Bay adjacent to the westerly shore of Mare Island with a radius of 4,700 yards, centered at a point bearing 316° true, 3,605 yards, from Mare Island Strait Light 1, with limiting true bearings from that center of 266°30' and 222°.

(4400) (b) *The regulations*. The Commander, Mare Island Naval Shipyard, Vallejo, California, will conduct target practice in the area at intervals of which the public will be duly notified. At such times all persons and vessels shall stay clear.

§334.1170 San Pablo Bay, Calif.: gunnery range, Naval Inshore Operations Training Center, Mare Island, Vallejo.

(4401) (a) *The danger zone*. A sector in San Pablo Bay delineated by lines joining the following points:

(4402) 38°02'08"N., 122°25'17"W.

(4403) 38°02'21"N., 122°22'55"W.

(4404) 38°05'48"N., 122°19'34"W.

(4405) 38°07'46"N., 122°23'23"W.

(4406) **NOTE:** The danger zone will be used until September 30, 1982, after which it shall be subject to review to determine the further need thereof.

(4407) (b) *The Regulations*. The Commanding Officer, Coastal River Division Eleven, Department of the Navy, Mare Island, Vallejo, California, will conduct gunnery practice in the area during the period April 1 through September 30, between the hours of 10 a.m. and 3 p.m. on the first Wednesday of each month and the third full weekend (Saturday and Sunday) of June. No persons or vessels shall enter or remain in the danger zone during the above stated periods except those persons and vessels connected with the gunnery practice operations. All firing will be from the southerly portion of the danger zone in a northerly direction, and only during good visibility. The public will be notified prior to each firing by a Notice to Mariners issued by the U.S. Coast Guard and the area will be patrolled by boat and searched by radar to insure a clear range. A safety officer will always be aboard the firing boat to guarantee that all safety precautions are observed. The regulations in this section will be enforced by the Commandant, 12th Naval District and such agencies as he may designate.

§334.1180 Strait of Juan de Fuca, Washington; air-to-surface weapon range, restricted area.

(4408) (a) *The restricted area*. A circular area immediately west of Smith Island with a radius of 1.25 nautical miles having its center at latitude 48°19'11" North and longitude 122°54'12" West. In the center of the area will be located a lighted and radar reflective buoy to serve as a navigational aid to mariners. The area will be used for air-to-surface target practice using non-explosive training devices.

(4409) (b) *The regulations*. (1) No person, vessel or other watercraft shall enter or remain within the designated restricted area between 0700 and 1200 hours daily, local time except as authorized by the enforcing agency and as follows: The area will be open to commercial gill net fishing during scheduled fishing periods from June 15 to October 15, annually. The October 15 closure date will be extended by the enforcing agency if determined as advantageous to the commercial gill net fishing by the Washington State Department of Fisheries.

(4410) (2) Prior to each target practice operation the restricted area will be patrolled by naval aircraft. Those persons and vessels found within the restricted area will be overflown by the aircraft at an altitude of not less than 300' in the direction in which the unauthorized person and vessel are to proceed to clear the area.

(4411) (c) The regulations in this section shall be enforced by the Commandant, Thirteenth Naval District, Seattle, Washington, and such agencies as he may designate.

§334.1190 Hood Canal and Dabob Bay, Wash.; naval non-explosive torpedo testing areas.

(4412) (a) *Hood Canal in vicinity of Bangor*–(1) *The area*. All waters of Hood Canal between latitude 47°46'00" and latitude 47°42'00", exclusive of navigation lanes one-fourth nautical mile wide along the west shore and along the east shore south from the town of Bangor (latitude 47°43'28").

(4413) (2) *The regulations*. (i) The area will be used intermittently by the Navy for non-explosive torpedo ranging. Launching will be conducted only between 8 a.m., and sunset on days other than Saturdays, Sundays, and holidays. At no time will the navigation lanes generally paralleling the shore be closed to navigation.

(4414) (ii) Navigation will be permitted within the area at all times except when naval exercises are in progress. No vessel shall enter or remain in the area when such exercises are in progress. Prior to commencement of an exercise, the Navy will make an aerial or surface reconnaissance of the area. Vessels underway and laying a course through the area will not be interfered with, but they shall not delay their progress. Vessels anchored or cruising in the area and vessels unobserved by the Navy reconnaissance which enter or are about to enter the area while a torpedo is in the water will be contacted by a Navy patrol boat and advised to steer clear. Torpedoes will be tested only when all vessels or other craft have cleared the area.

(4415) (iii) When operations are in progress, use of the area will be indicated by the presence of Naval vessels flying a "Baker" (red) flag.

(4416) (iv) Notices of temporary suspension and revival of operations will be published in local newspapers and in Notice to Mariners published by the United States Coast Guard.

(4417) (b) *Dabob Bay in the vicinity of Quilcene*–(1) *The area*. All waters of Dabob Bay beginning at latitude 47°39'27", longitude 122°52'22"; thence northeasterly to latitude 47°40'19", longitude 122°50'10"; thence northeasterly to a point on the mean high water line at Takutsko Pt.; thence northerly along the mean high water line to latitude 47°48'00"; thence west on latitude 47°48'00" to the mean high water line on the Bolton Peninsula; thence southwesterly along the mean high water line of the Bolton Peninsula to a point on longitude 122°51'06"; thence south on longitude 122°51'06" to the mean high water line at Whitney Pt.; thence along the mean high water line to a point on longitude 122°51'15"; thence southwesterly to the point of beginning.

(4418) (2) *The regulations*. (i) Propeller-driven or other noise- generating craft shall not work their screws or otherwise generate other than incidental noise in the area during periods of actual testing, which will be indicated by flashing red beacons at strategic locations, and all craft shall keep well clear of vessels engaged in such testing.

(4419) (ii) No vessel shall trawl or drag in the area.

(4420) (iii) No vessel shall anchor in the area except between the shore and the 10-fathom depth line.

(4421) (iv) Operations will normally be confined to the period from 9:30 a.m., to 2:30 p.m., on Mondays through Fridays, and will normally consist of intermittent tests of less than 30 minutes duration, with boat passage permitted between tests. Transits of log-tows and other slow-moving traffic will be arranged on a mutually satisfactory individual basis as appropriate. Emergencies or high-priority projects may occasionally cause operations outside the periods specified above. No operations will be conducted on Sundays.

(4422) (c) The regulations in this section shall be enforced by the Commandant, Thirteenth Naval District, and such agencies as he may designate.

§334.1200 Strait of Juan de Fuca, eastern end; off the westerly shore of Whidbey Island; naval restricted areas–

(4423) (a) *Area No. 1*. Bounded by a line commencing at
(4424) 48°20'57"N., 122°40'39"W.; thence to
(4425) 48°20'40"N., 122°42'59"W.; thence to
(4426) 48°21'19"N., 122°43'02"W.; thence to
(4427) 48°21'13"N., 122°40'26"W.; and thence along the shore line to the point of beginning.

(4428) (b) *Area No. 2*. Bounded by a line commencing at
(4429) 48°21'53"N.; 122°40'00"W.; thence to
(4430) 48°23'12"N., 122°41'17"W.; thence to
(4431) 48°23'29"N., 122°40'22"W.; thence to
(4432) 48°22'21"N., 122°39'50"W.; and thence along the shore line to the point of beginning.

(4433) (c) *The regulations*. (1) Persons and vessels shall not enter these areas except at their own risk.

(4434) (2) All persons and vessels entering these areas shall be obliged to comply with orders received from naval sources pertaining to their movements while in the areas.

(4435) (3) The regulations in this Paragraph shall be enforced by the Commander, Naval Base, Seattle, and such agencies as he/she may designate.

§334.1210 Admiralty Inlet, entrance; naval restricted area–

(4436) (1) *The area*. Beginning at Point Wilson Light thence southwesterly along the coast line to latitude 48°07'N.; thence northwesterly to a point at latitude 48°15'N., longitude 123°00'W.; thence due east to Whidbey Island; thence southerly along the coast line to latitude 48°12.5'N.; thence southerly to the point of beginning.

(4437) (2) *The regulations*. (i) Use of any equipment such as anchors, fishing gear, grapnels, etc., which may foul underwater installations within the restricted area, is prohibited. Dumping of any non-buoyant objects in this area is prohibited.

(4438) (ii) The regulations of this Paragraph shall be enforced by the Commander, Naval Base, Seattle, and such agencies as he/she may designate.

§334.1215 Port Gardner, Everett Naval Base, Naval Restricted Area, Everett, Washington.

(4439) (a) *The area*. The waters of Port Gardner and East Waterway surrounding Naval Station Everett beginning at Point 1, a point near the northwest corner of Naval Station Everett at

(4440) 47°59'40"N., 122°13'23.5"W.; thence to

(4441) 47°59'40"N., 122°13'30"W. (Point 2); thence to

(4442) 47°59'20"N., 122°13'33"W. (Point 3); thence to

(4443) 47°59'13"N., 122°13'38"W. (Point 4); thence to

(4444) 47°59'05.5"N., 122°13'48.5"W. (Point 5); thence to

(4445) 47°58'51"N., 122°14'04"W. (Point 6); thence to

(4446) 47°58'45.5"N., 122°13'53"W. (Point 7); thence to

(4447) 47°58'45.5"N., 122°13'44"W. (Point 8); thence to

(4448) 47°58'48"N., 122°13'40"W. (Point 9); thence to

(4449) 47°58'59"N., 122°13'30"W. (Point 10); thence to

(4450) 47°59'14"N., 122°13'18"W. (Point 11); thence to

(4451) 47°59'13"N., 122°13'12"W. (Point 12); thence to

(4452) 47°59'20"N., 122°13'08"W. (Point 13); thence to

(4453) 47°59'20"N., 122°13'02.5"W. (Point 14), a point upon the Naval Station's shore in the northeast corner of East Waterway.

(4454) (b) *The regulation*. (1) All persons and vessels are prohibited from entering the waters within the restricted area for any reason without prior written permission from the Commanding Officer of the Naval Station Everett.

(4455) (2) Mooring, anchoring, fishing and/or recreational boating shall not be allowed within the restricted area without prior written permission from the Commanding Officer, Naval Station Everett.

(4456) (c) *Enforcement*. The regulation in this section, promulgated by the United States Army Corps of Engineers, shall be enforced by the Commanding Officer, Naval Station Everett and such agencies and persons as he/she shall designate.

§334.1220 Hood Canal, Bangor, naval restricted areas.

(4457) (a) *Hood Canal, Bangor; Naval restricted area*s–(1) *Area No. 1*. That area bounded by a line commencing on the east shore of Hood Canal at

(4458) 47°46'18"N, 122°42'18"W; thence

(4459) 47°46'32"N, 122°42'20"W; thence to

(4460) 47°46'38"N, 122°42'52"W; thence to

(4461) 47°44'15"N, 122°44'50"W; thence to

(4462) 47°43'53"N, 122°44'58"W; thence to

(4463) 47°43'17"N, 122°44'49"W.

(4464) (2) *Area No. 2*. Waters of Hood Canal within a circle of 1,000 yards diameter centered on a point located at

(4465) 47°46'26"N, 122°42'49"W.

(4466) (3) *The regulations*–(i) *Area No. 1*. No person or vessel shall enter this area without permission from the Commander, Naval Submarine Base Bangor, or his/her authorized representative.

(4467) (ii) *Area No. 2*. (A) The area will be used intermittently by the navy for magnetic silencing operations.

(4468) (B) Use of any equipment such as anchors, grapnels, etc., which may foul underwater installations within the restricted area, is prohibited at all times.

(4469) (C) Dumping of any nonbuoyant objects in this area is prohibited.

(4470) (D) Navigation will be permitted within that portion of this circular area not lying within Area No. 1 at all times except when magnetic silencing operations are in progress.

(4471) (E) When magnetic silencing operations are in progress, use of the area will be indicated by display of quick flashing red beacons on the pier located in the southwest quadrant of the area.

(4472) (4) *Enforcement*. The regulations in this subsection shall be enforced by the Commander, Naval Submarine Base Bangor, or his/her authorized representative.

§334.1230 Port Orchard; naval restricted area–

(4473) (1) *The area*. Shoreward of a line beginning at a point on the west shoreline of Port Orchard bearing 90° from stack (at latitude 47°42'01", longitude 122°36'54"); thence 90°, approximately 190 yards, to a point 350 yards from stack; thence 165°, 6,000 yards, to a point bearing 179°, 1,280 yards, from Battle Point Light; thence westerly to the shoreline at latitude 47°39'08" (approximate location of the Brownsville Pier).

(4474) (2) *The regulations*. (i) No vessel shall, at any time, anchor or tow a drag of any kind in this area.

(4475) (ii) The regulations in this Paragraph shall be enforced by the Commander, Naval Base, Seattle, and such agencies as he/she may designate.

§334.1240 Sinclair Inlet; Naval Restricted Areas.

(4476) (a) *Sinclair Inlet; naval restricted areas*.–

(4477) (1) *Area No*. 1. All the waters of Sinclair Inlet westerly of a line drawn from the Bremerton Ferry Landing at 47°33'48"N., 122°37'23"W. on the north shore of Sinclair Inlet and 47°32'52"N.,122°36'58"W. on the south shore of Sinclair Inlet.

(4478) (2) *Area No. 2*. That area of Sinclair Inlet to the north and west of an area bounded by a line commencing at

(4479) 47°33'43"N., 122°37'31"W.; thence south to

(4480) 47°33'39"N., 122°37'27"W.; thence southwest to

(4481) 47°33'23"N., 122°37'45"W.; thence southwest to

(4482) 47°33'19"N., 122°38'12"W.; thence southwest to

(4483) 47°33'10"N., 122°38'19"W.; thence southwest to

(4484) 47°33'07"N., 122°38'29"W.; thence west to

(4485) 47°33'07"N., 122°38'58"W.; thence southwest to

(4486) 47°33'04"N., 122°39'07"W.; thence west to the north shore of Sinclair Inlet at 47°33'04"N., 122°39'41"W.

(4487) (3) *The regulations*. (i) *Area No. 1*. No vessel of more than 100 gross tons shall enter this area or navigate therein without permission from the enforcing agency.

(4488) (ii) *Area No. 2*. This area is for the exclusive use of the U.S. Navy. No person, vessel, craft, article or thing except those under supervision of military or naval authority except Washington State Ferries or Horluck Transportation Company Ferries on established routes shall enter this area without permission from the enforcing agency.

(4489) (iii) The regulations in this section shall be enforced by the Commander, Naval Base, Seattle, Washington, or his/her authorized representative.

(4490) (b) [Reserved]

§334.1250 Carr Inlet, Naval Restricted Areas.–

(4491) (1) *The Area*. The Waters of Carr Inlet bounded on the southeast by a line running from Gibson Point on Fox Island to Hyde Point on McNeil Island, on the northwest by a line running from Green Point (at latitude 47°16'54"N., longitude 122°41'33"W.) to Penrose Point; plus that portion of Pitt Passage extending from Carr Inlet to Pitt Island, and that portion of Hale Passage extending from Carr Inlet southeasterly to a line drawn perpendicular to the channel 500 yards northwesterly of the Fox Island Bridge.

(4492) (2) *The Regulations*. (i) The area shall be used as an acoustic range for research studies and special noise trials. No explosives shall be used.

(4493) (ii) No marine craft of any type shall at any time approach or remain within one hundred yards of the hydrophone buoys. The hydrophone buoys will be anchored in Carr Inlet on a line perpendicular to the course line opposite Ketner's Point, and about one mile from the Fox Island shore. The course line, or range, will bear 134°38'21" (314°38'21") true, and will be marked by range beacons erected near the shoreline approximately one mile north-northeast of Steilacoom and approximately two miles north-northeast of Home.

(4494) (iii) *Buoy Testing Area*. No vessel shall, at anytime, anchor or tow a drag of any kind within 1,000 yards of the buoy testing area.

(4495) (iv) The remainder of the area shall be open to navigation at all times except when the range is in use or when hydrophones are being calibrated. When the range is in use or hydrophones are being calibrated, quick flashing beacon lights will be displayed on signal towers located at Gibson Point, Green Point, Penrose Point, Pitt Island and Hyde Point. These beacon lights will be either red or green. The beacon lights will show quick flashing every two seconds. The ranging of vessels or calibration of hydrophones requiring restrictions will be conducted 24 hours per day for up to 5 days consecutively, and will total approximately 150 days spread throughout the year. Shutting off of beacon lights will indicate termination of use of the range. Insofar as possible, the schedule of operations giving the days the range will be in use for each forthcoming month will be published in local newspapers and in the local U.S. Coast Guard Notice to Mariners.

(4496) (v) When the red beacon lights are displayed, indicating that the range is in use or hydrophones are being calibrated, navigation within the area will be restricted as follows:

(4497) (a) As used in this section, the words "operate, power vessel, and non-power vessel" are defined as follows:

(4498) (1) "Operate": To be physically present in the designated area.

(4499) (2) "Power vessel": A vessel propelled principally by a mechanical propulsion system (i.e., gasoline, diesel, steam or electric drive to a propeller, pump jet, paddle wheel or other device), and being propelled by that means.

(4500) (3) "Non-power vessel": A vessel not equipped with a mechanical propulsion system, such as a rowboat, canoe, or sailboat propelled by oars, paddles, or sails, respectively.

(4501) (b) Power vessels shall not operate within the area, except that traffic in either direction between Hale

Passage and upper Carr Inlet, within 200 yards of the low water mark off Green Point, will be cleared by signal for approximately 15 minutes total time within this area at the termination of individual ranging runs, while the vessel being ranged takes position for the next run. Clearance to traverse the area around Green Point will be indicated by extinguishing the red flashing beacon lights and displaying the green flashing beacon lights on all signal towers.

(4502) (c) Non-powered marine craft shall not operate within one mile of the course line bearing 134°38'21" (314°38'21") true, and within two miles to the southeast and two miles to the northwest of the hydrophone buoys situated in Carr Inlet opposite Ketner's Point; provided, however, non-powered craft may operate within four hundred yards of the low water mark on the northeast side of McNeil Island, within two hundred yards of the low water mark at Green Point, and within two hundred yards of the low water mark on the southwest shore of Fox Island.

(4503) (d) Towboats shall have free access and egress to designated tow havens within Carr Inlet, as follows: The Navy will establish and maintain suitable mooring buoys for the use of tugs and their tows at the following points: (1) approximately 1,500 yards northwest of Gibson Point Light and approximately 400 yards offshore from the low water mark on the Fox Island shore; (2) approximately 1,500 yards northwest of Hyde Point and approximately 400 yards offshore from the low water mark on McNeil Island shore; and (3) approximately 1,500 yards east of Wyckoff Shoal. Towboats will signal by radio (Marine Band Channel 14, 13, 12, or 6) or telephone as far in advance as possible of the time they enter the tow haven, such signals to be directed to "Carr Inlet Range Control" at the range instrument laboratory building located on Fox Island. The Navy shall promptly suspend operations when necessary to permit the access and egress of such tow traffic, and Carr Inlet Range Control shall signal the tows when the area is clear.

(4504) (e) Through commercial traffic, including tows, to points within Carr Inlet, and through Carr Inlet, Pitt Passage and Hale Passage to adjacent waters will be permitted free access and egress, as follows: Such traffic will signal by radio (Marine Band Channel 14, 13, 12, or 6) or telephone as far in advance as possible of the time they enter the area, such signals to be directed to "Carr Inlet Range Control" at the range instrument laboratory located on Fox Island. The Navy shall promptly suspend operations when necessary to permit the passage of such traffic, and Carr Inlet Range Control shall signal when the area is clear for passage.

(4505) (f) The warden of the McNeil Island penitentiary and his authorized representatives shall be permitted to operate within the area at any time, as may be necessary, for the patrol and search for escaped convicts.

(4506) (g) Red or green signal flags will be displayed on the signal towers in case of failure of the red or green beacon lights. The display of the signal flags at the top of the flag masts will have the same significance as the beacon lights.

(4507) (3) The regulations in this Paragraph shall be enforced by the Commander, Naval Base, Seattle, and such agencies as he may designate.

§334.1260 Dabob Bay, Whitney Point, Naval Restricted Area–

(4508) (1) *The area*. Beginning at the high water line along the westerly shore of Dabob Bay, 100 yards northerly of the Naval control building located at approximately N. latitude 47°45'36" and W. longitude 122°51'00", thence S. 89°59'E. 2000 yards, thence to S. 00°01'W. 200 yards thence N. 89°59'W. approximately 2000 yards to the high water line 100 yards southerly of the control building.

(4509) (2) *The regulations*. (i) No vessel shall, at any time, anchor or tow a drag of any kind in this area.

(4510) (ii) The regulations in this Paragraph shall be enforced by the Commander, Naval Base, Seattle, or his/her authorized representative.

§334.1270 Port Townsend, Indian Island, Walan Point, Naval Restricted Area–

(4511) (a) *The area*. The waters of Port Townsend bounded by a line commencing on the north shore of Walan Point at

(4512) 48°04'41"N., 122°44'26"W.; thence to

(4513) 48°04'46"N., 122°44'53"W.; thence to

(4514) 48°04'19"N., 122°45'05"W.; thence to

(4515) 48°04'15"N., 122°44'48"W.; thence to a point on the Walan Point shoreline at

(4516) 48°04'18"N., 122°44'48"W.; and thence along the shoreline to the point of beginning. This line is located approximately 200 yards from the face and ends of the pier.

(4517) (b) *The regulations*. No person or vessel shall enter this area without permission from the Commander, Naval Base, Seattle, or his/her authorized representative. This restriction shall apply during periods when ship loading and/or pier operations preclude safe entry. These periods will be identified by flying a red flag from the ship and/or pier. A yellow flag will be displayed 24 hours in advance of the restricted periods.

§334.1340 Pacific Ocean, Hawaii; danger zones.

(4518) (a) *Danger zones*–

(4519) (1) *Aerial bombing and strafing target surrounding Kaula Rock, Hawaii*. The waters within a circular

area with a radius of three (3) miles having its center on Kaula Rock at 21°39'30"N., 160°32'30"W.

(4520) (2) *Submerged unexploded ordnance danger zone, Kahoolawe Island, Hawaii*. The waters adjacent to Kahoolawe Island within the area encompassed by the following coordinates beginning at

(4521) 20°37'30"N., 156°32'48"W.; thence to

(4522) 20°34'48"N., 156°30'24"W.; thence to

(4523) 20°28'54"N., 156°30'30"W.; thence to

(4524) 20°28'06"N., 156°41'48"W.; thence to

(4525) 20°30'30"N., 156°44'12"W.; thence to

(4526) 20°33'12"N., 156°44'30"W.; thence to

(4527) 20°37'30"N., 156°36'24"W.; thence to the beginning coordinates.

(4528) (b) *The regulations*. No person, vessel or other craft shall enter or remain in any of the areas at any time except as authorized by the enforcing agency.

(4529) (c) *Enforcing agency*. The regulations in this section shall be enforced by the Commander, Naval Base Pear Harbor, Hawaii 96860-5020 and such agencies as he/she may designated.

§334.1350 Pacific Ocean, Island of Oahu, Hawaii; danger zone.

(4530) (a) *The danger zone*. Beginning at point of origin at Kaena Point Light in

(4531) 21°34'42"N., 158°16'54"W.; thence on a bearing of 282°30' True to

(4532) 21°38'N., 158°33'W.; thence along the arc of a circle centered at Kaena Point Light to

(4533) 21°42'30"N., 158°03'W.; thence on a bearing of 228° True to

(4534) 21°35'33"N., 158°11'30"W.; thence to point of origin.

(4535) (b) *The regulations*. (1) The area will be closed to the public and all shipping on specific dates to be designated for actual firing and no person, vessel or other craft shall enter or remain in the area during the times designated for firing except as may be authorized by the enforcing agency. Notification to maritime interests of specific dates of firing will be disseminated through the U.S. Coast Guard media of the Local Notice to Mariners and the NOTAMS published by the Corps of Engineers. On dates not specified for firing, the area will be open to normal maritime traffic.

(4536) (2) The regulations of this section shall be enforced by the Commanding General, United States Army, Hawaii/25th Infantry Division, APO 957, and such agencies as he may designate.

§334.1360 Pacific Ocean at Barber's Point, Island of Oahu, Hawaii; danger zone.

(4537) (a) *The danger zone*. The waters within a rectangular area beginning at a point in

(4538) 21°17'56"N., 158°05'21"W.; thence to

(4539) 21°17'30"N., 158°05'21"W.; thence to

(4540) 21°17'58"N., 158°02'49"W.; thence to

(4541) 21°18'24"N., 158°02'49"W.; thence along the shoreline at the highwater mark along the southerly boundary of Naval Air Station, Barbers Point, to the point of beginning.

(4542) (b) *The regulations*. (1) The area is closed to all surface craft, swimmers, divers and fishermen except to craft and personnel authorized by the enforcing agency.

(4543) (2) The regulations in this section shall be enforced by the Commanding Officer, Naval Air Station, Barber's Point, Hawaii 96862, and such agencies as he/she may designate.

§334.1370 Pacific Ocean at Keahi Point, Island of Oahu, Hawaii; danger zone.

(4544) (a) *The danger zone*. The waters within an area beginning at a point in

(4545) 21°18'21.4"N., 157°59'14.2"W.; thence to

(4546) 21°18'11.0"N., 158°00'17.5"W.; thence to

(4547) 21°17'11.8"N., 158°00'06.5"W.; and thence to

(4548) 21°17'22.5"N., 157°59'03.1"W.

(4549) (b) *The regulations*. (1) The area is closed to all surface craft, swimmers, divers, and fishermen except to craft and personnel authorized by the enforcing agency.

(4550) (2) The regulations in this section shall be enforced by the Commanding Officer, Explosive Ordnance Disposal Training and Evaluation Unit One, Barbers Point, Hawaii 96862-5600.

§334.1380 Marine Corps Air Station, (MCAS) Kaneohe Bay, Island of Oahu, Hawaii-Ulupau Crater Weapons Training Range Danger Zone.

(4551) (a) *The Danger Zone*. The waters within a sector extending seaward a distance of 3,900 yards between radial lines bearing 352° true and 61° true, respectively, from a point on Mokapu Peninsula at 21°27'17"N., 157°43'51"W., exclusive of the existing 500 yard wide prohibited area. The interface between the existing 500 yard prohibited area and this danger zone is defined by three points having the following coordinates.

(4552) Point A: 21°27'59"N., 157°43'56"W.

(4553) Point B: 21°27'52"N., 157°43'02"W.

(4554) Point C: 21°27'38"N., 157°43'12"W.

(4555) (b) *The regulations*. (1) Weapons firing at the Ulupau Crater Weapons Training Range may occur at any time between 6:00 a.m. and 11:00 p.m., Monday through Friday, and between 6:00 a.m. and 6:00 p.m., Saturday and/or Sunday, when required. Specific dates and hours for weapons firing, along with information

regarding onshore warning signals, will be promulgated by the U.S. Coast Guard's Local Notice to Mariners. Information on weapons firing schedules may also be obtained by calling the Officer in Charge of the Range Training Facility, Headquarters and Headquarters Squadron, MCAS (telephone number 257-2067).

(4556) (2) Whenever hazardous weapons (machine guns) firing is scheduled and in progress during daylight hours, two large red triangular warning pennants will be flown at each of two highly visible and widely separated locations on the shore at Ulupau Crater.

(4557) (3) Whenever tactical weapons (exclusive of machine guns) firing is scheduled and in progress during daylight hours, a single large red rectangular warning flag will be flown at the two separate locations on the shore.

(4558) (4) Whenever any weapons firing is scheduled and in progress during periods of darkness, flashing red warning beacons will be displayed on the shore at Ulupau Crater.

(4559) (5) Boaters will have complete access to the danger zone whenever there is no weapons firing scheduled, which will be indicated by the absence of any warning flags, pennants, or beacons displayed ashore.

(4560) (6) The danger zone is not considered safe for boaters whenever hazardous weapons (machine guns) firing is in progress. Hazardous weapons firing will usually be scheduled approximately twice a month, on nonconsecutive weekdays, for about eight hours on each occasion. Boaters shall expeditiously vacate the danger zone at best speed and by the most direct route whenever hazardous weapons firing is scheduled. Passage of vessels through the danger zone when hazardous weapons firing is in progress will be permitted, but boaters shall proceed directly through the area at best speed. Hazardous weapons firing will be suspended as long as there is a vessel in the danger zone. Whenever a boater disregards the publicized warning signals that hazardous weapons firing is scheduled, the boater will be personally requested to expeditiously vacate the danger zone by MCAS Kaneohe Bay military personnel utilizing a bull-horn from either a Marine helicopter or Navy crash boat.

(4561) (7) The danger zone may be occupied for extended periods and with caution at individual risk whenever tactical weapons (exclusive of machine guns) firing is scheduled and in progress because of the remote possibility of a rifle round from an accidental discharge impacting outside the limits of the existing prohibited areas.

(4562) (8) Observation posts will be manned whenever any weapons firing is scheduled and in progress. Visibility will be sufficient to maintain visual surveillance of the entire danger zone and for an additional distance of 5 miles in all directions whenever weapons firing is in progress.

(4563) (c) *The Enforcing Agency*. The foregoing regulations shall be enforced by the Commanding Officer, MCAS Kaneohe Bay and such agencies as he/she may designate.

§334.1390 Pacific Ocean at Barking Sands, Island of Kauai, Hawaii, missile range facility.

(4564) (a) *The danger zone*. The waters within an area beginning at

(4565) 22°03'15"N., 159°47'15"W.; thence southerly along the shoreline to

(4566) 22°02'45"N., 159°47'18"W.; thence westerly to

(4567) 22°02'30"N., 159°51'30"W.; thence northeasterly to

(4568) 22°06'30"N., 159°49'30"W.; and thence southeasterly to point of beginning.

(4569) (b) *Markers*. (1) Range markers at the control point at 22°03'17.4"N., 159°47'12.2"W., are separated 300 feet (one pole 95.5 feet northwest and the other pole 204.5 feet southeast of this point) along a line bearing 327°10' True.

(4570) (2) Range markers at the control point at 22°02'44.5"N., 159°47'16.4"W., are separated 300 feet (one pole 75 feet west and the other pole 225 feet east of this point) along a line bearing 266°20' True.

(4571) (3) The range marker poles seaward from each control point are 25 feet in height above ground level. The other two poles are 45 feet above ground level.

(4572) (4) Each range marker consists of a 10-foot equilateral triangle with alternate red and white diagonal stripes.

(4573) (c) *The regulations*. Entry into the area by any person, boat, vessel or other craft is prohibited at all times. Special permission for transit through the area by the most direct route may be obtainable on an individual basis, by prior arrangement with the Commanding Officer, Pacific Missile Range Facility, Hawai'ian Area, Barking Sands, Kekaha, Kauai, Hawaii 96752.

§334.1400 Pacific Ocean, at Barbers Point, Island of Oahu, Hawaii; restricted area.

(4574) (a) *The area*. That portion of the Pacific Ocean lying offshore of Oahu between Ewa Beach and Barbers Point, basically outlined as follows:

(4575) Station

(4576) A (shoreline)–21°18'06"N., 158°04'24"W.

(4577) B–21°17'00"N., 158°03'30"W.

(4578) C–21°15'00"N., 158°03'18"W.

(4579) D–21°15'36"N., 158°01'06"W.

(4580) E (shoreline)–21°18'30"N., 158°02'00"W.

(4581) (b) *The regulations*. (1) Vessels shall not anchor within the area at any time.

(4582) (2) Dredging, dragging, seining, or other fishing operations which might foul underwater installations within the area are prohibited.

(4583) (3) Use of the restricted area for boating, fishing (except as prohibited in Paragraph (b)(2) of this section) and other surface activities is authorized.

(4584) (4) The regulations in this section shall be enforced by the Officer in Charge, Fleet Area Control and Surveillance Facility, Pearl Harbor, Hawaii 96860-7625, and such agencies as he/she may designate.

§334.1410 Pacific Ocean, at Makapuu Point, Waimanalo, Island of Oahu, Hawaii, Makai Undersea Test Range.

(4585) (a) *The restricted area*. The waters within an area beginning at a point in

(4586) 21°18'50"N., 157°39'07"W.; thence to

(4587) 21°20'33"N., 157°38'00"W.; thence to

(4588) 21°22'02"N., 157°39'07"W.; and thence to

(4589) 21°19'35"N., 157°40'46"W.

(4590) (b) *The regulations*. (1) During critical testing phases of surface and submerged units, the operating officials of the Makai Test Range will mark in a conspicuous manner the location of the equipment which might be subject to damage from navigation and fishing activities or might represent a hazard to persons or property in the vicinity. During the display of signals in the restricted area, all persons and surface craft will remain away from the area until such time as the signals are withdrawn. At all other times the area is open to unrestricted fishing, boating and general navigation.

(4591) (2) Operating officers and personnel of the Makai Test Range will be responsible for marking in a conspicuous manner the location of surface and underwater equipment which is subject to damage from navigation and fishing activities in the vicinity or represents a hazard to persons or property in the vicinity, and the location of the work area during critical testing phases. Surface communication by boat will be provided by the Makai Test Range during testing phases.

§334.1420 Pacific Ocean off Orote Point, Apra Harbor, Island of Guam, Marianas Islands; small arms firing range.

(4592) (a) *The danger zone*. The waters within an area delineated by a line joining the following positions:

Latitude	Longitude
13°26'03.9"	144°37'38.3"
13°25'26.0"	144°36'14.2"
13°24'51.2"	144°36'31.9"
13°25'28.7"	144°37'59.1"
13°25'43.2"	144°38'09.5"

(4593) (b) *The regulations*.

(4594) (1) The danger zone shall be closed to the public and shipping on specific dates to be designated for actual firing and no person, vessel or other craft shall enter or remain in the danger zone designated for firing except as may be authorized by the enforcing agency. Notification to maritime interests of specific dates of firing will be disseminated by the enforcing agency. On dates not specified for firing, the danger zone shall be open to normal maritime traffic.

(4595) (2) The regulations in this section shall be enforced by the Commanding Officer, U.S. Naval Station, Guam, Marianas Islands and such agencies as he may designate.

§334.1430 Apra Inner Harbor, Island of Guam; restricted area.

(4596) (a) *The restricted area*. The waters within Apra Inner Harbor and adjacent waters of Apra Outer Harbor inclosed by a line beginning at the northeast corner of a pier at

(4597) 13°26'32.1"N., 144°39'02.8"E., and thence to the northern tip of a small island at

(4598) 13°26'40.2"N., 144°39'28.1"E., and thence to the northwest corner of the point of land at

(4599) 13°26'28.1"N., 144°39'52.5"E.

(4600) (b) *The regulations*.

(4601) (1) All swimmers and all vessels and craft except public vessels of the United States are prohibited from entering this area without prior permission of the enforcing agency.

(4602) (2) The regulations in this section shall be enforced by Commander Naval Forces Marianas and such agencies as he may designate.

(4603) (3) The water areas of the outer boundaries of the restricted area will not be marked but signs will be posted at the designated boundary coordinates to warn against trespassing in the restricted area.

TITLE 40–PROTECTION OF ENVIRONMENT

Part 140–Marine Sanitation Device Standard

§140.1 Definitions.

(4604) For the purpose of these standards the following definitions shall apply:

(4605) (a) *Sewage* means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes;

(4606) (b) *Discharge* includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping;

(4607) (c) *Marine sanitation device* includes any equipment for installation onboard a vessel and which is designed to receive, retain, treat, or discharge sewage and any process to treat such sewage;

(4608) (d) *Vessel* includes every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on waters of the United States;

(4609) (e) *New vessel* refers to any vessel on which construction was initiated on or after January 30, 1975;

(4610) (f) *Existing vessel* refers to any vessel on which construction was initiated before January 30, 1975;

(4611) (g) *Fecal coliform bacteria* are those organisms associated with the intestines of warm-blooded animals that are commonly used to indicate the presence of fecal material and the potential presence of organisms capable of causing human disease.

§140.2 Scope of standard.

(4612) The standard adopted herein applies only to vessels on which a marine sanitation device has been installed. The standard does not require the installation of a marine sanitation device on any vessel that is not so equipped. The standard applies to vessels owned and operated by the United States unless the Secretary of Defense finds that compliance would not be in the interest of national security.

§140.3 Standard.

(4613) (a) (1) In freshwater lakes, freshwater reservoirs or other freshwater impoundments whose inlets or outlets are such as to prevent the ingress or egress by vessel traffic subject to this regulation, or in rivers not capable of navigation by interstate vessel traffic subject to this regulation, marine sanitation devices certified by the U.S. Coast Guard (see 33 CFR part 159, published in 40 FR 4622, January 30, 1975), installed on all vessels shall be designed and operated to prevent the overboard discharge of sewage, treated or untreated, or of any waste derived from sewage. This shall not be construed to prohibit the carriage of Coast Guard-certified flow-through treatment devices which have been secured so as to prevent such discharges.

(4614) (2) In all other waters, Coast Guard-certified marine sanitation devices installed on all vessels shall be designed and operated to either retain, dispose of, or discharge sewage. If the device has a discharge, subject to paragraph (d) of this section, the effluent shall not have a fecal coliform bacterial count of greater than 1,000 per 100 milliliters nor visible floating solids. Waters where a Coast Guard-certified marine sanitation device permitting discharge is allowed include coastal waters and estuaries, the Great Lakes and inter-connected waterways, fresh-water lakes and impoundments accessible through locks, and other flowing waters that are navigable interstate by vessels subject to this regulation.

(4615) (b) This standard shall become effective on January 30, 1977 for new vessels and on January 30, 1980 for existing vessels (or, in the case of vessels owned and operated by the Department of Defense, two years and five years, for new and existing vessels, respectively, after promulgation of implementing regulations by the Secretary of Defense under section 312(d) of the Act).

(4616) (c) Any vessel which is equipped as of the date of promulgation of this regulation with a Coast Guard-certified flow-through marine sanitation device meeting the requirements of paragraph (a)(2) of this section, shall not be required to comply with the provisions designed to prevent the overboard discharge of sewage, treated or untreated, in paragraph (a)(1) of this section, for the operable life of that device.

(4617) (d) After January 30, 1980, subject to paragraphs (e) and (f) of this section, marine sanitation devices on all vessels on waters that are not subject to a prohibition of the overboard discharge of sewage, treated or untreated, as specified in paragraph (a)(1) of this section, shall be designed and operated to either retain, dispose of, or discharge sewage, and shall be certified by the U.S. Coast Guard. If the device has a discharge, the effluent shall not have a fecal coliform bacterial count of greater than 200 per 100 milliliters, nor suspended solids greater than 150 mg/1.

(4618) (e) Any existing vessel on waters not subject to a prohibition of the overboard discharge of sewage in paragraph (a)(1) of this section, and which is equipped with a certified device on or before January 30, 1978, shall not be required to comply with paragraph (d) of this section, for the operable life of that device.

(4619) (f) Any new vessel on waters not subject to the prohibition of the overboard discharge of sewage in paragraph (a)(1) of this section, and on which construction is initiated before January 31, 1980, which is equipped with a marine sanitation device before January 31, 1980, certified under paragraph (a)(2) of this section, shall not be required to comply with paragraph (d) of this section, for the operable life of that device.

(4620) (g) The degrees of treatment described in paragraphs (a) and (d) of this section are "appropriate standards" for purposes of Coast Guard and Department of Defense certification pursuant to section 312(g)(2) of the Act.

§140.4 Complete prohibition.

(4621) (a) Prohibition pursuant to CWA section 312(f)(3): a State may completely prohibit the discharge from all vessels of any sewage, whether treated or not, into some or all of the waters within such State by making a

written application to the Administrator, Environmental Protection Agency, and by receiving the Administrator's affirmative determination pursuant to section 312(f)(3) of the Act. [...]

(4622) (b) Prohibition pursuant to CWA section 312(f)(4)(A): a State may make a written application to the Administrator, Environmental Protection Agency, under section 312(f)(4)(A) of the Act, for the issuance of a regulation completely prohibiting discharge from a vessel of any sewage, whether treated or not, into particular waters of the United States or specified portions thereof, which waters are located within the boundaries of such State. Such application shall specify with particularly the waters, or portions thereof, for which a complete prohibition is desired. The application shall include identification of water recreational areas, drinking water intakes, aquatic sanctuaries, identifiable fish-spawning and nursery areas, and areas of intensive boating activities. If, on the basis of the State's application and any other information available to him, the Administrator is unable to make a finding that the waters listed in the application require a complete prohibition of any discharge in the waters or portions thereof covered by the application, he shall state the reasons why he cannot make such a finding, and shall deny the application. If the Administrator makes a finding that the waters listed in the application require a complete prohibition of any discharge in all or any part of the waters or portions thereof covered by the State's application, he shall publish notice of such findings together with a notice of proposed rule making, and then shall proceed in accordance with 5 U.S.C. 553. If the Administrator's finding is that applicable water quality standards require a complete prohibition covering a more restricted or more expanded area than that applied for by the State, he shall state the reasons why his finding differs in scope from that requested in the State's application. [...]

(4623) (ii) Waters of the State of Florida within the boundaries of the Florida Keys National Marine Sanctuary as delineated on a map of the Sanctuary at *http://www.fknms.nos.noaa.gov/*.

(4624) (c)(1) Prohibition pursuant to CWA section 312(f)(4)(B): A State may make written application to the Administrator of the Environmental Protection Agency under section 312(f)(4)(B) of the Act for the issuance of a regulation establishing a drinking water intake no-discharge zone which completely prohibits discharge from a vessel of any sewage, whether treated or untreated, into that zone in particular waters, or portions thereof, within such State. Such application shall:

(4625) (i) Identify and describe exactly and in detail the location of the drinking water supply intake(s) and the community served by the intake(s), including average and maximum expected amounts of inflow;

(4626) (ii) Specify and describe exactly and in detail, the waters, or portions thereof, for which a complete prohibition is desired, and where appropriate, average, maximum and low flows in million gallons per day (MGD) or the metric equivalent;

(4627) (iii) Include a map, either a USGS topographic quadrant map or a NOAA nautical chart, as applicable, clearly marking by latitude and longitude the waters or portions thereof to be designated a drinking water intake zone; and

(4628) (iv) Include a statement of basis justifying the size of the requested drinking water intake zone, for example, identifying areas of intensive boating activities.

(4629) (2) If the Administrator finds that a complete prohibition is appropriate under this paragraph, he or she shall publish notice of such finding together with a notice of proposed rulemaking, and then shall proceed in accordance with 5 U.S.C. 553. If the Administrator's finding is that a complete prohibition covering a more restricted or more expanded area than that applied for by the State is appropriate, he or she shall also include a statement of the reasons why the finding differs in scope from that requested in the State's application.

(4630) (3) If the Administrator finds that a complete prohibition is inappropriate under this paragraph, he or she shall deny the application and state the reasons for such denial.

(4631) (4) For the following waters the discharge from a vessel of any sewage, whether treated or not, is completely prohibited pursuant to CWA section 312(f)(4)(B):

(4632) (i) Two portions of the Hudson River in New York State, the first is bounded by an east-west line through the most northern confluence of the Mohawk River which will be designated by the Troy-Waterford Bridge (126th Street Bridge) on the south and Lock 2 on the north, and the second of which is bounded on the north by the southern end of Houghtaling Island and on the south by a line between the Village of Roseton on the western shore and Low Point on the eastern shore in the vicinity of Chelsea, as described in Items 2 and 3 of 6 NYCRR Part 858.4.

(4633) (ii) [Reserved]

§140.5 Analytical procedures.

(4634) In determining the composition and quality of effluent discharge from marine sanitation devices, the procedures contained in 40 CFR part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants," or subsequent revisions or amendments thereto, shall be employed.

TITLE 46–SHIPPING

Part 15–Manning Requirements (in part)

Subpart 1–Vessels in Foreign Trade

§15.1001 General.

(4635) Self-propelled vessels engaged in foreign commerce are required to use a pilot holding an appropriately endorsed Federal first class pilot's license issued by the Coast Guard when operating in the navigable waters of the United States specified in this subpart.

§15.1010 California.

(4636) The following offshore marine oil terminals located within U.S. navigable waters of the State of California:

(4637) (a) *Carlsbad, CA.* The waters including the San Diego Gas and Electric, Encina Power Plant, lying within an area bounded by a line beginning at

(4638) 33°10'06"N., 117°21'42"W.; thence southwesterly to

(4639) 33°08'54"N., 117°24'36"W.; thence southwesterly to

(4640) 33°04'30"N., 117°21'42"W.; thence northeasterly to

(4641) 33°05'36"N., 117°18'54"W.; thence northwesterly along the shoreline to

(4642) 33°10'06"N., 117°21'42"W.

(4643) (b) *Huntington Beach, CA.* The waters including the Golden West Refining Company, Huntington Beach Marine Terminal, lying within an area bounded by a line beginning at

(4644) 33°39'06"N., 118°00'00"W.; thence westerly to

(4645) 33°39'18"N., 118°05'12"W.; thence southeasterly along a line drawn three nautical miles from the baseline to

(4646) 33°35'30"N., 118°00'00"W.; thence easterly to

(4647) 33°35'30"N., 117°52'30"W.; thence northwesterly along the shoreline to

(4648) 33°39'06"N., 118°00'00"W.

(4649) (c) *El Segundo, CA.* The waters including the Chevron USA, El Segundo Marine Terminal, lying within an area bounded by a line beginning at

(4650) 33°56'18"N., 118°26'18"W.; thence westerly to

(4651) 33°56'18"N., 118°30'48"W.; thence southeasterly along a line drawn three nautical miles from the baseline to

(4652) 33°51'48"N., 118°27'54"W.; thence easterly to

(4653) 33°51'48"N., 118°24'00"W.; thence northwesterly along the shoreline to

(4654) 33°56'18"N., 118°26'18"W.

(4655) (d) *Oxnard, CA.* The waters including the Southern California Edison Company, Mandalay Generating Station, lying within an area bounded by a line beginning at

(4656) 34°14'12"N., 119°16'00"W.; thence westerly to

(4657) 34°14'12"N., 119°19'36"W., thence southeasterly along a line drawn three nautical miles from the baseline to

(4658) 34°09'24"N., 119°17'20"W.; thence easterly to

(4659) 34°09'24"N., 119°13'24"W.; thence northwesterly along the shoreline to

(4660) 34°14'24"N., 119°16'00"W.

(4661) (e) *Goleta, CA.* The waters including the ARCO, Ellwood Marine Terminal, lying within an area bounded by a line beginning at

(4662) 34°26'12"N., 119°57'00"W.; thence southerly to

(4663) 34°22'48"N., 119°57'00"W.; thence southeasterly along a line drawn three nautical miles from the baseline to

(4664) 34°21'06"N., 119°50'30.5"W.; thence northerly to

(4665) 34°24'18"N., 119°50'30"W.; thence northwesterly along the shoreline to

(4666) 34°26'12"N., 119°57'00"W.

(4667) (f) *Gaviota, CA.* The waters including the Texaco Trading and Transportation, Gaviota Marine Terminal, lying within an area bounded by a line beginning at

(4668) 34°28'06"N., 120°16'00"W.; thence southerly to

(4669) 34°25'06"N., 120°16'00"W.; thence easterly along a line drawn three nautical miles from the baseline to

(4670) 34°25'24"N., 120°08'30"W.; thence northerly to

(4671) 34°28'24"N., 120°08'30"W.; thence westerly along the shoreline to

(4672) 34°28'06"N., 120°16'00"W.

(4673) (g) *Moss Landing, CA.* The waters including the Pacific Gas and Electric Company Power Plant, lying within an area bounded by a line beginning at

(4674) 36°49'00"N., 121°47'42"W.; thence westerly to

(4675) 36°49'00"N., 121°51'00"W.; thence southerly to

(4676) 36°47'00"N., 121°51'00"W.; thence easterly to

(4677) 36°47'00"N., 121°47'54"W.; thence northerly along the shoreline to

(4678) 36°49'00"N., 121°47'42"W.

(4679) (h) *Estero Bay, CA.* The waters including various moorings, including the Pacific Gas and Electric Company mooring and the two Chevron Oil Company Terminals lying within an area bounded by a line beginning at

(4680) 36°25'00"N., 120°52'30"W.; thence westerly to

(4681) 36°25'00"N., 120°56'00"W.; thence southerly to

(4682) 36°22'00"N., 120°56'00"W.; thence easterly to

(4683) 36°22'00"N., 120°52'12"W.; thence northerly along the shoreline to

(4684) 36°25'00"N., 120°52'30"W.

(4685) (i) *San Luis Obispo Bay, CA.* The waters including the Unocal Corporation Avila Terminal and the

approaches thereto, lying in an area bounded by a line beginning at

(4686) 35°09'42"N., 120°46'00"W.; thence southerly to

(4687) 35°07'00"N., 120°46'00"W.; thence easterly to

(4688) 35°07'00"N., 120°43'00"W.; thence northerly to

(4689) 35°10'24"N.,120°43'00"W.; thence westerly along the shoreline to

(4690) 35°09'42"N., 120°46'00"W.

§15.1020 Hawaii.

(4691) The following offshore marine oil terminals located within U.S. navigable waters of the State of Hawaii: Barbers Point, Island of Oahu. The waters including the Hawai'ian Independent Refinery, Inc. and the Chevron moorings lying within an area bounded by a line bearing 180 degrees true from Barbers Point Light to

(4692) 21°14.8'N., 158°06.4'W.; thence easterly to

(4693) 21°14.8'N., 158°03.3'W.; thence northeasterly to

(4694) 21°15.6'N., 158°01.1'W.; thence northwesterly to

(4695) 21°18.5'N., 158°02.0'W.; thence westerly along the shoreline to

(4696) 21°17.8'N., 158°06.4"W.

TITLE 50-Wildlife and Fisheries

Part 224–Endangered Marine and Anadromous Species

§224.103 Special prohibitions for endangered marine mammals.

(4697) (a) *Approaching humpback whales in Hawaii*. Except as provided in part 222, subpart C, of the chapter (General Permit Procedures), it is unlawful for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or to cause to be committed, within 200 nautical miles (370.4 km) of the Islands of Hawaii, any of the following acts with respect to humpback whales (*Megaptera novaeangliae*):

(4698) (1) Operate any aircraft within 1,000 feet (300 m) of any humpback whale;

(4699) (2) Approach, by any means, within 100 yards (90 m) of any humpback whale;

(4700) (3) Cause a vessel or other object to approach within 100 yd (90 m) of a humpback whale; or

(4701) (4) Disrupt the normal behavior or prior activity of a whale by any other act or omission. A disruption of normal behavior may be manifested by, among other actions on the part of the whale, a rapid change in direction or speed; escape tactics such as prolonged diving, underwater course changes, underwater exhalation, or evasive swimming patterns; interruptions of breeding, nursing, or resting activities, attempts by a whale to shield a calf from a vessel or human observer by tail swishing or by other protective movement; or the abandonment of a previously frequented area.

Part 404–Northwestern Hawaiian Islands Marine National Monument

§404.1 Scope and purpose.

(4702) The regulations in this part codify the provisions of Presidential Proclamation 8031, and govern the administration of the Northwestern Hawaiian Islands Marine National Monument. These regulations are jointly implemented by the Secretaries of the Interior, through the U.S. Fish and Wildlife Service (USFWS), and Commerce, through the National Oceanic and Atmospheric Administration (NOAA). Nothing in these regulations shall be deemed to diminish or enlarge the jurisdiction of the State of Hawaii.

§404.2 Boundary.

(4703) The Northwestern Hawaiian Islands Marine National Monument consists of all lands and interest in lands owned or controlled by the Government of the United States within the boundaries of the Monument, including emergent and submerged lands and waters of the Northwestern Hawaiian Islands. The map in Appendix A to this part 404 depicts the outer boundary of the Monument, which consists of the geodetic lines connecting the coordinates specified in the Proclamation.

§404.3 Definitions.

(4704) The following definitions are applicable only to this Part.

(4705) *Attract or Attracting* means luring or attempting to lure a living resource by any means, except the mere presence of human beings (e.g., swimmers, divers, boaters).

(4706) *Bottomfish Species* means Bottomfish management unit species as defined at 50 CFR 665.12.

(4707) *Commercial Bottomfishing* means commercial fishing for bottomfish species.

(4708) *Commercial passenger vessel* means a vessel that carries individuals who have paid for such carriage.

(4709) *Commercial pelagic trolling* means commercial fishing for pelagic species.

(4710) *Deserting* a vessel means:

(4711) (1) Leaving a vessel aground or adrift:

(4712) (i) Without notifying the Secretaries of the vessel going aground or adrift within 12 hours of its discovery and developing and presenting to the Secretaries a

preliminary salvage plan within 24 hours of such notification;

(4713) (ii) After expressing or manifesting intention to not undertake or to cease salvage efforts; or

(4714) (iii) When the Secretaries are unable, after reasonable efforts, to reach the owner/operator within 12 hours of the vessel's condition being reported to authorities.

(4715) (2) Leaving a vessel at anchor when its condition creates potential for a grounding, discharge, or deposit and the owner/operator fails to secure the vessel in a timely manner.

(4716) *Ecological Reserve* means the areas of the Monument, identified in the Proclamation, consisting of contiguous, diverse habitats that provide natural spawning, nursery, and permanent residence areas for the replenishment and genetic protection of marine life, and also to protect and preserve natural assemblages of habitats and species within areas representing a broad diversity of resources and habitats found within the Monument. Specific coordinates for Ecological Reserves within the Monument are found in the Proclamation, and the Ecological Reserves consist of the areas within the geodetic lines connecting these coordinates. The Ecological Reserves are depicted on the map in Appendix A to part 404.

(4717) *Ecological integrity* means a condition determined to be characteristic of an ecosystem that has the ability to maintain the function, structure, and abundance of natural biological communities, including rates of change in response to natural environmental variation.

(4718) *Fishing year* means the year beginning at 0001 local time on January 1 and ending at 2400 local time on December 31.

(4719) *Introduced Species* means:

(4720) (1) A species (including, but not limited to, any of its biological matter capable of propagation) that is non-native to the ecosystem(s) protected by the Monument; or

(4721) (2) Any organism into which genetic matter from another species has been transferred in order that the host organism acquires the genetic traits of the transferred genes.

(4722) *Landing* means offloading fish from a fishing vessel or causing fish to be offloaded from a fishing vessel.

(4723) *Midway Atoll Special Management Area* means the area of the Monument surrounding Midway Atoll out to a distance of 12 nautical miles, established for the enhanced management, protection, and preservation of Monument wildlife and historical resources. The geographic coordinates of this area, which consists of the area within the geodetic lines connecting these coordinates, are found in the Proclamation. The Midway Atoll Special Management Area is depicted on the map in Appendix A to part 404.

(4724) *Mobile transceiver unit* means a vessel monitoring system or VMS device, as described in Appendix E to this Part, installed on board a vessel that is used for vessel monitoring and transmitting the vessel's position as required by this Part.

(4725) *Monument* means the Northwestern Hawaiian Islands Marine National Monument.

(4726) *Native Hawaiian Practices* means cultural activities conducted for the purposes of perpetuating traditional knowledge, caring for and protecting the environment and strengthening cultural and spiritual connections to the Northwestern Hawaiian Islands that have demonstrable benefits to the Native Hawaiian community. This may include, but is not limited to, the non-commercial use of Monument resources for direct personal consumption while in the Monument.

(4727) *Ocean-based ecotourism* means a class of fee-for-service activities that involves visiting the Monument for study, enjoyment, or volunteer assistance for purposes of conservation and management.

(4728) *Office for Law Enforcement (OLE)* refers to NOAA, National Marine Fisheries Service, Office for Law Enforcement.

(4729) *Pelagic Species* means Pacific Pelagic Management Unit Species as defined at 50 CFR 665.12.

(4730) *Pono* means appropriate, correct, and deemed necessary by traditional standards in the Hawaiian culture.

(4731) *Proclamation* means Presidential Proclamation 8031, dated June 15, 2006 (71 FR 36443).

(4732) *Recreational activity* means an activity conducted for personal enjoyment that does not result in the extraction of Monument resources and that does not involve a fee-for-service transaction. This includes, but is not limited to, wildlife viewing, SCUBA diving, snorkeling, and boating.

(4733) *Secretaries* means the Secretary of Commerce and the Secretary of the Interior or their designees.

(4734) *Special Preservation Area (SPA)* means discrete, biologically important areas of the Monument, identified in the Proclamation, within which uses are subject to conditions, restrictions, and prohibitions, including but not limited to access restrictions. SPAs are used to avoid concentrations of uses that could result in declines in species populations or habitat, to reduce conflicts between uses, to protect areas that are critical for sustaining important marine species or habitats, or to provide opportunities for scientific research. Specific coordinates for Special Preservation Areas within the Monument are found in the Proclamation, and the Special Preservation Areas consist of the areas within the geodetic lines connecting these coordinates. The

Special Preservation Areas are depicted on the map in Appendix A to part 404.

(4735) *Special ocean use* means an activity or use of the Monument that is engaged in to generate revenue or profits for one or more of the persons associated with the activity or use, and does not destroy, cause the loss of, or injure Monument resources. This includes ocean-based ecotourism and other activities such as educational and research activities that are engaged in to generate revenue, but does not include commercial fishing for bottomfish or pelagic species conducted pursuant to a valid permit issued by NOAA.

(4736) *Stowed and not available for immediate use* means not readily accessible for immediate use, e.g., by being securely covered and lashed to a deck or bulkhead, tied down, unbaited, unloaded, or partially disassembled (such as spear shafts being kept separate from spear guns).

(4737) *Sustenance fishing* means fishing for bottomfish or pelagic species in which all catch is consumed within the Monument, and that is incidental to an activity permitted under this part.

(4738) *Vessel monitoring system or VMS* means a vessel monitoring system or mobile transceiver unit as described in §404.5 and approved by Office for Law Enforcement for use on vessels permitted to access the Monument, as required by this Part.

§404.4 Access to the Monument.

(4739) (a) Entering the Monument is prohibited and thus unlawful except:

(4740) (1) As provided in §§404.8 and 404.9;

(4741) (2) Pursuant to a permit issued under §§404.10 or 404.11; or

(4742) (3) When conducting passage without interruption in accordance with paragraph (b) of this section.

(4743) (b) Any person passing through the Monument without interruption is subject to the prohibitions in §§404.5, 404.6, and 404.7 and must provide notification prior to entering and after leaving the Monument. Notification of entry must be provided at least 72 hours, but no longer than 1 month, prior to the entry date. Notification of departure from the Monument must be provided within 12 hours of leaving. Notification under this paragraph may be made via e-mail, telephone or fax by contacting:

(4744) (1) E-mail: *nwhi.notifications@noaa.gov*; or

(4745) (2) Telephone: 1–866–478–NWHI (6944); or (808) 395–NWHI (6944).

(4746) (c) A person providing notice under this paragraph must provide the following information, as applicable:

(4747) (1) Position when making report.

(4748) (2) Vessel name and International Maritime Organization identification number.

(4749) (3) Name, address, and telephone number of owner and operator.

(4750) (4) USCG documentation, state license, or registration number.

(4751) (5) Home port.

(4752) (6) Intended and actual route through the Monument.

(4753) (7) General categories of any hazardous cargo on board.

(4754) (8) Length of vessel and propulsion type (e.g., motor or sail).

§404.5 Requirements for a vessel monitoring system.

(4755) (a) *Requirement for use*. Effective August 28, 2006, an owner or operator of a vessel that has been issued a permit for accessing the Monument must ensure that such vessel has an OLE-approved, operating VMS on board when voyaging within the Monument. An operating VMS includes an operating mobile transmitting unit on the vessel and a functioning communication link between the unit and OLE as provided by an OLE-approved communication service provider. Appendix B to this part 404 provides information regarding OLE-approved transmitting units.

(4756) (b) *Installing and activating the VMS*. Only a VMS that has been approved by OLE may be used. When installing and activating the OLE-approved VMS, or when reinstalling and reactivating such VMS, the vessel owner or operator must:

(4757) (1) Follow procedures indicated on an installation and activation checklist, which is available from OLE; and

(4758) (2) Submit to OLE a statement certifying compliance with the checklist, as prescribed on the checklist.

(4759) (c) *Interference with the VMS*. No person may interfere with, tamper with, alter, damage, disable, or impede the operation of the VMS, or attempt any of the same.

(4760) (d) *Interruption of operation of the VMS*. When a vessel's VMS is not operating properly, the owner or operator must immediately contact OLE, and follow instructions from that office. If notified by OLE that a vessel's VMS is not operating properly, the owner and operator must follow instructions from that office. In either event, such instructions may include, but are not limited to, manually communicating to a location designated by OLE the vessel's positions or returning to port until the VMS is operable.

(4761) (e) *Access to position data*. As a condition of authorized access to the Monument, a vessel owner or operator subject to the requirements for a VMS in this section must allow OLE, the USCG, and their authorized officers and designees access to the vessel's

position data obtained from the VMS. Consistent with other applicable laws, including the limitations on access to, and use of, VMS data collected under the Magnuson-Stevens Fishery Conservation and Management Act, the Secretaries may have access to, and use of, collected data for scientific, statistical, and management purposes.

(4762) (f) *Authority for installation and operation*. OLE has authority over the installation and operation of the VMS unit. OLE may authorize the connection or order the disconnection of additional equipment, including a computer, to any VMS unit when deemed appropriate by OLE.

(4763) (g) *Activities Regarding Vessel Monitoring Systems*. Effective August 28, 2006, the following activities regarding vessel monitoring systems are prohibited and thus unlawful for any person to conduct or cause to be conducted:

(4764) (1) Operating any vessel within the Monument without an OLE type-approved mobile transceiver unit described in this section;

(4765) (2) Failing to install, activate, repair, or replace a mobile transceiver unit prior to leaving port;

(4766) (3) Failing to operate and maintain a mobile transceiver unit on board the vessel at all times as specified in this section;

(4767) (4) Tampering with, damaging, destroying, altering, or in any way distorting, rendering useless, inoperative, ineffective, or inaccurate the VMS, mobile transceiver unit, or VMS signal required to be installed on or transmitted by a vessel as specified in this section;

(4768) (5) Failing to contact OLE or follow OLE instructions when automatic position reporting has been interrupted as specified in this section;

(4769) (6) Registering a VMS or mobile transceiver unit to more than one vessel at the same time;

(4770) (7) Connecting or leaving connected additional equipment to a VMS unit or mobile transceiver unit without the prior approval of OLE; and

(4771) (8) Making a false statement, oral or written, to an authorized officer regarding the installation, use, operation, or maintenance of a VMS unit or mobile transceiver unit or communication service provider.

§404.6 Prohibited activities.

(4772) The following activities are prohibited and thus unlawful for any person to conduct or cause to be conducted:

(4773) (a) Exploring for, developing, or producing oil, gas, or minerals within the Monument;

(4774) (b) Using or attempting to use poisons, electrical charges, or explosives in the collection or harvest of a Monument resource;

(4775) (c) Introducing or otherwise releasing an introduced species from within or into the Monument; and

(4776) (d) Anchoring on or having a vessel anchored on any living or dead coral with an anchor, anchor chain, or anchor rope.

§404.7 Regulated activities.

(4777) Except as provided in §§404.8, 404.9 and 404.10, the following activities are prohibited and thus unlawful for any person to conduct or cause to be conducted within the Monument without a valid permit as provided for in §404.11:

(4778) (a) Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging; or attempting to remove, move, take, harvest, possess, injure, disturb, or damage any living or nonliving Monument resource;

(4779) (b) Drilling into, dredging, or otherwise altering the submerged lands other than by anchoring a vessel; or constructing, placing, or abandoning any structure, material, or other matter on the submerged lands;

(4780) (c) Anchoring a vessel;

(4781) (d) Deserting a vessel aground, at anchor, or adrift;

(4782) (e) Discharging or depositing any material or other matter into Special Preservation Areas or the Midway Atoll Special Management Area except vessel engine cooling water, weather deck runoff, and vessel engine exhaust;

(4783) (f) Discharging or depositing any material or other matter into the Monument, or discharging or depositing any material or other matter outside the Monument that subsequently enters the Monument and injures any resources of the Monument, except fish parts (i.e., chumming material or bait) used in and during authorized fishing operations, or discharges incidental to vessel use such as deck wash, approved marine sanitation device effluent, cooling water, and engine exhaust;

(4784) (g) Touching coral, living or dead;

(4785) (h) Possessing fishing gear except when stowed and not available for immediate use during passage without interruption through the Monument;

(4786) (i) Swimming, snorkeling, or closed or open circuit SCUBA diving within any Special Preservation Area or the Midway Atoll Special Management Area; and

(4787) (j) Attracting any living Monument resource.

§404.8 Emergencies and law enforcement activities.

(4788) The prohibitions in this part do not apply to activities necessary to respond to emergencies threatening life, property, or the environment, or to activities necessary for law enforcement purposes.

§404.9 Armed Forces actions.

(4789) (a) The prohibitions in this part do not apply to activities and exercises of the Armed Forces (including those carried out by the United States Coast Guard) that are consistent with applicable laws.

(4790) (b) These regulations shall not limit agency actions to respond to emergencies posing an unacceptable threat to human health or safety or to the marine environment and admitting of no other feasible solution.

(4791) (c) All activities and exercises of the Armed Forces shall be carried out in a manner that avoids, to the extent practicable and consistent with operational requirements, adverse impacts on Monument resources and qualities.

(4792) (d) In the event of threatened or actual destruction of, loss of, or injury to a Monument resource or quality resulting from an incident, including but not limited to spills and groundings, caused by a component of the Department of Defense or the United States Coast Guard, the cognizant component shall promptly coordinate with the Secretaries for the purpose of taking appropriate actions to respond to and mitigate the harm and, if possible, restore or replace the Monument resource or quality.

§404.10 Commercial fishing.

(4793) (a) *Lobster fishing*. Any commercial lobster fishing permit is subject to a zero annual harvest limit condition.

(4794) (b) *Fishing and bottomfish and pelagic species*.

(4795) (1) Notwithstanding the prohibitions in §404.7(a) and (h), commercial fishing for bottomfish and associated pelagic species may continue within the Monument subject to paragraph (c) of this section, until June 15, 2011, provided that:

(4796) (i) The fishing is conducted in accordance with a valid commercial bottomfish permit issued by NOAA; and

(4797) (ii) Such permit was in effect on June 15, 2006, and is subsequently renewed pursuant to NOAA regulations at 50 CFR part 665, subpart E as necessary.

(4798) (2) Total landings for each fishing year from fishing allowed under paragraph (b)(1) of this section may not exceed the following amounts:

(4799) (i) 350,000 pounds for bottomfish species; and

(4800) (ii) 180,000 pounds for pelagic species.

(4801) (3) Commercial fishing for bottomfish and associated pelagic species is prohibited in the Monument after June 15, 2011.

(4802) (c) *General requirements*. Any commercial fishing within the Monument shall be conducted in accordance with the following restrictions and conditions:

(4803) (1) A valid permit or facsimile of a valid permit shall be on board the fishing vessel and available for inspection by an authorized officer;

(4804) (2) No attempt is made to falsify or fail to make, keep, maintain, or submit any logbook or logbook form or other required record or report.

(4805) (3) Only gear specifically authorized by the relevant permit issued under the Magnuson-Stevens Fishery Conservation and Management Act is allowed to be in the possession of a person conducting commercial fishing under this section;

(4806) (4) Any person conducting commercial fishing notifies the Secretaries by telephone, facsimile, or electronic mail at least 72 hours before entering the Monument and within 12 hours after leaving the Monument in accordance with §404.4(b) and (c);

(4807) (5) All fishing vessels must carry an activated and functioning VMS unit on board at all times whenever the vessel is in the Monument;

(4808) (6) All fishing vessels must carry an observer when requested to do so by the Secretaries;

(4809) (7) The activity does not take place within any Ecological Reserve, any Special Preservation Area, or the Midway Atoll Special Management Area.

§404.11 Permitting procedures and criteria.

(4810) (a) *Issuance*. Subject to such terms and conditions as the Secretaries deem appropriate, a person may conduct an activity prohibited by §404.7 if such activity is specifically authorized by a permit issued under this section.

(4811) (b) *Application requirements*. Applicants for permits under this section shall submit applications to: Northwestern Hawaiian Islands Marine National Monument, 6600 Kalanianaole Highway, Suite 300, Honolulu, HI 96825.

(4812) (c) *Permit Types*. A permit under this subpart may be issued if the Secretaries find that the activity:

(4813) (1) Is research designed to further understanding of Monument resources and qualities;

(4814) (2) Will further the educational value of the Monument;

(4815) (3) Will assist in the conservation and management of the Monument;

(4816) (4) Will allow Native Hawaiian practices subject to paragraph (e) of this section;

(4817) (5) Will allow a special ocean use subject to paragraph (f) of this section; or

(4818) (6) Will allow recreational activities subject to paragraph (g) of this section.

(4819) (d) *Findings*. A permit may not be issued under this section unless the Secretaries find:

(4820) (1) The activity can be conducted with adequate safeguards for the resources and ecological integrity of the Monument;

(4821) (2) The activity will be conducted in a manner compatible with the purposes of the Proclamation, considering the extent to which the conduct of the activity may diminish or enhance Monument resources, qualities, and ecological integrity, any indirect, secondary or cumulative effects of the activity, and the duration of such effects;

(4822) (3) There is no practicable alternative to conducting the activity within the Monument;

(4823) (4) The end value of the activity outweighs its adverse impacts on Monument resources, qualities, and ecological integrity;

(4824) (5) The duration of the activity is no longer than necessary to achieve its stated purpose;

(4825) (6) The applicant is qualified to conduct and complete the activity and mitigate any potential impacts resulting from its conduct;

(4826) (7) The applicant has adequate financial resources available to conduct and complete the activity and mitigate any potential impacts resulting from its conduct;

(4827) (8) The methods and procedures proposed by the applicant are appropriate to achieve the proposed activity's goals in relation to their impacts to Monument resources, qualities, and ecological integrity;

(4828) (9) The applicant's vessel has been outfitted with a mobile transceiver unit approved by OLE and complies with the requirements of §404.5; and

(4829) (10) There are no other factors that would make the issuance of a permit for the activity inappropriate.

(4830) (e) *Additional findings for Native Hawaiian practice permits*. In addition to the findings listed in paragraph (d) of this section, a permit to allow Native Hawaiian practices under paragraph (c)(4) of this section, may not be issued unless:

(4831) (1) The activity is non-commercial and will not involve the sale of any organism or material collected;

(4832) (2) The purpose and intent of the activity are appropriate and deemed necessary by traditional standards in the Native Hawaiian culture (pono), and demonstrate an understanding of, and background in, the traditional practice, and its associated values and protocols;

(4833) (3) The activity benefits the resources of the Northwestern Hawaiian Islands and the Native Hawaiian community;

(4834) (4) The activity supports or advances the perpetuation of traditional knowledge and ancestral connections of Native Hawaiians to the Northwestern Hawaiian Islands; and

(4835) (5) Any Monument resource harvested from the Monument will be consumed in the Monument.

(4836) (f) *Additional findings, criteria, and requirements for special ocean use permits*. (1) In addition to the findings listed in paragraph (d) of this section, the following requirements apply to the issuance of a permit for a special ocean use under paragraph (c)(5) of this section:

(4837) (i) Any permit for a special ocean use issued under this section:

(4838) (A) Shall authorize the conduct of an activity only if that activity is compatible with the purposes for which the Monument is designated and with protection of Monument resources;

(4839) (B) Shall not authorize the conduct of any activity for a period of more than 5 years unless renewed;

(4840) (C) Shall require that activities carried out under the permit be conducted in a manner that does not destroy, cause the loss of, or injure Monument resources; and

(4841) (D) Shall require the permittee to purchase and maintain comprehensive general liability insurance, or post an equivalent bond, against claims arising out of activities conducted under the permit and to agree to hold the United States harmless against such claims;

(4842) (ii) Each person issued a permit for a special ocean use under this section shall submit an annual report to the Secretaries not later than December 31 of each year which describes activities conducted under that permit and revenues derived from such activities during the year.

(4843) (2) In addition to the findings listed in paragraph (d) of this section, a permit may not be issued for a special ocean use unless the activity has been determined to be consistent with the findings made pursuant to paragraph (f) of this section.

(4844) (3) Categories of special ocean use being permitted for the first time under this section will be restricted in duration and permitted as a special ocean use pilot project. Subsequent permits for any category of special ocean use may only be issued if a special ocean use pilot project for that category meets the requirements of this section, and any terms and conditions placed on the permit for the pilot project.

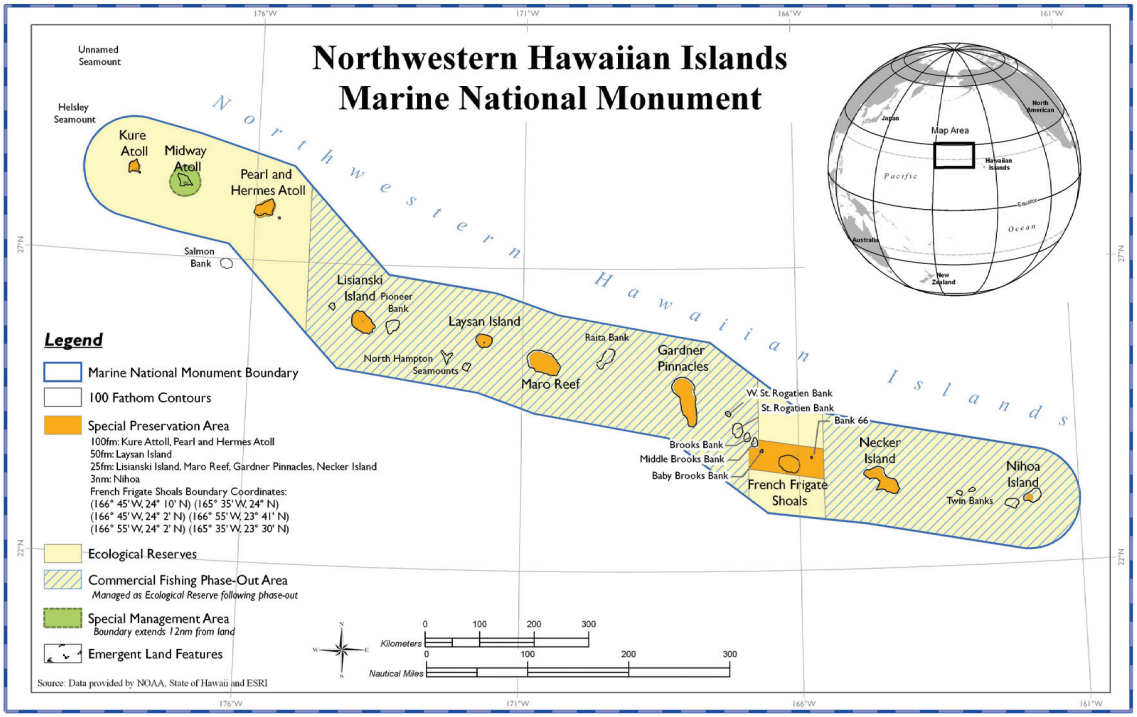
(4845) (4) Public notice shall be provided prior to requiring a special ocean use permit for any category of activity not previously identified as a special ocean use.

(4846) (5) The following requirements apply to permits for a special ocean use for an activity within the Midway Atoll Special Management Area.

(4847) (i) A permit for a special ocean use for activities within the Midway Atoll Special Management Area may be issued provided:

(4848) (A) The activity furthers the conservation and management of the Monument; and

Appendix A to Part 404-Map of the Monument Outer Boundary and Ecological Reserves, Special Preservation Areas, and Midway Atoll Special Management Area



(4849) (B) The Director of the United States Fish and Wildlife Service or his or her designee has determined that the activity is compatible with the purposes for which the Midway Atoll National Wildlife Refuge was designated.

(4850) (ii) As part of a permit issued pursuant to this paragraph (f)(5), vessels may be allowed to transit the Monument as necessary to enter the Midway Atoll Special Management Area.

(4851) (6) A permit for a special ocean use for activities outside the Midway Atoll Special Management Area may be issued provided:

(4852) (i) The activity will directly benefit the conservation and management of the Monument;

(4853) (ii) The purpose of the activity is for research or education related to the resources or qualities of the Monument;

(4854) (iii) Public notice of the application and an opportunity to provide comments is given at least 30 days prior to issuing the permit; and

(4855) (iv) The activity does not involve the use of a commercial passenger vessel.

(4856) (g) *Additional findings for recreation permits*. A permit for recreational activities under paragraph (c)(6) of this section may be issued for activities to be conducted within the Midway Atoll Special Management area if, in addition to the findings listed in paragraph (d) of this section:

(4857) (1) The activity is for the purpose of recreation as defined in section 404.3;

(4858) (2) The activity is not associated with any for-hire operation; and

(4859) (3) The activity does not involve any extractive use.

(4860) (h) *Sustenance fishing*. Sustenance fishing, as defined in 404.3, may be allowed outside of any Special Preservation Area as a term or condition of any permit issued under this part. Sustenance fishing in the Midway Atoll Special Management Area shall not be allowed unless the activity has been determined by the Director of the U.S. Fish and Wildlife Service or his or her designee to be compatible with the purposes for which the Midway Atoll National Wildlife Refuge was established. Sustenance fishing must be conducted in a manner compatible with the Proclamation and this part, including considering the extent to which the

conduct of the activity may diminish Monument resources, qualities, and ecological integrity, as well as any indirect, secondary, or cumulative effects of the activity and the duration of such effects. Sustenance fishing is subject to systematic reporting requirements when developed by the Secretaries.

§404.12 International law.

(4861) These regulations shall be applied in accordance with international law. No restrictions shall apply to or be enforced against a person who is not a citizen, national, or resident alien of the United States (including foreign flag vessels) unless in accordance with international law.

California, Oregon, and Washington

(1) The California-Oregon-Washington coast of the United States, between Mexico on the S and Canada's British Columbia on the N, is mostly rugged and mountainous, with high land rising abruptly from the sea in many places. S of San Francisco Bay the mountains are usually bare or covered with chaparral and underbrush. N of the bay the mountains are generally well timbered, and in some places, especially N of the Columbia River, the timber is particularly dense and heavy.

Disposal Sites and Dumping Grounds

(2) These areas are rarely mentioned in the Coast Pilot, but are shown on the nautical charts. (See Disposal Sites and Dumping Grounds, chapter 1, and charts for limits.)

Aids to navigation

(3) Lights are numerous along the coast; there are only a few places where a vessel is not in sight of one or more lights. Fog signals are at most of the principal light stations. Many coastal and harbor buoys are equipped with radar reflectors, which greatly increase the range at which the buoys may be detected. Loran coverage is good. The critical dangers are buoyed and are generally marked by kelp.

(4) There are many aerolights along the coast that are useful for navigation purposes, but they should not be confused with the marine lights. (See the Light List for a complete description of navigational aids.)

Electronic navigation

(5) Radar, loran, and the radio direction finder have given the navigator means of determining his position in any weather. The mariner should, however, appreciate the limitations and sources of error of the various systems. Radar should be properly calibrated and tuned. Radio direction finders must be calibrated, and the operator should become experienced in the use of the equipment. Radar, radio direction finder, and loran equipment are subject to malfunctions which may not be immediately apparent to the operator, and there are conditions when loran or radio signals may be subject to error when the shipboard receiver is operating properly. Soundings should always be taken in critical places, and the position should be checked by visual bearings when possible.

(6) Radar navigation is facilitated along the Pacific coast by the generally high relief of the coastline. The rugged coast provides many points, headlands, and large offshore rocks which give accurate radar ranges and bearings. Radar ranges are more accurate than radar bearings. When two or more suitable targets can be positively identified, a better fix is obtained by radar ranges alone than by radar ranges and bearings. When visibility permits, visual bearings should always be taken. When positioning by a bearing and a radar range of a single object, the identification of the target must be positive. Floating aids to navigation should not be used as targets for fixing position.

(7) Radio direction finder equipment is subject to several kinds of errors. Bearings obtained at twilight or at night or bearings which are almost parallel to the coast should be accepted with reservations, due to "night effect" and to the distortion of the radio waves if traveling overland. Other sources of error in the system may be avoided by the proper calibration of the shipboard receiver.

(8) Loran provides good coverage along the Pacific coast.

(9) The frequent occurrence of fog along this coast makes radar an invaluable aid in detecting other traffic and obtaining a line of position and/or fix. Bridge-to-bridge radio communication (VHF-FM) is another useful aid, regardless of weather, in waters where maneuvering room is limited or restricted. The use of VHF-FM equipment for short-range communication is increasing, and so are the number of vessels equipped with this equipment. The primary advantages of this radio system are its line-of-sight characteristic and relative freedom from static interference.

COLREGS Demarcation Lines

(10) Lines have been established to delineate those waters upon which mariners must comply with the International Regulations for Preventing Collisions at Sea,

1972 (72 COLREGS) and those waters upon which mariners must comply with the Inland Navigational Rules Act of 1980 (Inland Rules). The waters inside of the lines are **Inland Rules Waters**, and the waters outside of the lines are **COLREGS Waters**. (See **Part 80,** chapter 2, for specific lines of demarcation.)

Ports and Waterways Safety

(11) (See **Part 160,** chapter 2, for regulations governing vessel operations and requirements for notification of arrivals, departures, hazardous conditions, and certain dangerous cargoes to the Captain of the Port.)

Channels

(12) **Federal project depth** is the dredging depth of a channel as authorized by an Act of Congress upon recommendation of the Chief of Engineers, U.S. Army. **Controlling depth** in a channel is its least depth; it restricts use of the channel to drafts less than that depth.

(13) Where deepwater channels are maintained by the Corps of Engineers and the controlling depths are printed on the charts, the Coast Pilot usually gives only the project depth. Because of constant shoaling in places, depths may vary considerably between maintenance dredgings. (See Notice to Mariners and latest editions of charts for controlling depths.)

(14) Where secondary channels are maintained regularly by the Corps of Engineers, the Coast Pilot gives the controlling depths together with the dates of the latest surveys.

(15) In the case of other channels, the controlling depths printed in the Coast Pilot are from the latest available reports, which may, however, be several years old.

Depths alongside wharves

(16) In general, depths given alongside wharves are those reported by owners and/or operators of the waterfront facilities, and have not been verified by government surveys. Since these depths may be subject to change, local authorities should be consulted for current controlling depths.

(17) Depths are in feet below the low-water tidal datum of the charts; deck heights where given are in feet above the chart datum for water depths.

(18) **Traffic Separation Schemes (Traffic Lanes)** have been established from the Gulf of Santa Catalina to the vicinity of Point Conception, off the entrance to San Francisco Bay, and in the Straits of Juan de Fuca and Georgia and Haro Straits. (See chapters 4, 7, and 12, respectively, for details.)

(19) **Vessel Traffic Services (VTS)**, have been established in the San Francisco Bay area and in the Strait of Juan de Fuca, E of Port Angeles and in the waters of Rosario Strait, Admiralty Inlet, Puget Sound and the navigable waters adjacent to these areas. The services have been established to prevent collisions and groundings and to protect the navigable waters from environmental harm.

(20) The Vessel Traffic Services provide for a **Vessel Traffic Center (VTC)** that may regulate the routing and movement of vessels by radar surveillance, movement reports of vessels, VHF-FM radio communications, and specific reporting points. The systems consists of traffic lanes, separation zones, precautionary areas and reporting points.

(21) Participation in the **Vessel Traffic Service San Francisco** is mandatory for certain vessels within navigable waters of the United States and within the 12-mile boundary of the U.S. territorial sea. (See chapter 7, for details.) The Vessel Traffic Service in the Strait of Juan de Fuca, E of Port Angeles, and in the waters of Rosario Strait, Admiralty Inlet, and Puget Sound is mandatory. (See **161.1 through 161.60**, chapter 2, for rules governing vessel operations in the Vessel Traffic Service, and, chapter 12, for details.)

(22) **Offshore Vessel Movement Reporting System San Francisco** has been established in the ocean approaches to San Francisco; the system is mandatory. (See chapter 7 for details.)

(23) **Vessel Traffic Information Service Los Angeles/Long Beach** has been established for the approaches to Los Angeles and Long Beach. The Service is **voluntary**. (See chapter 4 for details.)

Drawbridges

(24) The general regulations that apply to all drawbridges are given in **117.1 through 117.49**, chapter 2, and the specific regulations that apply only to certain drawbridges are given in **Part 117, Subpart B,** chapter 2. Where these regulations apply, references to them are made in the Coast Pilot under the name of the bridge or the waterway over which the bridge crosses.

(25) The drawbridge opening signals (see **117.15**, chapter 2) have been standardized for most drawbridges within the United States. The opening signals for those few bridges that are nonstandard are given in the specific drawbridge regulations. The specific regulations also address matters such as restricted operating hours and required advance notice for openings.

(26) The mariner should be acquainted with the general and specific regulations for drawbridges over waterways to be transited.

(27) **Depths**, along most of the Pacific coast decrease much too rapidly from seaward to be of any practical use as an aid to navigation. The 100-fathom curve lies

at an average distance of less than 10 miles from shore, but this distance is exceeded in the approaches to San Francisco Bay, Heceta Bank, Columbia River, and the Strait of Juan de Fuca.

Anchorages

(28) Anchorages, affording shelter for large vessels from the severe NW winds of summer, may be had in a number of places along the coast. In SE and SW weather there are few places where shelter is available; San Diego Bay, Los Angeles Harbor, the lee side of the Channel Islands, and Monterey Bay are the only places S of San Francisco Bay. N of San Francisco, good shelter is found in Humboldt Bay, Coos Bay, Columbia River, Willapa Bay, and Grays Harbor; but most of these places must be made before the sea rises, as afterward the bars become impassable. Neah Bay, just inside the entrance to the Strait of Juan de Fuca, is used considerably by small vessels in W or S weather. Many anchorages have been established in the area covered by this Coast Pilot. (See **Part 110**, chapter 2, for limits and regulations.)

Dangers

(29) There are few outlying dangers, the principal ones being Bishop Rock, W of San Diego; Noonday Rock and the Farallon Islands, off San Francisco Bay; and Blunts, St. George, Rogue River, Orford, and Umatilla Reefs, N of San Francisco. The Channel Islands, off southern California, are the largest, most prominent, and the farthest offshore of any islands along the coast.

Oil well structures

(30) Offshore drilling and exploration operations are increasing in the waters off California, especially in Santa Barbara Channel.

(31) Obstructions in these waters consist of submerged wells and oil well structures (platforms), including appurtenances thereto, such as mooring piles, anchor and mooring buoys, pipes, and stakes.

(32) Pacific offshore platforms are regulated by **safety zones** administered and enforced by the United States Coast Guard. (See **33 CFR 147**, chapter 2, for limits and regulations.) If, for safety reasons, a vessel must approach an offshore platform, its is essential to notify the operator of the platform and/or the Captain of the Port on VHF-FM channel 16 for permission to enter the safety zone. Boarding or mooring to a platform is strongly discouraged and may be considered trespass unless permission is given in advance from the platform operator or Captain of the Port, or access to the platform is required as a result of emergency circumstances.

(33) In general, the oil well structures (platforms), depending on their size, depth of water in which located, proximity of vessel routes, nature and amount of vessel traffic, and the effect of background lighting, may be marked in one of the following ways:

(34) Quick flashing white light(s) visible at least 5 miles: fog signal sounded when visibility is less than 5 miles.

(35) Quick flashing white light(s) visible at least 3 miles: fog signal sounded when visibility is less than 3 miles.

(36) Quick flashing white or red lights visible at least 1 mile: may or may not be equipped with fog signal.

(37) Structures on or adjacent to the edges of navigable channels and fairways, regardless of location, may be required to display lights and fog signals for the safety of navigation.

(38) Associated structures within 100 yards of the main structure, regardless of location, are not normally lighted but are marked with red or white retro-reflective material. Mariners are cautioned that uncharted submerged pipelines and cables may exist in the vicinity of these structures, or between such structures and the shore.

(39) During construction of a well or during drilling operations, and until such time as the platform is capable of supporting the required aids, fixed white lights on the attending vessel or drilling rig may be shown in lieu of the required quick flashing lights on the structure. The attending vessel's foghorn may also be used as a substitute.

(40) Submerged wells may or may not be marked depending on their location and depth of water over them.

(41) All obstruction lights and fog signals, used to mark the various structures, are operated as privately maintained aids to navigation. (See **33 CFR 67**, for detailed regulations for the marking of offshore structures.)

(42) Information concerning the establishment, change, or discontinuance of offshore oil-well structures and their appurtenances is published in the Local Notice to Mariners or by Broadcast Notice. Additional information may also be obtained from the Coast Guard Commander. Mariners are advised to navigate with caution in the vicinity of these structures and in those waters where oil exploration is in progress, and to use the latest and largest scale chart of the area.

(43) During the continuing program of establishing, changing, and discontinuing oil-well structures, special caution should be exercised when navigating the inshore and offshore waters of the affected areas in order to avoid collision with any of the structures.

(44) Information concerning seismographic operations is not published in Notice to Mariners unless such operations create a menace to navigation in waters used by general navigation. Where seismographic operations are being conducted, casings (pipes), buoys, stakes, and detectors are installed. Casings are marked with flags by day and fixed red lights by night; buoys are colored international orange and white horizontal bands; and stakes are marked with flags.

Pipelaying barges

(45) With the increased number of pipeline laying operations, operators of all types of vessels should be aware of the dangers of passing close aboard, close ahead, or close astern of a jetbarge or pipelaying barge. Pipelaying barges and jetbarges usually move at 0.5 knot or less and have anchors which extend out about 3,500 to 5,000 feet in all directions and which may be marked by lighted anchor buoys. The exposed pipeline behind the pipelaying barge and the area in the vicinity of anchors are hazardous to navigation and should be avoided. The pipeline and anchor cables also represent a submerged hazard to navigation. It is suggested, if safe navigation permits, for all types of vessels to pass well ahead of the pipelaying barge or well astern of the jetbarge. The pipelaying barge, jetbarge, and attending vessels may be contacted on VHF-FM channel 16 for passage instructions.

Fish havens

(46) Fish havens, some marked by private buoys, are numerous along the Pacific coast. Navigators should be cautious about passing over fish havens or anchoring in their vicinity.

Kelp

(47) Kelp grows on nearly every danger with a rocky bottom and is particularly heavy at various points in Santa Barbara Channel and in the vicinity of San Diego Bay. It will be seen on the surface of the water during the summer and autumn; during the winter and spring it is not always to be seen, especially where it is exposed to a heavy sea. Many rocks are not marked by kelp, because a heavy sea will occasionally tear it away and a moderate current will draw it under water so that it will not be seen. When passing on the side of a kelp patch from which the stems stream away with the current, care should be taken to give it a good berth. Dead, detached kelp floats on the water curled in masses, while live kelp, attached to rocks, streams away level with the surface. Live kelp is usually an indication of depths less than 10 fathoms.

Logs and deadheads

(48) Mariners are cautioned that a large number of logs and deadheads are adrift in the navigable water of Washington and Oregon at all times, particularly after storms, spring freshets, and unusually high tide. Mariners are urged to be alert for the presence of such logs and deadheads, as they constitute a serious menace to craft of small and moderate size.

River entrances

(49) Along the Oregon and Washington coast, bars build up at the mouths of the many rivers and streams that empty into the Pacific Ocean. The tidal currents at these entrances can obtain considerable velocity, especially when the ebb tide is reinforced by the river runoff. The most dangerous condition prevails when a swift ebb current meets the heavy seas rolling in from the Pacific at the shallow river entrances. The water piles up and breaks and creates a bar condition too rough for small craft. In a bar area, sea conditions can change rapidly and without warning. Always cross it with caution.

Regulated Boating Areas

(50) The U.S. Coast Guard has provided for the termination of the use of boats during especially hazardous conditions on certain river bars and coastal inlets along the Pacific coastline of Oregon and Washington. The hazardous bar areas are depicted in the Coast Guard "Bar Guides" or in a pamphlet entitled "Boating in Coastal Waters," published by the Oregon Marine Board. It is important for the small-craft operator to know when he is operating in the general vicinity of a regulated boating area, and be prepared for any changing tidal or sea conditions which may be hazardous to his vessel.

Danger zones

(51) **Danger zones** and **Restricted areas** are along the Pacific coast, around the Channel Islands, in the Straits of Juan de Fuca and Georgia, and in Puget Sound. (See **334**, chapter 2, for limits and regulations.)

Caution

(52) Heavy concentrations of fishing gear may be expected off Drakes Bay, Grays Harbor, Columbia River, Coos Bay, Humboldt Bay and Destruction Island between December 1 and August 15, from shore to about 30 fathoms.

(53) To reduce the destruction of fishing gear by vessels and to reduce the fouling of propellers and shafts by fishing gear, Washington Sea Grant, Washington State University Extension has coordinated an agreement

between towboaters and crab fishermen for the establishment of towboat lanes along the Pacific coast between San Francisco, California and Cape Flattery, Washington. Copies of the agreement showing fishing areas and towboat lanes may be obtained from Washington Sea Grant, Washington State University Extension, Box 88, South Bend, WA 98586; telephone 360-875-9331. The tow lanes can be viewed online at **http://graysharbor.wsu.edu/marine/lane.html**.

Tides

(54) A very important characteristic of the tides along the W coast of the United States is the large inequality in the heights of the two high waters and of the two low waters of each day. On the outer coast the average difference between the heights of the two high waters of the day is from 1 to 2 feet, and the average difference in the heights of the two low waters from 2 to 3 feet. It was because of this large difference in the low-water heights that the mean of the lower low waters, rather than the mean of all low waters, was adopted as the plane of reference for the charts of this region.

(55) This inequality changes with the declination of the Moon. When the Moon is near the Equator the inequality is relatively small; but when the Moon is near its greatest N or S declination, the difference in the heights of the two high waters or of the two low waters of each day reaches a maximum. The tides at this time are called **Tropic tides**.

(56) Off the outer coast, the mean rise of the tide varies from 5 feet off southern California to about 7.5 feet off the coast of Washington. Extreme variations from 3 feet below to 10 feet above the datum may reasonably be expected.

(57) At the entrance to San Francisco Bay the mean rise of the tide is about 5 feet. At the S end of the bay the tide occurs about 1½ hours later, and the mean rise is about 2.5 feet greater than at the entrance of the bay. Passing N into San Pablo Bay, the tide occurs from 1 to 2 hours later than at the Golden Gate, with a mean rise of about 0.5 foot greater than at the latter place. In Suisun Bay the time of tide is about 3 hours later than at the Golden Gate, with a mean rise about the same. It requires about 4 hours for high water to pass from Suisun Bay to Stockton, on the San Joaquin River, and about 5 hours from Suisun Bay to Sacramento, on the Sacramento River. The mean rise of the tide at Stockton is 3.6 feet, and at Sacramento is 2.6 feet.

(58) In Humboldt Bay the tide is from ½ to 1 hour later than on the outer coast. The mean rise is about 6 feet.

(59) In Coos Bay the tide is from ½ to 1½ hours later, and the rise of high water about same as in Humboldt Bay.

(60) In Yaquina Bay the mean rise is about 7 feet.

(61) At the entrance to Columbia River the mean rise is about 7 feet. It requires about 6 hours for high water to pass from the entrance to the Columbia River to the mouth of the Willamette River. In passing up the Columbia River the range of tide decreases until it is only 1.4 feet at the mouth of the Willamette. Above this point the tidal range becomes too small to be of practical importance. There are, however, large fluctuations in the level due to meteorological conditions. An extreme variation of 24.5 feet has been noted at St. Johns on the Willamette River. Columbia River is usually highest during May, June, and July, and lowest during September, October, and November.

(62) In Willapa Bay and in Grays Harbor the mean rise is about 9 feet.

(63) Passing through the Strait of Juan de Fuca, the tide occurs about 3 hours and 40 minutes later at Port Townsend than at Cape Flattery. The mean rise increases from 7.2 feet above the datum at Cape Flattery to 7.9 feet at Port Townsend. There is an increase in the average inequality between the two low waters of each day from 3 feet at Cape Flattery to 5 feet at Port Townsend. The average inequality between the two high waters of each day at both places is about 1.5 feet.

(64) In Puget Sound the tide is about ½ to 1 hour later than at Port Townsend. The mean rise increases from 7.5 feet at Port Townsend to 13.5 feet at Olympia. In Puget Sound the average difference between the two low waters of each day is 6 feet. At Seattle an extreme range from 4.5 feet below the datum of mean lower low water to 15 feet above the same datum has been observed. At Olympia, in the S part of the sound, an extreme high water 18 feet above the datum has been noted.

(65) In the San Juan Islands, the mean rise of the tide varies from 6.5 to 8 feet. An extreme range from 4.5 feet below to 12 feet above the same datum may reasonably be expected.

Caution

(66) In using the Tide Tables, high or low water should not be confused with slack water. For ocean stations there is usually little difference between the time of high or low water and the beginning of ebb or flood currents; but for places in narrow channels, landlocked harbors, or on tidal rivers the time of slack water may differ by several hours from the time of high or low water stand. The relation of the times of high and low water to the turning of the current depends upon a number of factors, hence no simple rule can be given. (See the Tidal Current Tables for predicted times of slack water or strength of current.)

Currents

(67) A current, the outer limit of which extends offshore more than 300 miles, flows approximately parallel to the U.S. Pacific coast from latitude 50° to 30°N. The direction of the current is generally S throughout the year except as noted below. Its velocity, which averages about 0.2 knot, is greatly influenced by prevailing winds; N winds increase it, and S winds diminish it. North of latitude 45°N. the set is usually N from November through February.

(68) Along the coast during certain periods there is a weak N flow known as the **Davidson Inshore Current**, which is evident between San Diego and Point Conception from July through February and between Point Conception and Cape Flattery from November through February.

(69) Along the coast of Vancouver Island there is usually a NW flow, which as measured at Swiftsure Bank (48°32.0'N., 124°59.7'W.) has a velocity of nearly 0.5 knot at all seasons.

(70) The above statements apply to general or average conditions. The currents, particularly offshore, at a specific time depend largely upon prevailing winds, whereas alongshore and off the entrances to inland waterways they depend also upon tidal and drainage effects. (See the Tidal Current Tables for detailed information.)

Tsunamis (seismic sea waves)

(71) Although the coasts of California, Oregon, and Washington are not generally subject to waves of the magnitude which strike the Hawai‘ian Islands and other Pacific areas, widespread damage to shipping and to waterfront areas occasionally occurs. The tsunami of March 28, 1964, originating in the Gulf of Alaska, caused 16 deaths and several million dollars damage to ships and property in California, Oregon, and Washington. The loss of life and property can be lessened if shipmasters and others acquaint themselves with the behavior of these waves so that intelligent action can be taken when they become imminent. (See chapter 1 for details about these waves.)

(72) The Warning System operated by the National Oceanic and Atmospheric Administration and described in chapter 14 supplies warnings to the Civil Defense authorities in California, Oregon, and Washington who are responsible for disseminating this information to the affected areas. The warnings are also broadcast by the National Weather Service on NOAA Weather Radio.

(73) When a warning is received, persons should vacate waterfront areas and seek high ground. The safest procedure for ships will depend on the amount of time available, and this may not always be known. A ship well out at sea would ride such waves safely, and hence if time is available to put to sea, that would be the safest action. On the other hand, the crew of a ship in harbor may have a difficult time averting serious damage. The ship may be washed ashore by incoming waves or grounded because of excessive withdrawal of water between crests. Much of the damage in the Los Angeles area during the 1960 Chilean tsunami was caused by rapid currents and the swift rise and fall of the water level that parted mooring lines and set floating docks and ships adrift.

Weather, West Coast and Hawaii

(74) This section presents an overall, seasonal picture of the weather that can be expected in the offshore waters along the entire west coast of the United States as well as coastal and near-coastal sites and the Hawai‘ian and Pacific Islands. Detailed information, particularly concerning navigational weather hazards, can be found in the weather articles in the following chapters.

(75) All weather articles in this volume are the product of the **National Oceanographic Data Center (NODC)** and the **National Climatic Data Center (NCDC).** The meteorological and climatological tables are the product of the NCDC. Both centers are entities of the **National Environmental Satellite, Data, and Information Service (NESDIS)** of the **National Oceanic and Atmospheric Administration (NOAA)**. If further information is needed in relation to the content of the weather articles, meteorological tables or climatological tables, contact the National Climatic Data Center, Attn: Customer Service Division, Federal Building, 151 Patton Avenue, Room 120, Asheville, NC 28801-5001. You may also contact the CSD at 704-271-4994, or fax your request to 704-271-4876.

(76) Climatological tables for coastal locations, meteorological tables for the coastal ocean areas, and a table of mean surface water temperatures and densities relevant to locations discussed within this volume, Appendix B. The climatological tables are a special extraction from the International Station Meteorological Climate Summary. The ISMCS is a CD-ROM jointly produced by the National Climatic Data Center, Fleet Numerical Meteorology and Oceanography Detachment-Asheville, and the U.S. Air Force Environmental Technical Applications Center, Operating Location–A. The meteorological tables for the ocean areas are compiled from observations made by ships in passage and extracted from the National Climatic Data Center's Tape Deck-1129, Surface Marine Observations. Listed in Appendix A are National Weather Service offices and radio stations which transmit weather information.

(77) **Marine Weather Services Charts** published by the National Weather Service show radio stations that transmit marine weather broadcasts and additional

information of interest to mariners. These charts are for sale by the National Ocean Service Distribution Division (N/ACC3). (See Appendix A for address.)

(78) The Pacific coastal region of the United States and the adjacent ocean areas are located along the east portion of the Pacific high-pressure system. This high, when well developed, forms the principal circulation control forcing most of the low-pressure systems to follow a course to the north of the contiguous United States. This is reflected in the presence of the Aleutian low in the Gulf of Alaska. This action damps out weather changes that might otherwise occur and brings a stability factor that would not otherwise exist. Air which reaches the coast as a result of the prevailing westerly winds has acquired much moisture during its ocean passage, resulting in high humidities along the coast. The marine influence is also evidenced in a cooling effect in summer and a warming influence in winter.

(79) Two features of the climate in these waters, while not commonplace, warrant the mariner's attention because of their severity. One is the tropical cyclones and the other a local wind known as the Santa Ana.

(80) **Tropical cyclones** originate south of the area, off the west Mexican coast, in summer and autumn. About 15 form each season, of which eight reach hurricane intensity. Few come far enough north to affect U.S. coastal waters. The ones that do have usually lost their hurricane intensity and are short-lived. However, these storms can be dangerous and have generated winds of more than 120 knots. Further reference is made to tropical cyclones in the seasonal description.

(81) The **Santa Ana** is an offshore desert wind that occurs in or near San Pedro Bay. While infrequent, it may be violent; speeds have been measured at more than 50 knots. These winds diminish little, if any, immediately after passing over water, and can extend up to 50 miles (93 km) out to sea. They are most likely in late autumn or winter. (See Weather articles, chapter 4, for more details.)

(82) A third feature, the **El Nino/Southern Oscillation (ENSO)**, sporadically influences these waters. **ENSO** is a two-phased weather phenomenon with roots in the equatorial Pacific and coastal South America; El Nino is the warm water phase and **La Nina**, the cool water phase.

(83) El Nino is an abnormally warm, eastward-moving, Equatorial Pacific current which is thought to have a pronounced influence on the global atmospheric circulations. It is known that during an El Nino event, the normal southeast trade winds of the near Equatorial Pacific region break down allowing for near-global-wide altered weather patterns. During a strong El Nino, this typically means an unusually strong subtropical jet stream that brings storms from central and southern California eastward through the gulf coast and southeast states. If the El Nino is weaker, drought to California and rains to the gulf coast and southeast states may be expected.

(84) Following an El Nino event, the near-equatorial trade winds return to normal. On occasion, the southeast trade winds become stronger than normal. If this occurs, a La Nina is present, the opposite of El Nino. It is believed that a strong La Nina leads to drought across much of North America.

(85) Winter, like an incoming tide, creeps over the northeastern North Pacific. Subtle changes begin in September. Seas off central and southern California come under the protection of a weak, good-weather subtropical high centered near 35°N and 145°W. Only enough storms penetrate this protective barrier to make winter a distinguishable season off southern California. This same high pressure system in conjunction with a strengthening Aleutian Low, bodes differently for points further north. Summer breezes become gales. Rain is commonplace. Winds and cool temperatures make the air feel damp and chilly. Storms become routine and onshore flow is near-persistent. Choppy seas turn rough.

(86) Winter storms usually work their way from the central Pacific northward into the Gulf of Alaska or to the coast of British Columbia, trailing their frontal systems across the area. Two or three times a month, on an average, a storm will move directly through the seas off the Washington-Oregon coast. The more seaward storms generate the moderate to strong southeast through west winds that prevail over northern waters and influence the weather as far south as central California. The stronger winds that blow over a long fetch of water whip up rough seas. Seas of 12 feet (3.7 m) or more are generated 15 to 20 percent of the time. In addition, the warm south flow brings cloudiness, drizzle, and sometimes fog. Drizzle occurs about 5 to 8 percent of the time, and there are about 2 to 4 days a month when dense fog reduces visibilities to 0.5 mile (0.9 km) or less at sea. These conditions can persist for a week or more if one of these big storms stalls in the Gulf of Alaska. The south flow is also responsible for air temperatures in the upper forties and fifties (8.9° to 15°C). Cold temperatures are unusual and are most likely when cold Arctic air is fed into a low in the Gulf by a large high in the Bering Sea or when a rare outbreak of Arctic air occurs over the area from the north or northeast. Temperatures at these times may drop below freezing (<0°C) off the Washington coast and into the upper thirties (3.3° to 3.9°C) farther south. The infrequency of cold temperatures lessens the chances for snow, which is observed less than 2 percent of the time

off Washington and less than 1 percent of the time off Oregon.

(87) When a storm moves close or through these northern waters, weather changes rapidly. The center is preceded by a strong southeast to southwest flow that may reach gale force (gales occur on about 3 to 5 days per winter month) and may whip seas up to 20 feet (6.1 m) or more; seas of these heights occur up to 4 percent of the time. These conditions are often accompanied by clouds and rain, with temperatures in the fifties (10° to 15°C). After the center passes, winds will veer to the west through north and remain strong for a while. Brief showers soon end, the clouds break, and temperatures drop into the low forties (5° to 6.7°C). A high-pressure system from the central Pacific may follow and bring a brief period of clear conditions. If a storm stalls or it is followed by a series of storms, bad weather can be prolonged for a week or more. Rain falls on 18 to 28 days per winter month in these north waters, and skies are overcast or obscured 40 to 50 percent of the time.

(88) About once or twice a month, a storm moves into northern California offshore waters. While these lows are often weaker than those farther north, some cause gales and rough seas. Gales blow on 4 to 5 days per month, and seas reach 12 feet (3.7 m) or more about 8 to 16 percent of the time. These conditions can also be generated by the interaction of a low to the north and a high to the south. The south winds can raise temperatures into the sixties (16.1° to 20.6°C) off northern and central California. Clouds and rain accompany these systems. Rain falls on about 10 to 15 days per month.

(89) Off northern and central California, storms bring a preponderance of southeast through southwest winds, but this is matched by northwest and north winds that blow around the subtropical highs. These highs either form in the Pacific or migrate from Asia. They dominate the weather off the southern California coast, where west through north winds blow more than 60 percent of the time. However, these highs are weakest during winter, and occasionally storms move close enough to bring some clouds, rain, and wind. Rain occurs on about 5 to 10 days per month off central and southern California. Gales and rough seas are rare south of Los Angeles. Between Los Angeles and San Francisco, gales blow on about 1 to 4 days per month, while seas of 12 feet (3.7 m) or more occur about 4 to 8 percent of the time.

(90) Fog is a problem in the offshore waters between Los Angeles and San Francisco. Visibilities less than 2 miles (4 km) occur 5 to 7 percent of the time, while dense fog reduces visibilities to less than 0.5 mile (0.9 km) on 2 to 5 days per month.

(91) Spring brings change. March is an epilogue to winter, while May provides a prologue to summer. Cold rainy days alternate with mild sunny ones. The gradual changeover takes place under the forceful prodding of the expanding good-weather Pacific high. In March the center approximates 30°N and 140°W. As the high expands, it forces the increasingly weak and infrequent storms north into the western Gulf of Alaska and Bering Sea. Since the high is not yet a permanent feature, storms will occasionally penetrate the area, particularly in early spring, when they sometimes move into the Pacific northwest or even across the northern California coast. Southern California waters remain protected by the high. This expanding high-pressure system, which brings good weather, creates a problem in the offshore waters of central and northern California. It causes a tightening of the pressure gradient, which increases wind strength. In other areas, winds and waves are becoming less of a problem. A change is taking place in the direction of prevailing winds. Off southern California, prevailing northwest and north winds are becoming increasingly persistent. With the expansion of the high, north and northwest winds are becoming the prevailing directions throughout the area. This is a slow change. In March, south and north winds share equal billing.

(92) Storms to the W and NW of the Washington-Oregon offshore waters, while not as frequent as in winter, still generate SE to W winds as they work their way N. The prevailing storm track is shifting northward so not as many lows move directly through the area, and they are often less intense. Gales from these near and distant storms blow on about 2 days in March, and they are rare by May. Seas also calm down. In March, waves of 12 feet (3.7 m) or more occur 15 to 20 percent of the time; this drops to 10 percent by April and to around 5 percent by May. The general south flow from these storms still bring rain, drizzle, and fog. Rain or drizzle can be expected on about 15 to 18 days in March and 9 to 15 days in May. Dense fog (visibilities less than 0.5 mile (0.9 km)) forms on less than 2 days per month, while visibilities drop below 2 miles (4 km), 2 to 4 percent of the time. Because of the clouds and rain associated with this S flow, it is not always responsible for the warmest spring temperatures. Usually, it is accompanied by temperatures in the forties and low fifties (5° to 11.1°C) in March and 50°F (10°C) readings during May. An occasional cold N outbreak, usually following a storm, can drop March temperatures into the mid- to upper thirties (0.6° to 3.9°C).

(93) Occasionally a low will move close enough to bring some clouds, rain, and drizzle; distant lows often account for some of the cloudy days. This is more likely in early spring, when rain falls on about 4 to 5 days in the

S, and 5 to 15 days in central and Northern waters. By May, storms are less frequent, and rain occurs on just 1 or 2 days S of Los Angeles and 3 to 10 days to the N.

(94) Fog is a problem in the offshore waters between Los Angeles and San Francisco. In April and May, visibilities drop below 2 miles(4 km) 8 percent of the time, and fog reduces visibilities to less than 0.5 mile (0.9 km) on about 2 to 3 days per month. It occurs mostly with winds from the SW through NW, when they bring warm air over the cooler waters.

(95) Two important features are responsible for the summer weather in these offshore waters, the subtropical Pacific high and the cold California Current.

(96) The influence of high-pressure systems becomes increasingly frequent in these northern waters during spring. In fact, a principal path of highs from the central and western Pacific runs through this area and onto the Washington-Oregon coast. These systems bring clearing conditions, W through N winds, and sometime mild temperatures. Temperatures can, on occasion, get up into the upper fifties and low sixties (14.4° to 16.7°C) in March and into the upper sixties (19.4° to 20.0°C) in May. Clear to partly cloudy skies occur most often with W to N winds. Wind speeds are less than 10 knots most often with W to N winds.

(97) High-pressure systems dominate the weather in California offshore waters, although an occasional storm disrupts the good weather, particularly in early spring. Wind and sea conditions are not so good, however, in waters from off San Francisco northward. In this region, the pressure gradient between highs and lows is often very tight, creating strong N winds which blow at speeds that average near 20 knots and whip up seas of 12 feet (3.7 m) or more from 8 to 20 percent of the time. This situation continues throughout spring.

(98) Conditions improve rapidly toward the S, where winds are lighter and seas calmer. The high-pressure systems are responsible for W through N winds, clear skies, and cool temperatures. Winds become increasingly persistent during spring, as the highs become more frequent. By May, NW through N winds are blowing close to 70 percent of the time N of San Francisco, and W through NW, about the same to the S. These winds blow over cold water and help keep temperatures in the fifties (10.6° to 15.0°C) throughout the spring, N of San Francisco. Even to the S, temperatures in the fifties (10.6° to 15°C) in March only climb into the mid-fifties to mid-sixties (11.7° to 19.4°C) by May. This compares with temperatures in the 70° to 80° (21.1° to 26.7°C) range at the same latitudes in North Atlantic offshore waters, where the Gulf Stream helps warm the air. The high-pressure systems are also responsible for the clear skies (about one-quarter cloud cover) that occur 25 to 50 percent of the time in these offshore California waters.

(99) The high is made up of high-pressure systems, which either form in the Eastern Pacific or move into the area from Western Pacific waters, the Bering Sea, or the Gulf of Alaska. By July the mean center of the Pacific High is located around 40°N and 150°W. The S flowing California Current is partially driven by the clockwise circulation of these high-pressure systems. Upwelling also contributes to cool water temperatures. Sea-surface temperatures run 10° to 15°F (-12.2° to -9.4°C) cooler than they do off the Atlantic coast. Its influence is so great that average air temperatures off Eureka never get out of the fifties (10.6° to 15.0°C), and extremes have only reached 87°F (30.6°C), just 9°F (-12.8°C) warmer than the January extreme. The California Current and coastal upwelling are responsible for the poor visibilities of summer and fall. The most dense and frequent fog occurs over the narrow stream of coldest water, just off the coast, and is often limited to a band of 50 miles (81 km) or less. At other times, fog covers large areas, both in latitude and longitude, and may extend for hundreds of miles (>161 km). Its effect is even more pronounced onshore, as you can read in the Weather articles in the chapters following. The effect of the California Current in summer extends along the entire coast.

(100) When a high sits to the W, which is most of the time in summer, W through N winds blow over the offshore waters. Between Point Arguello and Portland, this warm moist air is being chilled by the California Current. This results in not only cool temperatures but low clouds and fog. W through N winds blow 70 to 80 percent of the time. In the offshore waters, where merchant ships are trying to avoid poor visibilities, fog and haze are still encountered 30 to 40 percent of the time between Point Arguello and San Francisco. The fog reduces visibilities to below 0.5 mile (0.9 KM) up to 5 days per month. Skies are obscured by fog, or are overcast, up to 50 percent of the time in these offshore waters. Temperatures are often in the midfifties to midsixties (11.7° to 19.4°C) at these times.

(101) Between San Francisco and Portland, fog and haze occur 15 to 25 percent of the time. Fog reduces visibilities to below 0.5 mile (0.9 km) on about 3 to 8 days per month. Skies are obscured or overcast about 30 to 40 percent of the time. In addition to fog, this offshore area is often plagued by gales and rough seas created by a tight pressure gradient between a high off the coast and a heat low over the southwestern United States and Mexico. Gales blow on about 4 to 6 days per month. Strong winds whip up seas of 12 to 20 feet (3.7 to 6.1 m) about 3 to 10 percent of the time.

(102) As storms become less frequent during summer, so does rain. By August, rain falls 3 to 7 percent of the time in the offshore waters from Point Arguello to Vancouver Island.

(103) In the offshore waters between Portland and Vancouver Island, W and NW winds blow more than one-half of the time, skies are clear 20 to 30 percent of the time, and temperatures are frequently in the sixties (16.1°to 20.6°C). Gales are rare; and, while it rains 5 to 10 percent of the time, this a lot less frequent than during any other season. W through N winds often bring poor visibilities to this area. Fog and haze are encountered 8 to 15 percent of the time. Fog drops visibilities below 0.5 mile (0.9 km) on about 2 to 5 days per month and is most frequent from midsummer on.

(104) South of Point Arguello, weather is fair. Visibilities are usually better than 5 miles, winds and seas are calmer, but temperatures are cool. These offshore waters are almost always under the influence of a high. W through NW winds, which blow 70 to 75 percent of the time, keep temperatures mostly in the sixties (16.1° to 20.6°C) and bring haze and fog about 15 percent of the time. These warm, moist winds blowing over the California Current also help keep the sky overcast or obscured almost one-half of the time. Skies are clear about one-quarter of the time. Gales are rare, as are rough seas. Winds blow at about 10 knots.

(105) The subtropical high-pressure system forces most tropical storms S of southern California. There is a threat of tropical cyclones from June through November. An average tropical cyclone season sees about 15 tropical cyclones (winds of about 34 knots), of which an average of 8 reach hurricane strength. These storms seldom move N of 30°N. They are most likely to reach the latitudes of 30° to 35°N in August or September. However, by this time, they are usually weak and either well out to sea or well inland over Arizona. The eastern North Pacific season peaks in July, August, and September. About three to five tropical cyclones can be expected each month, with an average of one to two reaching hurricane strength. The last damaging tropical cyclone to affect southern California was the September 1939 storm which moved inland near Los Angeles. In September 1972, the remains of a hurricane moved inland between San Diego and Los Angeles; it carried only 20-knot winds at the time of landfall. Several other tropical storms have completed the decaying process in the California coastal waters near the Channel Islands.

(106) Fall arrives subtly in September N of Point Arguello. It is delayed a month or so to the S by the subtropical high. High-pressure systems still bring some sunny, mild days with light west through N winds off Oregon and Washington, but even on these days, swells from distant storms often cast an ominous mood over these waters. Some storms move close enough to generate a SE through SW flow off Oregon and Washington. They also bring rain to offshore Washington waters about 8 to 13 percent of the time. A tightening of pressure gradients, off northern California and Oregon in September, is responsible for gales on 2 to 5 days, and for seas of 12 feet (3.7 m) or more, 2 to 4 percent of the time. Meanwhile, off central California, gales blow less often and seas are calmer than they were last month. September is usually the driest month in offshore waters from Oregon southward. Precipitation frequencies range from 6 percent off Oregon to less than 1 percent off southern California. Poor visibilities continue to plague the offshore waters N of Point Arguello. Fog reduces visibilities to less than 0.5 mile (0.9 km) on about 4 to 6 days in September. September temperatures usually range from the upper fifties and low sixties (14.4° to 16.7°C) in the N, to the mid- and upper sixties (18.3° to 20.6°C) off southern California.

(107) During October and particularly November, storms become more frequent, more intense, and move closer to the area than those of summer and early autumn. As the subtropical high weakens and retreats southward and the Aleutian Low is at its deepest, these storms move to the NW and N, most affecting the vulnerable waters off Washington and Oregon. They frequently sweep these seas with strong SE through SW winds, which carry rain and sometimes fog. These winds average 15 to 20 knots. Gales occur on about 2 to 4 days in October and 3 to 6 days in November, off Washington and Oregon. Strong winds whip up seas of 12 feet (3.7 m) or more about 10 to 16 percent of the time. Rain falls more often as autumn progresses. It occurs about 8 to 20 percent of the time in October, increasing to 16 to 30 percent by November in these N seas. This is about as much as it rains in any month. Fog continues to plague this area, and often rides in on a strong, warm S flow that accompanies a low-pressure system. It reduces visibilities to below 0.5 mile (0.9 km) on about 2 to 5 days per month. Temperatures of Washington and Oregon are often in the fifties (10.6° to 15°C) in October and mid-forties to mid-fifties (8.9° to 13.9°C) the following month.

(108) The winter transition comes later to California offshore waters. High-pressure systems remain influential, so winds often blow out of the N and NW through late autumn, particularly in the S. Even off northern California, winds out of the N are only slightly less frequent than southerlies as late as November. Storms move closer and occasionally break through the protective barrier in November. In offshore northern California waters, they are responsible for about 3 to 5 gale days per month, and for seas of 12 feet (3.7 m) or more,

6 to 10 percent of the time. They also dump rain up to 10 percent of the time. Weather generally improves to the S, where rain falls as little as 3 percent of the time. Gales occur on about 2 days or less. Seas of 12 feet (3.7 m) or more occur about 8 percent of the time in central waters, and about 1 percent in the S. Temperatures change slowly over offshore waters. In October, they frequently run in the fifties (10.6° to 15.0°C) in the N, and in the sixties (16.1° to 20.6°C) to the S. Temperatures drop just a few degrees in November.

(109) Fog continues to be the most frequent navigational weather hazards in the waters of offshore northern and central California. Fog reduces visibilities to below 0.5 mile (0.9 km) on about 5 to 7 days during October, the worst month. Fog and haze are reported about 15 to 20 percent of the time, except off Los Angeles, where they occur about 40 percent of the time.

Routes

(110) The route along the California-Oregon-Washington coast frequently must be navigated in thick weather. Most of the courses are long, and the effect of currents is uncertain.

San Diego to Strait of Juan de Fuca

(111) Vessels can proceed on rhumb lines through the following positions:

(112) 32°37'N., 117°16'W.; off San Diego.

(113) Thence to the Traffic Separation Scheme off San Pedro Bay, then follow the Traffic Separation Scheme between Point Fermin and Point Conception.

(114) 34°33'N., 120°42'W.; off Point Arguello.

(115) 37°38'N., 123°12'W.; off Farallon Islands (San Francisco).

(116) 38°55'N., 123°50'W.; off Point Arena.

(117) 40°26'N., 124°32'W.; off Blunts Reef.

(118) 42°50'N., 124°44'W.; off Cape Blanco.

(119) 46°11'N., 124°12'W.; off Columbia River.

(120) 48°10'N., 124°52'W.; off Umatilla Reef.

(121) 48°26'N., 124°47'W.; off Cape Flattery.

(122) **Caution:** Route W of Farallon Islands crosses San Francisco-Honolulu and other Pacific courses of vessels using the San Francisco Traffic Separation Scheme.

San Diego to San Francisco

(123) Vessels can follow San Diego-Strait of Juan de Fuca route to position off Point Arguello, thence rhumb lines through the following positions:

(124) 36°17'N., 121°57'W.; off Point Sur.

(125) 37°10'N., 122°26'W.; off Pigeon Point.

(126) Thence by prescribed San Francisco Traffic Separation Scheme route to vicinity of San Francisco Approach Lighted Horn Buoy SF.

San Francisco to Strait of Juan de Fuca

(127) Follow prescribed San Francisco Traffic Separation Scheme route to a position off Point Reyes, thence to Point Arena and other positions on the San Diego-Strait of Juan de Fuca route.

Caution

(128) Strict adherence to tracks through positions listed above could result in collision of meeting vessels. It is suggested that southbound vessels shape courses through positions 1 mile farther off the mainland.

San Diego to Panama

(129) Proceed on rhumb lines through the following positions:

(130) 32°38'N., 117°13'W.

(131) 28°00'N., 116°00'W.

(132) 24°40'N., 112°30'W.

(133) 20°00'N., 107°30'W.

(134) 07°05'N., 81°45'W.

San Diego to Honolulu

(135) Rhumb line from 32°37'N., 117°16'W., to 21°14'N., 157°39'W.

Los Angeles to Honolulu

(136) Follow the Traffic Separation Scheme route through the Gulf of Santa Catalina, thence proceed on rhumb lines through the following positions:

(137) 32°48'N., 118°16'W.

(138) 21°14'N., 157°39'W.

San Francisco to Honolulu

(139) Follow prescribed San Francisco Traffic Separation Scheme route to a position S of Farallon Islands, thence rhumb line to

(140) 21°14'N., 157°39'W.

Strait of Juan de Fuca to Honolulu

(141) Great circle from

(142) 48°26'N., 124°47'W., to

(143) 21°14'N., 157°39'W.

Strait of Juan de Fuca to Unimak Pass

(144) Great circle from

(145) 48°31'N., 125°00'W., to

(146) 54°00'N., 163°00'W.; thence on rhumb line to

(147) 54°20'N., 164°45'W.

Offshore Vessel Traffic Management Recommendations

(148) Based on the **West Coast Offshore Vessel Traffic Risk Management Project**, which was co-sponsored by the **Pacific States/British Columbia Oil Spill Task**

Force and **U.S. Coast Guard Pacific Area**, it is recommended that, where no other traffic management areas exist such as Traffic Separation Schemes, Vessel Traffic Services, or recommended routes, vessels 300 gross tons or larger transiting along the coast anywhere between Cook Inlet and San Diego should voluntarily stay a minimum distance of 25 nautical miles offshore. It is also recommended that tank ships laden with persistent petroleum products and transiting along the coast between Cook Inlet and San Diego should voluntarily stay a minimum distance of 50 nautical miles offshore. Vessels transiting short distances between adjacent ports should seek routing guidance as needed from the local Captain of the Port or VTS authority for that area. This recommendation is intended to reduce the potential for vessel groundings and resulting oil spills in the event of a vessel casualty

Principal ports

(149) The principal deep-draft commercial ports within the area of this Coast Pilot are: San Diego, Long Beach, Los Angeles, San Francisco, Oakland, Richmond, Stockton, Humboldt Bay, Coos Bay, Portland, Vancouver, Grays Harbor, Seattle, Tacoma, and Honolulu.

(150) Other ports are Port Hueneme, Port San Luis, Redwood City, Sacramento, Astoria, Longview, Port Angeles, Anacortes, Bellingham, Olympia, and Hilo.

Pilotage, general

(151) In the area covered by this Coast Pilot, pilotage, with a few exceptions, is compulsory for all foreign vessels and for U.S. vessels under register in the foreign trade. It is optional for U.S. vessels in the coastwise trade, provided they are under the control and direction of a pilot duly licensed by Federal law for the waters which that vessel travels.

(152) Only at San Francisco do pilot boats cruise on station continuously. At the other ports the pilots must be notified in advance in order for the pilot boat to meet the vessel at the proper time. Most of the pilot boats and stations may be contacted by radio; though ships' agents normally arrange for pilots, a vessel may notify the pilot station of its estimated time of arrival by radio. Specific information is given in the description of the various ports.

Towage

(153) Tugs of various sizes are available at all the deep-draft ports. Arrangements for their use are usually made by the ship's agent, but in some cases may be made from the vessel by radio. For further information, refer to the description of the port.

Vessel Arrival Inspections

(154) Quarantine, customs, immigration, and agricultural quarantine officials are stationed in most major U.S. ports. (See Appendix A for addresses.) Vessels subject to such inspections generally make arrangements in advance through ships' agents. Unless otherwise directed, officials usually board vessels at their berths.

Harbormasters and wharfingers

(155) Harbormasters and wharfingers are mentioned in the text when applicable. They generally have charge of the anchorage and berthing of vessels.

Supplies

(156) Supplies of all kinds are available at San Diego, Los Angeles, Long Beach, San Francisco Bay, Portland, Seattle, and Tacoma. Limited quantities can be obtained at many other ports.

Repairs

(157) Large ocean-going vessels may be drydocked for complete repairs at Los Angeles, Long Beach, San Francisco Bay, Portland, and Seattle. Smaller ships of up to about 7,000 tons may also be drydocked at San Diego. Fishing boats and yachts can be hauled out and can have hulls and engines repaired at numerous other places. The Coast Pilot gives information on many of these facilities; usually the largest repair facility in each area is mentioned. Additional information may be obtained from the series of small-craft charts published for many places.

(158) **Salvage** equipment is available at Los Angeles, San Francisco Bay, Portland, and Seattle.

Small-craft facilities

(159) There are numerous places where fuel, supplies, protected berths, repairs, and shore facilities are available for small craft. For isolated places and small cities, the Coast Pilot describes the more important of these facilities; for large port areas, where individual facilities are too numerous to mention, the information given is more general. Additional information may be obtained from the series of small-craft charts published for the many places, and from various local small-craft guides.

(160) **A vessel of less than 65.6 feet (20 meters) in length or a sailing vessel shall not impede the passage of a vessel that can safely navigate only within a narrow channel or fairway. (Navigation Rules, International-Inland Rule 9(b).)**

(161) Southern California has many small-craft harbors with excellent facilities, but N of San Francisco the distances between protected harbors having facilities increases considerably until in the Puget Sound area.

Temporary moorage is usually available for transients at most of the harbors. The intense yachting activity of California as far N as San Francisco, however, makes transient moorage more difficult along this section of the coast, even with its numerous harbors built especially for such craft.

Standard time

(162) California, Oregon, and Washington use Pacific standard time, which is 8 hours slow of Greenwich mean time. Example: When it is 1000 at Greenwich, it is 0200 in the three coastal States. Hawaii uses Hawaii-Aleutian standard time (H.A.s.t.), which is 10 hours slow of Greenwich mean time. Example: When it is 1000 at Greenwich, it is 0000 in Hawaii.

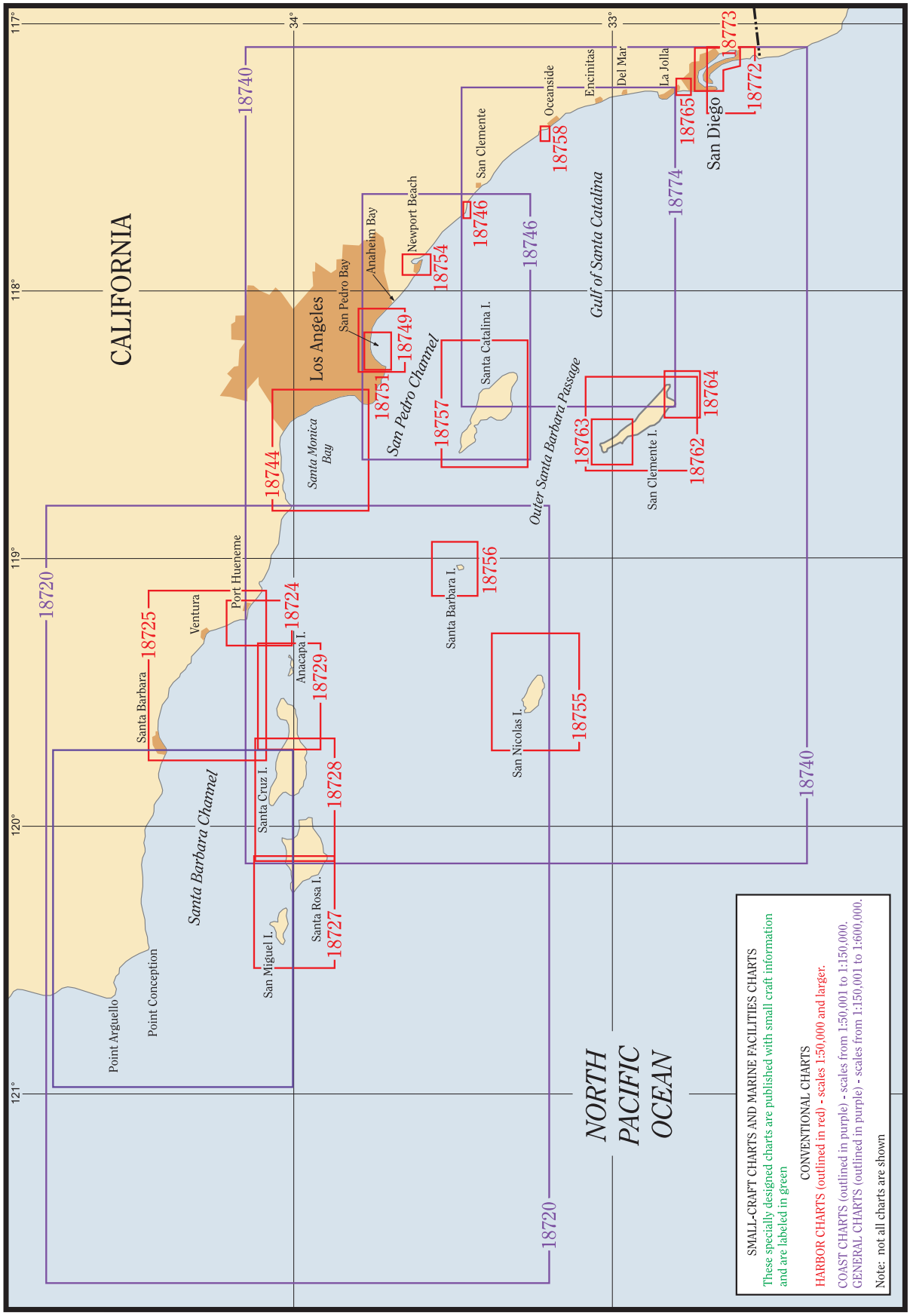
Daylight saving time

(163) In California, Oregon, and Washington, clocks are advanced 1 hour on the Second Sunday of March and are set back to standard time on the first Sunday of November. Daylight saving time is not observed in the State of Hawaii, American Samoa, or the U.S. territory of Guam.

Legal public holidays

(164) The following are legal holidays in the area covered by this Coast Pilot: New Year's Day, January 1; Martin Luther King, Jr.'s Birthday, third Monday in January; Washington's Birthday, third Monday in February; Memorial Day, last Monday in May; Independence Day, July 4; Labor Day, first Monday in September; Columbus Day, second Monday in October; Veterans Day, November 11; Thanksgiving Day, fourth Thursday in November; and Christmas Day, December 25. The national holidays are observed by employees of the Federal Government and the District of Columbia, and may not be observed by all the States in every case.

(165) In addition, the following holidays are also observed in the area covered by this Coast Pilot: Lincoln's Birthday, February 12, in California and Washington, first Monday in February, in Oregon; Presidents Day, first Monday in February, in Hawaii; Kuhio Day, March 26, in Hawaii; Good Friday, in Hawaii, in California from 1200 to 1500; Kamehameha Day, June 11, in Hawaii; Admission Day, third Friday in August, in Hawaii; Admission Day, September 9, in California; General Election Day, first Tuesday after first Monday in November, in California and Washington.


CALIFORNIA
Los Angeles
San Pedro Bay
Anaheim Bay
Newport Beach
San Clemente
Oceanside
Encinitas
Del Mar
La Jolla
San Diego
Santa Monica Bay
San Pedro Channel
Santa Catalina I.
Gulf of Santa Catalina
Outer Santa Barbara Passage
San Clemente I.
Santa Barbara I.
San Nicolas I.
Port Hueneme
Ventura
Santa Barbara
Anacapa I.
Santa Cruz I.
Santa Rosa I.
San Miguel I.
Santa Barbara Channel
Point Conception
Point Arguello
NORTH PACIFIC OCEAN
117°
118°
119°
120°
121°
34°
33°
18720
18740
18744
18746
18749
18751
18754
18755
18756
18757
18758
18762
18763
18764
18765
18772
18773
18774
18724
18725
18727
18728
18729
SMALL-CRAFT CHARTS AND MARINE FACILITIES CHARTS
These specially designed charts are published with small craft information and are labeled in green
CONVENTIONAL CHARTS
HARBOR CHARTS (outlined in red) - scales 1:50,000 and larger.
COAST CHARTS (outlined in purple) - scales from 1:50,001 to 1:150,000.
GENERAL CHARTS (outlined in purple) - scales from 1:150,001 to 1:600,000.
Note: not all charts are shown

San Diego to Point Arguello, California

(1) This chapter describes the 240-mile irregular coast of southern California from the Mexican border to Point Arguello. The coast extends in a general NW direction and includes the major ports of San Diego, Long Beach, Los Angeles, and Port Hueneme. This chapter also describes the recreational and fishing ports of Oceanside, Newport Beach, Ventura, Santa Barbara, and the many other recreational boating ports on San Pedro and Santa Monica Bays and along the Santa Barbara Channel.

COLREGS Demarcation Lines

(2) The lines established for this part of the coast are described in **80.1104 through 80.1126**, chapter 2.

Chart 18022

(3) There are several islands and dangers from 7 to 100 miles off the southern California coast; they are described in chapter 5.

(4) Many restricted and danger areas are in these waters. (See **334.860, 334.870, 334.880, and 334.890**, chapter 2 for limits and regulations.) In addition, missile firing, gunnery, and bombing operations are conducted on and over offshore waters not included in the areas defined in chapter 2, and at times endanger surface vessels. Information about these areas is published in Local Notice to Mariners issued by Commander, Eleventh Coast Guard District, Alameda, CA, and Notices to Mariners issued by National Geospatial-Intelligence Agency, Washington, D.C.

(5) Vessels are requested not to tow submerged objects across charted submarine transit lanes in use off the coast of southern California.

Weather, San Diego to Point Arguello

(6) The mild climate from San Diego to Point Arguello is controlled by the Pacific high-pressure system. Aided by the sea breeze, it brings winds from off the water, mainly S through N, which help keep coastal temperatures up in winter and down in summer. Coldest average temperatures range from the middle to upper fifties (12.8° to 15.0°C), while summertime readings are most often in the seventies (22° to 16°C). Occasionally a hot dry flow off the land in autumn will cause temperatures to soar into the nineties (33° to 38°C), and a rare winter outbreak from the E can drop temperatures to below freezing (<0°C). Winter is the rainy season, although not much rain falls along these coasts.

(7) Strong winds and rough seas, while less frequent than farther N, can be a problem from the middle of fall through late spring. Strong pressure gradients, distant storms, and infrequent close storms account for most of the gales and seas of 12 feet (3.7 m) or more, particularly off Point Arguello and in the Santa Barbara Channel. Strong local winds (Santa Ana) also generate gales along sections of this coast.

(8) Advection or sea fog, formed by warm moist air flowing over cool water, frequently confronts mariners in these waters. It is a persistent and widespread problem, particularly in the summer and fall N of Santa Monica, and in fall and winter S of Santa Monica.

Charts 18740, 18765

(9) In clear weather, vessels coming from S will sight Table Mountain, and its surrounding high land, and Los Coronados before picking up the San Diego landmarks.

(10) **Table Mountain** (chart 18022), conspicuous and flat-topped, is in Mexican territory, 25 miles SE of Point Loma and 6 miles inland.

(11) **Los Coronados (Coronado Islands)** are four bare, rocky islands, extending 4.5 miles in a NW direction, 7 miles offshore in Mexican waters, and 15 miles S of Point Loma. These islands are prominent in clear weather, and the passage E of them is commonly used by vessels. Depths in the vicinity of the islands are irregular, and in thick weather or at night caution must be observed when near them.

(12) A light is shown from a white cylindrical masonry tower on the S end of the S island; it is obscured from certain directions by the N islands. Another light is

shown from a white square masonry tower near the N end of the S island; local fog sometimes obscures it.

(13) The boundary between the United States and Mexico is marked by a 14-foot white marble obelisk on a pedestal 41 feet above the water near the edge of a low table bluff. The visible marker is 200 yards from the beach and 10 miles 142° from Point Loma Light. A large circular concrete arena is conspicuous just S of the marker. A stone mound, 365 feet above the water and 1 mile E of the obelisk, marks another point on the boundary line. Directly N of the obelisk the mesa falls to the low marshy land S of San Diego Bay.

(14) About 1.5 miles N of the border at Imperial Beach is a fishing pier extending 400 yards to seaward.

(15) In the approach from seaward in clear weather, San Clemente Island, the southernmost of the off-lying islands, will be sighted before the distinguishing features of the coast are seen. This will check the vessel's position and indicate subsequent shaping of the course for Point Loma. Upon a nearer approach, Cuyamaca Peak and the high land of the interior, Los Coronados, and Point Loma will be distinguished. Several aerolights in the vicinity of San Diego are visible at night from seaward.

(16) When making the approach to San Diego, useful radar targets are San Clemente Island, Los Coronados, the pleasure piers at Imperial Beach and Ocean Beach, the jetties of Mission Bay, Point Loma, and Ballast Point.

(17) When entering the harbor, the buoys marking the channel and Ballast Point are easily identified targets, thence Shelter Island, the radar reflector on North Island, and the various piers on either side of the channel; thence Harbor Island, the Coast Guard station pier, B Street Pier, and the Tenth Avenue Marine Terminal.

Charts 18773, 18772

(18) **San Diego Bay**, where California's maritime history began in 1542, is 10 miles NW of the Mexican boundary. In September of that year, Juan Rodriquez Cabrillo, the Spanish explorer, sailed his frail bark into the bay. The bay is considered one of the finest natural harbors in the world, and affords excellent protection in any weather; it is free of excessive tidal current movements. A low, narrow sandspit, which expands to a width of 1.6 miles at North Island on its NW end, separates the bay from the ocean.

(19) The city of **San Diego** is on the NE shore of the bay. **Coronado** is on the sandspit opposite San Diego. **National City** and **Chula Vista** are S of San Diego on the SE shore of the bay. The principal wharves are at San Diego and National City. Coronado, connected to San Diego by a highway bridge, is a residential and resort area of little commercial importance.

Prominent features

(20) **Point Loma**, on the W side of the entrance to San Diego Bay, is a ridged peninsula with heights of about 400 feet. The ridge is bare of trees except in the gullies and where planted around the houses near the summit, and is sparsely covered with grass, sagebrush, and cactus. The tanks and buildings of a sewage treatment plant are conspicuous about 0.9 mile N of the point. At a distance the point usually has the appearance of an island. **Point Loma Light** (32°39'54"N., 117°14'33"W.), 88 feet above the water, is shown from a black house on a 70-foot white square pyramidal skeleton tower at the S end of the point. The light has a fog signal. Thick kelp beds extend more than 1.5 miles S of the point, and a sunken wreck is about 0.5 mile S of the light.

(21) On the nearer approach, an abandoned lighthouse will be seen on the highest part of the hill immediately back of Point Loma Light. The old lighthouse and grounds form the **Cabrillo National Monument**, honoring the discoverer of San Diego Bay. The statue of Cabrillo, about 300 yards NE of the abandoned lighthouse, is reported to be an excellent mark when fog obscures the old lighthouse. From inside the bay, prominent objects along the crest of the ridge are a large red and white checkered elevated tank, a green standpipe, and a tall lookout tower all about 2.5 miles N from the light.

(22) **Ballast Point**, low and sandy, projects 0.4 mile NE from the E side of Point Loma, 1.3 miles N from Point Loma Light. **Ballast Point Light B** (32°41'10"N., 117°13'57"W.), 16 feet above the water, is shown from a dolphin with a green and white diamond-shaped daymark off the end of the point; the light has a fog signal. Three piers of the Naval Submarine Base are just N of Ballast Point. A fog signal is on the middle pier.

(23) **North Island**, the filled NW end of the sandspit on the E side of the bay entrance, is Naval Base Coronado. On its SE side is the City of Coronado. Prominent features that show up well from the entrance are the tall condominiums at Coronado Shores 2.7 miles E of the entrance, the S tower of Hotel del Coronado 2.4 miles E of the entrance, and the tower of the Naval Air Station Administration Building, which is marked by an aerolight and is operated intermittently with varying characteristics. In clear weather the skyline of the city of San Diego is very prominent on the S approach.

COLREGS Demarcation Lines

(24) The lines established for San Diego Harbor are described in **80.1104**, chapter 2.

Channels

(25) A **Federal project** provides for a dredged channel with depths of 47 feet in the entrance and through North San Diego Bay to the turning basin on the NE side of North Island (near Pier K), thence 42 feet to just NW of the San Diego- Coronado Bay bridge, thence 37 feet to a basin SW of the National City Marine Terminal. (See Notice to Mariners and the latest editions of charts for controlling depths.)

Anchorages

(26) General anchorages, special anchorages, and anchorages for Government vessels have been established in San Diego Bay. (See **110.1, 110.90, and 110.210**, chapter 2, for limits and regulations.)

(27) Permission to use anchorage berths 212 through 216 and Mooring Buoy 19, S of Harbor Island, must be obtained from Navy Afloat Training Group Pacific at 619-556-0900.

(28) Vessels waiting outside the entrance for a pilot will find good anchorage in 36 feet or more SE of the entrance to the channel, although permission to anchor in the restricted area must be obtained from the local naval authorities. For permission to use anchorage berths 125, 126, 147, 158, and 171, contact Navy Afloat Training Group Pacific at 619-556-0900. For permission to use anchorage berths 124, 135, 146, and 170, contact Navy Region Southwest Port Operations at 619-556-1433. For permission to use all other anchorage berths off Silver Strand, contact COMNVBEACHGRU at 619-437-2476. The area in the lee of Point Loma, S of Ballast Point and W of the E line of the project channel, is reserved for pilot boats and harbor patrol or U.S. Government craft. (See **334.880**, chapter 2, for limits and regulations.)

Dangers

(29) A submerged jetty, marked by lights and a fog signal at the seaward end, extends 1 mile S along **Zuñiga Shoal** from **Zuñiga Point**, the SW extremity of North Island. The outer two-thirds of the jetty has only small sections visible at high water. The lights marking the jetty have a white daymark with orange border and the words "DANGER SUBMERGED JETTY."

(30) A submerged jetty, marked by lights with daymarks that read "DANGER SUBMERGED JETTY," extends about 220 yards W from Zuñiga Point.

(31) In 2000, a rock awash was reported about 80 yards NW of the northernmost degaussing platform on the W side of North Island.

(32) There are numerous wrecks and obstructions in the shallow area of SE San Diego Bay. Caution should be exercised when navigating outside the marked channels.

Regulated Navigation Areas

(33) **Restricted areas** are: in the waters off the entrance to San Diego Bay; in the lee of Point Loma and S of Ballast Point; between Ballast Point and Zuñiga Point (degaussing station); adjacent to the W side of North Island; 0.4 mile N of Ballast Point, W of the dredged channel; off the NE side of North Island surrounding the Navy Pier; adjacent to and extending SE from the entrance channel to Glorietta Bay. (See **33 CFR 334.860, 334.865, 334.870, 334.880 and 334.890**, chapter 2, for limits and regulations.)

(34) **Security zones** are: on the W side of the entrance to San Diego Bay immediately N of Ballast Point; adjacent to the W and NE sides of North Island; about 1 mile N of the Point just S of the entrance to Shelter Island Yacht Basin; surrounding the Navy Pier; surrounding the Naval Amphibious Base just S of the entrance channel to Glorietta Bay; surrounding the Naval Station along the waterfront of National City from Chollas Creek to Pier 14; within 25 yards of all piers, abutments, fenders, and pilings of the Coronado Bay Bridge. (See **33 CFR 165.1101 through 165.1105, 165.1110, 165.1120, and 165.1121**, chapter 2, for limits and regulations.)

(35) A series of floating protection barriers, anchored by lighted buoys, surrounds the Naval facilities within the security zones: on the W side of the entrance to San Diego Bay; just N of Ballast Point, on the NE side of North Island; and of the Naval Station along the waterfront of National City.

(36) **Security zones** are in effect around all cruise ships entering, leaving, or anchored in the Port of San Diego Bay. (See **33 CFR 165.1108**, chapter 2, for limits and regulations.)

(37) **Regulated navigation areas** have been established in all waters of San Diego Bay, Mission Bay, and their approaches, and adjacent to the Naval Submarine Base just N of Ballast Point, extending E across the channel to the W shore of North Island. (See 3**3 CFR 165.1122** and **165.1107**, chapter 2, for limits and regulations.)

(38) A **safety zone** is E of Harbor Island on the N side of the bay. (See **33 CFR 165.1106**, chapter 2, for limits and regulations.)

Bridges

(39) A fixed highway bridge linking San Diego and Coronado crosses San Diego Bay 0.3 mile SE of the Tenth Avenue Marine Terminal.

San Diego-Coronoda Bay Bridge Clearances (feet)		
Span	**Horizontal**	**Vertical**
Piers 14 and 15	194	156
Piers 18 and 19	660	195
Piers 19 and 20	660	214
Piers 21 and 20	500	175
RACONS mark the center of the spans between piers 18-19 and 19-20 and a fog signal is on pier 19.		

Tides

(40) The mean range of tide is 4.0 feet at San Diego, and the diurnal range of tide is 5.7 feet. A range of about 8 feet may occur at the time of maximum tides. Daily predictions are given in the Tide Tables.

Currents

(41) The currents set generally in the direction of the channels. In the vicinity of the entrance the usual velocity varies from 0.5 to 5 knots depending upon the stage of the tide. S of the end of the jetty there is a slight set toward Zuñiga Shoal on the ebb. Great care should be taken while passing Ballast Point as a vessel may take a sudden sheer because of a crosscurrent deflected from Ballast Point.

(42) The eddy usually encountered along the ends of the municipal piers makes docking difficult. The velocity and direction of the eddy are irregular, and the greatest care must be exercised by even the most experienced. Strangers should not attempt to dock large vessels without a pilot. (See the Tidal Current Tables for daily predictions.)

Weather, San Diego

(43) In the San Diego Bay area, visibilities are reduced to less than 0.5 mile(0.9 km), mostly by radiation fog, on about 3 to 7 days per month from September through April. December is the foggiest month. This fog is worst during the late night and early morning hours. Dense fog is as frequent at North Island as it is at Imperial Beach. However, fog signals indicate that in general it is foggier around the entrance to the bay than it is in the N sections. For example, in December, the fog signal at Point Loma is operating about 20 percent of the time, compared to 10 percent at Ballast Point.

(44) Temperatures are moderate. The average high is 71°F (21.7°C) and the average low, 57°F (14°C). August is the warmest month with an average temperature of 72.2°F (22.3°C). Absolute extremes range 82°F (27.8°C) from an all-time high of 111°F (43.8°C) recorded in September 1963 to an absolute minimum of 29°F (1.7°C) in January 1949. Every month has seen temperatures of 90°F (32°C) or greater except January and December. Only January has recorded below freezing (0°C) temperatures.

(45) Precipitation is light and falls, on average, only 71 days each year. January is the wettest month when an average of just over two inches (51 mm) can be expected. January through March is the rainiest period where an average of eight days each month records precipitation. July is the driest month and June through October comprise the dry season. On average, only two one-hundredths (0.5 mm) of an inch falls in July while August is the most rain-free month when an average of only two days during the month records measurable rainfall. Annual precipitation measures less than ten inches (<254 mm) each year. The wettest year on record, 1978, documented 19.48 inches (495 mm) of precipitation and the driest year, 1953, saw only 3.41 inches (87 mm) of rainfall. Only trace amounts of snowfall have occurred on several occasions during the months of December and January.

(46) Winds in the area are strongest from March through September, when they blow 17 knots or more about 2 percent of the time. Gales are unheard of. Wind gusts have reached 50 knots or more during January. Strong winds often have a southerly component, but they also blow from the W and E. Winds along the coast are often affected by local topography, particularly when the flow is off the land. For example, at Imperial Beach, E winds blow 15 to 20 percent of the time from November through March. At Lindbergh Field Municipal Airport, prevailing winds are out of the N through NE during this period. W through NW winds are also common at both places. They become increasingly more frequent by March. During the late spring and summer, SW through NW winds prevail at both locations. However, at the more exposed Imperial Beach, W winds occur up to 25 percent of the time, whereas the flow is more variable at San Diego. By October, the winter wind regime begins to reestablish itself.

(47) No vessel over 1,600 designed displacement tons should transit the Coronado Bay Bridge in low visibility conditions if the bridge is not held visually within stopping distance. Tank ships or barges carrying petroleum products, explosive or other hazardous materials should not commence a movement in the approaches to or within the outer or inner harbor of San Diego when visibility of less than 0.5 mile or 1,000 yards is prevalent.

(48) The National Weather Service maintains an office at Lindbergh Field Municipal Airport; barometers may be compared there or by telephone.

(49) (See Appendix B for **San Diego climatological table**.)

Pilotage, San Diego

(50) All foreign vessels and vessels from a foreign port or bound thereto, and all vessels over 300 gross tons sailing under register between the port of San Diego and any other U.S. port, are subject to pilotage. Further information regarding pilotage requirements are detailed in the Pilotage section of the **Port of San Diego Tariff**, available through the ship's agent or directly from the Port District at (619) 686-6343.

(51) Vessels sailing under enrollment and licensed, and engaged in the coasting trade, between the port of San

Diego and other U.S. ports, are exempt from all pilotage, unless a pilot is actually employed.

(52) Pilotage and berthing requirements for naval vessels are coordinated by Naval Base San Diego Port Operations, 619-556-1433.

(53) San Diego Bay is served by the San Diego Bay Pilots Association, Inc., which maintains an office at the Tenth Avenue Marine Terminal. 626 Switzer Street, San Diego, CA 92101. The pilot boat monitors VHF-FM channels 16 and 12, 1 hour prior to scheduled vessel arrivals; VHF-FM channel 12 is used as a working frequency. If contact with the pilot is needed prior to 1 hour in advance of arrival, information should be relayed via the ship's agent.

(54) The San Diego Bay Pilots have two pilot boats; a 65-foot white vessel with the word PILOT on the front of the fly bridge and a 38-foot white monohull with the word PILOT on the front of the wheelhouse. Both boats display the International Code flag 'H' while engaged in pilotage duties during daylight hours and white over red lights at night.

(55) Arrangements for pilots are made via ship's agent and boarding information via radio by calling "San Diego Pilots" on VHF-FM channel 12. Pilots request incoming vessels contact them at least 1 hour prior to arrival and provide estimated time of arrival and draft.

(56) Pilots board vessels in the vicinity of San Diego Bay Approach Lighted Whistle Buoy SD (32°37'18"N., 117°14'48"W.) When approaching San Diego, vessels should pass to the S and E of the buoy leaving it on the port side when making the approach, unless otherwise directed by the pilot. When boarding, pilots request vessels maintain a speed of 7 knots and rig the pilot ladder 6 feet above the water on the lee side.

(57) The San Diego Unified Port District operates a VHF-FM radio station from Harbor Control Headquarters at Shelter Island for contacting merchant ships, port pilots, and other nearby stations. Channel 16 is for calling; channels 12 and 17 are for port operations. The station call sign is KJC-824.

Towage

(58) Tugs to 3,500 hp are available from commercial operators in the San Diego area. Naval tugs handle navy vessels, but will assist commercial vessels in emergencies.

(59) San Diego is a **customs port of entry**.

Quarantine, customs, immigration, and agriculture quarantine

(60) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.) U.S. Customs requires that all non-commercial vessels, including corporate yachts, less than 130 feet in length returning from a foreign port or place, report directly to the Harbor Police Dock (32°42'30"N., 117°14'05"W.) on Shelter Island. When space is unavailable at the dock, vessels should utilize one of the three quarantine buoys located across from the dock until space is available. Commercial and non-commercial vessels greater than 130 feet in length returning from a foreign port or place, must report directly to the Broadway Pier (32°42'57"N., 117°10'36"W.) for inspection. Small commercial vessels and fishing boats are boarded at the Broadway Pier. At either location, only the master may leave the vessel to contact the U.S. Customs Service in order to request an inspector respond to Shelter Island or Broadway Pier. All persons aboard the clearing vessel are quarantined to the vessel until cleared by Customs. Additionally, no visitors are allowed aboard the vessel. Persons of foreign nationality should identify themselves to make arrangements to declare entry into the county with the Immigration and Naturalization Service. Officials usually board documented vessels at their berths. United States Customs can be reached at 619-557-5370 during normal business hours and 619-557-5132 24-hours a day.

(61) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

Coast Guard

(62) San Diego Coast Guard Station, Air Station, and a Marine Safety Office (see Appendix A for address) are on the mainland just NE of the E end of Harbor Island.

Harbor regulations

(63) The Port of San Diego is under control of the San Diego Unified Port District. Rules and regulations are enforced by a Port Director, who is appointed by the Board of Port Commissioners. The general offices of the port district are at 3165 Pacific Highway, San Diego. The manager of marine operations and the chief wharfinger have offices at the Tenth Avenue Marine Terminal, 687 Switzer Street, San Diego. The office of wharfinger can be reached by telephone at 619 686-6346 or fax 619 686-6354.

(64) The Coast Guard Captain of the Port, San Diego, has designated the ship channels in San Diego Harbor as "narrow channels" for the purposes of enforcing Rule 9 of the Navigation Rules. Vessels of less than 20 meters (65.6 feet), sailing vessels, vessels engaged in fishing, and crossing vessels shall not impede the passage of a vessel that can safely navigate only within a narrow channel.

(65) The State of California, with the approval of the Environmental Protection Agency, has established a No-Discharge Zone (NDZ) in San Diego Bay. The NDZ

is comprised of the portion of San Diego Bay that is less than 30 feet deep at mean lower low water (MLLW), as determined from the most recent NOAA nautical chart.

(66) Within the NDZ, discharge of sewage, whether treated or untreated, from all vessels is prohibited. Outside the NDZ, discharge of sewage is regulated by **40 CFR 140** (see Chapter 2).

(67) In addition to the **No-Discharge Zone** and concurrent with the federal regulations above, the **San Diego Unified Port District Code** (section 8.50) prohibits the discharge of any material, including sewage, into San Diego Bay without written permission by the Port Director.

Wharves

(68) The **San Diego Unified Port District** owns the deepwater commercial facilities in the bay and operates them either independently or in conjunction with private firms. The port piers and wharves have water, rail, and highway connections. There are a number of smaller privately operated wharves and piers used for receiving oil, repairing vessels, and for mooring and fueling small craft. Only the deep-draft commercial facilities are described. The alongside depths given for each facility described are reported depths. (For information on latest depths, contact the Port of San Diego.) For a complete description of the port facilities, refer to Port Series No. 27, published and sold by the U.S. Army Corps of Engineers. (See Appendix A for address.)

(69) General cargo at the port is usually handled by ship's tackle; special handling equipment, if available, is mentioned in the description of the particular facility. Mobile cranes up to 165 tons and floating cranes up to 150 tons are available.

(70) In the port area, the San Diego Unified Port District and private companies operate warehouses having a total of more than 848,000 square feet of dry storage space and more than 1,680,000 cubic feet of cold storage space. A large amount of transit shed space and open storage is available.

(71) **San Diego Unified Port District, B Street Pier, Cruise Ship Terminal:** (32°43'02"N., 117°10'28"W.): 400-foot face, 30-35 feet alongside; 1,000-foot N and S sides, 35 to 37 feet alongside; deck height, 13 feet; berthing cruise vessels.

(72) **San Diego Unified Port District, Broadway Pier, S of B Street Pier:** 130-foot face, 35 feet alongside; 1,000-foot N and S sides, 35 feet alongside; deck height 13 feet; berthing cruise vessels and other miscellaneous craft.

(73) **Navy Pier**, S of Broadway Pier: owned and operated by the Port District.

(74) **G Street Mole Pier**, S of Navy Pier: berthing of tuna seiners and commercial fishing vessels.

(75) **San Diego Unified Port District, Tenth Avenue Marine Terminal, Berths 1 and 2:** concrete bulkhead, 1,120 feet of berthing space; 31 feet alongside; deck height, 13 feet; pipelines extend from four steel storage tanks at the rear, total capacity 167,850 barrels; receipt and shipment of containerized and conventional cargo and perishable food commodities; bunkering vessels.

(76) **San Diego Unified Port District, Tenth Avenue Marine Terminal, Berths 3-6:** concrete bulkhead, 2,580 feet of berthing space; 34 to 35 feet alongside; deck height, 13 feet; approximately 3.5 acres of concrete-surfaced open storage area are located at rear; one six inch pipeline extends from three steel storage tanks, total capacity 3,000,000 gallons, formerly used for molasses, palm oil, and vegetable oil; cement unloader with maximum unloading capacity of 800 tons per hour; warehouse storage for 48,000 metric tons of cement.

(77) **San Diego Unified Port District, Tenth Avenue Marine Terminal, Berths 7 and 8:** 920 feet of berthing space, 41 feet alongside; deck height, 13 feet; one 14-inch pipeline extends from wharf to storage tanks; bulk loader with a maximum loading capacity of 2,000 tons per hour; 12 concrete silos and two steel tanks located in rear with a total capacity of 33,000 metric tons; receipt and shipment of miscellaneous dry bulk commodities, conventional and containerized general cargo; bunkering vessels.

(78) **Crosby Street Berthing Pier**, S of Tenth Avenue Marine Terminal: concrete pier with wood fender pilings; 575 feet in length; depths ranging from 43 feet at W end to 10 feet at E end; berthing for tuna seiners, commercial fishing vessels, tugs, and miscellaneous vessels.

(79) **San Diego Unified Port District, National City Marine Terminal, Berths 24-1 and 24-2:** concrete bulkhead; 1,400 feet long, 20 to 35 feet alongside; deck height, 13 feet; about 188 acres of paved open storage; receipt and shipment of general cargo and automobiles in foreign and domestic trade.

(80) **San Diego Unified Port District, National City Marine Terminal, Berths 24-3 and 24-4, and 24-5:** concrete bulkhead; 1,000 feet of berthing space and 35 to 37 feet alongside at Berths 24-3 and 24-4; 1,025 feet of berthing space and 42 feet alongside at Berth 24-5; deck height, 13 feet; receipt and shipment of general cargo and automobiles in foreign and domestic trade.

(81) **San Diego Unified Port District, National City Marine Terminal, Berths 24-10 and 24-11:** concrete bulkhead; 1,500 feet of berthing space 35 feet alongside; deck height, 13 feet; 36 acres of open lumber storage; additional 40 acres open storage; available as required at rear of National City Marine Terminal; receipt and shipment of conventional general cargo and

automobiles in foreign and domestic trade; receipt of lumber; shipment of cattle.

Supplies

(82) Marine supplies of all kinds are available in San Diego. Bunker fuel, diesel oil, and lubricants are available. Large vessels can be bunkered via pipeline at the Tenth Avenue Marine Terminal, or arrangements can be made to fuel at all commercial berths from barges. Water is available at most of the berths.

Repairs

(83) There are shipbuilding and repair yards in San Diego with floating drydocks, the largest of which has a lifting capacity of 25,000 tons. The largest marine railway can handle craft up to 1,400 tons. Complete shipyard facilities are available for all types of repair work.

(84) A U.S. Navy graving dock, located at the naval station near the foot of 32nd Street, may be used by local repair firms by prior arrangements with the San Diego Unified Port District and local naval authorities. The dock has a clear inside length of 693 feet and an entrance width of 90 feet. The dock is served by a 27½-ton full portal traveling crane. The graving dock at National Steel and Shipbuilding Co., about 0.9 mile NW of the Navy graving dock, has a clear length of 998 feet and an entrance width of 176 feet.

Communications

(85) San Diego has transcontinental railroad connections to the N and E. Major airline service is available at San Diego International Airport, Lindbergh Field. San Diego is the port of call for many steamship and cruise lines. Major bus, railroad, and motor freight lines serve the city.

Small-craft facilities

(86) **Shelter Island**. across the channel from North Island and 1.5 miles above Ballast Point, includes the **Shelter Island Yacht Basin** on the S and the **Americas Cup Harbor** on the N. Shelter Island is the most important small-boat area in San Diego Bay. The yacht basin has several large marinas and yacht clubs. It can accommodate more than 2,000 boats at its piers, floats, and moorings. The entrance channel has depths of 20 feet to inside the entrance, thence 15 feet to most of the facilities; the least depth is 9 feet. The entrance is marked by lights. The **354°** lighted range marking the entrance to San Diego Bay also marks the approach to the entrance to Shelter Island Yacht Basin. The **harbor police** are at the Harbor Control Headquarters just inside the entrance to the yacht basin. The police dock is also the boarding station for the inspection of small craft by Customs, Public Health, Immigration and Agricultural quarantine personnel when such inspections are necessary. Harbor police boats, providing fire protection, law enforcement, and assistance to small boats in distress, operate from this facility on a 24-hour basis. Overnight berths for transient vessels are usually available at one of the marinas; if no such berth is available, temporary mooring or berthing may be made available through the harbor police. The Americas Cup Harbor has accommodations for over 600 vessels and is the home port for many commercial fishing vessels. Repair yards in the basin have marine railways that can handle craft up to 800 tons. All kinds of repairs to small vessels may be obtained here. Both the yacht basin and the Americas Cup Harbor have fueling docks, a launching ramp, and marine supplies.

(87) In September 1988, several uncharted dangerous wrecks were reported about 0.4 mile SW of the entrance to the basin.

(88) **Harbor Island**, about 0.5 mile NE of Shelter Island, is in the northernmost part of the bay. **Harbor Island West Basin** has berthing and mooring accommodations for nearly 1,600 craft. A number of marinas, hotels, restaurants, and shops are along the shore of the basin. A light shows from atop a building near the W end of the island.

(89) A **090°–270° measured nautical mile** is off the S side of Harbor Island. Each range is marked by two diamond-shaped markers.

(90) **Glorietta Bay**, on the S side of Coronado and 6 miles from Ballast Point, is a small-craft harbor occupied by a yacht club and a small marina. The facilities include berths for over 215 yachts and small craft. A channel marked by lighted and unlighted buoys and a **232°** lighted range leads from the main channel in San Diego Bay to the basin in Glorietta Bay. In August 2002, the reported centerline controlling depth in the channel was 15 feet; thence in 1981, depths of 8 to 10 feet were reported in the basin except for lesser depths along the edges. A 5 mph **speed limit** is enforced in Glorietta Bay. Water, ice, and a launching ramp are available.

(91) A **restricted area**, marked by buoys, is outside the SE limit of the channel into Glorietta Bay. (See **334.860**, chapter 2, for limits and regulations.)

(92) A **security zone** is also outside the SE limit of the channel into Glorietta Bay, within the restricted area off the Naval Amphibious Base. (See **165.1 through 165.8, 165.30, 165.33, and 165.1120**, chapter 2, for limits and regulations.)

(93) **Speed Control Lights** cross South San Diego Bay, near the head, N of Chula Vista.

(94) **Chula Vista Harbor** is on the E side near the head of South San Diego Bay at Chula Vista. The entrance is

protected by breakwaters marked at the outer ends by private lights. The entrance channel and basin channel are marked by private buoys, lights, and daybeacons. In 2002, the approach to the basin had a reported depth of 18 feet with 16 feet reported alongside the piers. Berthing, electricity, water, ice, sewage pump-out, nautical supplies, and a launching ramp are available.

Chart 18740

(95) The 80-mile coast between San Diego Bay and San Pedro Bay is thickly settled, and the buildings of numerous towns and resorts are prominent from offshore. Several small-boat harbors and the port of Newport Bay are along the coast.

(96) The first 11 miles of the coast, between Point Loma and Point La Jolla, is extremely rocky, and the kelp beds extend up to 2 miles from shore; vessels should stay well offshore.

(97) About 1 mile N of Point Loma Light is a submerged sewer outfall line extending about 1 mile to the W.

(98) **Ocean Beach**, 5 miles N of Point Loma, has a large Y-shaped fishing pier with a private fog signal on the end.

Weather, Gulf of Santa Catalina

(99) Over the Gulf of Santa Catalina and along its shores, fog is a problem during fall and winter. This is most often a land (radiation) fog that drifts out over the gulf at night. By late morning, conditions begin to clear, particularly along the coast. Offshore, fog reduces visibilities to less than 0.5 mile (0.9 km) on about 4 to 9 days per month, from September through February and in May. September and October are the worst months. Along the coast, visibilities drop below 0.5 mile (0.9 km) on about 2 to 8 days per month from August through April. November, December, and February are the worst months.

(100) Gale force winds never occur as much as 1 percent of the time in the Gulf of Santa Catalina. They are infrequently encountered from November through April. Wind speeds of 17 knots or more occur about 1 to 3 percent of the time from December through May. Winds on the coast are often light. At Camp Pendleton, winds less than 3 knots occur 40 to 50 percent of the time from September through March. Seas are most likely to get choppy from November through April, when distant storms S of 40°N. generate W swells. These swells are 6 feet (1.8 m) or more, about 2 to 5 percent of the time. In winter, they occasionally exceed 9 feet (2.7 m) and some 12-foot (3.7 m) swells have been reported.

Chart 18765

(101) **Mission Bay**, entered between two jetties 5.5 miles N of Point Loma, is a recreational small-craft harbor administered by the city of San Diego. A light and a fog signal are at the outer end of the N jetty. A prominent feature when approaching the harbor is the municipal fishing pier at Ocean Beach, 0.3 mile S of the entrance. The lighted 338-foot tower at Sea World is prominent 1.8 miles E of the entrance. Fog signals are sounded from the fishing pier. A dredged channel leads from deep water in the Pacific Ocean to the highway bridge about 1.3 miles above the entrance. **Quivira Basin** and **Mariners Basin**, on the E and W sides of the channel, respectively, are entered about 1 mile above the entrance.

(102) In August 2006, the controlling depth was 13 feet in the dredged channel to the highway bridge (except for lesser depths to 8 feet along the edges of the channel); general depths of 14 to 15 feet were available in Mariners Basin with lesser depths along the edges and a depth of 20 feet was available in Quivira Basin. A jetty marked on its outer end by a light, extends about 125 yards NW from the S side of the entrance to Quivira Basin. The inner bay has depths of about 6 feet.

(103) The entrance to Mission Bay can be difficult to navigate while surf is high. Large swells in any season and from virtually any direction can break completely across the entrance channel. With a rough sea outside, a heavy surge exists inside the bay, especially in Quivira Basin. Boats must be securely moored to prevent damage from this surge condition.

No-Discharge Zone

(104) The State of California, with the approval of the Environmental Protection Agency, has established a No-Discharge Zone (NDZ) in Mission Bay. It encompasses the entire by (see NOAA chart 18765 for the zone limits).

(105) Within the NDZ, discharge of sewage, whether treated or untreated, from all vessels is prohibited. Outside the NDZ, discharge of sewage is regulated by **40 CFR 140** (see Chapter 2).

COLREGS Demarcation Lines

(106) The lines established for Mission Bay are described in **80.1106**, chapter 2.

(107) Two fixed highway bridges cross Mission Bay. The first, crossing above the entrance between Ventura Point and Sunset Point, has a clearance of 38 feet. The second, connecting Vacation Isle with Crown Point to the N and Dana Landing to the S, has a clearance of 31 feet under the N span and 38 feet under the S span.

(108) An aerial tramway cable, with a clearance of 42 feet, crosses the entrance to **Perez Cove**, immediately SE of Dana Landing.

(109) The San Diego City Lifeguard Headquarters and the San Diego Police Department, Mission Bay Harbor Unit, are on the S side of the entrance to **Quivira Basin**. Harbor regulations are enforced and emergency assistance is provided by the two units. The Lifeguard Service maintains a 24-hour watch on VHF-FM Channel 16 and handles all dispatches. Police matters are dispatched to the Police Harbor Patrol. Calls for assistance in Mission Bay and within 3 miles of the coastline, from Point Loma to the S, to Blacks Beach, about 3 miles N of Point La Jolla to the N, are the responsibility of the Lifeguard Service. Both units have patrol boats and make safety inspections. Water skiing, swimming, sailing, fishing and speed regulations are enforced in Mission Bay. Most regulations are posted; complete regulations are available from the City Lifeguard Headquarters Office. A full service repair facility is available in Quivira Basin. A 100-ton hoist for hull and engine repairs, gasoline, diesel fuel, water, ice, and marine supplies are available. There are numerous launching ramps and parking areas around the bay. The inner bay has several marinas and many private moorings.

Anchorages

(110) **Special anchorages** are along the W side of Mission Bay in **San Juan Cove**, **Santa Barbara Cove**, **Bonita Cove**, Mariners Basin, and Quivira Basin. (See **110.1 and 110.91**, chapter 2, for limits and regulations.)

(111) **Mission Beach**, 6.5 miles N of Point Loma, is an amusement place with prominent buildings. From seaward the highest part of the roller coaster looks like a dome.

(112) **Pacific Beach**, 8 miles N of Point Loma, has a pleasure pier extending about 260 yards from the beach. The pier was partially destroyed in the winter of 1984, and submerged piles are reported within 90 yards of the seaward end; caution is advised.

(113) A 2-mile rounding rocky point, 9 miles N of Point Loma, is the first high land N of San Diego Bay. The point is a spur from 822-foot **Soledad Mountain**. The S end of this headland is called **False Point**, and the N end is **Point La Jolla**. In the vicinity of Point La Jolla, rock cliffs with caves rise abruptly from the water to heights of 80 feet. The buildings at **La Jolla** and Pacific Beach, and the television towers on Soledad Mountain are prominent.

(114) **Scripps Institution of Oceanography**, one of the leading institutions in research in oceanography and marine biology, has extensive facilities 12 miles N of Point Loma. The institution maintains a long pier for observation purposes.

(115) Just N of Scripps Institution the bluffs rise to a height of 300 feet, then decrease gradually for the next 5 miles to heights of 20 to 80 feet.

(116) A **000°–180° measured nautical mile** has been established 13.5 miles N of Point Loma; each range is marked by two steel towers.

(117) **Del Mar**, 18 miles N of Point Loma, is a resort city.

(118) The coast from Del Mar N for 31 miles to San Mateo Point is a low, flat tableland with abrupt cliffs 60 to 130 feet high and with broad beaches. The tableland is intersected by numerous deep valleys with streams that usually dry in the summer. In the N part, the high ridges of the interior are much nearer the coast. Paralleling this coast are U.S. Highway 101 and the Atchison, Topeka and Santa Fe Railway.

Charts 18740, 18774, 18758

(119) **Carlsbad**, 30 miles N of Point Loma, is a resort area with a number of hotels and motels. The stack of the San Diego Gas and Electric Co. near the S end of town is very prominent. The stack is marked by flashing white lights during the day and by fixed and flashing red lights at night. The company maintains a lighted bell buoy about 0.9 mile offshore. Mariners are cautioned to pass W of the lighted bell buoy because it marks the seaward end of a submerged pipeline. Near the N edge of town the low white square tower on the W end of the San Diego Army and Navy Academy is distinctive.

(120) The pleasure pier at **Oceanside**, 32.5 miles N of Point Loma, has a fish haven covered 10 feet around its seaward end. The pier is marked by lights.

(121) **Oceanside Harbor**, at the N end of the city, 1.2 miles NW of the pleasure pier, is a small-craft harbor administered by the City of Oceanside, Department of Harbor and Beaches. The harbor, which can accommodate about 950 small craft, shares a common entrance with Del Mar Boat Basin (**Camp Pendleton Marine Corps Base**) to the N.

(122) Prominent features when approaching the harbor include a large lighted sign reading "OCEANSIDE" in white letters on a blue background located on a grassy bluff overlooking the middle of the harbor, a tall condominium on the E side of the harbor, a lighted tower on the SE side of the harbor resembling a lighthouse, and a hotel in the vicinity of the harbor entrance.

(123) The common entrance to Oceanside Harbor and Del Mar Boat Basin is between two jetties. The long W jetty is marked by a single light at the seaward end, and the short E jetty has a N and S extension. The S

extension has a light and fog signal at the seaward end; a light is at the outer end of the N extension. Inside the common entrance is a lighted junction buoy separating the entrance channels to Oceanside Harbor and Del Mar Boat Basin. The entrance channel for Oceanside Harbor is marked by lighted buoys, lights and a daybeacon. A submerged jetty, just N of the entrance channel to Oceanside Harbor, is marked by a danger buoy at its outer end.

No-Discharge Zone

(124) The State of California, with the approval of the Environmental Protection Agency, has established a No-Discharge Zone (NDZ) in Oceanside Harbor. It encompasses the entire harbor (see NOAA chart 18758 for the zone limits).

(125) Within the NDZ, discharge of sewage, whether treated or untreated, from all vessels is prohibited. Outside the NDZ, discharge of sewage is regulated by **40 CFR 140** (see Chapter 2).

COLREGS Demarcation Lines

(126) The lines established for Oceanside Harbor are described in **80.1108**, chapter 2.

Channels

(127) A dredged channel leads from deep water through the entrance jetties, thence branches E to Oceanside Harbor and N to Del Mar Boat Basin. Strangers should not attempt the entrance at night in rough seas without assistance. The entrance channel is subject to severe wave action and shoaling, and buoys are frequently shifted with changing conditions. Mariners are requested to contact the harbor patrol on VHF-FM channel 16 before entering.

Harbor regulations

(128) The harbor is under the control of the City of Oceanside, Department of Harbor and Beaches. The harbor headquarters building is on the E side of the harbor opposite the entrance. About 50 berths for transient craft are available at the harbor headquarters. All moorage must be arranged with the harbor office in the headquarters building. Prepaid reservations are accepted for 24 guest slips, with the remainder available on a first come, first served basis. The **Oceanside Harbor Police** operates from the headquarters building. The police boats are equipped with rescue and fire fighting equipment. The police boats monitor VHF-FM channel 16, 24 hours a day, and work on channel 12.

Weather, Oceanside

(129) Wind speeds at Oceanside rarely get above 28 knots; they are most likely to occur from December through April. Fog is sometimes a late night and early morning navigational hazard from August through March. During this period, visibilities drop below 0.5 mile (0.9 km) on 2 to 8 days per month; November is usually the foggiest month. The worst time of day is between midnight and 0500.

(130) Swells are most frequent from January through April.

Supplies

(131) Gasoline and diesel fuel are pumped at the fuel dock. Marine supplies, ice, and pumpout facilities are available.

Repairs

(132) A repair yard just N of the harbor district headquarters has a mobile lift that can handle craft to 42 feet and 14 tons. Hull, engine, and electronic repairs are available.

(133) **Del Mar Boat Basin (Camp Pendleton)**, just N of Oceanside Harbor, is part of the U.S. Marine Corps reservation. (See 334.910, chapter 2, for limits and regulations of the **restricted area.**) The boat basin shares a common entrance with Oceanside Harbor. The channel is marked by buoys and daybeacons. A **restricted area** is off the outer breakwater. (See **334.900**, chapter 2, for limits and regulations.)

(134) A **military exercise area** extends about 3 miles seaward from about 2 miles NW of the boat basin northwestward to San Clemente. Mariners are advised to consult Eleventh Coast Guard District Local Notice to Mariners for scheduled exercise dates and times.

(135) A **restricted area** is within the military exercise area and centered about 4.5 miles NW of Del Mar Boat Basin entrance. (See **334.905**, chapter 2, for limits and regulations.)

(136) In September 2005, the U.S. Marine Corps reported testing of the Expeditionary Fighting Vehicle (EFV) 24 hours a day off of Camp Pendleton, from the Oceanside Harbor entrance to San Mateo Point and up to 25 miles off shore. There may be as many as four EFVs testing at the same time with several additional vessels supporting testing in the vicinity of the EFVs. All vessels will have lighting in accordance with regulations. There may be times when spotlights and/or strobe lights will be visible in the test area. All support vessels in the test team will be monitoring radar and VHF-FM channel 81A; the Water Safety Officer will also monitor VHF-FM channel 81A. For additional information contact the Operations Officer at 760-763-4428.

(137) A red and white checkered elevated tank, 1.7 miles NE of the boat basin, is prominent from well offshore. The highway bridge and the trestlework of the railroad

crossing of the **Santa Margarita River**, 1.7 miles W of the tank, also are prominent. A large white building nearly 7 miles NW of the boat basin is conspicuous from seaward.

(138) **San Onofre Mountain**, 44 miles N of Point Loma and 1.5 miles inland, is the highest of the coastal range in the area.

(139) **San Mateo Point**, locally known as **Cottons Point** and 47 miles NW of Point Loma, ends in cliffs 60 feet high and is the N head at the mouth of **San Mateo Creek**. Both San Mateo Creek and **Arroyo San Onofre**, a mile SE, are crossed by a trestle. Two large domes of a nuclear powerplant are 2.3 miles SE of San Mateo Point. A smaller dome-shaped building is on top of the bluff a few hundred yards SE.

(140) **San Mateo Point Light** (33°23.3'N., 117°35.8'W.), 63 feet above the water, is shown from a pole on San Mateo Point.

Charts 18740, 18774, 18746

(141) From San Mateo Point to Dana Point, 7.5 miles NW, the land is higher and more rugged, and is broken by **San Juan Creek** about 1.5 miles E of Dana Point. The railroad and the highway run close together along the beach under the bluffs in this stretch of the coast to San Juan Creek, where the railroad turns inland.

(142) **San Clemente**, 2 miles N of San Mateo Point, has many white houses with red-tiled roofs, making the place conspicuous from the sea. There is a small pleasure pier at the town; a fish haven covered 10 feet is off its seaward side. A reef that uncovers 3 feet is about 700 yards NW of the pier.

(143) **Dana Point**, 8 miles NW of San Mateo Point, is the seaward end of a high ridge. The spur forming the point ends in a moderately bold sandstone cliff 220 feet high with a precipitous broken face. Outlying rocks and ledges marked by a lighted whistle buoy extend offshore for 350 yards. **San Juan Rock**, 10 feet high and about 50 feet in extent, is 340 yards S of the highest point on the cliff, and a rock covered 2 fathoms is 2.4 miles SE of the point.

Charts 18740, 18746

(144) **Dana Point Harbor** is a small-craft harbor in the lee of Dana Point. The harbor, administered by the Orange County Harbor, Beaches, and Parks District, is entered from the E between two breakwaters each marked by a light on the seaward end. A fog signal is at the S light. The fog signal can be activated upon request to the Coast Guard by radiotelephone VHF-FM channel 16. A church with a giant cross is very visible on the hill above the harbor. A submerged sewer outfall line extends about 0.6 mile from shore, passing about 300 yards E of the S breakwater light. A rock, covered 7½ feet and marked by a lighted buoy, is about 300 yards NE of the S breakwater light. When entering the harbor care should be taken to remain clear of these dangers, especially during low stages of the tide and/or periods of heavy SE swell.

(145) Numerous uncharted private racing buoys are off the entrance to the harbor.

(146) In June 2007, the controlling depths were 14.7 feet in the entrance (except for lesser depths along the S breakwater), thence 10.0 feet in the channel that leads WNW to the W basin (except for shoaling to bare in the SW half of the channel opposite Daybeacon 14); the channel to the E basin had a depth of 8.5 feet. The harbor is well protected from all sides.

(147) The harbor's E and W basins are separated by a fixed highway bridge with a 45-foot channel span and a clearance of 20 feet. Berths in the E basin can accommodate over 1,400 vessels, and berths in the W basin can accommodate over 1,000 vessels. A **harbormaster** assigns berths in the harbor.

(148) The Dana Point Harbor Patrol has an office in the most southeasterly building observed after passing through the breakwater. Patrol craft equipped with rescue and fire fighting equipment are stationed here. The patrol maintains a 24-hour radio watch on 2182 kHz and VHF-FM channel 16. Berthing assignments for about 42 transient craft are available at the harbor patrol office.

(149) A **speed limit** of 5 mph is enforced in Dana Point Harbor. A swimming area, marked by private buoys, is in the NW corner of the harbor.

Anchorage

(150) A **special anchorage** is in the W part of the harbor. (See **110.1 and 110.93**, chapter 2, for limits and regulations.)

No-Discharge Zone

(151) The State of California, with the approval of the Environmental Protection Agency, has established a No-Discharge Zone (NDZ) in Dana Point Harbor. It encompasses the entire harbor (see NOAA chart 18746 or 18774 for the zone limits).

(152) Within the NDZ, discharge of sewage, whether treated or untreated, from all vessels is prohibited. Outside the NDZ, discharge of sewage is regulated by **40 CFR 140** (see Chapter 2).

COLREGS Demarcation Lines

(153) The lines established for Dana Point Harbor are described in **80.1110**, chapter 2.

Supplies and repairs

(154) Most supplies and repairs are available at the marinas and service facilities at the harbor. Lifts to 25 tons are available.

(155) **San Juan Capistrano**, a small town about 4 miles inland from Dana Point, is the site of the old mission founded in 1776. The grounds and the buildings have undergone extensive preservation, and services are held regularly in the chapel used by founding Father Junipero Serra. This mission is famous for the return of the swallows each March 19.

(156) The 11.5-mile coast from Dana Point to Newport Bay is bold with rocky cliffs 40 to 100 feet high; these are the seaward ends of ridges separated by narrow, deep valleys. The community of **Laguna Beach** is midway along this stretch. A fishing and pleasure pier is near the mouth of **Aliso Creek** about 3.5 miles NW of Dana Point.

(157) Four private lighted buoys, about 4.1 miles SW of Laguna Beach, mark an area used to moor equipment and netting. Mariners should not attempt to pass between these buoys.

(158) **Santiago Peak**, 17.5 miles NE of Dana Point and visible 80 miles, is the dominant feature of this part of the coast; the peak is double-headed and dark in contrast with the immediate coastal range.

Chart 18754

(159) **Newport Bay**, 64 miles NW of Point Loma, is an extensive lagoon bordered on the seaward side by a 3-mile sandspit. The bay is an important yachting and sport fishing center, and offers excellent anchorage for large yachts and small craft under all weather conditions. The city of **Newport Beach** embraces the districts of **Newport** and **Balboa**, on the sandspit, and **Corona del Mar**, E of the entrance.

Prominent features

(160) The numerous houses and buildings along the beach and on the hills back of the bay are prominent from seaward. The tall office buildings at the Newport Center, 1.4 miles N of the harbor entrance, are the most conspicuous. The memorial hospital building, 0.3 mile N of the turning basin, and the light-colored concrete school buildings on the high ground 1 mile back from the beach are also conspicuous.

(161) The entrance to Newport Bay is between jetties 275 yards apart with lights at their outer ends. A fog signal is at the W jetty light. The fog signal can be activated upon request to the Coast Guard by radiotelephone VHF-FM channel 16. A lighted bell buoy is off the entrance.

(162) A **111°37'–291°37' measured nautical mile** is in San Pedro Channel, about 1.3 miles W of the entrance to Newport Bay. The E range is marked in front by a daymark on an 800-foot pleasure pier and in the rear by a daymark on shore at Balboa Beach. The W range is marked by daymarks on shore at Newport Beach. Another 950-foot pleasure pier is 2.8 miles NW of the W jetty.

COLREGS Demarcation Lines

(163) The lines established for Newport Bay are described in **80.1112**, chapter 2.

Channels

(164) A **Federal project** provides for a 20-foot main channel from the entrance to a turning basin of the same depth NW of Lido Isle and a 10-foot Balboa Island North Channel extending N from the entrance along the E and N sides of Balboa Island. (See Notice to Mariners and latest editions of charts for controlling depths.)

Anchorages

(165) Special anchorages are in Newport Bay. (See **110.1, 110.95, and 110.212**, chapter 2, for limits and regulations.) Assignments are made by the harbormaster.

Dangers

(166) A **speed limit** of 5 m.p.h. in Newport Bay has been established by the Orange County Harbors, Beaches, and Park District. The upper reaches of the bay are extremely shoal and have been closed by the Health Department because of contamination.

Bridges

(167) There are no bridges over the main channel. None of the bridges to the islands in the bay restrict passage to the anchorage areas.

Tides

(168) The mean range of tide is 3.7 feet at Newport Bay entrance, and the diurnal range of tide is 5.4 feet.

Weather, Newport Bay

(169) Severe storms are rare. The Santa Ana is an exceptional wind that blows from the NE or E with great violence, although of short duration. (See Weather, Los Angeles, indexed as such, this chapter for discussion of Santa Ana winds.)

Harbor regulations

(170) The Orange County Harbors, Beaches, and Parks District controls the movement and berthing of vessels

under the direction of a harbormaster, who has an office on the E side of the bay about 0.8 miles from the entrance. Patrol and assistance craft operate from the harbor office on a 24-hour basis. The harbor office may be contacted by telephone 949-723-1002 or VHF-FM channels 12 and 16. The patrol boats monitor VHF-FM channel 16.

Coast Guard

(171) A search and rescue craft of the U.S. Coast Guard is stationed at the pier adjacent to the Harbor District Headquarters.

Wharves

(172) The numerous small wharves and landings in the bay are mostly for the use of local yachts and fishing craft. Five berths and several offshore moorings are available for transient craft at the Harbor District Headquarters pier. The harbormaster must be consulted before mooring. Five other transient berths are usually available at a marina at the NW end of the turning basin.

Supplies

(173) Fuel, water, and marine supplies are available at most of the facilities in the bay.

Repairs

(174) The largest marine railway in Newport Bay has a capacity of 325 tons and can handle craft up to 150 feet. Machine shops are available. Several shipyards can haul out small boats for general repairs.

Communications

(175) The city is served by State Route 1.

Chart 18746

(176) The 20-mile coast from Newport Bay to Point Fermin is low, and there are several lagoons near the beach. There are no trees near the shore; towns and resorts are almost continuous along the beach.

(177) **Huntington Beach State Park** is a recreational area that extends 2 miles NW along the coast from the mouth of **Santa Ana River**, which is 4.5 miles NW of Newport Bay entrance. The trestle crossing the mouth of this river is conspicuous. A buoy marks the seaward end of a terminal structure of a water conduit extending from shore 1.4 miles NW of Santa Ana River. The twin stacks of the Southern California Edison Co. plant on shore and a spire about 1 mile back from the beach are conspicuous from any direction.

(178) A submerged oil pipeline extends nearly 1.2 miles seaward, 2 miles NW of Santa Ana River; mooring buoys are off the end of the pipeline. **Huntington Beach**, a resort 5 miles NW of Newport Beach, is identified by its many oil derricks. The city has a fishing and pleasure pier which has a fish haven covered 10 feet around its seaward end. **Sunset Beach** is a small town 5 miles NW of Huntington Beach. An elevated tank is near the W extremity of the town.

Charts 18746, 18749

(179) **Anaheim Bay**, 14 miles NW of Newport Bay, is the site of the U.S. Naval Weapons Station. Jetties protect the entrance to the bay. Waters inside the jetties are within a **restricted area**, and **explosive anchorages** have been established on the E and W sides of the channel. (See **334.930 and 110.215**, chapter 2, for limits and regulations.) The Navy has implemented a protection barrier at the Naval Weapons Station in the bay. This barrier consists of alternating orange and white spherical buoys connected by wire rope. All boating traffic is required to stay within the small craft channel at all times.

(180) In July 2007, the controlling depth was 32.4 feet in the entrance channel to the turning basin (except for shoaling to 26.2 feet in the right outside quarter of the channel near the outer end of the E jetty), thence depths of 32 to 41 feet were available in the basin. The channel is marked by lighted and unlighted buoys, lights, and a **036°48'** lighted range. The outer ends of the jetties are marked by lights. A fog signal is at the W jetty light. The fog signal can be activated upon request to the Coast Guard by radiotelephone VHF-FM channel 16.

(181) In Anaheim Bay, during a flooding tide, the current 50 to 75 yards from the Naval Weapons Station's pier flows E to W as opposed to the normal flow of W to E. This causes a ship approaching the berth for a portside mooring to experience difficulty in twisting to starboard. An ebbing tide has an opposite effect. After a heavy rain, runoff water from the area N of Anaheim Bay during an ebbing tide increases the rate of ebb up to 5 knots with resultant swirls and countercurrents.

COLREGS Demarcation Lines

(182) The lines established for Anaheim Bay are described in **80.1114,** chapter 2.

(183) **Huntington Harbour**, a small-boat basin, is just S of Anaheim Bay. The harbor is a private development, and, with the exception of two small marinas, consists of private docks adjacent to waterfront homes.

(184) The harbor is entered through the restricted waters of Anaheim Bay, and permission to pass must be obtained from the Commanding Officer, U.S. Naval Weapons Station, Seal Beach, Calif. (See **334.930**, chapter 2, for regulations governing passage.)

(185) The **Harbor Patrol** office is adjacent to the boat launch ramp in the NW corner of the harbor. A repair yard can handle craft to 50 feet and 25 tons for engine and hull repairs. Gasoline, diesel fuel, and marine supplies are available in the harbor. Launching ramps are in the NW and SE corners of the harbor.

(186) **Seal Beach**, just NW of Anaheim Bay, has several resort structures and a 1,650-foot pleasure pier, which has a fish haven covered 9 feet at its seaward end.

(187) **Alamitos Bay**, 15 miles NW of Newport Bay, is the site of the **Long Beach Marina**, a small-craft harbor administered by the city of Long Beach Marine Department. The harbor is entered from the S between two jetties each marked by a light on the seaward end. A fog signal is at the W jetty light. The fog signal can be activated upon request to the Coast Guard by radiotelephone VHF-FM channel 16.

(188) A dangerous wreck is about 0.5 mile SSW of the entrance to Alamitos Bay. In 1983, a sunken wreck was reported about 0.2 mile W of the entrance in about 33°44.2'N., 118°07.5'W.

(189) In September 1973, depths of about 17 feet were reported in the entrance channel to the fueling station about 0.9 mile N of the jetty lights, with about 10 feet in the channel from the fueling station to the slips in the NE part of the bay.

(190) A **nonanchorage area** has been designated at the mouth of the entrance channel to Alamitos Bay. (See **110.214 (a) (16) and (b)**, chapter 2, for limits and regulations.)

(191) The fixed bridge across Marine Stadium, which forms the inner part of the bay, has a fixed span with a clearance of 32 feet. A fixed bridge with a clearance of 11 feet crosses the junction of the W waterway and Marine Stadium. A fixed bridge, with a clearance of 11 feet, crosses the E waterway off Marine Stadium that leads to a NE basin. A fixed bridge, with a clearance of 4 feet, crosses the W waterway between Naples and Belmont Shore. The five fixed bridges crossing the Rivo Alto Canal on Naples Island have a least clearance of 7 feet, and the power cable has a reported clearance of 55 feet.

(192) Berths in Long Beach marina are limited to about 1,800 boats, but extensive parking and ramp-launching areas are provided for trailer-drawn craft. Visiting yachts may obtain temporary berthing on a first-come first-served basis. All mooring is controlled by a **harbormaster**, who has an office on the E side of the entrance channel near the end of the point about 500 yards above the bend in the channel.

Supplies and repairs

(193) All types of supplies and services are available at the marinas and service facilities in the bay. The largest repair yard can handle craft up to 40 tons and 60 feet.

(194) A pleasure pier on the W side of Belmont Shore, 1.7 miles NW of Alamitos Bay entrance, extends about 340 yards from the beach; a fish haven is 100 feet off the seaward end. A reported wreck covered 16 feet is about 940 yards S of the end of Belmont Pier.

Charts 18751, 18749

(195) **San Pedro Bay**, between Seal Beach on the E and Point Fermin on the W, is 82 miles NW of San Diego. On the shores of the bay are the cities and port areas of **Long Beach** and **Los Angeles. Terminal Island**, in the NW part of San Pedro Bay, separates the outer bay from Los Angeles and Long Beach inner harbors. The bay is protected by breakwaters and is a safe harbor in any weather.

(196) **Long Beach Harbor**, in the E part of San Pedro Bay, includes the City of Long Beach and part of Terminal Island.

(197) **Los Angeles Harbor**, at the W end of San Pedro Bay, includes the districts of **San Pedro, Wilmington**, and a major part of Terminal Island.

(198) Long Beach and Los Angeles Harbors are connected by Cerritos Channel. The distance between the seaward entrance to the two harbors is about 4 miles.

(199) Four oil production islands, marked by lights, are to the N and E of Long Beach Pier J. A fog signal is sounded from the S end of each island.

(200) The **Port of Long Beach**, one of the largest ports on the Pacific coast, has the reputation of being America's most modern port. It has extensive foreign and domestic traffic with modern facilities for the largest vessels. It is a major container cargo port with several of the largest and most efficient container terminals on the Pacific coast. Some of the principal exports are bulk petroleum, bulk coke, steel and steel products, bulk potash, grains, fresh fruits, scrap steel, animal feed, and copper concentrate. Some of the principal imports are crude petroleum, steel and steel products, motor vehicles and parts, machinery, bulk gypsum, newsprint, lumber, bulk salt, bananas, plywood, and bulk molasses.

(201) The **Port of Los Angeles**, also one of the largest ports on the Pacific coast, has a history of leading the Pacific coast ports in terms of tonnage handled. It

has extensive facilities to accommodate all types of traffic. Some of the principal exports are crude minerals, iron and steel scrap, inorganic chemicals, animal feed, cotton, manufactured fertilizers, and fresh fruits and nuts. Some of the principal imports are iron and steel products, motor vehicles and parts, organic chemicals, fresh fruits/nuts, paper/paperboard, sugar, molasses and syrups, glass, and fresh/frozen fish.

Prominent features

(202) **San Pedro Hill** (chart 18746), 3.3 miles NW of Point Fermin, is the distinguishing feature for making San Pedro Bay from SE or W. The hill terminates seaward in steep, rocky cliffs about 60 feet high, with several horizontal terraces between them and the summit. On top of the summit are two large white radar domes.

(203) Because it is high above the usual low-lying fog area, the lighted tower atop Santa Catalina Island is reported a useful guide for vessels approaching the Los Angeles-Long Beach area; the light can be seen for about 16 miles.

(204) **Point Fermin**, the SE extremity of San Pedro Hill, is a bold cliff about 100 feet high. Point Fermin Light, 120 feet above the water, is shown from a pole on the southern extremity of the point. A prominent pavilion (The Bell of Friendship) is on the high ground about 0.3 mile N of the light.

(205) **Signal Hill**, Long Beach, rises to a height of 355 feet about 2 miles from the beach, and is readily recognized because of several radio towers around it.

(206) In Long Beach Harbor, prominent charted objects are a green hotel tower (marked by a large blue letter "b") located just N of the Municipal Auditorium, and the white stone tower of another hotel 0.4 mile E, and the lighted large white dome on the S side of the entrance to Queensway Bay. The derricks on the artificial oil islands E of Long Beach Pier J are constructed to appear as high-rise apartment buildings.

(207) Prominent charted objects in Los Angeles Harbor which are of use to the navigator are the green and white tank near the S end of Pier 1, the lighted radio tower atop San Pedro City Hall, and the stack on Terminal Island.

(208) **Long Beach Light** (33°43'23"N., 118°11'12"W.), 50 feet above the water, is shown from a 42-foot white rectangular tower on a white building on the E end of Middle Breakwater; a fog signal is at the light.

(209) **Note:** The Long Beach Pilots have established a current meter in about 57 feet of water 0.41 mile and bearing 198.5° from Long Beach Light. A cable runs from the meter to the Long Beach Light. Mariners are requested to avoid anchoring or bottom fishing in this area.

(210) **Los Angeles Light**, (33°42'30"N., 118°15'05"W.), 73 feet above the water, is shown from a 69-foot white cylindrical tower on a concrete block on the outer end of the San Pedro Breakwater. A fog signal is at the light.

COLREGS Demarcation Lines

(211) The lines established for San Pedro Bay are described in **80.1114**, chapter 2.

Traffic Separation Scheme

(212) **Traffic Separation Scheme, Los Angeles/Long Beach**, also known as **Traffic Separation Scheme, Gulf of Santa Catalina**, is in the approaches to Los Angeles/Long Beach. The Scheme leads from the Gulf of Santa Catalina through San Pedro Channel and Santa Barbara Channel to Point Arguello. (See charts 18022, 18740, 18720, 18725, 18746, 18721.) This Traffic Separation Scheme is recommended for use by all vessels traveling between the points involved, and is composed basically of four elements; **(1) Northbound Lanes, (2) Separation Zone, (3) Southbound Lanes, and (4) a Precautionary Area**. Traffic Lanes have been designed to aid in the prevention of collisions at the approaches to major harbors and along heavily traveled waters, but are not intended in any way to supersede or to alter the applicable Navigation Rules. Separation zones are intended to separate N and S traffic lanes, to be free of ship traffic, and should not be used except for crossing purposes. Mariners should use extreme caution when crossing traffic lanes and separation zones. Rule 10 of the collision regulations apply to this Traffic Separation Scheme.

(213) Extreme caution must be exercised in the Precautionary Area off the entrances to Los Angeles and Long Beach Harbors as both incoming and outgoing vessels use this area. (See also Traffic Separation Schemes, chapter 1, for additional information.)

(214) **Ferry Routes** in the Gulf of Santa Catalina and San Pedro Channel differ from the Traffic Separation Scheme in that area. Mariners using the area's Traffic Separation Scheme are advised to **use caution and beware of crossing ferries** enroute between local coastal ports and ports at Santa Catalina Island.

Vessel Traffic Service

(215) The **Vessel Traffic Service (VTS) Los Angeles/Long Beach**, operated by the Marine Exchange in cooperation with the U.S. Coast Guard, has been established within the approaches to the ports of Los Angeles and Long Beach.

(216) The Vessel Traffic Service is a California State mandatory service and a federally mandated Vessel Movement Reporting System (VMRS), and is designed to enhance navigational safety in the main approaches to

the ports of Los Angeles and Long Beach. Mandatory participation and monitoring of VHF-FM channel 14 is required by state and federal law for participating vessels.

(217) **VTS Area:** The VTS Area consists of Los Angeles and Long Beach Harbors (inside the breakwater), and the waters of San Pedro Bay and San Pedro channel, including Santa Monica Bay, within a 25 nautical mile radius of Point Fermin Light. This includes all of the Precautionary Area and portions of the Traffic Separation Scheme Lanes.

(218) **VTS Communications:** The responsibility of information exchange in the VTS Area outside the breakwater will be handled by the Marine Exchange Vessel Traffic Center (VTC), and inside the breakwater by the appropriate Pilot Station.

(219) All reports and communications made to the VTC (voice call "**San Pedro Traffic**") shall be on VHF-FM channel 14, to Los Angeles Pilots on VHF-FM channel 73, and to Long Beach Pilots on VHF-FM channel 12 or 74. All stations monitor VHF-FM channels 16 and 13.

(220) If arrival/departure information has been given and new data is received by the VTS, the VTS will attempt to contact vessels to pass the updated information. In addition, a traffic advisory broadcast is given on VHF-FM channel 14 every hour on the quarter hour. Other navigational information may be given on a case by case basis.

(221) The **Marine Exchange** of Southern California records, classifies, and disseminates information on ship arrivals to, departure from, and movement within the Los Angeles/Long Beach harbors. The Exchange, about 0.4 mile N of Point Fermin, is manned 24-hours a day. It has a visual lookout, VHF-FM radiotelephone, visual communication capability, and a battery of landline telephones. The station, call sign KGW-299, monitors VHF-FM channel 16 and 13, and uses channel 14 for working.

Active User (VMRS)

(222) The following vessels are required to comply with Vessel Movement and Reporting Procedures:

(223) (a) Every power driven vessel 40 meters (approximately 131 feet) or more in length while navigating;

(224) (b) Commercial towing vessels 8 meters (approximately 26 feet) or more in length that are towing alongside, astern, or by pushing ahead;

(225) (c) Every vessel certified to carry 50 or more passengers for hire while engaged in trade, under sail or power.

Passive User (VTS)

(226) These vessels are required to monitor VHF-FM channel 14 and must respond when hailed by the VTS and must comply with operating rules;

(227) (a) Power driven vessels of 20 meters (approximately 65 feet) or more in length;

(228) (b) Vessels of 100 gross tons or more carrying one or more passengers for hire, while engaged in trade, regardless of length, whether under sail or power;

(229) (c) Every dredge or floating plant.

Non Participant

(230) Vessels that do not fall into the active or passive user categories such as fishing boats, yachts, and recreational boats can greatly enhance the safety of navigation in the VTS area by listening on VHF-FM channel 14 and by maintaining a sharp lookout. It is not necessary to participate actively.

Vessel Movement and Reporting Procedures:

(231) All participating vessels when underway and entering the VTS Area from sea shall contact the VTC on VHF-FM channel 14 and report the following information:

(232) (a) Vessel name/call sign.

(233) (b) Course and speed.

(234) (c) Vessel destination.

(235) (d) State whether taking on a pilot or being piloted by master/commanding officer.

(236) (e) ETA breakwater sea buoy/pilot station.

Entering the Precautionary Area:

(237) Prior to entering the Precautionary Area, all participating vessels shall:

(238) (a) Contact the VTC and report that the master/commanding officer is on the bridge and the vessel is being steered by hand.

(239) (b) Vessels under 40 meters subject to USCG/IMO standards shall have the senior licensed or certified person on board to be in charge of the navigation of the vessel when underway within the Precautionary Area.

(240) (c) Vessels of 40 meters or greater, when in the Precautionary Area, shall not exceed 12 knots.

(241) (d) Vessels when underway within the Precautionary Area should maintain a minimum vessel separation of .25 nautical mile (460 meters).

(242) (e) Vessels crossing the Precautionary Area, maneuvering in an unusual manner (i.e. compass/RDF calibration or drills/exercises), and arriving/departing anchorages outside the breakwater shall notify the VTC and advise of their intentions.

Entering the Pilot Areas:

(243) (a) All vessels shall contact the appropriate pilot stations prior to entering the pilot areas to receive vessel traffic information inside the breakwater. Vessels shall provide the following information to pilot stations:

(244) (1) Vessel name/call sign.

(245) (2) ETA breakwater or sea buoy/pilot station.

(246) (3) Vessel destination.

Departing Berth or Anchorage:

(247) (a) All vessels shall contact the appropriate pilot station prior to departing a berth or anchorage to receive vessel traffic information inside the breakwater. Provide the following information to the pilot station:

(248) (1) Vessel name/call sign.

(249) (2) Advise who is piloting vessel.

(250) (3) Vessel destination, whether to sea or destination within harbor.

(251) (b) All outbound vessels shall notify VTC on VHF-FM channel 14 at least 15 minutes prior to passing breakwater entrance, including Anaheim Bay, and provide the following information:

(252) (1) Vessel name/call sign.

(253) (2) Vessel destination port or direction of departure, and advise if the vessel will be using or crossing the Traffic Separation Scheme.

(254) (3) Advise VTC when leaving the Precautionary Area and when leaving the VTS Area.

(255) All vessels shall comply with Navigation Rules (having particular regard for rules for vessels operating in and near Traffic Separation Schemes) and with the rules of the Regulated Navigation Area in San Pedro Bay (See **165.1 through 165.13 and 165.1152**, chapter 2, for limits and regulations.)

(256) Participating vessels are to ensure that a copy of the **VTS Users Manual** is available on board the vessel when operating within the VTS area. The manual is available at no charge from Executive Director, Marine Exchange of Southern California, P.O. Box 1949, San Pedro, CA 90733, phone (310) 832-6411 or can be viewed and downloaded from the Internet at **www.mxsocal.org**.

(257) The State of California has established Tank Vessel Escort Regulations for tank vessels underway in the Los Angeles/Long Beach Harbor and their approaches. The full text of the regulations can be found on the Internet at **www.dfg.ca.gov/Ospr** or can be obtained from the California Office of Spill Prevention and Response 24-hour Communications Center at (916) 445-0045.

(258) Tug Escort Applicability: All laden tank vessels (tankers or barges carrying as cargo a total volume of oil greater than or equal to 5,000 long tons of oil) entering the port should ensure proper implementation of the Displacement Ton/Tug Braking Force Table listed below. In addition, to meet the requirements of the **Force Selection Matrix**, tractor tugs shall be tethered, inbound and outbound. Conventional tugs may be tethered or untethered inbound, but shall be tethered outbound. Inbound, laden Oil and Chemical Tank Vessels shall not proceed closer than two nm from the Federal Breakwater entrance unless the prescribed escort tug(s) are in position at the southern boundary of the pilot operating areas. Masters shall also ensure the anchors are ready for letting go prior to entering the pilot operating areas. The tank vessel master/pilot shall hold a "pre–escort conference" that should at a minimum include:

(259) 1. Contacting the escort tug operator to confirm the number and position of the escort tug(s); and

(260) 2. Establishing the radio frequency to be used; and

(261) 3. Establishing the destination of the tank vessel; and

(262) 4. Discussing any other pertinent information that the master/pilot and escort tug operator deem necessary.

(263) These standards reflect favorable circumstances and conditions. Adverse weather, unusual port/traffic congestion or other conditions/circumstances may require additional tugboat assistance.

(264) An "Escort Tug," as defined by California regulations, is a tug that is designed primarily for pushing or pulling ahead or astern, or towing alongside another vessel. A tug is considered to be designed for escort work whether or not it is involved in such activity. In the harbors of Los Angeles/Long Beach, an "Assist/Escort Tug" means any tug that is accepted by the tank vessel master and/or pilot to escort a tank vessel that is transiting waters where an assist/escort is required. Arrangements should be made via the vessel agent, tug company and appropriate pilot service. Outbound laden tank vessels are not required to use tugs once they have safely cleared the breakwater. All tank vessels shifting within the harbor(s) (including dock to anchor, anchor to anchor, and dock to dock) shall comply with the escort requirements. Arrangements should be made via the vessel agent, tug company or appropriate pilot service to ensure compliance.

(265) (See **33 CFR 157**, chapter 2, for regulations for Tank Vessels Carrying Oil in Bulk and Maneuvering Performance Capability.)

(266) **Vessel Speed Reductions**, in addition to the mandatory 12 knot speed limit in the Los Angeles/Long

Force Selection Matrix (section 851.27)					
	Tractor Tugs		Conventional Tugs		
Tanker Displacement	Ahead Forces For Tugs Using Stern Line (VSP) Ahead Forces For Tugs Using Head Line (ASD)	2nd Tug Ratio	Ahead Forces	2nd Tug Ratio	Astern Forces
Long Tons	Kips/Short Tons	R_{T2}	Kips/Short Tons	R_{C2}	Kips/Short Tons
0 to < 60,000	20/10	2.7	50/25	1.2	30/15
60,000 to < 100,000	40/20	2.7	60/30	1.3	50/25
100,000 to < 140,000	50/25	2.7	80/40	1.4	80/40
140,000 to < 180,000	60/30	2.8	120/60	1.4	100/50
180,000 to < 212,000	90/45	3.8	220/110	1.6	120/60
212,000 to < 220,000	100/50	3.8	250/125	1.6	120/60
220,000 to < 260,000	120/60	5.3	410/205	1.6	140/70
260,000 to < 300,000	140/70	5.4	480/240	1.6	160/80
300,000 to < 340,000	170/85	5.6	590/295	1.6	190/95

Small Tank Barge Matrix	
Total Displacement Tonnage of the Tank Barge and the Primary Towing Tug	Minimum Required Escort Tug(s) Static Bollard Pull *tethered escort tug(s)/un-tethered escort tug(s)*
0 to 20,000 displacement tons	10 short tons/15 short tons
> 20,000 displacement tons	A total astern static bollard pull (in pounds) equal to or greater than the sum of both the primary towing tug(s) and barge(s) total displacement tonnage. (e.g., where the total towing tug and tank barge displacement is 25,000 displacement tons, the escort tug(s) astern static bollard pull shall be at least 25,000 pounds or 12.5 short tons.)

Beach Vessel Traffic Service (VTS) Precautionary Area, the following excerpt is from Rule 402 from the South Coast Air Quality Management District (SCAQMD):

(267) The Port of Long Beach asks every vessel entering or leaving the port to observe the **voluntary 12-knot speed limit** that extends seaward 20 nautical miles from Point Fermin. Reducing ship speed will reduce exhaust emissions into Southern California's air, which will result in better air quality. The speed of every vessel in the speed reduction zone is measured and recorded by the Marine Exchange of Southern California; please contact the Marine Exchange for more information. Your cooperation with this important air quality improvement program is greatly appreciated.

(268) Vessels making the breakwater entrances should proceed at speeds no greater than is necessary for steerage. Vessels that approach the entrance close in and attempt to turn at or near the entrance are in danger of collision with outbound vessels, especially with smaller craft at night when their lights are not easily distinguishable at low tide or against the background of lights in the harbor.

(269) Vessels awaiting a pilot should stay well to seaward and E of the outer fairway buoys.

(270) **San Pedro Breakwater** extends about 0.9 mile in a SE direction from the E side of Point Fermin, then turns ENE for another 0.9 mile to Los Angeles Light. **Middle Breakwater** extends ENE for 2.1 miles from the Los Angeles entrance, thence E for 1 mile to the Long Beach entrance, and is marked at both ends by lights. **Long Beach Breakwater** extends E 2.2 miles from Long Beach entrance and is marked by lights on both ends. Ranges for a 090°–270° measured nautical

mile are on the Long Beach Breakwater. They are yellow diamond-shaped daymarks on iron pipes.

(271) **Kelp beds** are along the inside edge of the W end of Middle Breakwater and a shallow water habitat is on the inside edge of San Pedro Breakwater; the shallow water habitat is surrounded by a submerged dike and is marked by lights.

(272) **Fish Harbor**, on the S side of Terminal Island near its W end, is protected by two sets of breakwaters and the mole of Pier 300, the outer ends of which are marked by lights. A dredged channel with a controlling depth of about 14 feet leads between the outer and inner breakwaters to Fish Harbor, which has depths of about 16 to 18 feet. The seawall is lined with canneries and other fish works. The outer breakwaters enclose the Yacht Club Anchorage, sometimes called the Fish Harbor Extension. This anchorage has depths of 17 to 20 feet E and depths of 11 to 14 feet W of the dredged channel.

Channels

(273) **Long Beach Channel** leads NW from W of Long Beach Breakwater for 2.2 miles to **Middle Harbor**, thence N to **Back Channel** and the **Inner Harbor**. A **restricted harbor** entrance area has been designated in the channel and side areas which extends from about 1 mile N of the breakwater to inside Middle Harbor; regulations of the Board of Harbor Commissioners, Port of Long Beach, grant priority to outbound vessels and stipulate a **6-knot speed limit** in this restricted area.

(274) Most of the channels in Long Beach Harbor are maintained at more than the project depth of 35 feet. (See Notice to Mariners and latest editions of charts for depths.)

(275) **Los Angeles Main Channel** leads NW from E of the San Pedro Breakwater for about 1 mile, thence N to the Inner Harbor turning basin, thence NE through **East Basin Channel** and **Cerritos Channel**. About 0.6 mile NW of the breakwater, **Super Tanker Channel** leads W from the Main Channel to the deep-draft facilities at Berths 45–50. Los Angeles Main Channel from the breakwater to the Super Tanker Channel and the Super Tanker Channel are maintained at more than the project depth of 45 feet and 40 feet, respectively. (See Notice to Mariners and latest editions of charts for depths.)

(276) Los Angeles Main Channel is marked by a **296°** lighted range.

(277) Los Angeles Main Channel, Inner Harbor turning basin, West Basin, East Basin Channel, East Basin, and part of Cerritos Channel are currently undergoing extensive dredging through March 2005. Mariners are advised to exercise caution in the areas and to consult the Captain of the Port LA/LB for more detailed information.

(278) The Los Angeles and Long Beach main channels are considered narrow channels. Vessels less than 20 meters in length, sailing vessels, vessels engaged in fishing, or any vessel attempting to cross these channels shall not impede a vessel that can only safely navigate within a narrow channel per Inland Navigation Rules, Rule 9. To obtain information on the movement of deep draft vessels inside the Federal Breakwater, contact the Los Angeles Pilot Station on VHF-FM channel 73 (156.675 MHz) or Long Beach Pilot Station of VHF-FM channel 74 (156.725 MHz).

Anchorages

(279) Limits and regulations of general, naval, explosives, and special anchorage areas in San Pedro Bay are given in **110.1, 110.100, and 110.214**, chapter 2. When inside the breakwaters, vessels are required to anchor in the anchorage area prescribed in the regulations except in cases of great emergency. The Santa Ana is the only wind dangerous to vessels anchored inside the breakwaters.

(280) The shallow water habitat along the E side of Pier 400 and about 0.4 mile S of the Naval Base Mole extends into Special Anchorage B-1 (33 CFR 110.100), however, there are no boating or anchorage restrictions associated with the shallow water habitat.

(281) Vessels are cautioned against anchoring in the vicinity of pipeline and cable areas shown on the charts.

Dangers

(282) A shoal area, with a rock covered 3 feet and a rock awash near the outer end, extends about 0.3 mile S of the shore just E of Point Fermin Light. A lighted whistle buoy is about 300 yards SW from the S end of the shoal area.

Regulated navigation areas

(283) A **regulated navigation area** has been established in the waters S of the Los Angeles-Long Beach breakwater encompassing the approaches to both Los Angeles and Long Beach harbors, the pilot areas, and Commercial Anchorage G. (See **165.1 through 165.13 and 165.1152**, chapter 2, for limits and regulations.)

(284) **Safety zones** have been established in San Pedro Bay, including around the oil drilling platforms, in

(285) 33°35'45"N., 118°08'27"W (**Platform Edith**);

(286) 33°35'00"N., 118°07'40"W (**Platform Elly**);

(287) 33°34'57"N., 118°07'42"W (**Platform Ellen**); and

(288) 33°33'50"N., 118°07'00"W (**Platform Eureka**). (See **147.1 through 147.20, 147.1104, 147.1108, and 147.1111**, chapter 2 for limits and regulations and

chapter 3 under 'Oil well structures' for additional information.)

(289) A **naval restricted area** is in the West Basin off the S shore of Terminal Island inside the jetty of the Naval Base Mole (See 334.990, chapter 2, for limits and regulations.)

(290) A **restricted area** is off the E side of Reservation Point. (See 334.938, chapter 2, for limits and regulations.)

Bridges

(291) The Vincent Thomas Bridge, a highway suspension span with a clearance of 185 feet over the center 500-foot width, crosses Los Angeles Main Channel just below the turning basin, 3.2 miles above the entrance breakwater.

(292) Two bridges cross Cerritos Channel on the N side of Terminal Island: Schuyler F. Heim Highway Bridge with span clearance of 38 feet down and 163 feet up; and Henry Ford (Badger) Avenue railroad bridge 25 yards W with authorized span clearances of 6 feet down and 165 feet up. The Henry Ford (Badger) Avenue railroad bridge is maintained in the down position. The bridgetender of the Schuyler F. Heim bridge monitors VHF-FM channel 13; call sign WHX-947. (See **117.1 through 117.59 and 117.147**, chapter 2, for drawbridge regulations.)

(293) It is reported that clearance gages have been established on a pier flanking the navigable span of the Schuyler F. Heim Bridge and on the dolphins flanking the Henry Ford Avenue railroad bridge. The gages indicate the vertical navigational clearance beneath each of the bridges at any height of tide.

(294) Near the E end of Cerritos Channel are several power cables that have a clearance of 155 feet. Vessels are required to have a clearance of at least 6 feet under the cables to avoid the danger of arcing.

(295) The Gerald Desmond Bridge, across Back Channel between Long Beach Inner Harbor and Middle Harbor, has a fixed span with a clearance of 155 feet.

(296) The Queen's Way (Magnolia Avenue) Bridge, crossing **Queensway Bay** 0.8 mile W of oil **Island Grissom**, is a fixed span connecting downtown Long Beach with the terminal facilities of Piers F, G, H, and J; clearances are 36 feet for the 500-foot main channel span or 45 feet at the center, and 31 feet elsewhere.

Tides

(297) The mean range of tide in Los Angeles Harbor is 3.8 feet, and in Long Beach inner and outer harbors the mean range is 3.7 feet. The diurnal range of tide is about 5.4 feet for these harbors. A range of about 9 feet may occur at times of maximum tides. The time of tide is about the same for Los Angeles and Long Beach Harbors. Daily predictions are given in the Tide Tables.

Currents

(298) The tidal currents follow the axis of the channels and rarely exceed 1 knot.

Surge

(299) Both Los Angeles and Long Beach Harbors are subject to seiche and surge. The most persistent and conspicuous oscillation has a period of approximately 1 hour. In the vicinity of Reservation Point and near the E end of Terminal Island, the hourly surge is very prominent, causing velocity variations which at times may be as great as 1 knot, and which often overcome the lesser tidal current so that the current floods and ebbs at half-hour intervals. Because of the more restricted channel, the surge through Back Channel at the E end of Terminal Island usually reaches a greater velocity than through the channel W of Reservation Point. In Back Channel, the hourly variation may sometimes be 1.5 knots or more. The hourly surge, together with other oscillations of shorter period and of more irregular occurrence, at times causes a very rapid change both in height of the water and the velocity and direction of the current and may endanger vessels tied up at the piers. A 3-minute surge is reported to be responsible for major ship movements and damage. Pilots advise taut lines to reduce the effect of the surge.

Weather, Los Angeles

(300) Fog is most likely from October through February. Out over the bay, it drops visibilities below 0.5 mile (0.9 km) on about 11 days per month during this period. It is mostly a land (radiation) fog that drifts out and is worst in the late night and early morning. Smoke from nearby industrial areas often adds to the thickness and persistence of the fog. There are times when it will hang over the inner channels for several days and along the coast can be very local in occurrence. For example, at Long Beach, which is particularly susceptible to cold air drainage, fog reduces visibilities to less than 0.5 mile (0.9 km) on an average of 18 more days annually than at nearby Los Angeles International Airport. Along the shores, visibilities drop to less than 0.5 mile (0.9 km) on about 3 to 8 days per month from August through April; December is usually the worst month.

(301) Winds are variable particularly in fall and winter. They are also strongest during this period when the **Santa Ana** wind can blow. This is an offshore desert wind which, though infrequent, may be violent. It occurs when a strong high-pressure system sits over the plateau region and generates a NE to E flow over southern California. The air streams through Cajon Pass into

the Great Valley, swings toward the SW, and follows either the Santa Ana River Canyon through the Santa Ana Mountains or moves directly over the low mountains S of the canyon and then follows a well-defined path over the plains of Orange County to reach the ocean near Newport. It diminishes little in intensity immediately after passing over the bay, and some reports credit it with blowing far out to sea. However, beyond 50 miles (93 km) from shore, Santa Anas are of little concern. These winds have reached speeds of 50 knots or more along the coast.

(302) Aside from weather forecasts, there is little warning of the onset of a Santa Ana. For some hours preceding its arrival, good visibility and unusually low humidity often prevail. Shortly before its arrival on the coast, the Santa Ana may be observed as an approaching dark-brown dust cloud. This will often give from 10 to 30 minutes warning, and is a positive indication. The Santa Ana may come at any time of the day. It can be reinforced by a land breeze in the early morning or weakened by a sea breeze during the afternoon.

(303) Winter storms are also responsible for strong winds over San Pedro Bay, particularly from the SW through NW. Winds of 17 knots or greater occur about 1 to 2 percent of the time from November through May. Winter winds often have an E component, although WNW winds are most frequent at Long Beach. At Los Angeles International Airport, W and NE winds are the most common, while at Los Alamitos, NE, E, and SW winds are frequent. However, at both locations, calm conditions are as common or more so from fall through spring. SW through W winds begin to prevail in spring, and this lasts through the summer and into early fall. Gales are rare and have occurred occasionally during March and November. March, April, and May are the windiest months and December the most calm. An all-time peak gust of 54 knots was recorded in March 1952.

(304) The average temperature for Los Angeles is 63°F (17.2°C). The average high is 70°F (21.1°C) and the average low is 55°F (12.8°C). Every month has recorded temperatures in excess of 90°F (32.2°C) except January. The all-time maximum is 110°F (43.3°C) recorded in September of 1963. The all-time minimum is 27°F (-2.8°C) recorded in January of 1949. April, June, September, October, and November have each had temperatures in excess of 100 F (37.8°C). August is the warmest month and January the coolest.

(305) The average annual precipitation at Los Angeles is just under twelve inches (305 mm). The average number of days with precipitation is 60 each year. The driest month is July when only 0.02 inches (0.51 mm) can be expected and the wettest month is January with an average monthly rainfall of 2.88 inches (71.1 mm). July and August each average only two days per month with measurable precipitation while January and March average eight days each with measurable rainfall. The driest year on record is 1947 when only 3.11 inches (79 mm) of rain fell and the wettest year on record is 1983 when 29.46 inches (748 mm) of precipitation was recorded. Only trace amounts of snowfall have been recorded in Los Angeles and January is the only month of this occurrence.

(306) The National Weather Service maintains an office at Long Beach Airport, Los Angeles International Airport, and downtown Los Angeles (see Appendix A for address). Barometers may be compared at these locations or by telephone.

(307) (See Appendix B for **Los Angeles climatological table**.)

Pilotage, Port of Los Angeles

(308) All vessels 300 gross registered tons and over and all foreign vessels leaving, entering, or shifting within the Port of Los Angeles are subject to pilotage. Vessels licensed and engaged in the fishing trade and enrolled vessels of the United States under the direction of an officer federally licensed for the port are exempt from pilotage.

(309) The Port of Los Angeles Pilot Service boards vessels in the vicinity of Los Angeles Approach Channel Lighted Whistle Buoy 3. Tank vessels will be boarded at least two miles from the Los Angeles entrance. Deep-draft vessels (draft more than 55 feet) will be boarded in the vicinity of Los Angeles Approach Channel Lighted Buoy 1. The pilot boats, STEPHEN M. WHITE and PHINEAS BANNING, have black hulls and white cabins with L.A. PILOTS displayed on each side. The pilot station is at the SE end of Pier 1. Pilotage can be arranged through the pilot station, telephone 310-732-3805, or VHF-FM channels 73 and 16; call sign KEB-260. The pilot station and boats monitor and use as working frequencies VHF-FM channels 73, 14, and 16. The pilot boats display the standard day and night signals. The pilot station requests 2 hours advance notice of estimated time of arrival on VHF-FM channel 73. The pilots normally board the vessels on the starboard side with the ladder about 1 meter above the water. Vessels may not be boarded during periods of poor visibility or severe weather.

Pilotage, Port of Long Beach

(310) All foreign vessels and U.S. vessels of 300 gross registered tons and over sailing under register are subject to a pilotage fee whether or not a municipal pilot is actually employed. Vessels sailing under U.S. enrollment and licensed and engaged in coastwise, intercoastal, or fishing trades under the direction of an officer federally

licensed for the port are exempt from pilotage unless a municipal pilot is employed.

(311) The Jacobsen Pilot Service, Inc., handles pilotage for San Pedro Bay, Los Angeles Harbor, Anaheim Bay, and primarily Long Beach Harbor. The pilots board vessels 1 mile S of Long Beach Approach Lighted Whistle Buoy LB. Large deep-draft vessels are boarded 2 miles or more S of the approach buoy. The pilot boats, POLARIS and VEGA, have yellow hulls and white cabins with LONG BEACH PILOTS displayed on each side. The pilot station is at the NW end of Pier F. Pilotage can be arranged by telephone (562-432-0664), fax (562-432-3597) and VHF-FM channels 12 and 74. The pilot station monitors VHF-FM channels 12 and 16; the pilot boats monitor VHF-FM channels 12, 13, 14, and 16. The pilot boats display the standard day and night signals. The pilot station requests 2 hours advance notice of estimated time of arrival (ETA) by radiotelephone; call sign, KMA-372. Vessels should state name, call sign, ETA at the pickup station, and draft, and for vessels equipped with bow or stern thrusters, the operational status of the thrusters. Vessels will be given information regarding the desired lee for boarding. In normal weather, pilots board on the starboard side, with the ladder about 2 meters above the water, and a moderate speed. Accommodation ladders must not be used outside the breakwater. In very thick fog vessels may be requested to anchor outside the breakwater in Anchorage F.

Towage

(312) Several tugboat companies operate in the Los Angeles-Long Beach area with tugs up to 5,000 hp available. Large vessels usually have one or more tugs in attendance while berthing at or departing from the wharves along the inner channels.

(313) Los Angeles and Long Beach are both **customs ports of entry**.

Quarantine, customs, immigration, and agricultural quarantine

(314) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(315) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

Coast Guard

(316) A **marine safety office** is located in the Los Angeles/Long Beach Harbor complex. (See Appendix A for addresses.)

(317) **Los Angeles/Long Beach Coast Guard Station** is on the E side of Main Channel at **Reservation Point**.

Harbor regulations

(318) Local rules and regulations for the Port of Los Angeles are enforced by the Port Warden of the Harbor Department. The Los Angeles Harbor Department Headquarters are at 425 South Palos Verdes Street, San Pedro.

(319) Similar regulations for the Port of Long Beach are enforced by the Executive Director of the Harbor Department assigned by a Board of Harbor Commissioners. The Long Beach Harbor Department Administration Building is on Pier "G" at 925 Harbor Plaza, Long Beach. The **speed limit** for Middle Harbor and Inner Harbor is 6 knots.

(320) Permits are required from the Port Warden for any method of underwater diving within Los Angeles Harbor. Similarly, a permit from the Port Manager is required in Long Beach Harbor.

(321) Copies of the regulations may be obtained from the local office concerned.

Wharves

(322) All land of the Port of Los Angeles is owned by the City of Los Angeles. This land is leased to various facilities listed in the table; only the major deep-draft facilities are listed. For a complete description of the port facilities refer to Port Series No. 28, published and sold by the U.S. Army Corps of Engineers. (See Appendix A for address.) The alongside depths given in the table are reported. (For information on the latest depths contact the port authorities or the private operators.) Most of the piers and wharves have shore connections (electrical/water), highway and railroad connections.

(323) General cargo at the port is usually handled by ship's tackle. Special handling equipment, if available, is noted in the table. Floating cranes to 350 tons are available.

(324) The office of the chief wharfinger is at 425 South Palos Verdes Street, San Pedro

Wharves

(325) All land of the Port of Long Beach is owned by the City of Long Beach. This land is leased to various facilities listed in the table; only the major deep-draft facilities are listed. For a complete description of the port facilities refer to Port Series No. 28, published and sold by the U.S. Army Corps of Engineers. (See Appendix A for address.) The alongside depths given in the table are reported. (For information on the latest depths contact the port authorities or the private operators.) Most of the piers and wharves have shore connections (electrical/water), highway and railroad connections.

(326) The famous passenger liner QUEEN MARY, retired in 1967 and purchased by the Port of Long Beach, is

Facilities in the Port of Los Angeles

	Name	Location	Berthing Space (feet)	Depths* (feet)	Deck Height (feet)	Mechanical Handling Facilities and Storage	Purpose	Operated by:
1	POLA Liquid Bulk Terminal (Berths 45-47)	33°42'53"N., 118°16'31"W.	1063	47	16	Two hydraulic unloading arms	Crude oil	Port of Los Angeles
2	POLA Breakbulk Terminal (Berths 49-53)	33°43'08"N., 118°16'26"W.	2100	35-51	14.6	Open storage (24 acres)	Breakbulk steel	Port of Los Angeles
3	SSA (Berths 54-55)	33°43'29"N., 118°16'34"W.	1340	35	14	Transit shed (211,000 sq feet)	Imported meats, Imported fruits	Stevedoring Services of America
4	Westway (Berths 70-71)	33°43'29"N., 118°16'29"W.	800	35	14.8	Tank storage (593,000 barrels)	Liquid bulk	Westway Terminal Company
5	World Cruise Center (Berths 91-93)	33°44'51"N., 118°16'34"W.	2850	37	15	Terminal buildings and warehouses	Handling passenger vessels	Pacific Cruise Ship Terminals
6	West Basin Container Terminal (Berth 100)	33°45'09"N., 118°16'30"W.	1200	45-53	15	• Four Panamax cranes • Open storage (75 acres)	General cargo in containers	West Basin Container Terminal LLC
7	Kinder Morgan Liquid Terminal	33°45'22"N., 118°16'51"W.	825	35	13	Tank storage (498,000 barrels)	Petroleum products	Kinder Morgan, Inc.
8	West Basin Container Terminal (Berths 121-131)	33°45'39"N., 118°16'33"W.	3500	35-45	15	• Eight Panamax cranes • Open storage (186 acres)	General cargo in containers	West Basin Container Terminal LLC
9	TraPac Terminal (Berths 135-139)	33°46'00"N., 118°16'25"W.	4050	35-53	15.7	• Eleven Panamax cranes • Open storage (173 acres)	General cargo in containers	Trans Pacific Container Service Corp.
10	ConocoPhillips Terminal (Berths 148-151)	33°45'18"N., 118°16'22"W.	1328	37	15.2	Tank storage (825,000 barrels)	Petroleum products	ConocoPhillips
11	Warehouse Terminal (Berths 153-155)	33°45'23"N., 118°16'12"W.	1781	34	12.8	Covered storage (26,880 sq ft)	General cargo	Port of Los Angeles
12	Valero (Berths 163-164)	33°45'36"N., 118°16'03"W.	888	40	13.7	Tank storage (1.5 million barrels)	Petroleum products	Valero
13	Ultramar (Berth 164)	33°45'35"N., 118°16'03"W.	888	40	13.7	Tank storage (947,000 barrels)	Petroleum products	Ultramar
14	Borax (Berths 165-166)	33°45'30"N., 118°16'05"W.	679	37	14.2	Storage for (350 tons)	Industrial borates	U.S. Borax Inc.
15	Shell Oil (Berths 167-169)	33°45'18"N., 118°16'04"W.	1238	40	13	Tank storage (580,000 barrels)	Petroleum products	Shell Oil
16	Pasha (Berths 174-181)	33°45'43"N., 118°15'40"W.	3300	35-45	15	• Three cranes (40 tons) • Transit shed (235,000 sq feet)	Steel	Pasha Properties Inc.
17	Vopak (Berths 187-191)	33°45'50"N., 118°15'35"W.	2336	38	15	• Tank storage (700,000 barrels) • Covered storage (86,000 sq feet)	Liquid bulk chemical products	Vopak
18	WWL Vehicle Services (Berths 195-199)	33°46'07"N., 118°15'09"W.	2250	32-34	16-18	Storage for up to 8000 vehicles	Automobiles	WWL Vehicle Services Americas, Inc.
19	POLA Container Terminal (Berths 206-209)	33°45'46"N., 118°14'55"W.	2180	40-45	15.5	• Four gantry cranes • Open storage (86 acres)	General cargo in containers	Port of Los Angeles
20	Hugo Neu-Proler (Berths 210-211)	33°45'40"N., 118°15'12"W.	1500	35	13.7	Open storage (26.7 acres)	Scrap metal (ferrous/non-ferrous)	Hugo Neu-Proler Co.
21	Yusen Terminal (Berths 212-225)	33°45'16"N., 118°15'46"W.	5800	35-45	15	• 10 Panamax cranes • Open storage (185 acres)	General cargo in containers	Yusen Terminals Inc.
22	Seaside Terminal (Berths 226-236)	33°44'32"N., 118°16'26"W.	4700	38-45	13-15	• Eight Panamax cranes • Open storage (205 acres)	General cargo in containers	Seaside Transportation Services, LLC
23	ExxonMobil (Berths 238-240C)	33°44'01"N., 118°16'21"W.	903	37	14	Tank storage (2.3 million barrels)	Petroleum products	ExxonMobil
24	LAXT (Berth 301)	33°43'51"N., 118°15'46"W.	1000	72	16	•Open and domed storage •Enclosed conveyor sysytem	Petroleum coke	Los Angeles Export Terminal, Inc.
25	APL Terminal/Global Gateway South (Berths 302-305)	33°44'00"N., 118°15'14"W.	4000	50	15	• 12 Panamax cranes • Open storage (292 acres)	General cargo in containers	Eagle Marine
26	APM Terminals/Pier 400 (Berths 401-406)	33°43'44"N., 118°15'30"W.	7190	55	15.2	• 14 Panamax cranes • Open storage (484 acres)	General cargo in containers	APM Terminals

* The depths given above are reported. For information on the latest depths contact the port authorities or the private operators.

Facilities in the Port of Long Beach

	Name	Location	Berthing Space (feet)	Depths* (feet)	Deck Height (feet)	Mechanical Handling Facilities and Storage	Purpose	Operated by:
1	Pier J (Berths 266-270)	33°44'11"N., 118°11'24"W.	2711	45	15	• 16 gantry cranes • Open storage (64 acres)	General cargo in containers	SSA Marine
2	Pier J (Berths 243-247)	33°44'36"N., 118°11'44"W.	3300	36-40	16	• Open storage (57 acres) • Covered storage (100,000 sq feet)	General cargo in containers	SSA Marine
3	Pier G (Berths 226-236)	33°44'39"N., 118°11'56"W.	6379	36-42	15	• 16 gantry cranes • Open storage (160 acres) • Container freight station (70,000 sq feet)	General cargo in containers	International Transportation Service
4	Pier G (Berths 212-215)	33°44'52"N., 118°12'23"W.	1900	50	18-19	• Two traveling shiploaders • Covered storage (540 tons)	Petroleum Coke, Coal, Potash, Borax, Soda ash, Concentrates, Prilled sulfer	Metropolitan Stevedore Company
5	Pier F (Berths 211A and 209)	33°45'02"N., 118°12'24"W.	800	43	19	• Pipeline system • Tank storage (425,000 barrels)	Petroleum products	Chemoil Marine Terminal
6	Pier F (Berth 211)	33°45'02"N., 118°12'28"W.	1100	40	19	• Terminal services for bulk materials	Petroleum coke	Koch Carbon, Inc.
7	Pier F (Berth 210)	33°44'59"N., 118°12'34"W.	700	40	19	Belt conveyor system	Bulk salt	Morton Salt Company
8	Pier F (Berth 208)	33°44'54"N., 118°12'44"W.	420	29-33	19	• Storage space (50,000 sq feet) • Belt conveyor system	Bulk cement	MCC-Lucky Cement Company
9	Pier F (Berths 206-207)	33°44'46"N., 118°12'43"W.	1200	32	18.5	• Open storage (12.2 acres) • Covered storage (190,000 sq feet)	Steel products, Plywood, Lumber, Large machinery	Crecent Terminal (SSA)
10	Pier F (Berths 204-205)	33°44'38"N., 118°12'32"W.	1265	36	18.5	• Open storage (5.5 acres) • Covered storage (180,000 sq feet)	Steel products, Plywood, Lumber	Cooper/T. Smith Stevedoring
11	Pier F (Berths 6-10)	33°45'15"N., 118°12'40"W.	2750	50	14.4	• Seven gantry cranes • 240 reefer outlets	General cargo in containers	Long Beach Container Terminal, Inc.
12	Pier E (Berths 24-26)	33°45'35"N., 118°12'50"W.	2100	48	17.7	• Five gantry cranes • Open storage (58 acres) • 400 reefer outlets	General cargo in containers	California United Terminals
13	Pier D (Berths 30-31)	33°45'31"N., 118°12'55"W.	700	43	19.5	• Tank storage (6.7 million gallons)	Tallow, Vegetable oils	Baker Commodities, Inc.
14	Pier D (Berths 32-33)	33°45'31"N., 118°13'00"W.	680	36	13.8	• Silo storage (50k tons) • Open storage (87k sq. feet)	Bulk cement	Pacific Coast Cement Corp.
15	Pier T (Berths 132-140)	33°45'13"N., 118°14'08"W.	5000	55	14.7	• 14 gantry cranes • Open storage (237 acres) • 1088 reefer outlets	General cargo in containers	TTI-Hanjin Shipping Co.
16	Pier T (Berth 122)	33°45'17"N., 118°13'08"W.	600	40	23	• Open storage (7.7 acres) • Covered storage (15,000 sq feet)	Lumber and Lumber products	Fremont Forest Group Corp.
17	Pier T (Berth 121)	33°45'24"N., 118°13'11"W.	1140	76	20	• Tank storage available in Carson	Crude oil and Petroleum products	BP
18	Pier T (Berth 118)	33°45'39"N., 118°13'14"W.	900	36	22	• Vessel loading crane • Open storage (13.5 acres)	Recyclable metal & steel products	Pacific Coast Recycling Co.
19	Pier T (Berths 116-117)	33°45'47"N., 118°13'17"W.	600	32-35	23	• Open storage (9.9 acres)	Lumber and Lumber products	Weyerhaeuser Company
20	Pier D (Berth 46)	33°46'10"N., 118°12'44"W.	640	40	17.2	• Belt-conveyor system • Storage shed (40,000 tons)	Gypsum	G-P Gypsum Corp.
21	Pier D (Berths 50-54)	33°46'16"N., 118°12'36"W.	2370	36	10-17	• Open storage (6.9 acres) • Transit shed (495,000 sq feet)	Newsprint and Lumber	Forest Terminals
22	Pier C (Berths 60-62)	33°46'13"N., 118°13'00"W.	1800	42	14.5	• Three gantry cranes • Open storage (57 acres)	General cargo in containers & Automobiles	SSA Marine-Matson Terminal
23	Pier B (Berths 76-78)	33°46'33"N., 118°12'47"W.	2200	46	14.4	Tank storage (1.8 million barrels)	Petroleum products	BP
24	Pier B (Berths 82-83)	33°46'28"N., 118°13'05"W.	1060	38	14.4	• Tank storage (410k barrels) • Open storage (110 acres) • Transit shed (150k sq. feet)	Petroleum products and Automobiles	Petro-Diamond and Toyota
25	Pier B (Berths 84-87)	33°46'20"N., 118°13'21"W.	1980	52	16.8	Tank storage (245k barrels)	Crude oil, Petroleum products, Bunker fuel	Shell Oil Products
26	Pier A (Berths 88-96)	33°46'09"N., 118°13'54"W.	3600	50	14.2	• Ten gantry cranes • Open storage (90 acres) • 652 reefer outlets	General cargo in containers	SSAT Long Beach Terminal

* The depths given above are reported. For information on the latest depths contact the port authorities or the private operators.

moored on the NE side of Pier H, parallel to the skyline of the city of Long Beach. The ship is used as a floating museum, hotel, and convention center.

(327) The large lighted white dome S of the QUEEN MARY was once the exhibit center for Howard Hughes' famous flying boat SPRUCE GOOSE. The dome is now used by Carnival Cruise Lines to support the Long Beach Cruise Terminal.

Supplies

(328) Fuel oil, water, and marine supplies can be had in any quantity at both Los Angeles and Long Beach. Fuel oil can be supplied at the oil docks or by barge.

Repairs

(329) Los Angeles Harbor is well equipped with marine repair plants. The largest marine railway, at Berth 264 in the NE end of Fish Harbor in East San Pedro, has a hauling power of 1,000 tons. There are a number of smaller facilities. There are no graving docks. The port is well equipped with salvage facilities. A trained salvage crew and a corps of expert divers are ready at all times to render aid in any disaster to shipping along the coast and at distant localities.

(330) Long Beach Harbor is also well equipped for marine repairs. A variety of barge cranes are available in the 40- to 275-ton capacity range. There are several marine railways for small craft at Long Beach Harbor.

Communications

(331) Los Angeles and Long Beach Harbors have connections to the extensive freeway system which connects the cities of Los Angeles and Long Beach and their suburbs; four U.S. or Interstate highways extend from the area freeway system to the N, S, and E. The harbors are served by three major railroads and many airlines. The harbors are ports of call for many foreign and domestic steamship lines and by coastal barge lines.

(332) While the Ports of Los Angeles and Long Beach are separate entities, their harbor facilities are closely interrelated.

Small-craft facilities

(333) The major small-craft facilities in Long Beach are Long Beach Marina in Alamitos Bay and the Downtown Marina on Queensway Bay, W of oil Island Grissom. Other facilities in Long Beach Harbor are just inside the entrances to both Channel Two and Channel Three. All repair facilities, supplies, fuel, moorage, and related yacht requirements may be had at individual private marinas or from other establishments in the Middle Harbor. Several boatyards are in Channel Two and Channel Three.

(334) Los Angeles Harbor has small-craft facilities on both sides of Cerritos Channel from the Heim lift bridge to East Basin, on the E side of East Basin, in Watchhorn Basin, and along the W side of West Channel. All the berths, fuel, supplies, and services required for small boats are available at the individual private marinas or may be obtained nearby.

Chart 18746

(335) From Point Fermin the coast trends in a general W direction 6.5 miles to Point Vicente, and forms the N shore of San Pedro Channel, which is discussed in chapter 5. From Point Vicente the shoreline curves N. The coast is free of off-lying dangers and is well marked by kelp.

(336) The Traffic Separation Scheme between Point Fermin and Point Conception is discussed earlier in this chapter.

(337) Several submarine sewers extend 1.3 miles offshore near **White (Whites) Point**, 1.3 miles NW from Point Fermin.

(338) **Point Vicente**, 6.3 miles NW of Point Fermin, is a steep rocky cliff, 120 feet high, white and red in color, with red predominating. A rock awash is 250 yards SW from the point with kelp extending 100 yards farther to seaward. A small black 25-foot high pyramidal rock is close inshore 0.3 mile E of the point.

(339) **Point Vicente Light** (33°44.5'N., 118°24.6'W.), 185 feet above the water, is shown from a 67-foot white cylindrical tower on the SW end of the point; a fog signal is at the station.

Danger zone

(340) A **danger zone** for practice firing extends off Point Vicente. (See **334.940**, chapter 2, for limits and regulations.)

Charts 18740, 18744

(341) **Palos Verdes Point**, 2 miles NNW of Point Vicente, is a bold, bluff point, 120 feet high, rising abruptly to the W extremity of Palos Verdes Hills. There are no dangers off the point, but heavy kelp extends 0.6 mile offshore and is marked by a lighted bell buoy 0.7 mile W of the point.

(342) **Lunada Bay** is a small bight on the S side of Palos Verdes Point. **Resort Point** forms the S side of this bay.

(343) **Flat Rock Point**, 1.7 miles NE of Palos Verdes Point, is on the S side of Santa Monica Bay. A narrow spur protrudes from the otherwise rounded point. **Flat Rock**, 6 feet high, and **Bit Rock**, 5 feet high, are 175 yards and 250 yards, respectively, off the end of the

spur. **Bluff Cove** is a shallow bight on the S side of Flat Rock Point. The beach is covered with boulders.

(344) **Santa Monica Bay** is formed by the curving coast between Point Vicente and Point Dume. From Flat Rock Point to Santa Monica the shore is comparatively low with a sand beach backed by a continuous city area to the inland mountains. The depths of Santa Monica Bay are comparatively shoal, the 10-fathom curve in general lying about 1 mile from shore, except at Redondo Beach where a deep submarine valley, **Redondo Canyon**, heads close to the shore.

(345) **Malaga Cove**, just N of Flat Rock Point, is used occasionally by fishing boats with local knowledge, but it is open to the prevailing W winds. Boats enter through a break in the kelp and anchor inside in 6 to 7 fathoms, with the S point of the cove bearing 207°.

(346) **King Harbor**, 4.5 miles NNE of Palos Verdes Point, is a large small-craft harbor at **Redondo Beach**. The harbor is used mostly by pleasure craft and accommodates upwards of 1,400 boats.

Prominent features

(347) At the N end of King Harbor and about 200 yards inshore is a large power plant with five large smokestacks approximately in-line and parallel with the beach. A private light is shown from atop the power plant.

COLREGS Demarcation Lines

(348) The lines established for Redondo Harbor are described in **80.1116**, chapter 2.

(349) The entrance is between two lights at the ends of the breakwaters at the S end of the harbor. A fog signal is at the light on the E side of the entrance. The fog signal can be activated upon request to the Coast Guard by radiotelephone VHF-FM Channel 16. A lighted bell buoy is 230 yards SSW of the S end of the W breakwater. The channel is marked by private buoys, with lights at the entrances to Basins 1 and 2. Natural depths through the entrance are 27 to 30 feet with a depth of 8 feet in the three basins, except for an isolated depth of 6 feet in the northeasternmost channel of Basin 1. In March 1977, shoaling was reported on the S side of the entrance to Basin 3, and in June 1989, rocks awash were reported near the N side of the entrance to the basin.

(350) In February 1988, numerous uncharted sunken wrecks were reported in the harbor.

Harbor regulations

(351) The harbor is administered by the city of Redondo Beach and is under the control of a harbormaster, who has an office near the entrance to Basin 2. Transients should contact the **harbormaster** for berth assignments. The harbor patrol operates from Basin 2. Both the harbor office and the patrol monitor radiotelephone VHF-FM channel 16 and can be reached be telephone at 310-318-0632.

Supplies

(352) There is a fuel dock that has gasoline and diesel fuel; most other small-craft supplies are available.

(353) A yacht club is in Basin 3.

Repairs

(354) A boatyard here can handle craft up to 50 feet and 60 tons for all general repairs.

Caution

(355) The city of Los Angeles advises that under certain tidal conditions, underwater installations between King Harbor and Marina del Rey, seaward to 9 fathom depths, present possible hazards to surface navigation.

(356) Sport fishing barges usually anchor 1 or 2 miles offshore during the summer; caution is advised to avoid them.

Submarine oil seepage

(357) About 1.5 miles off Redondo Beach, in the deep water of Redondo Canyon, there is a submarine oil seepage and the water surface is often covered with a film of petroleum. Gas bubbles have been reported in several locations in this vicinity. A second seepage 3.5 to 4 miles to the NW is more noticeable and more continuously in action. On calm days, globules and large blobs of oil have been seen projected clear of the water surface. Gas also escapes continuously in large bubbles often 3 to 6 inches in diameter.

Charts 18740, 18744, 18748

(358) **Hermosa Beach** and **Manhattan Beach** are between Redondo Beach and El Segundo; both have public fishing piers with fish havens covered 9 feet around their seaward ends. The pier at Hermosa Beach is about 1.3 miles N of Redondo Beach and extends about 275 yards from shore; a private fog signal is at the outer end. The Manhattan Beach pier, 2.5 miles N of Redondo Beach, extends almost 175 yards from shore.

(359) **El Segundo**, about 2 miles N of Manhattan Beach, has extensive oil refineries with several large oil tanks on high ground being prominent. Other prominent features are: an aero light N of El Segundo at Los Angeles International Airport, two 334-foot striped stacks in about 33°55'06"N., 118°25'39"W., and a power plant with four stacks about 0.6 mile SSE of the striped

stacks. A rock groin, marked at its outer end by a private light, extends seaward from the N end of the power plant.

(360) An offshore oil terminal with two multi-buoy sea berths is about 1.3 miles W of El Segundo. The terminal, operated by Chevron USA, loads and discharges tankers through several submerged hoses and pipelines. A private lighted bell buoy is W of the offshore terminal and a safety zone surrounds the terminal. (See **33 CFR 165.1156**, chapter 2, for limits and regulations.) Two anchorages are WSW of the offshore terminal for vessels awaiting berthing assignments at the terminal. Vessels intending to use these anchorages must first contact the Vessel Traffic Information Service on VHF-FM channel 14 for assignment and further instruction.

Caution

(361) Mariners should exercise caution when navigating over the sewer outfalls and submerged pipelines that extend seaward from El Segundo. Numerous uncharted buoys and other potential hazards to navigation exist within this area.

(362) A **restricted area** extends about 7 miles offshore at El Segundo. (See **162.195**, chapter 2, for limits and regulations.)

(363) **Marina del Rey**, 7.6 miles NNW of Redondo Beach and King Harbor, is a large manmade small-craft harbor. It has a capacity for over 6,000 pleasure craft.

COLREGS Demarcation Lines

(364) The lines established for Marina del Rey are described in **80.1118**, chapter 2.

(365) A detached breakwater parallel to the shore is just to seaward of the jetties protecting the entrance channel.

Channels

(366) A dredged entrance channel leads NE from the detached breakwater for about 0.7 mile, then the harbor channel continues N for about 0.6 mile to the N end of the harbor. There are two openings between the jetties and the detached breakwater; the chart is the best guide for navigating the openings. In March 2006, the controlling depths were 13.4 feet in the entrance channel to just past Basins B and H, thence 10 feet to Basin E at the head of the harbor. The N and S ends of the detached breakwater and the outer ends of the jetties are marked by lights. A fog signal is at the light on the outer end of the N jetty. The fog signal can be activated upon request to the Coast Guard by radiotelephone VHF-FM channel 16.

(367) A **restricted area** governing navigation inside the detached breakwater has been established. (See **162.200**, chapter 2, for limits and regulations.)

(368) **Traffic separation lanes** have been established in the entrance channel to Marina del Rey. These lanes are marked by State Waterway Regulatory Buoys with the words "No Sail." All vessels under power, or power and sail, shall keep these buoys to their port when entering or departing the harbor. The center lane between the buoys is used by vessels solely under sail, both entering or departing the harbor.

Anchorage

(369) A **special anchorage** is in the upper reach of the harbor channel. Anchoring is permitted only during storm, stress, or other emergency. (See **110.1 and 110.111**, chapter 2, for limits and regulations.)

Coast Guard

(370) A search and rescue craft is stationed at the pier just S of the harbor office, on the E side of the bend in the entrance channel.

Harbor regulations

(371) The harbor is administered by the Los Angeles County Department of Beaches and Harbors. The Harbormaster, under the Los Angeles County Sheriffs Department, has an office on the E side of the bend in the entrance channel. Guest berths are available further down the channel at Burton Chace Park.

(372) The Sheriff's Harbor Patrol operates the office on the E side of the entrance channel, providing 24-hour service. Radiotelephone VHF-FM channel 16 is monitored on a 24-hour basis, and the Sheriff's Department can be reached by telephone at 310-823-7762.

Supplies

(373) Marine supplies of all kinds can be obtain at most of the marinas and repair yards. Gasoline and diesel fuel are available at the fuel docks. Several yacht clubs are on the shores of the various basins. Medical facilities are available at the harbor, and a hospital is nearby.

Repairs

(374) There are two boatyards in the harbor that have hull and engine repair facilities. The largest lift can handle vessels to 100 tons.

(375) Fish havens, marked by private buoys, are about 1.1 miles W of the light at the N end of the detached breakwater.

Charts 18740, 18744

(376) About 1 mile N of the entrance to **Marina del Rey** is the 1,100-foot-long Los Angleles city public fishing pier at Venice; a fish haven covered 10 feet surrounds its seaward end. The Marina del Rey harbormaster advises that in dense fog the pier fog signal is occasionally mistaken for Marina del Rey entrance. The characteristics of these fog signals should be checked to avoid this error.

(377) A **144°40'-324°40' measured nautical mile** is off Marina del Rey. The S range is two triangular white and orange markers located at the midpoint of Marina del Rey detached breakwater. The N range is an orange and white triangle located on the centerline of Los Angeles city public fishing pier.

(378) **Santa Monica**, 3.5 miles NW of Marina del Rey, has a large pleasure pier, but there is no water commerce. A private fog signal is on the outer end of the pier. A 0.3-mile-long breakwater, submerged at high tide and marked on each end by private buoys, is off the outer end of the pier and parallel to the beach. A lighted bell buoy is about 550 yards S of the breakwater.

(379) The city of Santa Monica Harbor Patrol maintains a temporary office on the large pleasure pier. VHF-FM channels 12 and 16 are monitored on a 24-hour basis. A rescue boat is on call for emergencies.

(380) The buildings and structures along the beach are prominent. Most conspicuous from offshore are the tall General Telephone Building with a red and white antenna on top, and the clock tower atop a bank building.

(381) The 16-mile coast between Santa Monica and Point Dume is bold, rocky, and rugged. Steep cliffs rise abruptly from the water's edge, ascending gradually within 3 or 4 miles to the summits of the Santa Monica Mountain Range, about 3,000 feet high. The seaward termination of this range is at Point Mugu, 14 miles W of Point Dume.

(382) **Kellers Shelter**, 9 miles W of Santa Monica at **Malibu Beach**, is an open bight offering protection from N and W winds in 2 to 7 fathoms, sandy bottom. A reef marked by kelp extends a short distance offshore about 0.5 mile W of the anchorage.

(383) A fishing and pleasure pier, 700 feet long with 15 feet of water at its outer end, is on the W side of Kellers Shelter. Twin white buildings are prominent marks at the outer end of the pier. Private mooring buoys are maintained E of the pier for the use of sport fishing boats which leave for the nearby fishing grounds. Frequently the headlights of automobiles on the highway along the beach are directed toward the sea.

(384) **Paradise Cove**, 2 miles NE of Point Dume, affords protection similar to Kellers Shelter. The anchorage is abreast the fourth break or arroyo in the cliffs from Point Dume, and is immediately outside the kelp line, in 6 to 7 fathoms, sand bottom, with Point Dume bearing 240°. Kelp should be avoided because of possible dangers. A 300-foot sport fishing pier is on the NW side of Paradise Cove. A rescue vessel is moored in Paradise Cove.

(385) In November 1985, hazardous submerged pilings were reported about 300 yards SSW of the fishing pier in about 34°01.1'N., 118°47.1'W.

(386) **Point Dume** is the seaward end of a rather low plateau that terminates in a dome-shaped head, about 200 feet high, rising from a bold rocky bluff. The bluff is reddish, with white cliffs E and W. A small bare rock is 150 yards S of the point, and a reef that uncovers is 150 yards farther out. Foul ground extends about 500 yards E of the reef. A lighted bell buoy is 0.5 mile off the point.

(387) A rescue boat is moored at **Zuma Beach**, about 1 mile NW of Point Dume. The rescue boat can be contacted through the Coast Guard or the lifeguard station, which monitors VHF-FM channel 16, from 0900-1700 daily; call sign, Bay Watch.

(388) **Dume Canyon** (see also chart 18740) is a submarine valley with extremely steep slopes running about 0.3 mile offshore from Point Dume, and extending NW roughly parallel to the beach. Moderately strong currents of a confused directional nature have been observed in the vicinity of this submarine valley.

Chart 18720

(389) The 14-mile coast between Point Dume and Point Mugu is very rugged, and there are no known outlying dangers. About 2 miles E of Point Mugu, on the beach at the foot of a very high bluff, is a 140-foot sand dune. This is quite prominent and can be made out on clear moonlit nights. The dune is charted as a "prominent slide."

(390) **Point Mugu**, the seaward termination of the Santa Monica Mountains, is prominent because of the lowland of the Santa Clara Valley to the W. The cuts and fills of the highway which skirt the shore from Point Mugu E are prominent. Aluminum-colored twin tanks, 1.5 miles NW of the point and on the W slopes of Laguna Peak, show well from SE through W. A pipeline runs from the tanks to a prominent white radar structure atop Laguna Peak. The tanks and the pipeline are marked by flashing red lights.

Weather, Point Mugu

(391) Fog hampers visibilities most often from July through December, when the fog drops below 0.5 mile on about 5 to 8 days per month; September is usually

the worst month. N through NE winds are common from October through March, while W winds prevail from April through September. While gales are infrequent, wind gusts have reached 50 to 60 knots from fall through spring. These strong winds often blow out of the ENE. Calm conditions are frequent all year round, but particularly from May through October.

Caution

(392) The U.S. Navy advises navigation interests and others that continuous guided-missile firing operations may take place in the Pacific Missile Range, Point Mugu, Calif., Sea Test Range, Monday through Sunday. The test area extends for 170 miles in a SW direction from Point Mugu and is up to 100 miles wide. The specific danger portions of the firing area are broadcast daily Monday through Friday at 0900 and 1200 on 2638 kHz and 2738 kHz. (See Eleventh Coast Guard District Local Notice to Mariners for additional information.)

Danger zone

(393) **Danger zones** for Navy small-arms firing ranges extend about 2 miles offshore at Point Mugu and about 3 miles offshore at Laguna Point. (See **334.1120** and **334.1125**, chapter 2, for limits and regulations.)

(394) **Mugu Canyon** is a submarine valley with its head near Mugu Lagoon. The 50-fathom curve is about 0.5 mile offshore.

(395) **Santa Barbara Channel** is discussed in chapter 5.

Chart 18724

(396) **Point Hueneme** (pronounced: y-nee-me), 22 miles WNW of Point Dume is low, rounding, and sandy. It is the outermost point of the low land of the Santa Clara Valley.

(397) **Point Hueneme Light** (34°08.7'N., 119°12.6'W.), 52 feet above the water, is shown from a 48-foot white square tower on the point. A fog signal is on the point about 70 yards SW of the light. A fog signal can be activated upon request to the Coast Guard by radiotelephone VHF-FM channel 16. A sewer outfall line, about 1.4 miles SSE of Point Hueneme Light, extends about 1 mile from shore.

Weather, Point Hueneme

(398) In the coastal waters from Point Hueneme to Santa Barbara, sea fog hampers navigation most often from July through October. It is generally more widespread and often more persistent than land (radiation) fog. Visibilities fall below 0.5 mile (0.9 km) on about 5 to 10 days per month during these months; August and September are usually the worst.

(399) **Port Hueneme** is an inland basin, about 1,400 feet long by 1,200 feet wide, located at the head of a submarine canyon, **Hueneme Canyon**. It is under the control of the U.S. Navy, Naval Base Ventura County. The SE part of the basin is owned by the Oxnard Harbor District and is operated as a deep-draft commercial terminal. The commercial terminal is used by cargo vessels, commercial and sport fishing craft, and offshore supply vessels operating from here to offshore drilling rigs.

Prominent features

(400) The most prominent objects around the shores of the harbor are two red and white striped stacks at a powerplant, 2.4 miles SE of the harbor, are prominent, and the aerobeacon at Oxnard, 3 miles N of the harbor, is a good night mark.

COLREGS Demarcation Lines

(401) The lines established for Port Hueneme are described in **80.1120**, chapter 2.

(402) A **Safety Fairway** leading to the channel has been established. (See **166**, chapter 2, for limits and regulations.)

Channel

(403) The dredged channel leads between two jetties and through a land cut into the basin. The outer ends of the jetties are marked by lights. A lighted whistle buoy is about 800 yards SW of the outer end of the E jetty. Lighted buoys and a **037°** lighted range mark the channel.

(404) A **Federal project** provides for a depth of 36 feet in the entrance channel and 35 feet in the basin. Mariners are advised that between periodic dredging, depths in the channel and basin are subject to change due to minor silting. Vessels with deep drafts are advised to consult with the Port Hueneme Pilots Association (805-986-3213) concerning the available depths prior to vessel arrival. General guidelines call for under-keel clearances of 3 feet for inbound vessels and 2 feet for outbound vessels, taking tidal height into consideration. The narrowest width of the entrance channel is 330 feet. However, because of prevailing fresh winds only one-way traffic is permitted for large ships. The pilots control the traffic direction.

Anchorage

(405) There is no anchorage area in the harbor basin because of space limitations. The recommended anchorage for deep-draft vessels is about 1.7 miles S of Port

Hueneme Light. This location offers no protection in heavy weather.

Dangers

(406) A **naval restricted area** is in Port Hueneme. (See **334.1 through 334.6 and 334.1127**, chapter 2, for limits and regulations.)

Tides and currents

(407) The mean range of tide at Port Hueneme is 3.7 feet, and the diurnal range of tide is 5.4 feet. A range of about 9 feet may occur on days of maximum tides. The lowest low water is about 1.6 feet below mean lower low water. The harbor is not affected by tidal streams or currents, however, cross currents do occur near the entrance to the harbor, and are not predictable.

Pilotage, Port Hueneme

(408) All commercial vessels 300 gross registered tons and over, entering, leaving, or shifting within the Port of Hueneme, including the area of the Oxnard Harbor District, must be piloted by a port pilot duly licensed to perform the services of piloting vessels within the Port. The Oxnard Harbor district does not maintain pilots. Requests for pilots may be made by calling the Port Hueneme Pilots Association, telephone 805-986-3213. Pilots are available on a 24-hour basis and board vessels from a tug at a point 1.5 to 2.0 miles from the sea buoy. When pilots are boarding, vessels should stay on the range line and reduce speed to 5 knots or less.

(409) Pilot ladder should be rigged on the lee side (normally starboard while inbound, port side outbound) amidship, about 5 feet (1.5 m) above the water. Pilot ladder should be rigged well away from any overboard discharge. At night, the ladder must be properly lighted.

(410) Access to and from the ladder to the deck of the ship should be through a break in the rail, or if the ladder tends over the rail, then steps should be provided on the inboard side to permit access back to the deck level. Manropes should NOT be rigged, when boarding a Pilot, coming from sea.

(411) A proper ring-buoy (with light and line attached) should be provided at the boarding area. The harbor pilots guard VHF-FM channel 16. Vessels are cautioned to remain a safe distance off-shore when calling pilots because dock space must often be cleared.

Towage

(412) Tug service for the port is furnished by a private tug company. Requests for service may be made by telephone, 805-986-1600. Tugs up to 4,000 hp are available on a 24-hour basis.

Quarantine, customs, immigration, and agricultural quarantine

(413) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(414) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter.)

Customs

(415) Port Hueneme is a U.S. Customs port of entry, telephone (805) 488-8574.

Agricultural quarantine

(416) All vessels from outside of California that dock at Port Hueneme, except those specifically exempt, must be inspected by U.S. Department of Agriculture and/or the Ventura County Department of Agriculture. There are local representatives in the Oxnard area.

Harbor regulations

(417) The U.S. Navy exercises overall Port Control Authority. Port Hueneme, Control One, is on duty at all times, and monitors VHF-FM channel 6; the Oxnard Harbor District is responsible for its commercial operations. The Wharfinger is on duty at all times and guards VHF-FM channel 14; the Wharfinger office is at the E end of Slip A, along with the pilot and tugboat offices. Entrance to Naval Base Ventura County is restricted, and no photography is permitted without clearance.

(418) No garbage, waste, or refuse shall be discharged in any manner from any vessel in accordance with the California Administrative Code, a copy of which is available at the port's main administrative building. A 5-knot **speed limit** is enforced in the harbor.

Wharves

(419) Oxnard Harbor District has three 600-foot long deep-draft berths (Wharf No. 1) and two 700 foot -long deep- draft berths (Wharf No. 2). There is also a shallow depth wharf at the W end of the port property adjacent to the entrance channel. It is 379 feet long with 15 to 18 feet alongside.

(420) Wharf No. 1: 1,800 feet long; 35 feet alongside; deck height, 14 feet; three refrigerated warehouses providing 210,000 square feet of covered storage; 20 acres of open storage; three 60-ton vehicular weight scales; and Central Gate; operated by Oxnard Harbor District.

(421) Wharf No. 2: 1,450 feet long; 35 feet alongside; deck height, 14 feet; 96,000 square feet of warehouse; 23 acres of open storage; operated by Oxnard Harbor District.

Supplies

(422) Water and most marine supplies are available. Bunker fuel from dockside pipeline at commercial berths and diesel oil are obtainable.

Repairs

(423) Minor repairs may be made in the port. Machine shops in Ventura and Oxnard are qualified for normal voyage repair work.

Communications

(424) Oxnard has good rail, air, and highway connections with Los Angeles and points N.

Chart 18725

(425) **Channel Islands Harbor**, 1 mile NW of Port Hueneme and 5.8 miles SE of Ventura Marina, is a small-craft harbor. It is used by pleasure and sport fishing vessels and has existing berthing facilities for over 2,400 boats.

No-Discharge Zone

(426) The State of California, with the approval of the Environmental Protection Agency, has established a No-Discharge Zone (NDZ) in Channel Islands Harbor. It encompasses the entire harbor (see NOAA chart 18725 for the zone limits).

(427) Within the NDZ, discharge of sewage, whether treated or untreated, from all vessels is prohibited. Outside the NDZ, discharge of sewage is regulated by 40 CFR 140 (see Chapter 2).

COLREGS Demarcation Lines

(428) The lines established for Channel Islands Harbor are described in **80.1122**, chapter 2.

Channels

(429) The entrance to Channel Islands Harbor is between two jetties protected by an offshore breakwater. Each end of the breakwater and both the seaward and inshore ends of both jetties are marked by lights. A fog signal is at the seaward end of the S jetty. The fog signal can be activated upon request to the Coast Guard by radiotelephone VHF-FM channel 16.

(430) The areas SE of the entrance channel and NW of the N jetty are subject to rapid and uncertain shoaling. Mariners are advised to approach the entrance channel from the S and to exercise caution when approaching the harbor at night.

(431) The entrance channel leads NE from the breakwater then turns N into the entrance basin; an inner basin is just N of the entrance basin. In September 2007, the controlling depths were 15 feet in the entrance channel, 13.5 feet in the entrance basin, thence depths of 9 to 11 feet in the inner basin.

Coast Guard

(432) The Channel Islands Harbor Coast Guard Station is just S of the harbormaster's office. Search and rescue vessels are stationed here.

Harbor regulations

(433) The harbor is administered by the Harbor County Department, Ventura County, and is under control of a **harbormaster**, who has an office on the E side of the harbor about 400 yards N of the first bend in the channel. The harbor office maintains guest berths for 70 craft. Transients should report to the harbormaster for berth assignments. The harbormaster guards VHF-FM channel 16, 24 hours a day. Harbor patrol boats operate from the office.

Supplies

(434) Gasoline and diesel fuel are pumped at a fueling dock on the E side of the harbor just N of the harbor office. Water, ice, and most marine supplies are available.

Repairs

(435) Two full-service marine repair yards are on the E side of the channel, about 0.5 mile N of the harbormaster's office. Mobile lifts can handle craft to 25 tons, and a fixed lift can handle vessels to 60 tons.

(436) A **147°51'–327°51' measured nautical mile** is off the breakwater and beach just N of the harbor entrance. The S range is marked by the breakwater S light and the S jetty light. The N range is marked by less visible poles on the beach.

(437) A row of cottages extends NW along the beach for 2 miles from Point Hueneme. From the point, low sand beaches and dunes trend NW for 9 miles to the mouth of **Ventura River**.

(438) A striped 209-foot stack having a bright flashing red light on top is 0.6 mile N of **Mandalay Beach** and is conspicuous throughout the area. A private lighted buoy is 1.1 miles W of the stack, and a group of mooring buoys are about 0.3 mile E of the lighted buoy. A submarine pipeline runs from the mooring buoys to shore.

(439) **Ventura** is 8.5 miles N of Point Hueneme on **Pierpont Bay**. It has a 1,960-foot fishing pier with about 19 feet of water at the outer end, and about 18 feet at the inner end of a 250-foot loading face.

(440) Freshwater is piped to the pier, and gasoline is available in the town.

(441) Two fish havens are about 2.3 miles SW and 1.7 miles S, respectively, from Ventura Pier.

(442) Small craft may anchor anywhere in Pierpont Bay, but the anchorage is unprotected and is not recommended except for short day use. Boats may obtain moorage at Ventura Harbor.

(443) The most prominent features around Ventura are the lighted microwave tower, atop a hill 1.8 miles NE of the seaward end of Ventura Pier, and the tall Holiday Inn Motel (sign lighted at night), about 300 yards W of the pier. Also prominent are the railroad trestle crossing Ventura River, just W of town, and **Padre Junipero Serra Cross**, on a 350–foot hill immediately NW of the center of town. There are several aluminum-colored tanks and many oil derricks high up the slopes of the hills NW of town.

(444) **Ventura Harbor**, 6.7 miles N of Point Hueneme and just N of Santa Clara River, is a small-craft harbor used by pleasure craft and commercial fishing vessels. It has existing berthing facilities for about 1,500 boats. Commercial fish handling facilities are available in the harbor. In February 2001, a submerged rock was reported in about 34°15.3'N., 119°16.4'W. Caution is advised.

COLREGS Demarcation Lines

(445) The lines established for Ventura Harbor are described in **80.1124**, chapter 2.

(446) The entrance to Ventura Harbor is between two jetties protected by a 1,800-foot detached breakwater. The S end of the breakwater and the seaward ends of both jetties are marked by lights. A fog signal is at the S jetty light. The fog signal can be activated upon request to the Coast Guard by radiotelephone VHF-FM channel 16.

(447) Dangerous breakers can develop in the approach area to the entrance channel in winter when the prevailing winds are from the W. Inbound and outbound vessels are advised by local interests to run a direct course between Ventura Entrance Lighted Whistle Buoy 2V and the breakwater entrance.

Channels

(448) The dredged entrance channel leads NE between the jetties, then turns E into the harbor. The private buoys in the entrance channel and harbor are not charted because the positions are changed frequently due to the shifting shoals. Mariners are advised to exercise extreme caution and to contact the harbormaster for the latest channel and harbor conditions prior to entering.

(449) A channel leads NE from the N part of the harbor to a private waterfront home development called **Ventura Keys**. In March 2000, depths of 14 feet were reported in the development.

Harbor regulations

(450) Ventura Harbor is administered by the Ventura Port District and is under the control of a **harbormaster**, who has an office on the point N of the entrance basin. Transients should report to the harbormaster for guest slip assignments. The harbormaster monitors VHF-FM channels 16 and 12, from 0600 to 0200 daily.

Supplies

(451) Gasoline and diesel fuel are available just E of the harbormaster's office and at the S end of the harbor. Water, ice, and marine supplies are available. Two yacht clubs are on the shores of the harbor.

Repairs

(452) Boatyards in the harbor have mobile lifts that can haul out vessels to 150 tons for hull and engine repairs. Electronic service is also available.

(453) From Ventura River, the **Santa Ynez Mountains** extend to Point Conception and Point Arguello. For 11 miles W from the river to Rincon Point the coast is very rugged; elevations of over 2,000 feet being found within 1 mile of the beach. The dangers do not extend over 0.5 mile from the beach which is well fringed with kelp. Between Ventura and Santa Barbara are several small towns, and the highway and railroad skirt the shore; retaining walls are a common feature.

(454) **Pitas Point**, 5.5 miles NW of Ventura, is the first bold point W of Ventura River. A very steep gulch is on the W side. E of the point is 1 mile of beach cottages. High on the steep slopes above the cottages are the derricks and tanks of an oil field. Aluminum-colored tanks and oil-processing plants are prominent 1 mile E of the point.

(455) A fish haven, marked by a buoy, is about 1.4 miles SE of Pitas Point.

(456) **Punta Gorda**, 9 miles NW of Ventura, is low at its outer extremity, but rises rapidly to prominent **Rincon Mountain**. E of the point is a long pier supporting several oil pumps. Oil tanks are conspicuous on the outer end of the pier. Tanks and numerous derricks are along the highway just E of the pier. W of this pier a causeway extends S from Punta Gorda for 0.5 mile to an artificial island used for oil operations. A private light and fog signal are on the island.

(457) **Rincon Point,** 11 miles NW of Ventura, is low and sandy. **Sand Point**, 3.5 miles W of Rincon Point, is low and rounding, with the narrow opening to **El Estero**, a lagoon of no importance lying close under and E of it. A rock that uncovers is 550 yards offshore from Sand Point. Oil-drilling platforms are off Sand Point.

(458) A Standard Oil installation is prominent on the E side of **Carpinteria**, 8 miles E of Santa Barbara. A

submerged pipeline leads to offshore oil drilling platforms and to mooring buoys about 0.6 mile offshore where tankers are loaded. A pier is used to load support boats operating to and from the oil platforms. Many storage tanks are back of and on each side of the pier. One tank with an aluminum-colored dome may be seen from seaward.

(459) **Ortega Hill**, just W of **Summerland** and 18 miles NW of Ventura, is 250 feet high and conspicuous because of the extensive cuts for the highway; from offshore it has the appearance of a large slide.

(460) **Santa Barbara**, 29 miles NW of Point Hueneme, is a resort city and popular yachting harbor. The harbor is used mostly by pleasure craft and fishing vessels. There are about 1,200 slips in the harbor.

(461) **Santa Barbara Light** (34°23.8'N., 119°43.4'W.), 142 feet above the water, is shown from a 24-foot white tower about 2 miles W of the harbor entrance. **Lavigia Hill**, 0.6 mile NE of the light is 459 feet high and the distinguishing feature in approaching Santa Barbara from the E or W.

(462) Submerged shellfish structures are about 0.7 mile SE of Santa Barbara Light in about 34°23'15"N., 119°42'45"W.

(463) **Santa Barbara Point**, 1 mile E of the light, is a high cliff at the SE limit of the narrow tableland extending from Lavigia Hill. The point is the beginning of a sand beach extending 0.6 mile E to **Point Castillo**, the W point of the breakwater forming Santa Barbara Harbor.

(464) Conspicuous landmarks are the neon-lighted hotel tower on the beach 1 mile E of the town, the several radio towers, and the many residences on the hillsides back of the town. At night the lights of Santa Barbara are prominent from the channel, but they are obscured from the W by Lavigia Hill.

COLREGS Demarcation Lines

(465) The lines established for Santa Barbara Harbor are described in **80.1126**, chapter 2.

(466) The harbor has a 500-yard breakwater extending NE from **Point Castillo** to an extensive sandbar which forms the S side of the harbor. A jetty extends across the sandbar about 400 yards N from the NE end of the breakwater. A light is at the end of the jetty and a light and fog signal mark the connection between the breakwater and jetty; the fog signal can be activated upon request to the Coast Guard by radiotelephone VHF-FM channel 16. The NE side of the harbor is formed by Stearns Wharf; the wharf is marked by a light at the S end. A groin, about 125 yards long, extends S from shore about 0.3 mile W of Stearns Wharf. At night, sometimes the lights are difficult to see against the background of city lights.

Channels

(467) A dredged entrance channel leads NW between the breakwater and Stearns Wharf then turns SW into the harbor. The channel is marked by buoys. The harbor buoys are not charted because their positions are frequently changed. The entrance and harbor are subject to rapid shoaling. The harbormaster advises that the entrance channel has a tendency to shoal after SE storms. Mariners should contact the harbormaster on 2182 kHz or on VHF-FM channel 16 for channel conditions and assistance in entering.

Anchorage

(468) A special anchorage area is in the basin behind the breakwater. (See **110.1 and 110.115**, chapter 2, for limits and regulations.) Anchoring inside the harbor is usually prohibited by the harbormaster. A seasonal anchorage area (April-October) and a permitted mooring area are E of Stearns Wharf; the mooring area contains several mooring buoys. Anchorage is prohibited within 300 feet E of Stearns Wharf. Large vessels should anchor outside the anchorage and mooring areas in better holding ground. The harbormaster desires advanced requests for permission to anchor (805-564-5530).

Caution

(469) The long sandbar N of the breakwater light is inconspicuous on a high-tide night, but the masts of boats moored in the harbor are quite visible over the breakwater. The **harbormaster** reports that these circumstances have caused several groundings on the sandbar when strangers making for the harbor at night failed to identify the breakwater light, failed to see the sandbar, but sighted the masts in the harbor and steered toward them, consequently going hard aground on the sandbar. The shoreline of the sandbar is subject to continual change. **Caution** should be exercised when entering at night; the buoyed channel should be carefully followed.

Weather, Santa Barbara

(470) Fog plagues the harbor most often from August through November, when it reduces visibilities to less than 0.5 mile (0.9 km) on 4 to 7 days per month. Morning is usually the worst time. Winds are often calm at Santa Barbara. Winds of 3 knots or less occur 18 percent of the time or more year round, and 25 to 40 percent of the time from September through March. The sea breeze helps reduce this percentage. These spring and summer winds are mainly out of the E through WSW. NE winds, common throughout the year, are the most frequent winds from November through February, though a distant second to calm conditions.

Coast Guard

(471) A Coast Guard rescue vessel is stationed at the city pier in the SW part of the harbor, and a Coast Guard Marine Safety Detachment is on the W side of the harbor.

Harbor regulations

(472) Santa Barbara Harbor is administered by the City of Santa Barbara Water Front Department and is under the control of a **harbormaster**. who has an office at the SW corner of the harbor. Transients should report to the harbormaster for guest slip assignments. The office monitors VHF-FM channel 16, and can be reached by telephone 805-564-5530.

(473) The harbor patrol is on 24-hour duty and monitors VHF-FM channel 16. Strangers desiring assistance entering the harbor will be assisted by a patrol boat as needed when requested.

(474) **Sterns Wharf** had alongside depths of 5.1 feet at the foot and 18.6 feet at the head in May 2000. The City Pier, inside the harbor, has diesel fuel, gasoline, commercial ice, water, and a hoist with a maximum lift of two tons. The area east of the wharf is reported to be heavily congested.

Supplies

(475) Marine supplies are available.

Repairs

(476) There is a boatyard on the SW side of the basin that can handle craft up to 25 tons and 50 feet for hull and engine repairs. A small floating drydock in the harbor can lift craft up to 20 tons for hull maintenance and repair. And there are several boat builders and repair yards in the city of Santa Barbara.

Communication

(477) Communication is by rail, motor vehicle, and by airplane. The Santa Barbara Municipal Airport is at **Goleta**, 7 miles W of the harbor.

Chart 18721

(478) The 8-mile coast from Santa Barbara W to Goleta Point consists of bluffs 30 to 100 feet high with short stretches of sand beach and is fringed with kelp 0.2 mile offshore.

(479) **Goleta Point**, 6.2 miles W of Santa Barbara Light, is low and terminates in a cliff about 30 feet high. The buildings of the University of California at Santa Barbara are conspicuous just N of the point and are dominated by a lone tower. The aerolight 1.5 miles N and the two lighted radio towers 1.5 miles NE of the point are good marks at night. A 1,475-foot pleasure pier is in the bight E of the point. A 4-ton hoist is available.

(480) The 32-mile coast from Goleta Point to Point Conception is more rugged than that Eastward. **Cañada de la Gaviota**, 12 miles E of Point Conception, is a conspicuous break in the mountains back of this coast. A railroad skirts the shore over trestles and embankments which cross the mouths of numerous gulches and arroyos. The kelp grows quite heavily, and in some places extends over a mile offshore. The Pacific Coast Highway parallels the coast from Santa Barbara to Gaviota, where it turns inland.

(481) Oil well production heads covered 6 fathoms or more and submerged pipelines to shore extend as much as 3 miles offshore between Goleta Point and Point Conception. Several oil-well structures in the area are lighted and equipped with racons and fog signals.

Safety zones

(482) Safety zones have been established around oil drilling platforms and an offshore storage and treatment vessel mooring area, about 13 miles W of Goleta Point, in

(483) 34°23'27"N., 120°07'14"W. (**Platform Hondo**);

(484) 34°22'36"N., 120°10'03"W. (**Platform Harmony**);

(485) 34°21'01"N., 120°16'45"W. (**Platform Heritage**); and

(486) 34°24'19"N., 120°06'00"W. (**vessel mooring area**). (See **147.1 through 147.20, 147.1105, 147.1106, 147.1114 and 147.1115**, chapter 2 for limits and regulations and chapter 3 under **'Oil well structures'** for additional information.)

(487) Temporary drilling platforms can be found along this coastline and may be moved periodically. Mooring buoys for tankers are SW of Coal Oil Point and S of Gaviota.

(488) **Coal Oil Point**, 1.8 miles W of Goleta Point, is low and may be distinguished by the strong odor of petroleum discharged by a spring. This odor is noticeable over 2 miles offshore.

(489) Pilings of former piers and ruins of a drilling rig may exist from Coal Oil Point for about 2.5 miles NW to the pier at **Ellwood**. The private 2,300-foot pier is owned by Arco Oil. Passage without local knowledge is not advisable.

(490) A rock covered 13 feet is 3.7 miles W of Coal Oil Point and 0.9 mile offshore; it is surrounded by kelp. A reported rock covered 4 fathoms is 3.3 miles S of **San Augustine**. This rock is the outermost danger along the N side of the Santa Barbara Channel.

(491) **Capitan**, 7.5 miles W of Coal Oil Point, is in a small bight which offers little protection to small craft. A lone tank stands on a bare hill 500 feet high and 0.3 mile inland.

(492) **Refugio Beach** at **Orella**, 2.5 miles W of Capitan, is a State Park for camping at the mouth of the canyon. A small bight here offers some protection for small boats in northwesterly winds in about 15 feet.

(493) Oil is loaded from a submerged pipeline at **Gaviota**, 13.5 miles E of Point Conception. A number of large green storage tanks mark the inshore end of the pipeline. About 1 mile W of Gaviota is a State beach park with a 545-foot pleasure-fishing pier. An electric hoist for launching skiffs is available. The railway trestle along the beach is quite prominent.

(494) **Cojo Anchorage**, 1.5 miles E of Point Conception, affords protection off the mouth of the Cojo Valley from moderate W and NW winds. The suggested anchorage is opposite a culvert under the railroad tracks in 5 to 10 fathoms, hard sandy bottom. The cove 1.7 miles E of this anchorage known as Little (Old) Cojo, is foul and affords little protection.

(495) **Point Conception**, 118 miles NW of Point Fermin and at the W end of Santa Barbara Channel, is a bold headland 220 feet high that marks an abrupt change in the trend of the coast. There is comparatively low land immediately behind it. At a distance from N or E, it usually looks like an island.

(496) Point Conception has been called the **Cape Horn of the Pacific** because of the heavy NW gales encountered off it during the passage through Santa Barbara Channel. A marked change of climatic and meteorological conditions is experienced off the point, the transition often being remarkably sudden and well defined. When the northwesterly winds are strong they blow down the canyons between Point Conception and Capitan and cause heavy offshore gusts.

(497) **Point Conception Light** (34°26.9'N., 120°28.2'W.), 133 feet above the water, is shown from a 52-foot white tower behind a building near the W part of the point; a fog signal is at the station. A low black rock, nearly awash at high tide, is 220 yards offshore, SW of the light.

Danger and Safety zones

(498) **Danger zones** extend offshore from Point Conception to Point Sal. (See **334.1130,** chapter 2, for limits and regulations.)

(499) **Safety zones** have been established around oil drilling platforms in

(500) 34°27'19.0"N., 120°38'47.0"W. **(Platform Hermosa)**;

(501) 34°28'09.5"N., 120°40'46.1"W. **(Platform Harvest)**; and

(502) 34°29'42.0"N., 120°42'08.0"W. **(Platform Hidalgo)**. (See (**147.1 through 147.20, 147.1109, 147.1110, and 147.1112**, chapter 2 for limits and regulations and chapter 3 under **'Oil well structures'** for additional information.)

(503) From Point Conception, the coast trends in a gentle curve NW for 12 miles to Point Arguello and consists of bold rocky cliffs, 100 to 400 feet high. The coast railroad runs along these cliffs and through several tunnels.

(504) The 100-fathom depth curve off Point Arguello, and to a lesser extent off Point Conception, is characterized by a succession of indenting deeps or gorges. In following the curve during thick weather with an echo sounder, these submarine features should be found extremely useful.

(505) **Espada Bluff** is a prominent cliff 378 feet high, 5.5 miles NNW of Point Conception. The cliffs on each side drop sharply to less than 100 feet in height.

(506) **Tranquillon Mountain**, near the seaward end of the Santa Ynez Mountains, is prominent in clear weather. It terminates in Rocky Point, Point Arguello, and Point Pedernales.

(507) **Rocky Point**, 1.2 miles S of Point Arguello, has numerous detached rocks extending in some cases 300 yards offshore.

(508) **Point Arguello** is a narrow, jagged, rocky projection, extending about 800 yards W of the general trend of the coast. An outlying rock is about 200 yards seaward. The extremity of the point overhangs the water's edge, and about 200 yards inshore the point is nearly divided by gullies on the N and S sides. These form a saddle which, from N and S, looks like two heads. **Point Arguello Light** (34°34'37"N., 120°38'50"W.), 100 feet above the water, is shown from a 20-foot high post on the W end of the point.

Weather, Point Arguello

(509) Off Point Arguello, sea fog becomes a persistent and frequent navigational hazard. The cool California Current is responsible for a sudden increase in fog frequencies. These fogs are often thick, and Point Arguello is considered by mariners to be one of the most dangerous areas along the coast. The observing station at Point Arguello, 371 feet (113 m) above mean sea level, records an annual average of twice as many days with visibilities less than 0.5 mile (0.9 km) as at any location farther S. From June through October, visibilities drop below 0.5 mile (0.9 km) on about 12 to 20 days per month; July and August are the worst months. During August the fog signal is operating more than 30 percent of the time, compared to 17 percent at nearby Point Conception.

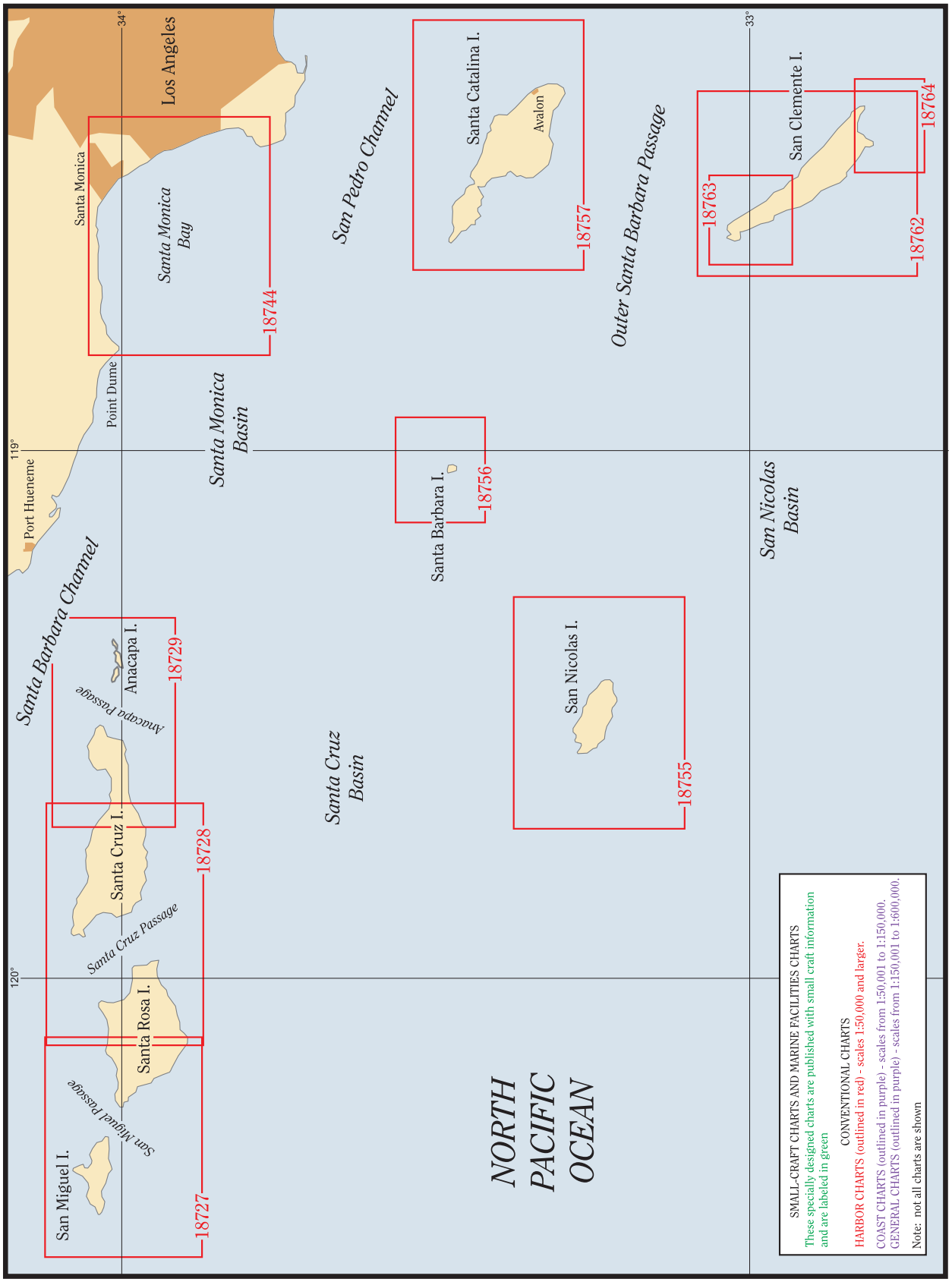
Chart 18687

(510) **Lake Mead**, Arizona-Nevada, is a National Recreation Area on the **Colorado River** impounded by **Hoover Dam** (36°01.0'N., 114°44.2'W.).

Anchorage areas

(511) Restricted and anchorage areas established by Federal regulations are in Lake Mead. (See **110.1, 110.127, and 162.220**, chapter 2, for limits and regulations.) Additional information may be obtained from the local office of the National Park Service, U.S. Department of the Interior, 601 Nevada Highway, Boulder City, Nev. 89005.

(512) Eleventh Coast Guard District Local Notice to Mariners contains information concerning boating events, boating safety, bridge construction and lighting, aids to navigation, and anchorages on the Colorado River, Lake Mead National Recreation Area, and Glen Canyon National Recreation Area. These notices may be obtained, free of charge, by making application to Commander, Eleventh Coast Guard District. (See Appendix A for address.)


Los Angeles
Santa Monica
Santa Monica Bay
Point Dume
Port Hueneme
34°
119°
120°
33°
18744
San Pedro Channel
Santa Catalina I.
Avalon
18757
Outer Santa Barbara Passage
San Clemente I.
18763
18762
18764
Santa Monica Basin
Santa Barbara I.
18756
San Nicolas Basin
Santa Barbara Channel
Anacapa I.
Anacapa Passage
18729
Santa Cruz I.
18728
Santa Cruz Passage
Santa Rosa I.
San Miguel Passage
San Miguel I.
18727
Santa Cruz Basin
San Nicolas I.
18755
NORTH PACIFIC OCEAN
SMALL-CRAFT CHARTS AND MARINE FACILITIES CHARTS
These specially designed charts are published with small craft information and are labeled in green
CONVENTIONAL CHARTS
HARBOR CHARTS (outlined in red) - scales 1:50,000 and larger.
COAST CHARTS (outlined in purple) - scales from 1:50,001 to 1:150,000.
GENERAL CHARTS (outlined in purple) - scales from 1:150,001 to 1:600,000.
Note: not all charts are shown

Channel Islands, California

(1) This chapter describes the eight **Channel Islands** that extend for 130 miles in a NW direction off the coast of southern California from San Diego to Point Conception. They include the four islands of the southern group–San Clemente, Santa Catalina, San Nicolas, and Santa Barbara; and the four islands of the northern group also referred to as the **Santa Barbara Islands**–Anacapa, Santa Cruz, Santa Rosa, and San Miguel. Also described are the passages and channels between these islands including Outer Santa Barbara Passage, San Pedro Channel, Anacapa Passage, Santa Cruz Channel, San Miguel Passage, and Santa Barbara Passage, and Avalon Bay, the most active harbor in the area, as well as many smaller harbors and landings.

COLREGS Demarcation Lines

(2) The lines established for this part of the coast are described in 80.1102, chapter 2.

Chart 18022

(3) San Clemente, San Nicholas, and San Miguel Islands are military reservations and, except for San Miguel Island, off limits to the public.

(4) Santa Barbara, Anacapa, Santa Cruz, Santa Rosa, and San Miguel Islands form **Channel Islands National Park**. The park was created in 1980 to protect the extensive flora and fauna of the islands. The park is under the supervision of the National Park Service, Department of the Interior.

(5) Santa Cruz Island is privately owned and permission of the owners must be obtained prior to going ashore. Santa Catalina Island, also privately owned, requires a landing permit at Two Harbors. Regulations issued by the owners of these islands are furnished with the permits.

(6) In the approach from the S, several banks are encountered before reaching the Channel Islands. **Sixtymile Bank**, 62 miles SSW of Point Loma (32°39.9'N., 117°14.5'W.), has a least depth of 53 fathoms over it.

(7) **Channel Islands National Marine Sanctuary** has been established to protect and preserve the marine birds and mammals, their habitats, and other natural resources in the waters surrounding the northern Channel Islands and Santa Barbara Island. The sanctuary encompasses the waters within 6 miles of Santa Barbara Island and the northern Channel Islands (Anacapa, Santa Cruz, Santa Rosa, and San Miguel Islands), including Castle and Richardson Rocks. Recreational use of the area is encouraged. (See **15 CFR 922**, chapter 2, for limits and regulations.)

Area to be Avoided–Channel Islands

(8) The International Maritime Organization (IMO) has adopted the waters surrounding the Channel Islands as areas to be avoided. In order to avoid risk of pollution in the area designated as the Channel Islands National Marine Sanctuary, all ships, except those bound to and from ports on one of the islands within the area, engaged in the trade of carrying hazardous cargo, including but not limited to tankers and other bulk carriers and barges, should avoid the areas in the region of San Miguel, Santa Rosa, Santa Cruz, and Anacapa Islands bounded by a line connecting the following points:

(9) 33°58.7'N., 119°12.8'W.

(10) 33°54.0'N., 119°17.0'W.

(11) 33°46.3'N., 120°07.8'W.

(12) 33°59.0'N., 120°39.5'W.

(13) 34°10.4'N., 120°39.5'W.

(14) 34°14.0'N., 120°31.3'W.

(15) 34°10.0'N., 119°56.4'W.

(16) 34°01.4'N., 119°18.6'W., and the area surrounding Santa Barbara Island contained within a circle of radius 7.5 nautical miles, centered on the following point:

(17) 33°28.6'N., 119°02.2'W.

Local Magnetic Disturbance

(18) Differences of 4° or more from the normal magnetic variation have been observed within a radius of 8 miles of Sixtymile Bank.

Chart 18740

(19) **Bishop Rock**, in about 32°27'N., 119°08'W. and which the clipper ship BISHOP struck in 1855, is awash and marked by a lighted bell buoy. The rock, about 40 miles SW of San Clemente Island, is the farthest outlying danger along the coast. A wreck, covered ½ fathom and

about 0.1 mile SE of the rock, is the shallowest point on **Cortes Bank**. The currents are largely nontidal in character; velocities between 1 and 2 knots have been measured. These currents cause considerable swell, and even in moderate weather the sea usually breaks at this rock.

(20) The area for about 2.5 miles ESE of Bishop Rock should be avoided because of the broken bottom. Deep-draft vessels should also avoid a 9-fathom spot 5 miles WNW of the rock where the bottom is extremely broken, although no breakers have been reported.

(21) **Tanner Bank** covers an area about 12 miles long in a WNW direction and about 5 miles wide. The least survey depth over it is 9 fathoms. The NW end of the bank is about 28 miles SE of San Nicolas Island.

(22) A bank covered 45 to 70 fathoms is 18 miles NW of Tanner Bank. The bank extends 9 miles in a NW-SE direction and has an average width of 2 miles. The bottom is hard with fine gray sand and shells. The bank is fished extensively during the winter.

(23) Submerged obstructions 90 feet off the bottom are within 2,500 yards of 32°55.75'N., 119°22.70'W.; caution is advised.

Chart 18762

(24) **San Clemente Island**, 43 miles SSW of Point Fermin and 57 miles WNW of Point Loma, is 18 miles long in a NW direction and 4 miles wide at its widest part, and reaches an elevation of 1,965 feet. The island is a U.S. Naval Reservation and is closed to the public. Vessels including yachts and fishing craft are warned that the vicinity of the island may be dangerous at any time because of naval activities, including gunfire, bombing, and rocket fire. (See **334.920, 334.921, 334.950, 334.960, and 334.961**, chapter 2, for limits and regulations.)

Local magnetic disturbance

(25) Differences of as much as 5° from normal variation have been observed up to 3 miles offshore along the N, E, and S coasts of the island.

(26) The top of the island appears as a tableland from a distance. A prominent white radar dome (32°53.1'N., 118°27.0'W.), on the highest part of the island, is visible from both the E and W sides of the island.

(27) The NE side of the island is bold, with rocky cliffs. The water is generally deep close inshore, and kelp grows close to the beach. On this side of the island a prominent white rock is close inshore, 6 miles NW of Pyramid Head. On the beach behind this rock is a freshwater spring, the only one available during the dry season.

(28) The SW side of the island is more irregular, but it is lower and has more gentle slopes. Here the kelp extends several hundred yards offshore, and generally to or beyond the 10-fathom curve. Rocks are numerous close inshore and inside the kelp, but outside the kelp line, the bottom slope is more gradual than on the other side of the island, and there are many places where vessels might anchor safely in the lee of the island during the NE storms, known as the Santa Anas.

(29) **Seal Cove**, on the SW side of the island midway between the two ends, affords a boat landing and indifferent anchorage for small craft in NW weather.

(30) **Outer Santa Barbara Passage** lies between San Clemente and Santa Catalina Islands.

Chart 18764

(31) **China Point** is the SW extremity of San Clemente Island and on the W side of Pyramid Cove. A light is shown from a white pyramidal structure on the point.

(32) **Pyramid Cove**, the deep bight in the S end of San Clemente Island, is used as a naval shore bombardment area and included in a **danger zone**. (See **334.950**, chapter 2, for limits and regulations.) The cove, closed to the public, offers protected anchorage in 10 fathoms or more in NW weather to authorized vessels and vessels in distress. Vessels should not enter the kelp as there are indications of other dangers in addition to those already charted. Some swell makes into the cove most of the time. Authorized landing on the beach is usually not difficult, but can be extremely hazardous because of unexploded ordnance.

(33) **Pyramid Head**, the SE point of San Clemente Island and the E side of Pyramid Cove, is about 900 feet high, sharp, jagged, and prominent. **Pyramid Head Light** (32°49.2'N., 118°21.2'W.), 226 feet above the water, is shown from a post with red and white diamond-shaped daymark.

Chart 18763

(34) **Wilson Cove**, on the NE shore of San Clemente Island, 15.5 miles NW of Pyramid Head, is a fair anchorage in the prevailing W weather, but is uncomfortable at times as the swells make around the point from the NW. A strong wind usually blows down off the hills in the afternoon. A **restricted anchorage area** and a **naval restricted area** and **security zone** are in the vicinity of the cove. (See **110.218, 165.1131, and 334.920**, chapter 2, for limits and regulations.)

(35) **Wilson Cove Light** (33°00'14"N., 118°33'10"W.), 125 feet above the water, is shown from a post with a red and white diamond-shaped daymark; a fog signal is at the light.

(36) Wilson Cove should be approached from the NE to avoid the numerous buoys N and S of the cove.

(37) The buildings on the hill overlooking Wilson Cove are prominent from the SE. The best anchorage for small craft is in the lee of the kelp making off from a point nearly a mile NW of the pier.

(38) The Navy pier in the middle of Wilson Cove is of steel construction and extends 550 feet from shore. A landing section at the outboard end of the pier is 38 feet wide and 210 feet long, and has a deck height of 18 feet. Depths alongside the landing section range from 14 feet inboard to 24 feet outboard. The two breasting mooring buoys on each side opposite the landing should be used to avoid danger of damage from surge. Time of the tide is about the same as that for Los Angeles. The mean range of tide is 3.5 feet.

(39) **Northwest Harbor**, on the NW end of the island, affords shelter in S weather and is a comfortable anchorage in the prevailing W weather, as the large beds of kelp and the low islet to the N of the anchorage afford protection. It is open N and is unsafe in heavy NW weather.

(40) **San Clemente Island Light** (33°01.7'N., 118°35.9'W.), 202 feet above the water, is shown from a post with red and white diamond-shaped daymark on the headland at the N end of the island.

(41) A line of rocks extends W from the NW extremity of San Clemente Island, terminating about 0.4 mile off the point in bold and rocky **Castle Rock**. A **danger area** for aerial bombing, rocket firing, and strafing extends 300 yards around this prominent islet.

(42) **West Cove**, on the NW side of San Clemente Island, 1.5 miles SE of Castle Rock, offers some shelter from Santa Ana winds; holding ground is good. A **safety zone, naval restricted area, and a danger zone** extend off the W coast of San Clemente Island from West Cove. (See **334.921, 334.960, and 334.961**, chapter 2, for limits and regulations.)

(43) A **150°-330°** measured nautical mile is 1.3 miles S from West Cove. The 70-foot towers of the front and rear markers on San Clemente Island are more than 500 feet high.

Chart 18757

(44) **Santa Catalina Island**, 18 miles S of Point Fermin, is 18.5 miles long in a SE direction and has a greatest width of 7 miles. The island is privately owned. Arrangements for overnight permits and the leasing of the many mooring buoys found throughout the area may be made through Two Harbors Enterprises at Two Harbors. Except at Avalon, permits are required for activities other than day use on the other islands.

(45) The island is almost divided by a deep N cut about 6 miles from the W end. The cut forms coves less than 0.5 mile apart at their heads, and because the isthmus separating these coves is low, the island appears as two from a few miles off. Rugged and mountainous, the island has steep, precipitous shores intersected occasionally by deep gulches and valleys, and is covered with a thick growth and some scrub oak. The highest peak, 2,125 feet, is near the middle of the E part of the island.

(46) Much of the N shore is free from kelp, but the S side in general has a narrow fringe of kelp close to the beach. The island rises abruptly from deepwater, the 30-fathom curve being close inshore. Most of the dangers in the approaches to the island are inside the kelp.

(47) Lights are shown from a pole with a red and white diamond-shaped daymark on the S end, **Long Point** (E side), and **West End** (NW point) of the island.

(48) **Ribbon Rock**, on the W side of Santa Catalina Island, 2.9 miles SE of West End, shows as a dark vertical rock wall with a gigantic ribbon of quartz veining that is visible for many miles.

(49) **Farnsworth Bank**, 9.2 miles SSE of West End and 1.6 miles offshore, has a least known depth of 9 fathoms over it.

(50) Shelter from Santa Ana winds can be had by anchoring in the bight near the **Palisades** on the S side of the island, 2 to 3 miles NW of the S extremity.

(51) Two prominent rock quarries are on the island; one is on the E end of the island, about 1.5 miles SE of Avalon Bay, and the other is about 1.5 miles SE of Isthmus Cove. Private lighted mooring buoys are off the quarry at the E end of the island.

(52) **White Cove**, 3.5 miles NW of Avalon, affords anchorage in 8 fathoms and provides almost the same protection as that found at Avalon. The beach in White Cove is known as **Whites Landing**.

COLREGS Demarcation Lines

(53) The lines established for Santa Catalina Island are described in 80.1102, chapter 2.

Chart 18757

(54) **Avalon Bay**, on the N shore of Santa Catalina Island, 2.5 miles from its SE extremity is entered between **Casino Point**, breakwater on the N and the breakwater extending from **Cabrillo Peninsula**, on the

S. The breakwaters are marked by lights on their seaward ends.

(55) The small bay has depths of 2 to 13 fathoms; a depth of 20 fathoms is immediately outside the points of the bay. The **harbormaster** reports that shelter is good during SW, NW, and SE weather if the wind does not exceed 20 knots. The breakwater provides limited protection in the NW and SE ends of the harbor during NE Santa Ana winds that occasionally blow during the fall and winter.

(56) A large white circular building, brilliantly illuminated for about half the night during summer, is on Casino Point.

(57) **Avalon**, an incorporated city and part of Los Angeles County, is an extensive resort and the principal settlement of the island. Daily ferry and helicopter service is maintained year round to San Pedro, Long Beach, Newport Beach, Marine del Rey, and Dana Point. A road along the beach extends some distance on each side of the cove, and at night the lights along this road are conspicuous from San Pedro Channel.

(58) The bay is extremely popular as a yacht haven and vacation resort during the summer. Yachting and fishboat supplies, limited engine and underwater repair facilities, and towing service are available at Avalon.

(59) A pleasure pier with various loading floats, concessions, equipment rental firms and a 2-ton hoist are in the S part of Avalon Bay. There are three, 100-foot floating docks, with reported depths of 30 feet alongside, on the E side of the **Cabrillo Mole** (Cabrillo Peninsula.) The Cabrillo Mole floats are used by passenger vessels that operate to the mainland, and are available to any vessel through prior arrangement with the harbormaster.

(60) Yachts and other small craft moor to buoys in the bay; there are no alongside berths. The mooring buoys in the bay are privately owned. The harbormaster will rent mooring buoys that are not reserved by the owner to vessels on a daily basis. The **harbormaster**, located on the pleasure pier, offers 24 hour service year round and can be reached on VHF-FM channel 12 and 16 or call (310) 510-0535. A harbor patrol boat will meet visiting yachts at the harbor entrance upon arrival and will assign them to a mooring if desired; a fee is collected for the daily use of moorings. Shoreboats can be reached on VHF-FM channel 9.

(61) Emergency rescue services are available at Avalon. The fire and rescue boat can be contacted through the Coast Guard or the harbormaster at Avalon on VHF-FM channel 16, 24 hours a day; the call sign is "Baywatch Avalon."

(62) Weather information for Avalon is broadcast by NOAA weather radio channel 1.

Anchorage

(63) A **small-craft anchorage** is in Descanso Bay, just N of Casino Point. Three **anchorage areas**, used for large passenger vessels and assigned by VTS Los Angeles/Long Beach, are just outside Avalon Bay. (See **33 CFR 110.1 and 110.216**, chapter 2, for limits and regulations.) In 1978, it was reported that the holding ground was poor, and that heavy concentrations of kelp made anchoring difficult in the Descano Bay anchorage.

(64) **Isthmus Cove**, on the N shore 6 miles from the W end of the island, affords shelter for small vessels in S and W weather, but is dangerous in N and NE weather. Several prominent buildings are on shore. Isthmus Cove and Avalon are connected by a road, and during the tourist season launch service is maintained between the two points. Two Harbors Enterprises manages and leases all coves and moorings outside the City of Avalon. Isthmus Harbor Base can be reached on VHF-FM channel 9 or call 310-510-4254.

(65) A pier at the head of the cove extends out to a depth of about 12 feet; a fuel dock is on the E side of the pier. Water, ice, marine supplies, and limited repairs are available; a general store and restaurant are ashore.

(66) Emergency rescue service is available at Two Harbors. The fire and rescue boat can be contacted through the Coast Guard or on VHF-FM channel 16 from 0900 to 1700 daily; the call sign is "Baywatch Isthmus."

(67) **Fourth of July Cove** and **Cherry Cove**, just NW of Isthmus Cove, are popular overnight mooring destinations for yachts using the facilities at Two Harbors. There are a number of leased moorings in both coves. The shore areas are leased by camps or yacht clubs with restricted shore access.

Anchorage

(68) A **restricted** and **nonrestricted anchorage** area is in Isthmus Cove. (See **110.1 and 110.216**, chapter 2, for limits and regulations.)

(69) The approach to Isthmus Cove alongshore from the E is clear, but W of the entrance is **Eagle Reef**, covered 3 feet. The reef is marked by growing kelp and by a buoy about 100 yards to the E. In the approach from the N, **Ship Rock**, about 1 mile N of the cove, is the guide. A light is shown from a pole on the rock. From the channel the rock resembles a black haystack; the top is mostly white because of bird droppings. A reef extends about 120 yards S of Ship Rock, ending in a rock that uncovers 3 feet.

(70) **Bird Rock**, 37 feet high and about 150 yards long, is about 500 yards off the beach N from the E part of the cove entrance. The rock is covered with sand and grass.

In places, reefs extend off the rock more than 100 yards, but it may be approached close-to on the E side.

(71) **Harbor Reefs**, about 400 yards SW of Bird Rock, are about 450 yards long, orientated in a NW direction, and about 250 yards wide. They are usually well marked by kelp. A rock near the SE end uncovers about 2 feet. The reef is marked by a light on the E side and a lighted buoy on the W side.

(72) **Fisherman Cove**, in the E part of Isthmus Cove, is small, but is said to be the only shelter against Santa Ana winds on the N shore of Santa Catalina Island. The cove is privately operated by the USC Marine Science Center with restricted access for visiting boaters.

(73) **Catalina Harbor**, on the S side of the isthmus separating it from Isthmus Cove, affords excellent shelter for small vessels in all but S weather. **Catalina Harbor Light** (33°25.4'N., 118°30.8'W.), 400 feet above the water, is shown from a pole on **Catalina Head**, on the W side of the harbor entrance. The harbor, a popular yacht anchorage, is funnel-shaped, open to the S, and easy of access. Small and bare **Pin Rock**, close inside the E head of the harbor, is 150 yards offshore and has deep water around it. The anchorage is in 4 to 5 fathoms, soft bottom, abreast **Ballast Point**, the long low point on the E shore. The head of the harbor is shoal. The 3-fathom curve is marked by kelp, and vessels entering should give the shores a berth of 150 yards. The facilities on Ballast Point are leased by a yacht club. From the head of the harbor it is only about 0.3 mile overland to Two Harbors.

Chart 18740

(74) **San Pedro Channel** is about 17 miles wide between the mainland, Point Fermin to Point Vicente, and Santa Catalina Island. Current observations have been made 7 miles S of San Pedro Breakwater. Two periodic currents occur at this location: a tidal current, and a daily current apparently due to a land and sea breeze. Both are rotary, turning clockwise, and each is weak, having a velocity of 0.2 knot. The tidal current is very complicated, but the daily current is simple, maintaining on the average an approximately constant velocity and shifting direction to the right about 15° each hour. It sets N about 0900, E at 1500, S at 2100, and W at 0300.

Currents

(75) Currents due to winds and oceanic drifts vary in velocity and direction. The average current for the period of observations sets 112° with a velocity of 0.1 knot. Currents greater than 1 knot occur infrequently. The greatest velocity during 5 months of observations was 1.5 knots.

Chart 18755

(76) **San Nicolas Island**, the outermost of the group off southern California, is 53 miles off the nearest point of the mainland, 43 miles WNW of San Clemente Island, and 24 miles SW of Santa Barbara Island. The island is a military reservation and off limits to the public.

(77) A **naval restricted area** extends 3 miles from the shoreline around the island. (See **334.980**, chapter 2, for limits and regulations.)

(78) The island is 8 miles long in an E direction, 3 miles wide, and 907 feet high at its highest point; it is visible about 38 miles. The island has a gently rounding profile from a distance. The W part is covered with sand, some of which has drifted to the middle N shore. The rest of the island is cut by deep arroyos, and the top of the mesa is spotted with patches of burr clover and bunch grass. With the exception of the rocky points, the beaches are all sand. The island is practically surrounded by kelp. At the W end the kelp extends W about 3 miles over very irregular bottom. Two reefs in the kelp extend 1.6 miles W from the W extremity of the island. In thick weather great caution must be exercised in approaching from W and vessels should in no case pass inside the kelp. No dangers are known to exist outside the kelp.

(79) An aerolight, 981 feet above the water, is near the center of San Nicholas Island. A light is on the E side of the island and a lighted bell buoy is about 1.3 miles SE of the E sandspit.

(80) **Begg Rock**, 15 feet high, is 8 miles NW of the W point of San Nicolas Island. A reef extends N and S of the rock over 100 yards in each direction. The rock rises abruptly from depths of 50 fathoms. A lighted whistle buoy is 500 yards N of the rock.

(81) A bank covered 30 to 50 fathoms extends 7.8 miles E from the E point of San Nicolas. From the 50-fathom curve the depths increase rapidly to the E and S.

(82) **Restricted anchorage areas** are off the NW, SW, and SE ends of San Nicolas Island. (See **110.1 and 110.220**, chapter 2, for limits and regulations.) Upon approval by naval authorities, indifferent anchorage may be had on the S side of the 0.6-mile-long sandspit on the E end of the island. Small craft anchor in 8 fathoms, hard sand bottom, near the inshore edge of the kelp. Larger vessels anchor farther offshore in 10 to 17 fathoms, hard sand bottom. The anchorage is often uncomfortable because the island tends to split the W seas and they break with equal force on both sides and meet off the end of the spit in a maelstrom of breakers. This

condition tends to move the sand from the W end of the island and builds up the sandspit. After sunset a strong wind frequently blows off the mesa, making holding difficult. In a blow, local fishermen usually leave this anchorage, preferring the one at Santa Barbara Island. A landing can usually be made at the E end on the S side of the island during the summer without difficulty.

Chart 18740

(83) **Osborn Bank**, about 22 miles ENE of San Nicolas Island and 6.5 miles S of Santa Barbara Island, is 5 miles long in a WNW-ESE direction and has an average width of 1 mile. The least depth found over it is 19 fathoms.

(84) A submerged pinnacle rock of very small area covered by at least 17 fathoms is 16 miles NNW of Santa Barbara Island.

Channel Islands National Park

(85) Santa Barbara Island, Anacapa Island, Santa Cruz Island, Santa Rosa Island, San Miguel Island and areas within 1 mile of the shoreline of these islands, except for certain described parcels of land, have been reserved as Channel Islands National Park, and are subject to rules and regulations prescribed by the Secretary of the Interior and administered by the National Park Service. Additional information may be obtained from Channel Islands National Park, 1901 Spinnaker Drive, Ventura, Calif. 93001.

Chart 18756

(86) **Santa Barbara Island**, 33 miles SSW of Point Dume and 21 miles W from the W end of Santa Catalina Island, is 1.5 miles long in a N direction and has a greatest width of 1 mile. The profile of the island is saddle-shaped, and at a considerable distance it appears to be two islands. The greatest elevation is 635 feet on the S side of the saddle, and the island is visible for over 25 miles in clear weather. The shores are bold and precipitous and well marked by kelp extending to about 10 fathoms at irregular distances from the shore. W of the island the kelp makes out more than a mile over very irregular bottom; a rock that breaks in moderate swells is 0.7 mile W of the point. This rock may not break in a calm sea and is dangerous, even for small craft. The water around the island is deep except where the kelp indicates foul or rocky bottom.

(87) **Santa Barbara Island Light** (33°29.2'N., 119°01.8'W.), 195 feet above the water, is shown from a post located on the NE point of the island.

(88) **Sutil Island**, a rocky islet 300 feet high and surrounded by kelp, is 0.4 mile W from the S point of Santa Barbara Island; its N face is steep. A smaller 145-foot-high rock islet is 200 yards offshore about 0.2 mile W from the N point of Santa Barbara Island.

Anchorage

(89) A **general anchorage area** extends 2 miles off the E coast of Santa Barbara Island. (See **110.1 and 110.222,** chapter 2, for limits and regulations.) For yachtsmen desiring to go ashore, an anchorage reported to give fair protection for small craft in the prevailing W weather is in the small cove about 700 yards W of Santa Barbara Island Light. (If the water is too deep or too rough to anchor off the cove, anchor inside, but maintain an anchor watch.) Swinging room on a single anchor is restricted in the cove. The cove affords no landing beach; yachtsmen can debark from a dinghy onto rock steps in the side of the cliff. Large vessels can anchor within the 30-fathom curve with hard gray sand bottom.

Chart 18729

(90) **Anacapa Island**, 11 miles SW of Point Hueneme, is the easternmost of the northern group of Channel Islands and consists of three islands separated by two very narrow openings that cannot be used as passages. The E opening is filled with rocks and is bare. The W opening is only 50 feet wide and is blocked by sand. **Anacapa Island Light** (34°00'56"N., 119°21'34"W.), 277 feet above the water, is shown from a 55-foot white cylindrical tower on the E end of the island. A fog signal is at the light.

(91) From its E point the island extends 4.5 miles in a general W direction. The E and lowest island of the Anacapa group is 1 mile long, 0.2 mile wide, 250 feet high, and rather level on top. The middle one is 1.5 miles long, 0.2 mile wide, and 325 feet high. The W and largest island is 2 miles long and 0.6 mile wide, and rises to a 930-foot peak. The westernmost island is visible at a distance of 35 miles in clear weather; the other two at 15 to 20 miles. The shores of Anacapa Island are perpendicular and filled with numerous caves. The E extremity terminates in 80-foot **Arch Rock**, with a 49-foot arch and a pyramidal rock just S of its E end. The island is surrounded by kelp except in a few small places.

(92) The National Park Service rangers are on Anacapa Island. Seals and pelicans are present in large numbers. The cream-colored houses with tile roofs of the park service rangers are 300 to 400 yards W of the light. A

single large white building is 100 yards farther to the W.

Anchorages

(93) The best anchorage in SE storms is on the N side about 0.2 mile N of the center of the middle island in depths of 9 to 12 fathoms. In NW weather the best anchorage is 0.3 mile S of the E opening in depths of 8 to 12 fathoms. However, it is best for larger vessels to lie at Smugglers Cove, on the E side of Santa Cruz Island, where the bottom is not so steep-to. Small boats anchor in 5 to 7 fathoms in **East Fish Camp**, a bight about 0.4 mile SW of the E opening. About the only protection from northeasters is to anchor as close as possible in the bight immediately W of **Cat Rock**, on the S side of the W island. The National Park Service maintains a boat landing and hoist on the N side near the E extremity. Landings can also be made on either side of the island near the W opening and at East Fish Camp. In thick weather, vessels in the area should stay in 50 fathoms or more, because the island rises abruptly from deep water.

(94) **Anacapa Passage**, between Anacapa and Santa Cruz Islands, is 4 miles wide and free of dangers. It is steep-to on the Anacapa Island side and has a gradual slope to the shore of Santa Cruz Island. The passage is seldom used, and should not be attempted in thick weather as soundings give no warning of a close approach to the islands. Tide rips are strong under certain conditions of wind and current, especially during SE storms and northeasters.

Charts 18729, 18728

(95) **Santa Cruz Island**, 17 miles WSW of Point Hueneme, is the largest of the Channel Islands. It is privately owned and permission must be obtained to land. The Nature Conservancy, a private, non- profit organization dedicated to preserving unique islands, owned almost all of Santa Cruz Island. It is considered an inholding within the National Park. Landing permits may be obtained from Santa Cruz Island Preserve, 213 Sterns Wharf, Santa Barbara, CA 93101, (Telephone 805-964-7839).

(96) The island is about 21 miles long in a W direction and has an average width of 5 miles. The highest peak, in the W part of the island, rises to 2,434 feet; in the E part the land attains an elevation of about 1,800 feet. The E part is very irregular, barren, but has a well at Smugglers Cove; the W part has a few trees, is well covered with grass, and has several springs. The shores are high, steep, and rugged, with deep water close inshore, and there is considerably less kelp than around the other islands. The reefs, extending a mile offshore on the S coast at Gull Island, are the only outlying dangers.

(97) **San Pedro Point** is the E extremity of the island. There is a small-boat landing in **Scorpion Anchorage**, a shallow bight 1.8 miles NW of San Pedro Point; it consists of a cribbed area with a float and gangway at the end of the roadway. Several large buildings are along the roadway. Large clumps of trees are near the houses.

(98) **Chinese Harbor**. in the E part of the broad bight on the N shore, 4.5 miles W of San Pedro Point, affords anchorage in the kelp in 5 to 6 fathoms. The NE part of the harbor is an excellent anchorage in SE to SW weather in 9 to 10 fathoms. This harbor affords the best shelter on the island from NE winds.

(99) **Prisoners Harbor**, in the W part of the bight on the N shore 8 miles W of San Pedro Point, affords shelter from all winds except from NE to W. Some protection from NW weather is afforded by the kelp, but a heavy swell rolls in. In NE weather the anchorage is unprotected and dangerous. A wharf with 16 feet at its face is in the harbor. There are buildings back of the wharf. The best anchorage is in 12 to 15 fathoms, sandy bottom, abreast a white rock on the W shore of the bight, and the outer end of the wharf in range with the buildings at the inner end.

(100) **Pelican Bay**, a small indentation in the N shore of Santa Cruz Island, 1 mile WNW of Prisoners Harbor, is used as a yacht anchorage during the summer. In NW weather small boats anchor close to the cliff that forms the W shore of the bay.

(101) **Painted Cave**,.3 miles E of **West Point**, the NW extremity of the island, is a large cave into which dinghies may be rowed for a considerable distance. The entrance is over 150 feet high. The inner end of the first chamber, 600 feet from the entrance, has depths of more than 2 fathoms.

(102) **Forney Cove**, 1 mile E of **Fraser Point** at the W end of the island, affords shelter in N weather in 7 to 8 fathoms. The surf is heavy on the beach, but the rocky islet W and the reef connecting it with the shore lessen the swell at the anchorage.

(103) **Gull Island**, 65 feet high and about 0.2 mile in extent, is the largest and outermost of a group of small rocky islets, 0.7 mile S of **Punta Arena**, on the S side of Santa Cruz Island. Kelp surrounds Gull Island, and the bottom in the vicinity of the group is foul. A light is shown from a post on the island.

(104) **Willows Anchorage**, on the S shore 3.6 miles E of Gull Island, can be used by small craft in NW weather and affords a good boat landing.

(105) **Smugglers Cove**, 1.2 miles SW of San Pedro Point, affords shelter in NW weather in 5 fathoms, sandy bottom.

Charts 18728, 18727

(106) **Santa Rosa Island**, 24.5 miles SW of Goleta Point on the mainland, is 15 miles long in a W direction and has a greatest width of nearly 10 miles. Landing permits may be obtained from Channel Islands National Park, 1901 Spinnaker Drive, Ventura, CA 93001, telephone (805- 644-8262); there is no landing fee.

(107) The highest point, near the middle of the island, is 1,589 feet high and visible over 40 miles. The island has some water and is partially covered with vegetation, but there are no large trees. The shores are bold, high, and rocky; kelp surrounds most of the island. Depths in the approaches to the island shoal more abruptly from S than from N, where the 100-fathom curve is over 5 miles and the 20-fathom curve about 2 miles from the beach.

(108) There are no harbors, but anchorage may be made in Bechers Bay and Johnsons Lee. There are several good boat landings.

(109) **East Point**, the E extremity of Santa Rosa Island, is moderately high, sharp, and bold. A rock covered 2¾ fathoms is in the kelp 0.7 mile N from the point, and a shoal covered 3½ fathoms is 2 miles N of the point.

(110) Numerous rocks and pinnacles covered 5¾ fathoms are in an area centered 1.5 miles S of the point and extend 0.8 mile NW and SE.

(111) **Skunk Point**, 2.5 miles N of East Point, is formed of drifts of sand; it is difficult to see on dark nights. There are sand beaches W and S, and the sand dunes behind the point are as much as 300 feet high. Care should be taken to avoid the sandspit off the point where the sea breaks heavily in bad weather. The current is sometimes strong in the vicinity of the point.

(112) **Bechers Bay**, a broad semicircular bight on the NE side of Santa Rosa Island, is 4.5 miles wide between Skunk and Carrington Points and 1.5 miles in depth. **Southeast Anchorage**, 1.3 miles W of Skunk Point, affords protection in SE weather in about 6 fathoms, sandy bottom. **Northwest Anchorage**, in the W part of the bight and 1.5 miles S from Carrington Point, affords fair shelter in NW weather.

(113) A **naval operating area** is in Bechers Bay bounded by the following:

(114) 34°02'12"N., 120°01'34"W.,

(115) 34°00'58"N., 120°02'17"W.,

(116) 34°00'04"N., 120°02'02"W.,

(117) 33°59'18"N., 120°00'32"W.,

(118) 33°59'33"N., 119°59'02"W.,

(119) 34°00'32"N., 119°59'05"W.,

(120) 34°01'40"N., 120°00'25"W. Anti-ship mining operations take place at frequent and irregular intervals, including weekends, throughout the year. They are conducted as air drops from low-flying aircraft or released from submarines. Submerged metallic remains from these operations may pose a hazard to fishing operations conducted along the seabed. Particular operations are published in Eleventh Coast Guard District Local Notices to Mariners. Announcements are also made locally on VHF-FM channel 16, at 0800 local time, 1200 local time, and/or 1 hour prior to mining operations. Status of the zone and/or permission to enter, may be requested by calling Pleade Control on VHF-FM channel 16, or by telephone to the Pacific Marine Test Center at 805-982-8280 or 982-8841.

(121) **Carrington Point**, the N point of the island, has a seaward face 0.8 mile in length. It is bold and rocky, and rises rapidly to an elevation of 452 feet.

(122) Foul ground extends about 0.3 mile N from Carrington Point and terminates in **Beacon Reef**, which covers 2¼ fathoms. The reef rarely breaks, and there is no safe passage behind it.

(123) **Brockway Point**, high, bold, and rounding, is about midway along the N shore of Santa Rosa Island. **Rodes Reef**, marked by kelp, is a patch of three submerged rocks 1.6 miles ENE from Brockway Point and 0.8 mile offshore. It breaks in nearly all weather.

(124) **Sandy Point**, the W extremity of the island, is moderately bold and rocky, with a detached rock lying close inshore and sand dunes more than 400 feet high extending inland. These white dunes are prominent when approaching from S or W. Shallow water extends off the point. During the general NW weather, swells form at a considerable distance from the shore. The swell also reaches the point from the SW direction.

(125) **Talcott Shoal**, covered 1¾ fathoms, is on the edge of the kelp 1.5 miles NNE from Sandy Point. Depths surrounding the shoal range from 4 to 12 fathoms. The shoal breaks only in heavy weather. In calm weather there is little indication of the shoal as the kelp is light and there is very little lumping of the water. A detached kelp patch is 1 mile N of the shoal.

(126) **Bee Rock**. 0.8 mile offshore 3.6 miles SSE of Sandy Point, is 5 feet high, but is not easily seen. It is surrounded by kelp that stretches from South Point to Sandy Point. A smaller rock, 10 feet high, is about 100 yards SE of the rock. In ordinary weather there is a lumping of the water with an occasional break on the rock, covered 2 fathoms, 0.3 mile NW of Bee Rock. Another rock, covered 1¼ fathoms, is close S of Bee Rock. Several other rocks and shoals exist inside the kelp. Vessels should not go inside the kelp in this area.

(127) **South Point**. the S point of Santa Rosa Island, terminates in a rocky bluff 100 feet high, and rises rapidly to a height of 460 feet, then to 603 feet. Cliffs, several hundred feet high and about 0.5 mile in extent, form the SW face of the point. A light is shown from a small white house on the point.

(128) **Johnsons Lee**, an open roadstead immediately E of South Point, affords fair shelter from W and NW winds, but is dangerous in S weather. The Coast Guard makes landings on the W shore of Johnsons Lee with supplies for South Point Light.

(129) **San Miguel Passage**, between Santa Rosa and San Miguel Islands, is 2.5 miles wide between the ledges which project from Sandy Point and Cardwell Point, the closest points between the two islands. There is much broken water with many current rips near these ledges. To avoid Talcott Shoal, vessels making the passage from the SW should not allow the outer rock off the W point of Santa Rosa Island to bear W of S until clear of the shoal. Sailing vessels should avoid this passage as the light airs and calms under the lee of San Miguel Island and the currents frequently combine to set a vessel toward Talcott Shoal.

Danger zone

(130) A **naval danger zone** is around San Miguel Island and extends into San Miguel Passage. (See **334.1140**, chapter 2, for limits and regulations.)

Chart 18727

(131) **San Miguel Island**, 23 miles SSE of Point Conception, is the westernmost of the Channel Islands and the most dangerous to approach. The island is irregular in shape and 7.6 miles long in a E-W direction, with an average width of 2 miles; the highest points, 831 and 822 feet, are near the middle of the island and are visible about 35 miles. The island is covered with grass, but there are no trees. The W part has more sand dunes on it than any of the other islands in the group. The shores are bold, broken, and rocky, with a few short stretches of beach; the S shore is more precipitous than the N.

(132) San Miguel Island, although a military reservation, is administered on a day to day basis by the National Park Service. Cuyler Harbor is the only place landing is allowed. A permit is required for other than beach use.

Danger zone

(133) A **naval danger zone** has been established around San Miguel Island. (See **334.1140**, chapter 2, for limits and regulations.)

(134) **Cardwell Point** is the E extremity of the island. A low sandy area which uncovers extends 0.5 mile E of the point and a dangerous reef extends an additional 0.4 mile from the tip of the area. In 1994, a shoal with breakers was reported near the reef in about 34°01'06"N., 120°17'24"W. A submerged rock and rock awash are about 400 yards S of the middle of the sandy point. During prevailing weather, breakers off this point are caused by the meeting of the seas.

(135) **Prince Island**, 296 feet high, is 2.6 miles NW of Cardwell Point and 0.4 mile off the E head of Cuyler Harbor. The island is dark in color and rocky, with a precipitous seaward face.

(136) **Cuyler Harbor** is a bight 1.2 miles long and 0.6 mile wide on the N shore SW of Prince Island. The anchorage is in the W part of the harbor; the E part is foul. Good shelter may be had in S weather, but the holding ground is poor. In strong NW weather the heavy swells that sweep around the N shore and into the harbor make the anchorage dangerous. The harbor is not safe in rare N or E winds. Water may be obtained at a small spring abreast the anchorage. Prince Island and Harris Point are prominent in the approaches.

(137) **Middle Rock**, 0.5 mile WSW of Prince Island, uncovers about 4 feet; foul ground surrounds the rock for a distance of 100 yards. **Can Rock**, 4 feet high, is 0.3 mile SW of Prince Island; there is foul ground between the rock and the S shore of the harbor. Kelp grows all over the bight.

(138) To enter Cuyler Harbor, bring Harris Point to bear **261°**, distant 1.7 miles, and the W point of Prince Island to bear **186°**, distant 1.3 miles; thence steer **209°**, heading midway between Middle Rock and the W point at the entrance, and when the S point of Prince Island bears **084°**, anchor in 5 to 7 fathoms. The course heads for **Judge Rock**, small and black, near the W end of the sand beach. The W point at the entrance off **Bat Rock** should be given a berth of about 0.3 mile to avoid the shoal extending E for over 300 yards. Anchorage may be made about 0.2 mile S of Bat Rock where better protection is afforded in NW weather. The passage between Prince Island and the E head should be attempted only by small craft.

(139) **Harris Point**, the N extremity of the island, is bold and precipitous, rising to a hill, 485 feet high, 1 mile S of the point. There are no outlying dangers, and the water is deep close-to.

(140) **Wilson Rock**, 2.2 miles NW of Harris Point, is 19 feet high and black. A reef, extending about 1 mile WNW from the rock, uncovers in two places; foul ground is a short distance N of the reef. It breaks in any light swell from the NW. There is foul ground S and SW of the rock. The covered rock 0.3 mile S of Wilson Rock breaks. This locality should not be approached in thick

weather, as the dangers rise abruptly from deep water and are not marked by kelp; soundings give no positive warning of their proximity.

(141) **Simonton Cove**, on the NW side of San Miguel Island, is a very shallow bight 2.4 miles long and 0.6 mile wide. This cove has considerable kelp and a few covered rocks. There are several freshwater springs in the bluffs just above high water. From the SW head of Simonton Cove, foul ground extends NW for nearly 1 mile.

(142) **Castle Rock**,.180 feet high, is a three-headed islet 1.6 miles NNE from Point Bennett, in the middle of the kelp field, and 0.5 mile offshore. A shoal spot 0.5 mile W of the rock is near the edge of the kelp. In December 1994, submerged rocks were reported to extend about 100 to 200 yards SW of Castle Rock.

(143) **Westcott Shoal**, covered 4¾ fathoms, is 0.8 mile N from Castle Rock. A 2¾ fathom spot near an oil spring is about 0.6 mile N from the shoal.

(144) **Point Bennett**, the W point of the island, is a long, narrow, jagged bluff, 74 feet high, rising rapidly to 337 feet. High sand dunes extend from the point for 2 miles. There are two rocky islets S of and close under the point, and foul ground extends about 0.5 mile W and 1 mile N of the point but inside the limit of the kelp.

Caution

(145) Navigation in this area should not be attempted without local information.

(146) **Richardson Rock**, 5.5 miles NW from Point Bennett, is 53 feet high, white-topped, and small in area. Two smaller and lower rocks are close-to on the E side. Richardson Rock rises abruptly from deep water, 30 to 40 fathoms being found within 0.3 mile. The rock is prominent in clear weather, but in thick weather the locality should be avoided, as soundings give no warning of a near approach.

Anchorage

(147) Anchorage for small craft may be had at **Adams Cove**, immediately E of Point Bennett, and at several places along the S shore of San Miguel Island, but local knowledge is necessary.

(148) **Tyler Bight** is on the S shore 1.8 miles E of Point Bennet and has a sand bottom. In moderate NW weather, the winds may attain velocities up to 45 knots 0.5 mile offshore; the sea in the bight, however, is quite smooth.

(149) **Wyckoff Ledge**, 1.4 miles W from Crook Point and 0.5 mile offshore, is covered 1½ fathoms.

(150) **Crook Point**, the S point of the island, is low and irregular. A boat landing may be made on the S shore of the island in a small cove immediately W of the point, but there is no anchorage.

Chart 18720

(151) **Santa Barbara Channel** is 63 miles long and increases gradually in width from 11 miles at the E end to 23 miles at the W end. The channel is free of dangers and has depths of 40 to more than 300 fathoms along the recommended track from San Diego and Los Angeles to northern ports.

(152) Offshore oil wells and oil drilling platforms, some privately marked by lights, buoys, and fog signals, extend as much as 10 miles offshore between Point Hueneme and Point Conception.

Safety zones

(153) **Safety zones** have been established around the oil drilling platforms and an offshore storage and treatment vessel mooring area in:

(154) 34°07'02"N., 119°16'35"W. (**Platform Gina**);

(155) 34°07'30"N., 119°24'01"W. (**Platform Gail**);

(156) 34°10'56"N., 119°25'07"W. (**Platform Gilda**);

(157) 34°10'47"N., 119°28'05"W. (**Platform Grace**);

(158) 34°23'27"N., 120°07'14"W. (**Platform Hondo**);

(159) 34°24'19"N., 120°06'00"W. (**an offshore storage and treatment vessel mooring area**);

(160) 34°22'36"N., 120°10'03"W. (**Platform Harmony**);

(161) 34°21'01"N., 120°16'45"W. (**Platform Heritage**);

(162) 34°27'19"N., 120°38'47"W. (**Platform Hermosa**);

(163) 34°28'09.5"N., 120°40'46.1"W. (**Platform Harvest**);

(164) 34°29'42"N., 120°42'08"W. (**Platform Hidalgo**); and

(165) 34°36'37.5"N., 120°43'46.0"W. (**Platform Irene**).

(166) (See **147.1 through 147.20, 147.1102, 147.1103, 147.1105 through 147.1107, 147.1109, 147.1110, and 147.1112 through 147.1116**, chapter 2, for limits and regulations and chapter 3 under **'Oil well structures'** for additional information.

(167) On the N side of Santa Barbara Channel is the mainland between Point Hueneme and Point Conception. On the S side is the northern group of the Channel Islands–Anacapa, Santa Cruz, Santa Rosa, and San Miguel–which break the force of the heavy westerly Pacific swell and afford a lee in winter from the full force of the SE gales.

(168) The E entrance to Santa Barbara Channel has a clear width of 2 miles between the 100-fathom curves, and lies between Anacapa Island and Point Hueneme. On the N side of this entrance is deep **Hueneme Canyon**, which extends from Point Hueneme in a SSW direction across the channel. The W entrance to the channel has a clear width of 10 miles between the

100-fathom curves, and lies between Richardson Rock and Point Conception. (See chapter 4 for details about the **Traffic Separation Scheme** between Point Fermin and Point Conception.)

Weather, Channel Islands

(169) The prevailing winds are W and NW and blow nearly every day, especially in the afternoon. Strong SE winds occur in the winter, and at times the sea is too rough for several days to permit the passage of small vessels.

(170) In the summer the winds in the channel are wholly different from those outside the islands and off the coast to the NW. Under the N shore, which is protected by the bold range of the Santa Ynez Mountains, the W winds do not reach far E of Point Conception with much strength but are felt towards the islands, a strong NW wind and heavy swell coming in from the open ocean. The climate in the Santa Barbara Channel, because of this blocking of the winds, is much milder than to the N along the coast. However, during NW weather boats crossing the channel from the mainland usually encounter heavier seas as the islands are approached. The belt of rough seas, locally known as **Windy Lane**, lies along the N shores of the islands and is about 6 miles (11 km) wide. This sea condition is the opposite to that experienced in the crossing from Los Angeles-Long Beach to Santa Catalina Island. Strangers are cautioned that good seamanship sometimes calls for returning to the mainland rather than attempting Windy Lane when rough seas are encountered. These W winds usually begin about 1000 and grow progressively stronger until sundown.

(171) During heavy NW weather strong squally winds draw down the canyons between Point Conception and Capitan and pass directly offshore, causing a severe choppy sea. Heavy NW gales are often encountered off Point Conception on coming through Santa Barbara Channel, and great changes of climatic and meteorological conditions are experienced; the transition is often remarkably sudden and well defined.

(172) In the fall and winter, stiff northeasters are occasionally experienced at and near the E end of the channel. They come up without warning, usually at night in clear dry weather, and when the barometer is either high or rising rapidly. At such times small boats should be prepared to seek shelter at a moment's notice.

(173) During the summer heavy fogs are a common occurrence in the Santa Barbara Channel and envelop the main shore, channel, and islands. Sometimes the mainland and channel are clear while the islands alone are hidden. At other times all are clear during the day, but wrapped in dense wet fog nights and mornings. This condition, the fog lying offshore during the day and enveloping the land at night, is characteristic of the whole southern California coast. The fogs occur mostly during calm weather and light winds, and are generally dissipated by the strong NW winds.

(174) Winds at **San Nicolas Island**, located about 75 miles (140 km) southwest of Los Angeles, average 12 knots from the northwest on an annual basis. A peak wind of 57 knots was recorded in both July and August 1979. The average annual temperature for San Nicolas is 61°F (16.1°C). The average maximum is 66°F (18.9°C) and the average minimum is 55°F (12.8°C). An extreme maximum temperature of 103°F (39.4°C) was recorded in August 1976 and an extreme minimum of 30°F (-1.1°C) was recorded in January 1978. San Nicolas Island averages only 34 days each year with measurable precipitation. Snowfall has never been reported on the island.

(175) At **San Clemente Island**, about 60 miles (111 km) northwest of San Diego, west winds dominate at a lower average speed of only seven knots. The average annual temperature for San Clemente is 61°F (16.1°C). The average maximum temperature is 66°F (18.9°C) and the average minimum is 56°F (13.3°C). An extreme maximum temperature of 97°F (36.1°C) was recorded in April 1989 and extreme minimum of 33°F (0.6°C) was recorded in January 1976. San Clemente averages only 49 days each year with measurable precipitation. Snowfall has never been reported on the island.

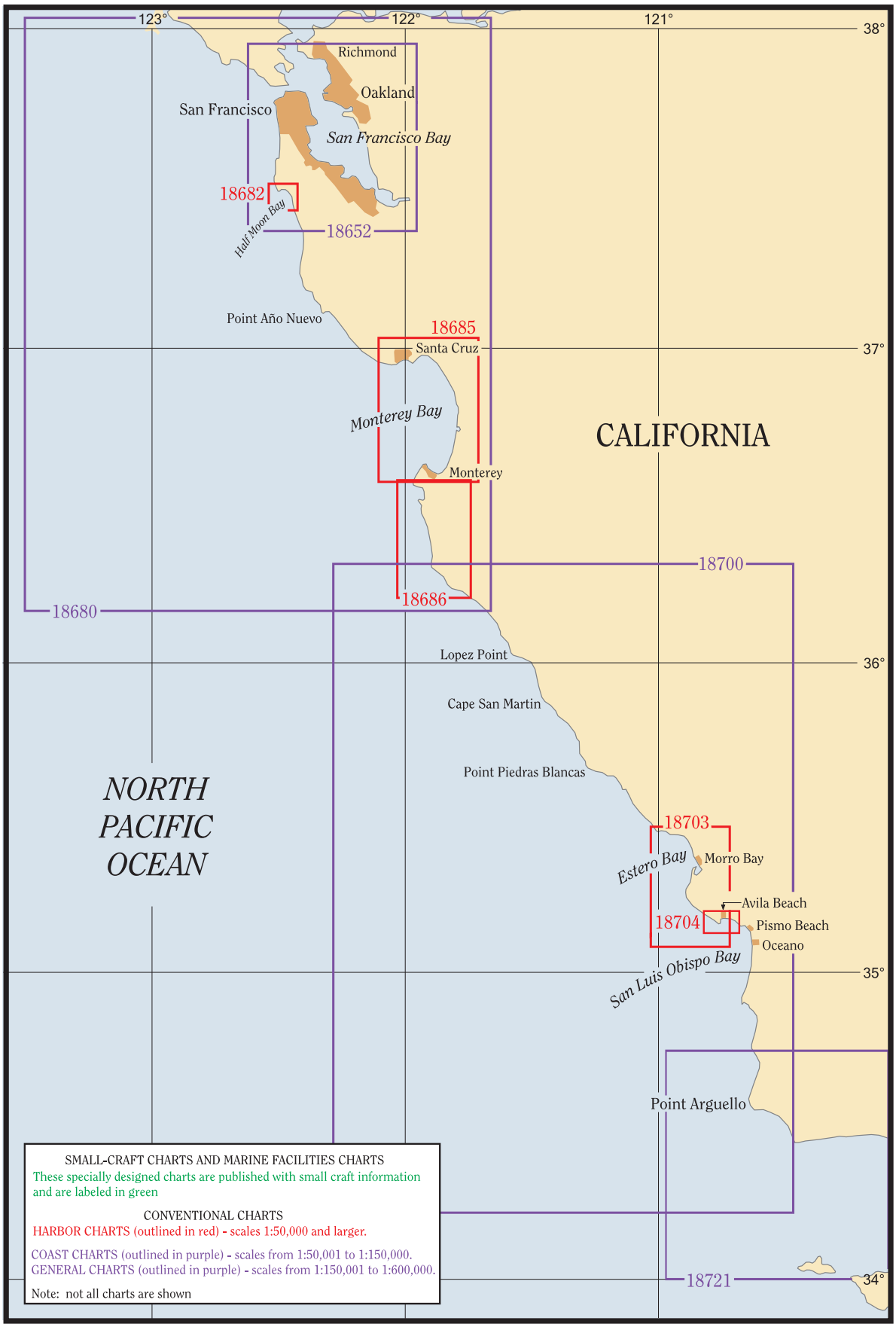
Currents

(176) Currents in Santa Barbara Channel are variable, depending to a great extent upon the wind. It appears that a weak nontidal flow sets E in the spring and summer, and W in autumn and winter.

(177) It has been observed that a strong inshore set prevails on a rising tide in the deep waters of Hueneme Canyon. In general, there are conflicting currents, at times quite strong, around the slopes of the submarine valleys both here and off Point Mugu.

(178) The tidal current sets along the N shore of Santa Barbara Channel with velocities of 0.5 to 1 knot. In heavy NW weather, the current and heavy swells make into the S side of the W entrance to the channel and along the N shore of San Miguel Island.

(179) The currents in the vicinity of the Channel Islands frequently follow the direction of the wind, with eddies under the lee of the islands and projecting points. Tidal currents of about 1 knot set through the passages between the islands.


123°
122°
121°
38°
37°
36°
35°
34°
Richmond
Oakland
San Francisco
San Francisco Bay
18682
Half Moon Bay
18652
Point Año Nuevo
18685
Santa Cruz
Monterey Bay
CALIFORNIA
Monterey
18700
18686
18680
Lopez Point
Cape San Martin
Point Piedras Blancas
NORTH
PACIFIC
OCEAN
18703
Estero Bay
Morro Bay
Avila Beach
18704
Pismo Beach
Oceano
San Luis Obispo Bay
Point Arguello
18721
SMALL-CRAFT CHARTS AND MARINE FACILITIES CHARTS
These specially designed charts are published with small craft information and are labeled in green
CONVENTIONAL CHARTS
HARBOR CHARTS (outlined in red) - scales 1:50,000 and larger.
COAST CHARTS (outlined in purple) - scales from 1:50,001 to 1:150,000.
GENERAL CHARTS (outlined in purple) - scales from 1:150,001 to 1:600,000.
Note: not all charts are shown

Point Arguello to San Francisco Bay, California

(1) This chapter describes the waters of San Luis Obispo, Estero, Morro, Monterey, and Half Moon Bays; also, the port of Port San Luis, and the small-craft and commercial fishing harbors of Morro Bay, Monterey, Moss Landing, Santa Cruz, and Pillar Point. The coast, except for the bays, is rugged with many detached rocks close inshore and other dangers extending no more than 2 miles offshore. However, in 1975, shoaling to 10 fathoms was reported in 37°00.0'N., 122°30.1'W., about 12 miles SW of Pigeon Point. The area is well marked with navigational aids, and loran coverage is considered good.

COLREGS Demarcation Lines

(2) The lines established for this part of the coast are described in **80.1130 through 80.1140,** chapter 2.

Sea Otter Refuge

(3) The State of California Fish and Game Code prohibits the discharge of firearms or bows and the trapping of birds or mammals in the California Sea Otter Game Refuge. The refuge extends as a continuous band between the coastline and the three nautical mile limit for the state of California extending offshore from the mouth of the Santa Rosa Creek (35°34'N.) in the N. (See charts 18700 and 18680.) Additional information may be obtained by writing the Department of Fish and Game, Marine Region, 20 Lower Ragsdale Drive, Suite 100, Monterey, CA 93940, telephone 831-649-2870.

Weather, Point Arguello to San Francisco Bay

(4) The weather along this coast is mostly cool, damp, and foggy in the summer, becoming mild and wet in winter. Summer afternoons on the coast are often clear and pleasant. The dominant weather feature is the semipermanent Pacific high. In summer, it is big and strong and covers the entire region. Storms and fronts are forced to move along the N side, so few affect this coast. In winter, the high weakens and retreats SE. This allows storms or frontal systems to pass through the area about every 7 to 10 days, on the average. Sometimes a series of these systems may result in a prolonged period of strong winds and heavy rains along the central and southern California coast. This situation is rare and occurs about every 2 to 3 years.

(5) The clockwise flow around the highs results in a NW flow along the coast in summer. These winds are enhanced by the formation of a thermal low over land, to the SE. The combination of these two features results in a sea breeze that can reach 20 knots during the afternoon and persist, at lower speeds, until midnight. Daytime temperatures often climb to near 70°F (21.1°C); nighttime lows drop to the low fifties (10.6° to 11.7°C) in summer. Occasionally a hot flow from the land will push temperatures into the nineties (32.8° to 37.2°C). This is as likely in early fall as it is in summer. The winds blowing across the cool **California Current** produce low clouds and sea fog. These conditions are prevalent close to the coast in the early morning hours. They improve during the day, particularly close to and on the shore. August and September are the worst months; fog reduces visibilities to below 0.5 mile (0.9 km) on more than 15 days per month at some locations.

(6) Winds are more variable, but often NW, in winter, becoming WNW in midwinter. Weak E winds often occur when a warm-type high centers itself over the **Great Basin** to the NE. (The Great Basin is the desert plateau comprising most of Nevada, western Utah and portions of northern Arizona.) This warm high pressure system produces clear skies and ideal conditions for land fog, which may drift out over coastal waters. This fog, while often dense, is shallow and usually burns off during the morning hours. Occasionally following a passage of a cold front, a cold-type high will move into the Great Basin. This can result in a foehn wind, over central and southern California, known as a **Santa Ana**. This NE wind flows down the canyons and into certain coastal basins. Its effect varies from place to place, but speeds may reach 50 knots. In some areas, an intensified sea breeze counterflow is observed. The most severe conditions are normally observed in late fall, but may occur from fall through spring, which is also considered the rainy season. From about November through April, precipitation occurs on about 6 to 12 days per month. Average maximum temperatures in

winter range from the middle fifties (11.7° to 13.9°C) around San Francisco, to the low sixties (16.1° to 17.2°C) at Point Arguello, while nighttime lows drop to the low to middle forties (5.0° to 8.3°C). Occasionally a cold outbreak will send temperatures below freezing (<0°C).

Charts 18700, 18721

(7) From Point Arguello to Point Sal, the coast trends N for 19.5 miles in two shallow bights separated by Purisima Point. From Point Sal the coast continues N for 14 miles, then bends sharply W for 6 miles to Point San Luis, forming San Luis Obispo Bay. Soundings are useful along this stretch of the coast, and between Point Arguello and Point San Luis the 20-fathom curve can be followed with safety in thick weather. In clear weather, the headlands and other natural features can be easily recognized.

(8) **Danger and restricted areas** extend 3.5 miles offshore from S of Point Arguello to Point Sal. (See **334.1130**, chapter 2, for limits and regulations.)

(9) **Point Pedernales**, 1.5 miles N of Point Arguello, and the largest of the numerous rocks as far as 300 yards offshore, are very dark and conspicuous alongside the sand dunes immediately N of the point.

(10) **La Honda Canyon**, 2 miles N of Point Arguello, is a deep gulch crossed by a railroad trestle easily distinguished when abreast the mouth. From here the coast to Purisima Point consists of a low tableland and sand dunes that contrast strongly with the dark cliffs S.

(11) **Surf**, 7 miles N of Point Arguello, is a station along the railroad. The yellow station house and a black tank are conspicuous. A white elevated water tank, 1.3 miles NE of the station house, and several launching gantries at the Vandenberg Air Force Base are conspicuous along this section of the coast.

Chart 18700

(12) **Purisima Point**, 10.6 miles N of Point Arguello, is low and rocky, with reefs extending SE for 0.3 mile. The N side of the point is bare sand. It has been reported that an inshore set is experienced off the coast in the vicinity of the point. From Purisima Point to Point Sal, the coast is sandy and lower than that S.

(13) **Point Sal**, 19.5 miles N of Point Arguello, is a bold dark headland marked by stretches of yellow sandstone. From the NW the headland looks like a low conical hill with two higher conical hills immediately behind it. It rises gradually to a ridge, 1,640 feet high, 3 miles to the E. From the S the hills are not so well defined. **Lion Rock**, 54 feet high, is a rocky islet 200 yards off the S face of Point Sal. A small rock is close to the point. Breakers and reefs extend nearly 600 yards S and W from Point Sal and 200 yards SW of Lion Rock.

Anchorage

(14) Anchorage under Point Sal affords some protection from NW winds in 7 to 9 fathoms, sandy bottom, but is subject to swells. Shoal water extends nearly 0.5 mile W from the SE point of the anchorage. The best anchorage is in 7 fathoms 500 yards 123° from Lion Rock and with the northern end of the rock just open of the extremity of Point Sal.

(15) From Point Sal north the coast is a sand beach backed by low dunes for 14 miles and then changes to bold rocky cliffs that curve sharply W to Point San Luis and form the N shore of San Luis Obispo Bay.

(16) **Oceano** is a small resort 12 miles N of Point Sal. The county airport is here.

(17) **Pismo Beach** is a resort 14 miles N of Point Sal. The pleasure pier is 1,200 feet long and has 12 feet at the outer end. In 1983, the pier was partially destroyed by storms, and submerged pilings are reported to exist at the outer end. Caution is advised in the area near the pier. **Shell Beach** is a small residential settlement, 1.5 miles NW of Pismo Beach. An aerolight, 6 miles N of Pismo Beach, is visible from seaward.

Charts 18703, 18704

(18) **San Luis Obispo Bay**, 35 miles N of Point Arguello, is a broad bight that affords good shelter in N or W weather. S gales occur several times during the winter. The E shore is a narrow tableland that ends in cliffs 40 to 100 feet high to within 0.5 mile of **San Luis Obispo Creek** where a sand beach fronts **Avila Beach**. W of the creek the shore is high with rocky bluffs extending to **Point San Luis.**

(19) **Port San Luis**, on the W shore of the bay, is the seaport for San Luis Obispo which is 10 miles inland. The port is primarily a base for commercial fishing boats, sport-fishing boats, and recreational craft.

Prominent features

(20) Point San Luis, a bold prominent headland, and the pier in about 35°10'13"N., 120°44'27"W. are reported to be useful radar targets.

(21) **San Luis Obispo Light** (35°09.6'N., 120°45.6'W.), 116 feet above the water, is shown from a cylindrical structure on Point San Luis; a fog signal is at the light. **San Luis Hill**,.0.5 mile NW of the light, is prominent from the S.

COLREGS Demarcation Lines

(22) The lines established for San Luis Obispo Bay are described in **80.1130**, chapter 2.

Anchorage

(23) The general anchorage is inside a line extending SW from Fossil Point to the outer end of a breakwater which extends SE from Whaler Island. Mariners should contact the harbormaster's office for anchorage information.

(24) **Special anchorages** are E of Avila Pier 1 (County Wharf) and in the W end of the harbor. (See **110.1 and 110.120**, chapter 2, for limits and regulations.) All anchorages are exposed to weather from the S and SE which cause heavy swells.

(25) The dangers off the entrance to San Luis Obispo Bay are buoyed; the E part of the bay has many rocks and heavy growths of kelp. **Souza Rock**, 2.1 miles SE of San Luis Obispo Light, is covered 16 feet and rises abruptly from 19 fathoms. **Westdahl Rock**, 1.3 miles SW of the light, is covered 18 feet and rises abruptly from 10 fathoms. **Howell Rock**, 1.6 miles E of the light, is covered 13 feet. **Lansing Rock** covered 18 feet and **Atlas Rock** covered 13 feet are 0.7 and 0.5 mile E of the light, respectively.

(26) A 2,400-foot breakwater, extending SE from Point San Luis through **Whalers Island** to a ledge partly bare at low water, provides some protection to vessels at anchor or at the wharves. **Smith Island**, 44 feet high and about 90 yards wide, is 0.2 mile N of Whalers Island.

Routes

(27) San Luis Obispo Bay may be entered from S by passing 100 yards W of the lighted gong buoy marking Souza Rock, thence a **000°** course for about 2 miles until past Lansing Rock, and thence to anchorage or to the wharves. From N stay outside the lighted bell buoy marking Westdahl Rock and the lighted whistle buoy off Point San Luis breakwater, then head into the bay as previously mentioned.

Tides

(28) The mean range of tide at Avila Beach is 3.6 feet, and the diurnal range of tide is 5.4 feet. A range of about 9 feet may occur on days of maximum tides. The lowest low water is about 2.5 feet below mean lower low water.

(29) Port San Luis is a **customs port of entry**.

Quarantine, customs, immigration, and agricultural quarantine

(30) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.) Vessels subject to inspection are requested to contact the harbormaster's office.

(31) **Quarantine** is enforced in accordance with the regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

Harbor regulations

(32) The port of Port San Luis is administered by the Port San Luis Harbor District and under the control of a harbormaster. The office is at the foot of Harford Pier 3. The harbormaster monitors VHF-FM channel 16 and can be contacted by phone at 805-595-5435. Transients should report to the harbormaster for guest mooring assignments.

Wharves

(33) Harford Pier 3, 0.5 mile N of Point San Luis, is used by commercial and sport fisherman. The berthing space at the end has 17 to 20 feet alongside. In 1990, shoaling to an unknown extent was reported along the pier. The pier is lighted at night. A fuel dock is at the bulkhead just N of the pier. The pier is operated by the Port San Luis Harbor District.

(34) The California Polytechnic State University Pier, 1 mile NE of Point San Luis, has 31 feet along both sides. The entire length of the pier is lighted at night. It is not safe to moor alongside in strong S to SE weather; vessels usually leave the pier on the approach of a storm and anchor until it moderates.

(35) Avila Pier 1 (County Wharf), 1.4 miles NE of Point San Luis, was damaged by a winter storm in 1983. Submerged obstructions are reported to be in the area near the pier. A submarine sewer line is about 40 feet E and parallel to the pier.

Supplies and repairs

(36) Gasoline, diesel fuel, water, marine supplies, a launching ramp, and a 50-ton mobile hoist are available. Some repairs can be made.

Communications

(37) Transportation is by automobile to San Luis Obispo where rail, bus, and air connections can be made.

Charts 18703, 18700

(38) From Point San Luis to Point Buchon, the coast trends NW for 9 miles and consists of cliffs 40 to 60 feet high. The land rises rapidly from the cliffs to Mount Buchon. There are numerous outlying rocks and submerged ledges that extend more than a mile from the shore in some places.

(39) Point San Luis and Point Buchon, both bold prominent headlands, are reported to be useful radar targets when navigating this section of the coast.

(40) **Mount Buchon**, a rugged mountain mass between San Luis Obispo Bay, Estero Bay, and the valley of San Luis Obispo, is prominent from either N or S. **Saddle Peak**, 4.1 miles NNW of San Luis Obispo Light, is visible for over 40 miles.

(41) **Santa Rosa Reef**, 1.4 miles WSW from San Luis Obispo Light, is covered 2¾ fathoms and rises abruptly from 13 fathoms. **Lone Black Rock**, 2 feet high and of small extent, is 0.5 mile W from the light and 0.2 mile offshore.

(42) **Pecho Rock**, 40 feet high, is 3 miles WNW from the light and 0.5 mile offshore. Two smaller rocks, 0.3 mile E (2 feet high) and 0.4 mile SE, are in the vicinity of Pecho Rock. Foul ground, marked by kelp, is between the rocks and shore.

(43) A fish haven with a least depth of 9 fathoms is about 0.7 mile NW of Pecho Rock.

(44) **Diablo Canyon**, 5.8 miles NW of Point San Luis Light, is the site of a large nuclear powerplant. The two concrete dome-shaped structures and other large buildings are conspicuous from well offshore. A **security zone** has been established in the waters of the Pacific Ocean off Diablo Canyon. (See **165.115**5, chapter 2, for limits and regulations.)

(45) A sharp prominent dark gray rock, 111 feet high, is 0.1 mile offshore from the powerplant.

(46) **Lion Rock** , 0.9 mile NW from the powerplant and 0.2 mile offshore, is 240 yards long in a NW direction and 136 feet high. A high rock lies between it and the shore, and a small low rock is 200 yards W.

(47) **Point Buchon** ends in an overhanging cliff 40 feet high, with a low tableland behind that rises rapidly to a bare hill a mile to the E. There are a few detached rocks close under the cliffs. A lighted whistle buoy is 1 mile SW of the point and about 400 yards WSW of a rock covered 3¾ fathoms.

(48) **Estero Bay** is formed by a curve in the coast between Point Buchon and **Point Estero**, 13.5 miles NNW. The shore of the bay follows a general N direction from Point Buchon for 11 miles, then turns sharply W for 5 miles to Point Estero. The N part of Estero Bay is fringed with covered rocks and scattered kelp. The seaward faces of Cayucos Point and Point Estero are cliffs 50 to 90 feet high.

(49) The coast drops abruptly from bold Mount Buchon to a sandy spit bordering Morro Bay and then rises to a bluff-bordered treeless country of rolling hills.

(50) Point Estero, Morro Rock, and Cayucos Point are reported to be useful radar targets in the vicinity of Estero and Morro Bays.

(51) **Morro Bay**, 6 miles N of Point Buchon, is a shallow lagoon separated from Estero Bay by a narrow strip of sand beach. The port facilities at the city of **Morro Bay**, a mile inside the entrance, are used by commercial fishing, sport-fishing, and recreational craft.

(52) **Morro Rock**, the tall cone-shaped mound on the N side of the entrance to Morro Bay, is the dominant landmark in this area. A breakwater, extending 600 yards S from the rock, is marked at its outer end by **Morro Bay West Breakwater Light** (35°21'46"N., 120°52'11"W.), 36 feet above the water and shown from a white column. A fog signal is at the light. Sections of the S end of the breakwater are reported to be frequently awash under heavy seas and high tides, but have never been observed completely submerged.

(53) The three 450-foot powerplant stacks 0.5 mile E of Morro Rock are visible from far offshore. The standpipe about 500 yards E of the stacks is prominent from close in. **Hollister Peak**, 4.2 miles ESE of Morro Rock, is the most prominent of a row of peaks behind Morro Bay because of its jagged outline.

COLREGS Demarcation Lines

(54) The lines established for Estero-Morro Bay are described in **80.1132,** chapter 2.

Channels

(55) The entrance to Morro Bay is through a buoyed channel between the protective breakwaters. Due to continual shifting of the channel, the buoys are not charted as they are frequently shifted to mark the best water.

(56) Mariners are advised to use extreme caution when entering the bay and to contact the harbormaster or Coast Guard Group Long Beach on VHF-FM channel 16 for current entrance and channel conditions.

(57) From Fairbank Point, on the E side of the bay, a privately maintained channel leads S to the Morro Bay State Park Basin at **White Point**; the depth for 0.3 mile is about 7½ feet. The basin has depths of about 8 feet. Vessels heading for the basin should approach White Point close inshore as the channel narrows at this point. In July 1993, shoaling to 1 foot was at the entrance to the basin. Swells from North Pacific winter storms sometimes break across the entire entrance.

Anchorages

(58) **Special anchorages** are in Morro Bay, 1 and 2 miles above the entrance. (See **110.1 and 110.125**, chapter 2, for limits and regulations.)

Tides

(59) The mean range of tide at Morro Beach is 3.5 feet, and the diurnal range of tide is 5.2 feet.

(60) Extremely high waves created by the sandbars in the entrance to Morro Bay make dangerous navigation conditions.

Currents

(61) Currents in the entrance channel and around the breakwaters are strong at times. It is advisable to approach the entrance from the SW because of the currents and sea conditions. Sharp turns should be avoided in the vicinity of the breakwaters, especially in heavy weather. It is reported that currents in the N part of the bay, especially flood currents, have a tendency to set vessels toward the city north T-pier.

Weather, Estero Bay

(62) Estero Bay is one of the foggiest areas along the Pacific Coast. The fog is most common in the mornings and evenings. (See Weather, West Coast and Hawaii, indexed as such, chapter 3, for further information.)

Coast Guard

(63) A Coast Guard station is at the foot of the city north T-pier. The station maintains motor lifeboats and monitors VHF-FM channel 16.

Harbor regulations

(64) Morro Bay Harbor is owned by the city of Morro Bay and is under the control of a **harbormaster**, who maintains an office at the foot of the city north T-pier. The harbormaster monitors VHF-FM channels 16 and 12 and can be reached by telephone at 805-772-6254. Harbor patrol boats operate from the city north T-pier and monitor VHF-FM channel 16. The boats are manned during daylight, and a patrolman is on call at all other times.

(65) Yachts and small craft may tie up to the yacht club dock; otherwise they must either anchor in the bay or check with the harbormaster for other accommodations

Wharves

(66) The city north T-pier, at the city of Morro Bay, is on the N side of the harbor about 0.8 mile above the entrance; depths alongside are about 22 feet. The pier is owned and operated by the city of Morro Bay.

(67) The city south T-pier, SE of the city north T-pier, is owned and operated by the city. It has about 20 feet alongside.

Supplies and repairs

(68) Gasoline, diesel fuel, water, ice, a launching ramp, and marine supplies are available in the port.

(69) A boat works has a crane that can handle craft up to 20 tons and 50 feet long; hull, engine, and rigging repairs can be made.

(70) For 3 miles N of Morro Rock, submerged pipelines extend up to 0.6 mile offshore in Estero Bay. A rock covered 5¼ fathoms, 1.3 miles NW of Morro Rock, is marked by a gong buoy. An unmarked fish haven, covered 6¾ fathoms, is about 1.4 miles NNW of Morro Rock in about 35°23'36"N., 120°52'32"W.

(71) **Cayucos**, 4.5 miles N of Morro Rock and in the NE part of Estero Bay, has a fishing and pleasure pier; a depth of 12 feet is at the outer end.

(72) Anchorage with fair shelter from the N and NW may be had in 11 fathoms, sandy bottom, with the prominent white concrete tank on a hill W of Cayucos bearing 017°.

(73) **Mouse Rock**, 0.7 mile W of Cayucos, is covered ½ fathom and breaks heavily in all but smooth weather; it is marked by a bell buoy.

(74) **Cayucos Point**, 2 miles W of Cayucos, is a low rocky promontory. **Constantine Rock**, 0.5 mile S of the point, is covered 1 fathom and breaks heavily in a moderate swell; it is marked on the S side by a buoy.

Chart 18700

(75) From Point Estero N for 8 miles to the village of Cambria, the bluffs increase in height and the range of grassy hills is close to shore. The shore is well fringed with kelp; several rocks are close inshore. **White Rock**, 6 miles NW of Point Estero, is the most prominent. A pinnacle rock, 0.7 mile SW of White Rock, is covered 5½ fathoms.

(76) **Von Helm Rock**, 7.2 miles NW of Point Estero and nearly a mile offshore, is covered 2½ fathoms. The rock is very sharp and breaks only in the roughest weather.

(77) **Cambria** is about 1 mile inland in a grove of pine trees. Some of the streets and buildings are visible from seaward. No landing or anchorage is recommended.

(78) From Cambria for 6.5 miles to San Simeon, rocks continue close inshore, but the bluffs decrease in height and the hills recede from the shoreline. Thick groves of pine trees scatter the hillsides. Of the several rocks offshore, **Cambria Rock**, 10 feet high, and **Pico Rock**, 12 feet high, are the largest, but they are not prominent from seaward. Shoal patches up to 360 yards surround Cambria Rock, and there is foul ground NW and S of Pico Rock. A shoal, 580 yards SW of Pico Rock, is covered 3¾ fathoms.

(79) **San Simeon Bay**, 14 miles NW of Point Estero, is formed by the shoreline curving sharply to the W, and on the W side by **San Simeon Point**, a low wooded projection extending SE. The trees show well from W, but from S the warehouses and buildings in San Simeon are more prominent. From W the point itself is not easily recognized by those not familiar with it.

(80) A lighted bell buoy, 0.4 mile SE of the point, marks the entrance to San Simeon Bay. The bay offers good

shelter in N weather, but is exposed to S gales in winter. The best anchorage is in the middle of the bight in 5 to 8 fathoms, hard sand bottom. A small ravine due W of the anchorage can be used to go ashore.

(81) **San Simeon**, 1.7 miles ESE of San Simeon Point, is a small town with a 995-foot sport fishing pier. A number of motels are in the town to handle the many tourists that visit Hearst Castle.

(82) Prominent **Hearst Castle**, 2.7 miles NE of San Simeon, is the former palace of the late William Randolph Hearst; it is now a State Historical Monument. The structure is lighted at night.

(83) The coast from San Simeon Point for 5 miles NW to Point Piedras Blancas, is low, with numerous detached rocks lying in some cases over 0.5 mile offshore and usually well marked by kelp.

(84) **Point Piedras Blancas** is a low rocky point projecting about 0.5 mile from the general trend of the coast. **Piedras Blancas Light** (35°39'56"N., 121°17'04"W.), 142 feet above the water, is shown from a white conical tower with a flat top at the point.

(85) **Piedras Blancas** are two large white rocks, 74 and 31 feet high, 500 yards offshore and about 0.8 mile E of the point. From the S they look like one rock.

(86) **Outer Islet**, a large and prominent white rock 110 feet high, is 0.25 mile W of the point. In hazy weather this rock is sometimes visible from the NW and W when the light cannot be seen.

(87) Anchorage for a small vessel, with protection from NW winds, may be had under Point Piedras Blancas in 4 to 5 fathoms, sandy bottom, with the light about 0.2 mile bearing 280°.

(88) A bank covered 11 fathoms, 3 miles WNW from Piedras Blancas Light, has been reported breaking in a heavy W swell.

(89) From Point Piedras Blancas for 6 miles NNW to the mouth of the San Carpoforo Valley, the coast is low, with small bluffs and rolling treeless hills. Numerous rocks, fringed with kelp, extend well offshore. **Harlech Castle Rock**, 0.7 mile offshore and 1.5 miles NW of Piedras Blancas Light, is the outermost rock and uncovers 1 foot; it is not usually marked by kelp. A shoal covered 2¾ fathoms, 0.5 mile NW of this rock, is surrounded by 10 to 12 fathoms.

(90) **La Cruz Rock**, 48 feet high and fairly prominent, is 3 miles NNW of Piedras Blancas Light and just S of Point Sierra Nevada. A sandy beach inshore from the rock is a fair landing place in heavy NW weather. This stretch of beach is relatively free from breakers in NW weather. There is a suitable anchorage for small boats E of the N limits of the rock in heavy NW or light S weather.

(91) **Point Sierra Nevada**, a low inconspicuous bluff, is named for the steamship SIERRA NEVADA, which stranded on the rock 400 yards NW of the point.

(92) About 1.8 miles N of Point Sierra Nevada is a group of isolated buildings inland from **Breaker Point**; the point is not prominent nor easily identified.

(93) **Ragged Point**, 6 miles N of Point Piedras Blancas, is a low projection readily identified, being the first point S of prominent San Carpoforo Valley; visible rocks and ledges extend about 0.3 mile W of the point.

(94) From Ragged Point NW for 41 miles to the Big Sur River, the coast is very bold and rugged. The cliffs are 200 to 500 feet high, and the land rises rapidly to elevations of 2,500 to 5,000 feet within 2 to 3 miles from the coast. There are few beaches and few outlying rocks. The highway along the coast is plainly visible from seaward.

(95) Two conspicuous landmarks lie between Ragged Point and Cape San Martin. **White Rock No. 1**, 39 feet high and rather sharp, is 0.5 mile offshore and 3.8 miles NW of Ragged Point, about 200 yards W of White Rock No. 1 is a rock awash. **White Rock No. 2**, 64 feet high and with a rounded top, is 0.2 mile offshore and 5.8 miles NW of Ragged Point.

(96) **Salmon Cone**, 500 feet high, is a rocky butte close to the shore and 0.5 mile NE of White Rock No. 1. The cone is not conspicuous as it blends into the background.

(97) Several deep narrow gulches indent the coast between Salmon Cone and Cape San Martin. Two of the most prominent are **Villa Creek** and **Alder Creek**. Villa Creek is crossed by a conspicuous white bridge.

(98) A pinnacle rock, covered 1¾ fathoms, is 1.7 miles SE of Cape San Martin and 0.5 mile offshore.

(99) **Whaleboat Rock**, which uncovers 5 feet, and **Bird Rock,** 5 feet high, are about a mile SE of Cape San Martin; they are conspicuous only when close inshore. A group of buildings is on the bluff just N of these rocks.

(100) **Cape San Martin,** 16 miles NW of Point Piedras Blancas, has a ragged precipitous seaward face and is readily identified by the **San Martin Rocks**. From S, the inner rock, which is 100 yards offshore, is the most prominent, being 144 feet high and white in appearance. The middle rock is 34 feet high and triangular. The outer and northernmost rock is cone-shaped, 44 feet high, and 0.5 mile offshore.

(101) **Willow Creek** bridge, about 0.3 mile N of Cape San Martin, is prominent from W.

(102) From Cape San Martin for 9.5 miles to Lopez Point, the coast forms an open bight with rugged shores intersected occasionally by deep narrow valleys. There are a few detached rocks, but only two extend far from the shoreline.

(103) **Plaskett Rock** is a large prominent white rock, 110 feet high, 2 miles N of Cape San Martin and 0.3 mile offshore.

(104) **Tide Rock**, 4 miles N of Cape San Martin and 0.7 mile offshore, is awash and quite sharp; it is a menace in smooth weather as there is no breaker to indicate its position.

(105) **Lopez Point**, 9.5 miles NW of Cape San Martin, is a narrow tableland, 100 feet high, projecting a short distance from the highland. **Lopez Rock**, 51 feet high with a prominent cleft in the middle, is 0.3 mile offshore and 0.8 mile NW of Lopez Point. A shoal covered 6 fathoms is 0.3 mile SW of Lopez Rock.

(106) An open anchorage affording some protection from NW weather may be had about 1 mile SE of Lopez Point in 10 fathoms, sandy bottom. Smaller vessels may obtain better shelter by anchoring inside the kelp bed in about 5 fathoms, sandy bottom, with Lopez Point bearing about 287°. A rock covered 1¾ fathoms is in the kelp beds 0.5 mile SE of Lopez Point.

(107) **Harlan Rock**, 10 feet high, is 0.3 mile offshore and 1.7 miles ESE of Lopez Point. The rock is conspicuous only when approaching the anchorage. A shoal covered ¾ fathom is 680 yards SE of Harlan Rock.

(108) Several peaks are prominent behind Lopez Point. **Junipero Serra Peak**, 10 miles NE of Lopez Point, has pines on and near the summit. **Twin Peak** and **Cone Peak**, 4 miles NE of Lopez Point, are known as the twin peaks; they have scattered trees on their summits and are good landmarks even at night. An observation tower on the summit of Cone Peak is lighted when occupied.

(109) From Lopez Point for 17.5 miles to Pfeiffer Point, the coast is rugged, and high mountains rise precipitously from the shore. The coastline makes in slightly, forming a shallow bight. Several hundred feet above the beach, the slopes are marked by numerous highway cuts, and the highway bridges over these are conspicuous from offshore.

(110) **Square Black Rock**, 4 miles NNW of Lopez Point, is 62 feet high.

(111) **Dolan Cone**, 4.5 miles NNW of Lopez Point, is white in appearance and 77 feet above the water.

(112) **Little Slate Rock**, 7.5 miles NNW of Lopez Point, is 4 feet high; **Slate Rock** is 18 feet high. Both rocks are discernible only when close inshore.

(113) Two major landslides are prominent in the vicinity of **Partington Point**, about 6.5 miles ESE of Pfeiffer Point.

(114) A prominent dwelling, visible from the W and N, is on a bluff 5.5 miles ESE of Pfeiffer Point. Several conspicuous highway bridges cross the canyons. The highway leaves the coast about 3.5 miles ESE of Pfeiffer Point and does not appear again until N of Point Sur.

(115) A deep submarine valley makes in from the S in the bight 13.5 miles NW of Lopez Point and 4.5 miles SE of Pfeiffer Point. The head of the canyon parallels the shore for about a mile and the 100-fathom curve lies only 500 yards from the shore.

Chart 18686

(116) **Pfeiffer Point**, 17.5 miles NW of Lopez Point and 6 miles SE of Point Sur, is 400 to 500 feet high; it is the seaward end of a long ridge 2,000 feet high, 1.5 miles NE of the point. The point presents a bold, precipitous, light-colored face to seaward. It is distinguished from the S by its color, and from N the pointed summit stands out. The point is more prominent from N than from S. **Sycamore Canyon** is immediately NW of the point.

Anchorage

(117) Anchorage, affording fair protection in N and NW weather, may be had for small vessels about 0.9 mile ESE of Pfeiffer Point and 500 yards offshore in 8 fathoms, sandy bottom, with chain sufficient to clear the kelp line. This anchorage is used extensively by local fishermen. Access by land is difficult as the road is poor.

(118) **Cooper Point**, 1.5 miles NW of Pfeiffer Point, is marked by a prominent pinnacle 172 feet high and an off-lying rock 18 feet high.

(119) From the mouth of **Big Sur River**, 3.5 miles NW of Pfeiffer Point, to Point Sur, the shore is low, with sand beaches and dunes extending E. Submerged rocks and ledges extend 1 mile or more offshore in some places between Cooper Point and Point Sur.

(120) **False Sur**,.1.2 miles SE of Point Sur Light, is a 209-foot rounded hillock of somewhat similar appearance to Point Sur, and during fog and low visibility may be mistaken for it.

(121) **Point Sur**, 121 miles NW of Point Arguello and 96 miles SSE of San Francisco Bay entrance, is a black rocky butte 361 feet high with low sand dunes extending E from it for over 0.5 mile. From N or S, it looks like an island and in clear weather is visible about 25 miles. The buildings on the summit of Point Sur may confuse the stranger. **Point Sur Light** (36°18.4'N., 121°54.1'W.), 250 feet above the water, is shown from a white tower on a gray stone building on the seaward face of the point. The buildings of a U.S. Naval Facility for oceanographic research are about 0.5 mile E from the light.

(122) **Pico Blanco**, 4.5 miles E of Point Sur, rises from the long ridge bordering the S side of Little Sur River. The pointed and white-topped peak is prominent in clear weather.

(123) **Sur Rock**, 1.8 miles SSE from Point Sur Light and nearly 0.8 mile offshore, is awash. A shoal covered 2 fathoms, 0.3 mile W of Point Sur, breaks heavily in all but very smooth weather. About 0.5 mile SW from Sur Rock is a shoal covered 4½ fathoms that breaks in heavy weather. Extending 0.9 mile from Sur Rock toward Point Sur are many covered rocks that show breakers in moderately smooth weather. Foul ground lies between the rocks and the beach. These dangers are usually well marked by kelp, but it is a dangerous locality in thick or foggy weather, and vessels should stay in depths greater than 30 fathoms.

Chart 18680

(124) The coast trends NNW from Point Sur for 17 miles to Cypress Point, then NE for 4 miles to Point Pinos.

(125) Monterey Bay is a broad open bight 20 miles wide between Point Pinos and Point Santa Cruz. The shores decrease in height and boldness as Point Pinos is approached, while those of Monterey Bay are, as a rule, low and sandy. The valleys of Salinas and Pajaro Rivers, which empty into the E part of Monterey Bay, are marked depressions in the coastal mountain range and are prominent as such from a considerable distance seaward. From Point Santa Cruz the coast curves W and N for 23 miles to Pigeon Point, and then extends for 25 miles in a general NNW direction to Point San Pedro, the S headland of the Gulf of the Farallones.

(126) Between Cypress Point and Point Pinos the coast is bold and the 30-fathom curve is less than 1 mile from shore in many places; deep submarine valleys extend into Carmel Bay and Monterey Bay. N of Monterey Bay, depths are more regular and the few dangers extend less than 1 mile from shore.

(127) **Monterey Bay National Marine Sanctuary** was established to protect and manage the conservation, ecological, recreational, research, educational, historical and esthetic resources and qualities of the coastal and ocean waters and submerged lands in and surrounding Monterey Bay. (See **15 CFR 922,** chapter 2, for limits and regulations.)

Routes

(128) **Routes** or **recommended tracks** for vessels **300 gross tons and higher** transiting the vicinity of Monterey Bay National Marine Sanctuary are from a position (**36°18.31'N., 122°12.79'W.**) 15 miles off Point Sur, to a position (**37°10.86'N., 122°39.74'W.**) 12.7 miles off Pigeon Point, for N bound vessels; and from a position (**37°10.85'N., 122°43.87'W.**) 16 miles off Pigeon Point, to a position (**36°18.29'N., 122°18.98'W.**) 20 miles off Point Sur, for **S bound vessels**.

(129) Vessels carrying **hazardous bulk cargo** recommended tracks are further offshore, beginning at a position (**36°18.27'N., 122°25.16'W.**) 25 miles off Point Sur, to a position (**37°10.81'N., 122°55.14'W.**) 25 miles off Pigeon Point, for N bound vessels; and from a position (**37°10.78'N., 123°01.39'W.**) 30 miles off Pigeon Point, to a position (**36°18.24'N., 122°31.35'W.**) 30 miles off Point Sur, for S bound vessels.

(130) **Tank vessels** are recommended to transit the Monterey Bay National Marine Sanctuary area well offshore (at least 50 miles). Tank vessels and vessels **carrying hazardous cargo** transiting San Francisco Golden Gate are recommended to use the Main (W) Traffic Lanes when proceeding to and from S of San Francisco Traffic Separation Scheme.

Chart 18686

(131) Just N of Point Sur (36°18.4'N., 121°54.0'W.), a sandy beach and bluff continue for 1.8 miles to **Little Sur River**, where the coast becomes bold, the 30-fathom curve lying in many cases less than 1 mile from shore. The highway returns to the coast just N of Point Sur and is visible from seaward until it reaches Pinnacle Point. It is marked by several bridges.

(132) **Ventura Rocks**, 2.2 miles N of Point Sur, are two rocks close together about 0.6 mile offshore. The N rock is conical-shaped and 12 feet high. It is fairly conspicuous when seen from the N with the sand bluff N of Point Sur as a background, but when seen from the S it is confused with the rocks near the beach and to the N. The S rock uncovers.

(133) From the conspicuous valley of the Little Sur River for more than 7 miles to Soberanes Point, the coast, although moderately straight, is bold, rugged, and broken, with numerous detached rocks and covered ledges close inshore.

(134) **Bixby Landing**, 4 miles N of Point Sur, is identified by a prominent concrete arch bridge across Bixby Creek; the bridge shows well to the W, but is obscured to the N. Less prominent is another concrete arch bridge across Rocky Creek, which is just N of Bixby Creek.

(135) **Soberanes Point** projects slightly from the general trend of the coast. An isolated 200-foot grassy hillock lies immediately back of the point, and a grassy ridge extends inland to heights of 1,600 feet.

(136) The 4.6-mile coastline from Soberanes Point to Pinnacle Point is rugged and broken, but becomes less precipitous and the mountain ridges lessen in height as Pinnacle Point is approached. Innumerable rocks and ledges extend in some cases over 0.3 mile offshore.

(137) **Lobos Rocks**, a group of small rocky islets, are nearly 0.5 mile W of Soberanes Point. The two larger islets are white-topped, and each is about 40 feet high. From seaward they rise abruptly from 20 fathoms, but there is foul ground between them.

(138) **Mount Carmel** (chart 18680), 7.3 miles NE of Point Sur, is round and bare on the summit. This peak and **Pico Blanco**, 4.5 miles E of Point Sur, sometimes can be seen when the lower land is covered by fog or haze.

(139) **Yankee Point**, 2.5 miles N of Soberanes Point, projects 0.3 mile from the general trend of the coast. The seaward face is irregular and broken, with numerous detached rocks. **Yankee Point Rock**, 6 feet high, is 125 yards W of the point. A covered rock that generally breaks is 0.4 mile S of the point and the same distance offshore.

(140) **Pinnacle (Carmel) Point**, the outer tip of **Point Lobos** and the S point at the entrance to Carmel Bay, is an irregular, jagged, rocky point 100 feet high. **Whalers Knoll**, the 200-foot-high hill 0.5 mile ESE of Pinnacle Point, is one of the prominent knobs on Point Lobos. **Sea Lion Rocks** are a group of rocks off the point. A rock, formerly known as Whalers Rock, is the farthest offshore of the group and is 0.5 mile SW of the point. It is 12 feet high, the most conspicuous of the group, and more prominent from the N than from the S.

(141) The entire Point Lobos area is included in a State ecological reserve. Regulations prohibit landing anywhere within its boundaries. **Whalers Cove**, the bight on the N shore 0.8 mile ESE of Pinacle Point, may be used as a harbor of refuge only. Kelp growth is quite heavy in the cove.

(142) **Carmel Bay** is a 2.8-mile-wide open bight between Pinnacle Point and Cypress Point. The beach in front of the city of Carmel is low, but the land on the S side of the bay is bare and mountainous, and the N side is hilly and heavily wooded.

(143) Carmel Bay affords shelter in N and S weather to small craft having local knowledge. In N weather anchorage may be had in two coves on the N shore, **Pebble Beach** on the W and **Stillwater Cove** on the E. These are shallow kelp-filled bights, with rock and gravel bottom. Anchorage is in 1 to 3 fathoms, but local knowledge is necessary to avoid the dangers. In S weather, anchorage may be had in Whalers Cove in 3 to 4 fathoms, rock or gravel bottom, but there is a rock covered 1¾ fathoms near the middle of the cove.

(144) **Carmel Canyon**, a deep submarine valley, heads in the SE part of Carmel Bay and has depths of 50 fathoms less than 0.2 mile from the beach. The bay is not recommended for strangers.

(145) On the NE shore of Carmel Bay, and N of **Carmel River**, is the city of **Carmel**. The lights of Carmel are prominent on a clear night. The tower of Carmelite Monastery, 1.5 mile E of Pinnacle Point, is a conspicuous structure.

(146) **Cypress Point**, on the N side of the entrance to Carmel Bay, is comparatively low and extends about 2 miles beyond the general trend of the coast. The cliffs are steep, and numerous detached rocks are close under them. The point is heavily wooded to within 400 yards of its tip. **Cypress Point Rock**, 12 feet high, is 450 yards NW of Cypress Point and is prominent from either N or S. A lighted gong buoy is NW of the point.

Chart 18685

(147) From Cypress Point to Point Pinos, the coast trends NE for 4 miles. Numerous small rocks and ledges closely border the shoreline. The land is low, with the height of the cliff decreasing toward **Point Joe**, a rocky extension of the shoreline where the surf breaks heavily. From this point to Point Pinos, white sand dunes are conspicuous against the dark trees behind them, even in moonlight.

(148) **Point Pinos**, on the S side of Monterey Bay, is low, rocky, and rounding with visible rocks extending offshore for less than 0.3 mile. The point is bare for about 0.2 mile back from the beach, and beyond that is covered with pines. **Point Pinos Light** (36°38.0'N., 121°56.0'W.), 89 feet above the water, is shown from a 43-foot white tower on a dwelling near the N end of the point. A lighted bell buoy is about 0.7 mile off the point.

(149) **Monterey Bay**, between Point Pinos and Point Santa Cruz, is a broad 20-mile-wide open roadstead. The shores are low with sand beaches backed by dunes or low sandy bluffs. **Salinas Valley**, the lowland extending E from about the middle of the bay, is prominent from seaward as it forms the break between the Santa Lucia Range S and the high land of the Santa Cruz Mountains N. The bay is free of dangers, the 10-fathom curve lying at an average distance of 0.7 mile offshore. The submarine **Monterey Canyon** heads near the middle of the bay with a depth of over 50 fathoms about 0.5 mile from the beach near Moss Landing. Shelter from NW winds is afforded at Santa Cruz Anchorage and Soquel Cove, off the N shore of the bay, and from SW winds at Monterey Harbor, off the S shore. The tidal currents are reported to be generally weak except at the Deep-draft Mooring Facility about 0.8 mile NW from Moss Landing harbor entrance.

Weather, Monterey Bay

(150) Sea fog is a problem on the bay from about July through September. It is worse over open waters and along the exposed E shore. Around Monterey Harbor in the S and Santa Cruz Anchorage in the N, fog reduces

visibility to less than 0.5 mile (0.9 km) on 4 to 8 days per month during the worst period. Close to shore, cloudiness begins to increase and descend in the evening by 2100 or 2200. Low clouds or fog cast a pall over the E shore. Around sunrise, conditions begin to improve, and, by 0900, visibilities are usually better than 0.5 mile (0.9 km). The best conditions occur in the early afternoon, when visibilities are less than 3 miles (6 km) and cloud ceiling are less than 1,500 feet (458 m) only 10 to 20 percent of the time. Clear skies and excellent visibility occur 15 to 20 percent of the time. Poor conditions can be expected over the bay and along exposed coasts on 10 to 15 days per month during July, August, and September. Moss Landing is an exposed location, and fog signals operate about 25 percent of the time in August. Radiation fog occurs infrequently from the fall through spring.

(151) Gales are rare over Monterey Bay; extreme gusts have been reported at 40 to 50 knots from October through May. The maximum gust for Monterey Peninsula was a gust of 60 knots from the NE in January 1989. Winds of 17 knots or more occur 1 to 4 percent of the time from November through March; they are rare during July, August, and September. Prevailing winds are W averaging seven knots, except in late fall and early winter, when E winds are as frequent. W through NW winds remain the predominant directions into October, when winds become more variable again.

(152) Winter winds over the bay are variable. Winds from the ESE are as common as winds from the WNW, and, along the shore, calms occur more than 20 percent of the time. In late winter, WNW winds prevail. Strongest winter winds are often out of the S. During spring and summer, they are most likely from the NW.

(153) The average annual temperature at Monterey is 57°F (13.9°C). The average maximum is 65°F (18.3°C) and the average minimum is 48°F (8.9°C). The all-time warmest temperature is 104°F (40°C) recorded in October of 1987. The coolest thermometer reading is 20°F (-6.7°C), recorded in December 1990. The average annual precipitation for Monterey is 18.6 inches (472 mm). Trace amounts of snow have fallen during February in Monterey.

Pilotage, Monterey Bay

(154) Pilotage in and out of Monterey Bay is compulsory for all vessels of foreign registry and U.S. vessels under enrollment not having a federal licensed pilot on board. The San Francisco Bar Pilots provide pilotage to harbors in Monterey Bay (see Pilotage, San Francisco, chapter 7 for contact information.) The pilot boarding area is within a 1-mile radius centered around a point located at 36°40'00"N., 121°58'00"W., about 2.5 miles NW of Point Pinos Light.

(155) A **restricted and a prohibited area** for an army firing range is in the SE part of the bay, and a naval operating area is in the NE part of the bay. (See **334.1150**, chapter 2, for limits and regulations.)

(156) **Pacific Grove**, a summer resort just SE of Point Pinos, has no commercial wharves, but a small solid-concrete jetty with low-level landing usable only on a seasonal basis, is just S of **Lovers Point**.

(157) **Monterey Harbor**, 3 miles SE of Point Pinos, is a compact resort harbor with some commercial activity and fishing. The harbor can accommodate over 800 vessels.

(158) Depths of more than 20 feet are available in the outer harbor and entrance, and 10 to 6 feet in the small-boat basin. There are many sport-fishing landings, and the small-craft basin provides good shelter for over 500 boats. There are four public launch ramps available in the harbor. The municipal marina has transient berths available and can provide electricity, pump-out, ice, and marine supplies; a 3-ton and 70-ton lift is available for hull, engine, and electrical repairs. The marina monitors VHF-FM channels 16 and 5. The boat yard, located just inside the breakwater has a 70-ton travel lift.

(159) **Monterey**, a colorful and picturesque city on the W side of the harbor, was the capital of California under Mexican rule and for sometime after it became a State. The old adobe custom house is still standing near the waterfront and is now used as a historical museum.

Prominent features

(160) Prominent features include the granite **Presidio Monument** on the brow of a hill on the W side of the harbor and a radio tower 0.6 mile N of the monument.

(161) Two radio towers just inshore from the sand dunes at **Marina**, 6.5 miles NE from the breakwater, are conspicuous in the S part of Monterey Bay. An aerolight at Monterey Peninsula Airport is 1.9 miles ESE of Monterey Harbor Breakwater Light 6. Another aerolight is 7.3 miles NE of Light 6.

COLREGS Demarcation Lines

(162) The lines established for Monterey Harbor are described in **80.1134**, chapter 2.

(163) Monterey Harbor breakwater is on the N side of the entrance to Monterey Harbor. The breakwater extends seaward from the Coast Guard pier for a combined length of about 1,700 feet. This affords excellent protection in NW weather. However, in heavy weather there may be a strong surge in the harbor. The outer end of the breakwater is marked by a light. A fog signal is at the light. The outer harbor is marked by a private lighted junction buoy. The N channel at the junction

buoy leads to a private marina and fuel dock. Loud-barking sea lions occupy the breakwater during the day and should not unnecessarily be disturbed.

Anchorages

(164) A **special anchorage** is just S of the breakwater. (See **110.1** and **110.126**, chapter 2, for limits and regulations.) A **seasonal special anchorage and mooring area** is just E of Municipal Wharf No. 2. Mariners operating in the vicinity of Monterey Harbor are requested to avoid transiting through this area. Mooring or anchoring is restricted based on current weather conditions. Permission to moor or anchor may be obtained through the Office of the Harbormaster.

Tides

(165) The mean range of tide at Monterey is 3.6 feet, and the diurnal range of tide is 5.4 feet. A range of about 8.5 feet may occur on days of maximum tides. The lowest low water is about 2 feet below mean lower low water.

Currents

(166) A very strong current is reported to exist at the small-boat basin entrance when swells run following winter storms. The current runs mainly from the breakwater towards Municipal Wharf No. 1; caution is advised.

Quarantine, customs, immigration, and agricultural quarantine

(167) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(168) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(169) Monterey is a **customs station**.

Coast Guard

(170) Monterey Coast Guard, Station Monterey, is at the foot of the Coast Guard pier.

Harbor regulations

(171) The harbor is owned by the city of Monterey and under the control of a harbormaster. His office is in a building on shore about midway between the two municipal wharves. Transients requesting berth assignments should contact either the harbormaster's office or the privately-owned Monterey Bay Boatworks

Company on VHF-FM channel 16. The harbormaster can be contacted by phone at 831-646-3950 or by the Internet website at http://www.monterey.org.

(172) The **speed limit** in the harbor is 3 knots.

Wharves

(173) Municipal Wharf No. 2, the most easterly pier, is 1,600 feet long and 86 feet wide at the outer end; depths alongside the outer E and W sides are 24 feet. Freight and supplies are handled by trucks directly to the pier; a 3-ton hoist is at the pier on the marina side.

(174) Municipal Wharf No. 1, frequently called Fishermans Wharf, is 300 yards W of Wharf 2. It is lined with restaurants and shops.

(175) A marina is just S of the foot of the Coast Guard dock. A 60-ton boat lift is available; complete hull, electrical, and electronic repairs are available.

Supplies

(176) Gasoline and diesel fuel are available at Municipal Wharf No. 2. Water, ice, and marine supplies, are available at the marina S of the Coast Guard dock and Municipal Wharf No. 2.

Communications

(177) Monterey has good air and highway connections with San Francisco and points S.

(178) **Moss Landing Harbor**, on the E shore of Monterey Bay 12.5 miles NE of Point Pinos and just N of the small town of **Moss Landing**, is a good harbor of refuge. The harbor is used by pleasure craft and a fishing fleet of about 300 boats. The harbor has 500 berths.

Prominent features

(179) The two huge stacks at a large powerplant near the harbor are the dominating landmarks on Monterey Bay. The stacks are 528 feet high and are marked by flashing red lights. Other stacks at the powerplant and at the nearby mineral processing plant are less conspicuous.

(180) An area of turbulent water, caused by water discharge from the power plant, is about 250 yards SW of the S jetty light; the turbulence may be dangerous to small craft.

COLREGS Demarcation Lines

(181) The lines established for Moss Landing Harbor are described in **80.1136**, chapter 2.

Channels

(182) A **Federal project** for Moss Landing Harbor provides for a 15-foot jettied entrance channel leading NE to an outer turning basin, and thence an inner channel of the same depth leading S to an inner turning basin about 0.8 mile above the entrance. (See Notice to Mariners and latest editions of charts for controlling depths.) The approach to the harbor is marked by a lighted bell buoy. The entrance channel is marked by a buoy, lights and a **052°** lighted range. The jetties are marked by lights on their outer ends, and the inner channel is marked by lights, buoys, and a daybeacon. A fog signal is at the S jetty light. Shoaling usually occurs on the S side of the entrance between the jetties; vessels should favor the N side of the channel when entering.

(183) A channel, marked by private buoys, leads N from the outer turning basin to Moss Landing Harbor's North Harbor basin; a private yacht club is adjacent to the basin. In September 2004, the reported controlling depth was 10 feet, thence the North Harbor basin had depths of 10 to 16 feet. Because of frequent shoaling, local knowledge is advised prior to entering the channel. A surfaced launching ramp is on the E side of the channel, S of the North Harbor basin.

Anchorage

(184) The anchorage off Moss Landing Harbor is unprotected, but the holding ground is good for larger vessels in fair weather.

Weather, Moss Landing

(185) The prevailing winds are NW, but there are a few SE winds and N gales during the winter. Mariners in the area should be aware of reported unique environmental conditions. Vessels have experienced sudden wind shifts during the late morning to early afternoon hours. At this time the new wind begins to generate its own waves from the W and NW, dissipating existing swells, and creating a cross pattern of waves giving the sea a "choppy" or confused appearance. During the first few hours following the wind shift, the appearance of the sea surface may not provide a reliable indication of the wind speed. This condition has effected ship handling by setting deep-draft vessels. Occasionally, when there is a southwesterly wind during an ebb tide, slight breaking seas cross the harbor entrance. (See Weather, West Coast and Hawaii, indexed as such, chapter 3, for further information.)

Harbor regulations

(186) The harbor is administered by the Moss Landing Harbor District and is under the control of a harbormaster. The office is near the inner turning basin. Transients should report to the harbormaster for mooring assignments. Contact the harbormaster on VHF-FM channel 9, 16 or telephone 831-633-2461 for local weather conditions.

Supplies and Repairs

(187) Gasoline, diesel fuel, water, ice, and some marine supplies can be obtained; bilge and sewage pumpout is available; a 70-ton mobile hoist is available for repair work.

(188) **Monterey Wind Gap.**–The great mountain barriers N and S of Monterey Bay and the receding shoreline to the E offer a broad entrance to the cold foggy NW winds of the summer, and they drive over the bay and well into Salinas Valley to the S.

(189) **Soquel Cove** is in the NE part of Monterey Bay, E of Santa Cruz Anchorage. Fair shelter is afforded in NW weather, but the cove is open to S weather. The best anchorage is SE of the mouth of **Soquel Creek** in 5 to 6 fathoms, sandy bottom.

(190) At **Seacliff Beach**, 0.5 mile W of **Aptos Creek**, a concrete ship has been beached and filled with sand. The pleasure pier for sport fishing extends from ship to the shore.

(191) A small fishing and pleasure wharf at **Capitola**, on the NW side of Soquel Cove, has 11 feet alongside the landing at the outer end. There are facilities to hoist out small boats. Houses on the bluffs about 1.5 miles E of Capitola are prominent. Three radio towers 0.6 mile NW of **Soquel Point** are conspicuous from the E and S.

(192) **Point Santa Cruz**, 20 miles N of Point Pinos and 2.5 miles W of Soquel Point, consists of cliff heads about 40 feet above the water. The area back of the point is flat, but rises in terraces to higher land. There are two flat rocks close under the point; the outer one is the higher.

(193) **Santa Cruz Light** (36°57.1'N., 122°01.6'W.), 60 feet above the water, is shown from a 39-foot white lantern house on a square brick tower attached to a brick building near the S extremity of the point. A lighted whistle buoy is 1.1 miles SE of the light.

(194) The city of **Santa Cruz** is on the NW shore of the bay. **Seabright, Twin Lakes**, and **Soquel**, suburbs of Santa Cruz, are along the beach to the E.

(195) **Santa Cruz Anchorage**, on the NW shore of Monterey Bay between Point Santa Cruz and Soquel Point, has a municipal pier and small-craft harbor.

(196) The Santa Cruz small-craft harbor is just E of Seabright and has slips and end-ties for about 1,200 small craft.

Prominent features

(197) The Casino building and the roller coaster immediately E of the town are prominent.

COLREGS Demarcation Lines

(198) The lines established for Santa Cruz Anchorage (Santa Cruz Harbor) are described in **80.1138**, chapter 2.

Channels

(199) The entrance to the small-craft harbor is protected by jetties; a light, and fog signal are at the end of the W jetty. The least clearance for the bridges between the north and south basins is 18 feet.

(200) The Santa Cruz harbormaster advises that extensive shoaling occurs at the harbor entrance from November through May. Persons unfamiliar with the area should contact the harbormaster's office prior to entering the harbor; a radio guard on VHF-FM channel 16 is maintained 24 hours a day or telephone 831-475-6161 between 0830 and 1700 daily. The Santa Cruz harbormaster further recommends that mariners without local knowledge should not attempt to enter the harbor during periods of high ground swells.

Anchorage

(201) Good anchorage can be had anywhere off the pier in 5 fathoms, sand bottom. Santa Cruz Anchorage provides good shelter in N weather, but in NW weather a heavy swell is likely to sweep into the anchorage. In S weather there is no protection in the harbor; vessels must run for Monterey or Moss Landing Harbor or take refuge in Santa Cruz Municipal small-craft harbor.

Harbor regulations

(202) The harbor is administered by the Santa Cruz Port District Commission. Transient vessels should report to the harbor office at the SE corner of the small-craft harbor, for berth assignments.

(203) A patrol boat operates in the harbor and monitors VHF-FM channel 16. The patrol boat will guide vessels into the harbor on request.

Wharves

(204) The municipal pier, 0.8 mile W of the entrance to the small-craft harbor, is over 0.4 mile long with 26 feet alongside at its outer end; a private seasonal fog signal in on the outer end of the pier. Landings can be made in all but heavy S weather, but few vessels land except fishing boats. Due to the ocean swell sweeping around the point, there is usually considerable surge. The pier is lined with restaurants and stores. A small-boat hoist is on the pier.

Supplies

(205) Gasoline, diesel fuel, and marine supplies are available. A launching ramp and a yacht club are in the harbor.

Repairs

(206) A repair yard at the harbor has a 40-ton mobile lift that can handle vessels for hull and engine repairs. Electronic repairs are also available.

Communications

(207) Santa Cruz has highway and rail connections with San Francisco and the interior.

Chart 18680

(208) From Point Santa Cruz the coast trends W about 4 miles to Needle Rock Point and thence NW to Point Ano Nuevo. The shoreline rises from high bluffs, with a few intervening beaches, to a low flat tree-covered mountain range.

(209) **Needle Rock Point** is 4 miles W of Santa Cruz Light; a slender pillar of rock stands a short distance seaward from the face of the cliffs; another lower pinnacle is about 200 yards E. Neither is distinguishable when abreast it.

(210) **Sand Hill Bluff,** 6.5 miles W of Santa Cruz Light, is composed of sandstone cliffs about 50 feet high with a rounding irregular hillock of white sand near the edge of the cliffs; this hillock is white on the NW side, and is covered with brush and grass on the SE side. Neither this bluff nor Needle Rock Point is a good landmark.

(211) The buildings of a large cement works at **Davenport**, 9 miles NW of Point Santa Cruz, are conspicuous. A steel tower is prominent by day, and many lights are visible at night. The ruins of an old cement loading wharf are at the plant.

(212) In 1975, shoaling to 10 fathoms was reported in 37°00.0'N., 122°30.1'W., about 14.5 miles W of Davenport.

(213) **Loma Prieta**, a prominent flat-topped peak surmounting the high mountainous ridge 13 miles NE of Santa Cruz Light, is the predominating mountain feature of this section. A fire observation tower is on the top of the peak.

(214) **Waddell Creek**, 14.5 miles NW of Point Santa Cruz, is in a narrow steep-sided valley. The high whitish bluffs, immediately N, are quite prominent.

(215) **Point Ano Nuevo**, 18 miles NW of Point Santa Cruz, is formed by sand dunes 20 to 100 feet high. A low black rocky islet is 0.3 mile off the point. Foul ground extends NW and SE from the islet. A group of white

houses on the islet is conspicuous. A lighted whistle buoy is about 0.8 mile S of the tower.

(216) Anchorage with protection from N and NW winds can be had in the bight S of the point. The kelp bed and reef, extending a little over 0.5 mile SE from the islet, break the force of the swell.

(217) The 5-mile coast between Point Ano Nuevo and Pigeon Point is low and rocky. **Pigeon Point**, 22.5 miles NW of Point Santa Cruz, is 50 feet high and rises in a gentle slope to the coastal hills. Several moderately large detached rocks extend 350 yards SW. Pigeon Point was named from the wreck at this place of the clipper ship CARRIER PIGEON.

(218) **Pigeon Point Light** (37°10.9'N., 122°23.6'W.), 148 feet above the water, is shown from a 115-foot white conical tower on the end of the point. A radiobeacon is at the station. The light cannot be seen in the bight E of a line joining Pigeon Point and Pillar Point, 20 miles to the N. The light station buildings on Pigeon Point are white with red roofs. A group of farm buildings is about 0.5 mile E. A row of trees, conspicuous against a background of barren hills is about 500 yards NE of the light.

(219) From Pigeon Point for 4 miles to **Pescadero Point,** the coast is nearly straight and is composed of reddish cliffs with numerous outlying submerged and visible rocks. A rocky patch covered 3 feet is about 0.8 mile S of Pescadero Point; a 6¼-fathom rocky patch is about 0.7 mile WSW of the point.

(220) From **Pescadero Creek**, 1.5 miles N of Pescadero Point, the coast for 8 miles N becomes more broken and rugged, with yellow or white vertical cliffs. A prominent whitish cliff over 100 feet high is 7.5 miles N of Pescadero Point. About 9 miles N of the point is a pale yellow building surrounded by numerous antenna poles.

(221) The coast is broken by several small streams in deep steep-sided valleys. N of the high cliff, a low flat tableland extends N for 9 miles and then bends sharply W to Pillar Point, forming Half Moon Bay. The land consists generally of grass-covered rolling hills with ranch houses and cultivated ground in the foreground.

Chart 18682

(222) **Pillar Point**, 18 miles S of San Francisco entrance, is the S extremity of a 2.5-mile low ridge. Several black rocks extend over 300-yards S of the point; from N these appear as three or four, but from S as only one. **Half Moon Bay** comprises the bight from **Miramontes Point** on the S to Pillar Point on the N.

(223) **Pillar Point Harbor**, in the N part of Half Moon Bay E of Pillar Point, is used by fishing vessels and pleasure craft. The harbor is well protected by breakwaters. The entrance, 200-yards wide, is between the E and W breakwaters. A light marks the end of the E breakwater, and a light and fog signal are on the end of the W breakwater. The entrance has a depth of about 20 feet with depths of 2 to 17 feet inside the harbor. Shoaling has been reported along N side of the breakwaters inside the harbor. The harbor provides good holding ground for anchored and moored vessels. Two breakwaters and a detached breakwater, protect a marina on the N side of the harbor. The detached breakwater is marked by lights on the E and W ends.

Prominent features

(224) Several buildings and a white radar antenna at the U.S. Air Force radar site about 0.2 mile N of Pillar Point are conspicuous when approaching the harbor. The lights of the radar site are conspicuous at night. A rotating aero beacon located 1 mile NW of the marina is visible from the south.

(225) **Caution** is necessary in approaching Pillar Point Harbor because of the foul ground off the entrance. Rocks and reefs, marked by kelp and a lighted bell buoy, extend SE for over 1 mile from Pillar Point. **Southeast Reef**, extending from 1.5 to over 2 miles SE of Pillar Point, is covered 4 to 20 feet and has a pinnacle rock awash at extreme low water at the SE end. Mariners are advised to exercise caution in the vicinity of Pillar Point in dense fog.

COLREGS Demarcation Lines

(226) The lines established for Pillar Point Harbor are described in **80.1140,** chapter 2.

Routes

(227) Vessels from the S approach the harbor E of the lighted gong buoy marking Southeast Reef; vessels from the N use the buoyed opening between the Pillar Point foul ground and Southeast Reef.

Harbor regulations

(228) Pillar Point Harbor is administered by the San Mateo County Harbor District and under the control of a harbormaster. The harbormaster's office is at the head of the L-shaped pier in the marina. The harbormaster can be contacted on VHF-FM channel 16 or telephone 650-726-4382.

(229) There are only private mooring floats in the harbor so transients must anchor. The harbormaster should be consulted before tying alongside piers.

Wharves

(230) An L-shaped pier, 590 feet long with 13 feet alongside the 275-foot outer face, is on the N side of Pillar Point Harbor. Water, ice, and electricity are at the pier, and gasoline and diesel fuel are pumped at the landing. A skiff hoist is on the end of the pier. Marine railways are in the harbor W of the marina and are capable of hauling vessels up to 50 tons.

(231) The 660-foot pier W of the L-shaped pier has about 5 feet at the outer end. A surfaced launching ramp and parking area are near the inshore end of the E breakwater.

Chart 18680

(232) **Montara Mountain**, 4 miles N of Pillar Point and 2.5 miles inland, is covered with grass and bare trees. From S it shows as a long ridge with several small elevations upon it, but from NW it appears as a flat-topped mountain with four knobs on the summit. It is a prominent feature in approaching the entrance to San Francisco Bay.

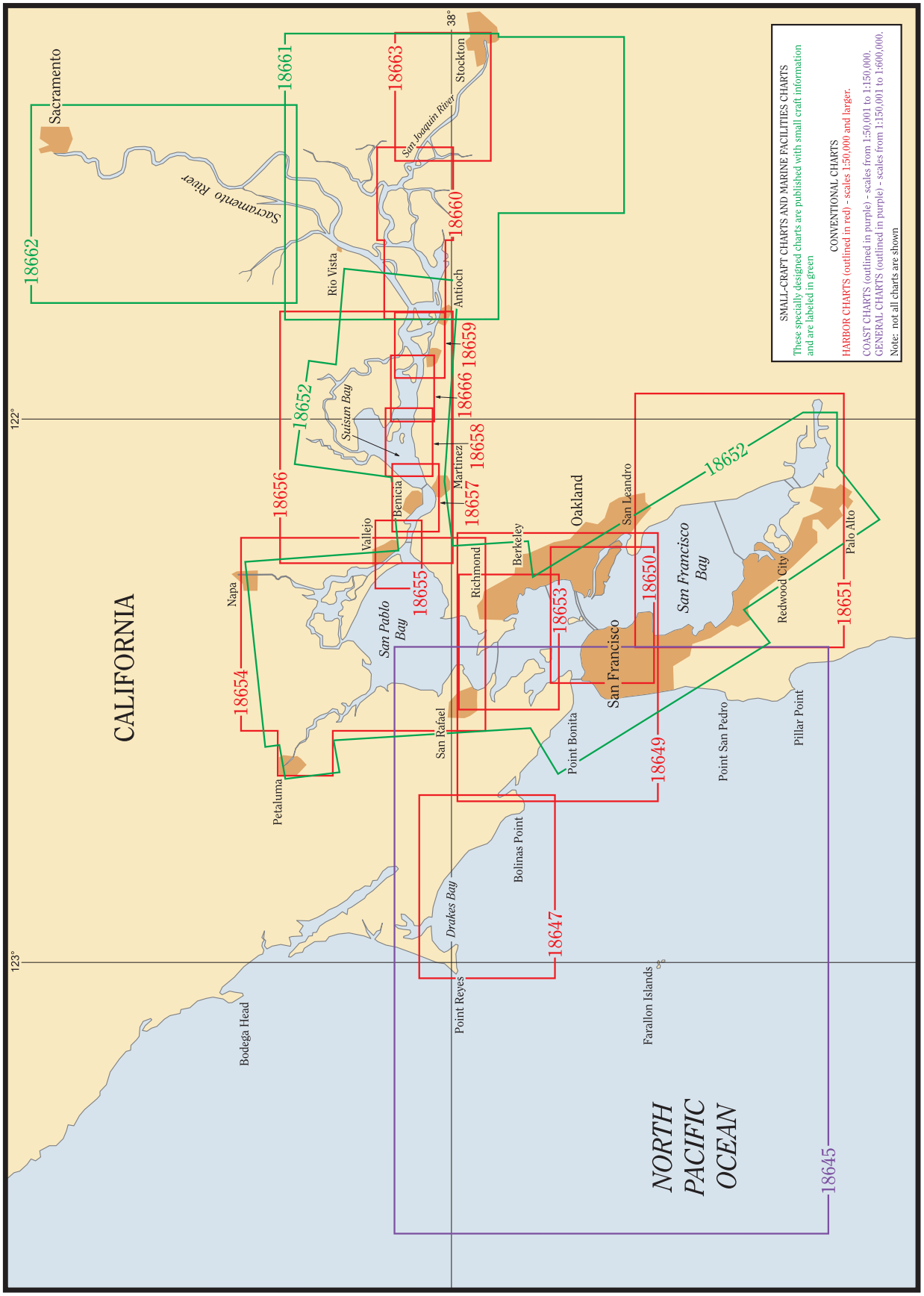
(233) **Point Montara**, 2.8 miles N of Pillar Point, is the seaward end of a spur from Montara Mountain and the NW extremity of the ridge forming Pillar Point. It terminates in cliffs about 60 feet high with numerous outlying rocks. Covered rocks and ledges lie 0.8 mile W of the point and extend in a NW direction for about 1.5 miles. This is a dangerous locality in thick weather, and extreme caution should be used when inside the 30-fathom curve.

(234) **Point Montara Light** (37°32.2'N., 122°31.2'W.), 70 feet above the water, is shown from a 30-foot white conical tower on the point. A group of white buildings with red roofs is prominent on the point.

(235) From Point Montara for 2.5 miles to Point San Pedro the coast is bold and rugged, rising sharply from the sea to the spurs extending from Montara Mountain. **Devils Slide** is light-colored and is the highest bluff in this locality. The highway cuts are distinctive features in the bluffs. There are no outlying rocks or dangers other than those off Point Montara.

(236) **Point San Pedro** is a dark, bold, rocky promontory, 640 feet high. It is the seaward termination of Montara Mountain and is an excellent mark in clear weather from either N or S. A large triple-headed rock, about 100 feet high and white on its S face, projects 0.3 mile W from the point. A rocky area, which breaks in a heavy swell, is reported to exist about 1 mile N of the point.

(237) A 200-yard-long Municipal fishing pier is about 2.5 miles NE of Point San Pedro.


SMALL-CRAFT CHARTS AND MARINE FACILITIES CHARTS
These specially designed charts are published with small craft information and are labeled in green
CONVENTIONAL CHARTS
HARBOR CHARTS (outlined in red) - scales 1:50,000 and larger.
COAST CHARTS (outlined in purple) - scales from 1:50,001 to 1:150,000.
GENERAL CHARTS (outlined in purple) - scales from 1:150,001 to 1:600,000.
Note: not all charts are shown
CALIFORNIA
NORTH PACIFIC OCEAN
Sacramento
Sacramento River
San Joaquin River
Stockton
Rio Vista
Antioch
Suisun Bay
Martinez
Benicia
Vallejo
Napa
Petaluma
San Pablo Bay
Richmond
Berkeley
Oakland
San Leandro
San Francisco
San Francisco Bay
Redwood City
Palo Alto
San Rafael
Point Bonita
Point San Pedro
Pillar Point
Bolinas Point
Drakes Bay
Point Reyes
Farallon Islands
Bodega Head
122°
123°
38°
18645
18647
18649
18650
18651
18652
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18654
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18666

San Francisco Bay, California

Chart 18640

(1) **San Francisco Bay**, the largest harbor on the Pacific coast of the United States, is more properly described as a series of connecting bays and harbors of which San Francisco Bay proper, San Pablo Bay, and Suisun Bay are the largest. Depths of 29 to 40 feet are available for deep-draft vessels to San Francisco, Oakland, Alameda, Richmond, and Redwood City in San Francisco Bay proper; to Stockton on the San Joaquin River; and to Sacramento through the lower Sacramento River and a deepwater channel. Much of the local navigation is by light-draft vessels and barges.

(2) The extensive foreign and domestic commerce of San Francisco Bay is handled through the several large ports which are the terminals for many transpacific steamship lines, airlines, and transcontinental railroads.

(3) The E shore of San Francisco Bay proper is low except for rolling grassy hills in the N part and extensive marshes intersected by numerous winding sloughs in the S part. The W shore N of the entrance is much bolder than the E shore where there are only a few stretches of low marsh. Below San Francisco, marshes and flats intersected by numerous sloughs extend to the S end of the bay.

(4) The Coast Guard Captain of the Port, San Francisco, has ordered that all ships greater than 300 gross tons, anchored in San Francisco Bay maintain a radio listening watch on VHF-FM channels 13 and 14 when the wind is 25 knots or greater. Any ship not equipped with channel 13 shall maintain a listening watch on VHF-FM channel 16. This radio watch must be maintained by a person who can speak the English language.

(5) The Coast Guard considers the following areas to be narrow channels or fairways for the purpose of enforcing the International and Inland Rules of the Road:

(6) a. All one-way traffic lanes and precautionary zones in the San Francisco Bay eastward of the San Francisco Approach Lighted Whistle Buoy SF.

(7) b. South San Francisco Bay channels between the termination of the Traffic Separation Scheme in the vicinity of San Francisco Bay North Channel Lighted Buoy 1 (37°49'54"N., 122°24'30"W.) and Redwood Creek Entrance Light 2.

(8) c. Redwood Creek between Redwood Creek Entrance Light 2 and Redwood Creek Daybeacon 21.

(9) d. Pinole Shoal Channel in San Pablo Bay between the termination of the Traffic Separation Scheme at San Pablo Bay Channel Light 7 and the Carquinez Strait highway bridge.

(10) e. Carquinez Strait between the Carquinez Strait highway bridge and the Benicia-Martinez highway bridge.

(11) f. Suisun Bay Channels between the Benicia-Martinez Highway Bridge and Suisun Bay Light 34.

(12) g. New York Slough between Suisun Bay Lighted Buoy 30 and San Joaquin River Light 2.

(13) h. San Joaquin River from San Joaquin River Light 2 to the Port of Stockton.

(14) i. Sacramento River Deep Water Ship Channel from Suisun Bay Light 34 to the Port of Sacramento.

(15) j. Oakland Harbor Bar Channel.

(16) k. Oakland Outer Harbor, including the Outer Harbor Entrance Channel.

(17) l. Oakland Inner Harbor from the Inner Harbor Entrance Channel to, and including, the Brooklyn Basin South Channel.

(18) m. Alameda Point Naval Channel.

(19) n. Southampton Shoal Channel.

(20) o. Richmond Harbor Entrance Channel.

(21) p. Point Potrero Reach and Turn.

(22) q. Richmond Harbor Channel.

(23) r. Santa Fe Channel.

(24) s. Mare Island Strait between Mare Island Strait Light 2 and Mare Island Causeway Bridge.

(25) The above listing of narrow channel or fairway areas is not intended to be exhaustive. Rather it identifies deep-draft navigation areas where commercial and public vessels routinely operate and where small craft can impede the safe transit of larger vessels if extreme care is not exercised. Narrow Channels, Inland-Navigation Rule 9, applies.

COLREGS Demarcation Lines

(26) The lines established for San Francisco Bay are described in **80.1142**, chapter 2.

Chart 18645

(27) The entrance to San Francisco Bay is through **Gulf of the Farallones** and the narrow Golden Gate. The gulf extends from Point San Pedro on the S for 34 miles to Point Reyes on the N, and has a greatest width of 23 miles from Farallon Islands on the W to the mainland.

(28) In clear weather many prominent features are available for use in making San Francisco Bay, but in thick weather the heavy traffic and the currents, variable in direction and velocity, render the approaches difficult and dangerous. Point San Pedro, Montara Mountain, Farallon Islands, Mount Tamalpais, and Point Reyes are prominent in clear weather and frequently can be seen when the land near the beach is shut in by low fog or haze. Radar navigation on the approach to San Francisco Bay is not difficult because of the numerous distinctive and high relief of targets available. Southeast Farallon Island, Point Reyes, Double Point, Bolinas Point, Duxbury Point, Rocky Point, Point Bonita, San Pedro Rock and Point, and Pillar Point are good radar targets.

(29) The first 8 miles of coast from Point San Pedro to San Francisco Bay entrance consists of whitish bluffs that reach a height of 600 feet, then a 3-mile sand beach extends to the entrance. **Shelter Cove**, on the N side of Point San Pedro, provides shelter from the E storms with good holding ground in gray sand bottom. **San Pedro Rock**, close to the point and 100 feet high, also gives some protection in S weather.

(30) The **Gulf of the Farallones National Marine Sanctuary** has been established to protect and preserve the marine birds and mammals, their habitats, and other natural resources in the waters surrounding the Farallon Islands and Point Reyes, and to ensure the continued availability of the area as a research and recreational resource. The sanctuary encompasses the waters off Bodega Head and Point Reyes, and the waters surrounding Farallon Islands. The sanctuary includes Bodega Bay but not Bodega Harbor. Recreational use of the area is encouraged. (See **15 CFR 922**, chapter 2, for limits and regulations.)

(31) **Farallon Islands**, 23 miles W of San Francisco Bay entrance, are rocky islets extending NW for 7 miles. **Southeast Farallon**, the largest of the group, actually consists of two islands separated by a narrow impassable gorge. The larger E island is pyramidal in shape and 350 feet high; a small-boat landing is on the S side. **Farallon Light** (37°41'57"N., 123°00'06"W.), 358 feet above the water, is shown from a white conical tower on the highest peak of the island. Dwellings are on the lowland on the S side of the island. **Fisherman Bay**, just N of Farallon Light, is somewhat protected by several rocky islets on the W side and affords anchorage in 8 fathoms in the outer part. Boats can be landed on a small sand beach on the largest islet.

(32) **Hurst Shoal**, 0.6 mile SE of Farallon Light, is covered 22 feet and breaks only in heavy weather.

(33) **Middle Farallon**, 2.3 miles NW of the light, is a 20-foot single black rock 50 yards in diameter; several rocks covered 5 to 7 fathoms are within 0.7 mile S and SW of it.

(34) **North Farallon**, 6.5 miles NW of Farallon Light, consists of two clusters of bare precipitous islets and rocks from 91 to 155 feet high, 0.9 mile in extent, and 0.3 mile wide; submerged rocks surround them.

(35) **Fanny Shoal**, 9.8 miles NW of Farallon Light and 14 miles SW of Point Reyes, is 2 miles in extent and covered 2 to 30 fathoms. **Noonday Rock**, covered 13 feet, rises abruptly from 20 fathoms and is the shallowest point of the shoal; it is the principal danger in the N approach to San Francisco Bay. A lighted bell buoy is about 0.7 mile W of the rock. Noonday Rock derives its name from the clipper ship that struck it in 1862 and sank within an hour, in 40 fathoms.

(36) **Cordell Bank**, 27 miles NW of Farallon Light and 20 miles W of Point Reyes, is about 6 miles long and 3 miles wide; the bank is covered 20 to 40 fathoms, but depths increase rapidly outside it.

(37) The **Cordell Bank National Marine Sanctuary** has been established to protect and conserve the special, discrete, highly productive marine area of Cordell Bank and its surrounding waters and to ensure the continued availability of the areas ecological, research, educational, aesthetic, historical, and recreational resources. (See **15 CFR 922,** chapter 2, for limits and regulations.)

Chart 18647

(38) **Point Reyes**, 18 miles N of Farallon Light, is a bold, dark, rocky headland 612 feet high at the W and higher extremity of a ridge running in an E direction for 3 miles. It is an excellent radar target in thick weather. There is lowland N of the point, so that from N and S, and from seaward in hazy weather, it usually appears as an island. The point is visible for over 25 miles.

(39) **Point Reyes Light** (37°59.7'N., 123°01.4'W.), 265 feet above the water, is shown from a platform on top of a square building on the W extremity of the point. A fog signal is at the light. Two rocks, 275 yards W of the light, are covered about 3 feet and break in a moderate swell.

(40) **Drakes Bay**, named after English explorer Sir Francis Drake, who anchored here in 1579, is NE of the 1-mile-long 200-foot-high, narrow peninsula that forms the easternmost part of Point Reyes. White cliffs

commence at the SW angle of the bay and curve round to the NE for about 6 miles, ending at high white sand dunes. This curving shoreline forms Drakes Bay, which affords good anchorage in depths of 4 to 6 fathoms, sandy bottom, in heavy NW weather. Several lagoons back of the N shore empty into the bay through a common channel which is navigable by shallow-draft vessels with local knowledge.

(41) **Chimney Rock** lies close under the outer end of the Drakes Bay peninsula. The area between Chimney Rock and the 5-fathom curve, 0.4 mile E and SE, breaks in moderate weather. A lighted whistle buoy is moored 0.6 mile SE of the rock.

(42) Drakes Bay is used extensively in heavy NW weather and many fishing vessels operate from here during the season. A fish wharf is about midway along the inner side of the peninsula. A visible wreck is about 100 feet E of the fish wharf in about 37°59'41"N., 122°58'19"W. Visible and submerged piles W of the fish wharf are a hazard.

(43) From the sand dunes near the E part of Drakes Bay, cliffs 100 to 200 feet high extend 5 miles SE to **Double Point**, which has two high spurs, 0.4 mile apart, projecting 200 to 300 yards from the general coastline. A small 47-foot-high island is 300 yards off the NW spur, and a 54-foot-high rock is close under the longer and lower SE spur. From Double Point to Bolinas Point, about 3.5 miles SE, the coast is bold with high cliffs behind narrow sand beaches.

(44) **Bolinas Point**, 15.3 miles SE of Point Reyes Light, is 160 feet high and the W extremity of the comparatively level tableland extending E to Bolinas Lagoon. An aerolight and numerous radio towers are 0.6 mile N of the point.

(45) **Duxbury Point**, 16.5 miles SE of Point Reyes Light, is 160 feet high and yellow in color. The point is the S edge of the tableland W of Bolinas Lagoon.

(46) **Duxbury Reef**, extending 1.2 miles SE of Duxbury Point, is long, narrow, and partly bare at low water. A ledge covered 30 to 36 feet extends from the reef to about 1.4 miles S of the point; a lighted whistle buoy is about 2 miles S of the point. Great care must be exercised in passing this area.

Warning

(47) It was reported that in heavy weather strong N currents resulting from prolonged S winds may exist in the area from Duxbury Reef to Golden Gate.

Chart 18649

(48) **Bolinas Bay**, E of Duxbury Point, is an open bight 3.5 miles wide between Duxbury Point and Rocky Point. The bay affords shelter in NW weather in 24 to 36 feet, sandy bottom. Care must be taken to avoid Duxbury Reef and the dangers extending up to 0.7 mile E of it. **Bolinas Lagoon** is separated from the bay by a narrow strip of sandy beach that is cut by a narrow shifting channel. The lagoon is shoal and entered only by small boats with local knowledge. The entrance has a depth of less than 3 feet.

(49) **Rocky Point** is 100 feet high and shelving. Numerous detached rocks are within 200 yards of the high and precipitous cliffs on the S side of the point.

(50) The 6-mile coast between Rocky Point and Point Bonita is very rugged and broken. The cliffs, which are seaward ends of spurs from Mount Tamalpais, rise to heights of over 500 feet and are cut by deep narrow valleys stretching inland.

(51) **Point Bonita**, on the N side of the entrance to Golden Gate, is a sharp black cliff 100 feet high, increasing to 300 feet on its seaward face, 0.3 mile N. From NW it shows as three heads. **Point Bonita Light** (37°48.9'N., 122°31.8'W.), 124 feet above the water, is shown from a 33-foot white tower on the S head. A fog signal is at the light. A tower and radar antenna operated by the San Francisco Vessel Traffic Service is prominent on the N head about 0.3 mile from the light. In summer the cliffs are white with bird droppings, but the first heavy rain restores them to their natural black color. There are a few detached rocks surrounding the point, but these do not extend over 200 yards offshore.

(52) **Bonita Cove**, E of Point Bonita, is occasionally used as an anchorage by small vessels. The anchorage is close under Point Bonita in about 36 feet.

(53) **Mount Tamalpais**, 7 miles N of Point Bonita, is visible for over 60 miles in clear weather. From S and W it shows three summits, the westernmost with two radar domes is the highest and the easternmost with a lookout tower is the sharpest. The mountain is covered with bushes and scrub trees, giving it a dark appearance which contrasts strongly with the surrounding hills, especially in summer when the hills assume a light reddish color.

(54) **San Francisco Approach Lighted Whistle Buoy SF** (37°45.0'N., 122°41.6'W.) is 9 miles WSW of San Francisco Bay entrance. The buoy is red and white and is equipped with a racon and strobe light.

(55) **San Francisco Bar**, a semicircular shoal with depths less than 36 feet, is formed by silt deposits carried to the ocean by the Sacramento and San Joaquin River systems. The bar extends from 3 miles S of Point Lobos to within 0.5 mile of Point Bonita off the southern coast of Marin Peninsula; the extreme outer part is about 5 miles WSW of San Francisco Bay entrance. **Potatopatch Shoal**, the N part of the bar on **Fourfathom Bank**, has reported depths of less than 23

Golden Gate and San Francisco Bay
Image courtesy of US Army Corps of Engineers

feet. The name is said to have originated from the fact that schooners from Bodega Bay frequently lost their deck load of potatoes while crossing the shoal. The S part of the bar has depths of 31 to 36 feet.

Warning

(56) Very dangerous conditions develop over the bar whenever large swells, generated by storms far out at sea, reach the coast. A natural condition called shoaling causes the large swells to be amplified and increase in height when they move over the shallow water shoals. This piling up of the water over the shoals is worsened during times when the tidal current is flowing out (ebbing) through the Golden Gate. Outbound tidal current is strongest about 4 hours after high water at the Golden Gate Bridge and attains a velocity in excess of 6 knots at times. The incoming large swells are met by outbound tidal current causing very rough and dangerous conditions over the bar. Steep waves to 20 or 25 feet have been reported in the area. Mariners should exercise extreme caution as the bar conditions may change considerably in a relatively short period of time.

(57) **The most dangerous part of the San Francisco Bar is considered to be Fourfathom Bank. Bonita Channel, between the shoal and the Marin coast, can also become very dangerous during large swell conditions. The safest part of the bar is the Main Ship Channel through the center of the bar. But even that area can be extremely dangerous when the tidal current is ebbing.**

(58) **Golden Gate**, the passage between the ocean and San Francisco Bay, is 2 miles wide at the W end between Point Bonita and Point Lobos, but the channel is reduced in width to 1.5 miles by Mile Rocks and to less than 0.7 mile by the Golden Gate Bridge pier. Depths in the passage vary from 108 feet to over 300 feet.

(59) **Point Lobos**, the S entrance point to the Golden Gate, is high, rocky, and rounding with black rugged cliffs at its base. A large water tank is on the summit. The **Cliff House** is near the S part of the W face of the point; high and rocky **Seal Rocks** are just offshore.

(60) **Mile Rocks**, 700 yards NW of the sharp projecting point off **Lands End** on the N face of Point Lobos, are two small 20-foot-high black rocks about 100 feet apart. **Mile Rocks Light** (37°47.6'N., 122°30.6'W.), 49 feet above the water, is shown from an orange and

white horizontally banded tower on the outer and larger rock; a fog signal is at the light.

(61) Passage between Mile Rocks and Point Lobos should not be attempted because of the covered and visible rocks extending over 300 yards from shore and the rocks covered 6 and 14 feet S of Mile Rocks Light.

(62) The S shore of the Golden Gate extends in a gentle curve NE for 2 miles to Fort Point, forming a shallow bight called **South Bay**. The cliffs rise abruptly from narrow beaches, except near the middle of the bight where a valley terminates in a sand beach 0.3 mile long. Sailing craft are sometimes obliged to anchor here when becalmed, or when meeting an ebb current, to avoid drifting onto Mile Rocks, but the anchorage is uncomfortable and it is difficult to get underway from it.

(63) **Fort Point** projects slightly from the high cliffs and is marked by a square red brick fort with a stone seawall in front. The fort, which is obscured by the S end of the Golden Gate Bridge, and 29 acres of land adjacent to the fort are part of the Fort Point National Historic Site. The fishing wharf at Fort Point is unsafe for mooring because of surge conditions.

(64) The N shore of the Golden Gate is bold and rugged, with reddish cliffs rising abruptly from the water's edge to over 600 feet.

(65) **Point Diablo**, 1.4 miles E of Point Bonita, rises abruptly from a 0.1-mile sharp projection to a height of over 200 feet with deep water on all sides. A light is shown from a white house on the end of the point; a fog signal is at the light.

(66) The mile-long shore between Point Diablo and Lime Point forms a shallow bight with steep cliffs. Near the middle of the bight the cliffs are cut by a narrow valley which ends in a low beach at the shore.

(67) **Lime Point**, 2.5 miles E of Point Bonita, is high and precipitous, and rises abruptly to a height of nearly 500 feet in less than 0.3 mile. A light is shown from a pole at the end of the point.

(68) **Golden Gate Bridge**, crossing the Golden Gate from Fort Point to Lime Point, has a clearance of 225 feet at the center of the 4,028-foot-wide channel span between the 740-foot-high supporting towers; the least clearance of 211 feet at the S pier. Two scaffolds located in the main navigation channel span and one scaffold in the southern span reduce vertical clearance by approx 12 feet and are lighted at night with red lights. The Golden Gate Bridge District will move the scaffolding upon 48 hours advance notice for the passage of vessels. Scaffolding is moved to the piers when not in use. Mariners should contact the Golden Gate Bridge at 415-923-2230. The center of the span is marked by a fixed green light with three fixed white lights in a vertical line above it and by a private fog signal and racon; a private light and fog signals are on the S pier. When approaching Golden Gate Bridge in the eastbound traffic lane in fog, channel Buoy 2 sometimes provides a radar image that indicates the location of the S pier of the bridge. Aero obstruction lights mark the tops of the bridge towers. (Do not rely on radiobeacon bearings when within 0.5 mile of the bridge.)

Traffic Separation Scheme

(69) **Traffic Separation Scheme San Francisco** has been established off the entrance to San Francisco Bay. (See chart 18645.) The scheme is composed of **directed traffic areas** each with one-way inbound and outbound **traffic lanes** separated by defined **separation zones; a precautionary area;** and a **pilot boat cruising area.** The Scheme is recommended for use by vessels approaching or departing San Francisco Bay, but is not necessarily intended for tugs, tows, or other small vessels which traditionally operate outside of the usual steamer lanes or close inshore.

(70) **The Traffic Separation Scheme has been designed to aid in the prevention of collisions at the approaches to major harbors, but is not intended in any way to supersede or alter the applicable Navigation Rules. Separation zones are intended to separate inbound and outbound traffic lanes and to be free of ship traffic, and should not be used except for crossing purposes. Mariners should use extreme caution when crossing traffic lanes and separation zones.** (See **167.1 through 167.15** and **167.400 through 167.451**, chapter 2, for limits and regulations and Traffic Separation Schemes, chapter 1, for additional information.)

(71) When not calling at San Francisco mariners are urged to sail direct between Point Arguello and Point Arena so as to pass the San Francisco Bay area to the W of the Farallon Islands and clear of the San Francisco Traffic Separation Scheme. In this manner through coastwise traffic will avoid crossing the directed traffic areas and/or precautionary area.

(72) The **precautionary area** off the entrance to San Francisco Bay is inscribed by a circle with a radius of 6 miles centered on San Francisco Approach Lighted Whistle Buoy SF (37°45.0'N., 122°41.6'W.) with the traffic lanes fanning out from its periphery. The W half of the circle has depths of 15 to 30 fathoms, the E half has lesser depths of 4 to 21 fathoms. Extreme caution must be exercised in navigating within the precautionary area inasmuch as both incoming and outgoing vessels use the area in making the transition between San Francisco Main Ship Channel and one of the established directed traffic areas as well as maneuvering to embark and disembark pilots. It is recommended that all vessels in the precautionary area guard VHF-FM channels 13 and 14.

(73) A circular area to be avoided, with a 0.5 mile radius centered on the San Francisco Approach Lighted Whistle Buoy SF, has been established in the precautionary area of the San Francisco Traffic Separation Scheme. This zone has been established for the protection of the lighted whistle buoy.

(74) Mariners are cautioned that San Francisco Approach Lighted Whistle Buoy SF cannot be safely used as a leading mark to be passed close aboard, and are requested to stay outside that area.

(75) The **pilot boat cruising area** is about 1 mile NE of the San Francisco Approach Lighted Whistle Buoy SF. (See pilotage for San Francisco Bay, this chapter.)

Northern Traffic Lanes:

Traffic Lane, Inbound

(76) The N approach to San Francisco is between Point Reyes and the Farallon Islands through the N inbound traffic lane that tapers from 1.7 miles to 1 mile wide in its length of about 15.4 miles. Entering the traffic lane at a point in about 37°55.0'N., 123°05.2'W., a course of **120°** follows the centerline of the traffic lane to the junction with the precautionary area; thence an ESE course for about 7 miles leads to the pilot boat cruising area. The least known depth in the traffic lane is 29 fathoms.

Traffic Lane, Outbound

(77) The N exit from San Francisco Bay by outbound vessels is 6 miles, 312° from the San Francisco Approach Lighted Whistle Buoy SF through the N outbound traffic lane that expands from 1 mile to 1.7 miles wide in its length of about 15.4 miles. A course of **305°** follows the centerline of the traffic lane to its end; thence steer usual courses to destination. Least known depth in the traffic lane is 25 fathoms.

Separation Zone

(78) The N separation zone between the inbound and outbound traffic lanes tapers from 1.7 miles wide at its outer end to 1 mile wide at its junction with the precautionary area and is centered on a line bearing **302½°** and passing through San Francisco Approach Lighted Whistle Buoy SF and San Francisco Northern Traffic Lane Lighted Bell Buoy N (37°48.2'N., 122°47.9'W.).

Western Traffic Lanes:

Traffic Lane, Inbound

(79) The SW approach to San Francisco Bay is SE of the Southeast Farallon Island through the main inbound traffic lane which tapers from 1.7 miles to 1 mile wide in its length of about 9.4 miles. Entering at a point in about 37°35.8'N., 122°56.9'W., a course of **058½°** follows the centerline of the traffic lane to the junction with the precautionary area; thence a NE course for about 6.7 miles leads to the pilot boat cruising area. The least known depth in the traffic lane is 28 fathoms, except for the charted wreck 6.7 miles **226°** from San Francisco Approach Lighted Whistle Buoy SF which has a minimum depth of at least 9½ fathoms.

Traffic Lane, Outbound

(80) The SW exit from San Francisco Bay by outbound vessels is 6 miles, 244° from the San Francisco Approach Lighted Whistle Buoy SF through the main outbound traffic lane that expands from 1 mile to 1.7 miles wide in its length of about 8.8 miles. A course of **247°** follows the centerline of the traffic lane to its end; thence steer usual courses to destination. The least known depth in the traffic lane is 29 fathoms.

Separation Zone

(81) The main separation zone between the inbound and outbound traffic lanes tapers from 1.7 miles wide at its outer end to 1 mile wide at its junction with the precautionary area and is centered on a line bearing 242½° from San Francisco Main Traffic Lane Lighted Gong Buoy W (37°41.5'N., 122°47.7'W.).

Southern Traffic Lanes:

Traffic Lane, Inbound

(82) The S approach to San Francisco Bay is through the 1-mile wide Southern Traffic Lane (Inbound) that has a length of about 12 miles. Entering at a point in about 37°27.0'N., 122°39.5'W., a **000°** course follows the centerline of the traffic lane to the junction with the precautionary area; thence a NNW course for about 6 miles leads to the pilot boat cruising area. Least known depth in the traffic lane is about 21 fathoms.

Traffic Lane, Outbound

(83) The S exit from San Francisco Bay for outbound vessels is about 6 miles **195°** from the San Francisco Approach Lighted Whistle Buoy SF through the 1-mile wide Southern Traffic Lane (Outbound) that has a length of about 12 miles. A course of **180°** follows the centerline of the traffic lane to its end. Least known depth in the traffic lane is about 25 fathoms.

Separation Zone

(84) The S separation zone between the inbound and outbound traffic lanes is about 2 miles wide and 12 miles long, centered on a line bearing **000°** from San Francisco South Traffic Lane Lighted Bell Buoy S (37°39'00"N., 122°41'42"W.).

(85) An additional **Traffic Separation Scheme** has been established through the Main Ship Channel and Golden Gate into San Francisco Bay. The scheme consists of one-way **traffic lanes** separated by a **separation line** and, after entry into San Francisco Bay, includes a **precautionary area**, a **regulated navigation area**, and **recreation areas**. For purposes of INTERNATIONAL NAVIGATION Rule 10, this scheme has been adopted by IMO seaward of the demarcation line. (See Traffic Separation Schemes, chapter 1, for additional information).

Vessel Traffic Service

(86) **Vessel Traffic Service San Francisco** serves San Francisco Bay, its seaward approaches and its tributaries as far inland as Stockton and Sacramento. Participation is mandatory for certain vessels within navigable waters of the United States. (See **161.1 through 161.23 and 161.50**, chapter 2, for limits and regulations.)

(87) The purpose of the San Francisco Vessel Traffic Service (VTS) is to coordinate the safe, secure, and efficient transit of vessels in San Francisco Bay including its approaches and tributaries in an effort to prevent accidents with the possible associated loss of life, damage to property and the environment. VTS also fully supports Coast Guard and other public service missions through its unique communications and surveillance capabilities. The Vessel Traffic Center (VTC), located on Yerba Buena Island in San Francisco, is staffed 24 hours a day, seven days a week by Coast Guard personnel.

(88) The VTS uses radar, closed-circuit television and VHF-FM radiotelephone to gather information, and uses VHF-FM radiotelephone to disseminate information. Information provided by the VTS is mostly generated from vessel reports; this information can therefore be no more accurate than the reports received from mariners coupled with the ability of VTS equipment to verify those reports. The VTS may not have first hand knowledge of hazardous circumstances existing in the VTS area. Unreported hazards may still confront mariners at any time. This service does not in any way supersede or alter applicable Navigation Rules. The owner, operator, charterer, master, or person directing the movement of the vessel remains at all times responsible for the manner in which the vessel is operated and maneuvered, and is responsible for the safe navigation of the vessel under all circumstances.

(89) The VTS maintains a continuous radiotelephone watch on VHF-FM channels 12, 13, 14, and 16. The VTS is also equipped to communicate on all VHF-FM radiotelephone channels. The radio call sign is "San Francisco Vessel Traffic Service." After communications have been established, the abbreviated call sign "Traffic" may be used. Mariners may also contact VTS by cellular or land-line telephone at (415) 556-2760.

(90) The VTS area is divided into two sectors: offshore and inshore. The **Offshore Sector** consists of the ocean waters within a 38 nautical mile radius of Mount Tamalpais (37°55.8'N., 122°34.6'W.) excluding the San Francisco Offshore Precautionary Area. (The San Francisco Offshore Precautionary Area is the area within a six-mile radius of the San Francisco Approach Lighted Whistle Buoy SF.) Channel 12 VHF-FM is the designated working frequency for the Offshore Sector. At minute 15 and minute 45 of each hour, VTS makes broadcasts giving the positions, courses, and speeds of participating vessels in the sector.

(91) The **Inshore Sector** consists of the waters of the San Francisco Offshore Precautionary Area eastward to San Francisco Bay and its tributaries extending inland to the ports of Stockton, Sacramento, and Redwood City. VHF-FM Channel 14 is the designated working frequency for the Inshore Sector.

Reporting points for the San Francisco VTS area are as follows:

Offshore Sector:

(92) • the "N", "W", "S" buoys marking the entrance to the Traffic Separation Scheme lane to be used

(93) • the seaward end of the Traffic Separation Scheme lane used

(94) • the outer limit of the Offshore Sector 38 nautical miles from Mount Tamalpas.

(95) (These points are given as for an outbound transit; inbound vessels use the same points in reverse order.)

Inshore Sector:

(96) • Pilot Area/Point of Entry into VTS area

(97) • San Mateo Bridge

(98) • Redwood Creek Entrance Light 2

(99) • Dumbarton Bridge

(100) • Richmond-San Rafael Bridge

(101) • "E" buoy in San Pablo Bay

(102) • Petaluma Channel Daybeacons 1, 2, and 19

(103) • Mare Island Strait Light 1 (when inbound/outbound Mare Island Strait)

(104) • Mare Island Causeway Bridge

(105) • Carquinez Bridge

(106) • Southern Pacific Railroad Bridge

(107) • Naval Weapons Station Concord (Port Chicago)

(108) • New York Point

(109) • Antioch Bridge

(110) • Prisoners Point

(111) • Rio Vista Bridge

(112) • Sacramento Deep Water Channel Lights 51 and 65

(113) • when secured at the destination or when departing the VTS area

(114) For detailed information about the VTS, go to the Coast Guard's VTS website at **www.uscg.mil/d11/vtssf**. The site contains links to the Users Manual, Communications Guide, Regulated Navigation Areas, and other information particularly useful to commercial and recreational mariners. Vessels operating within the VTS Area defined as VTS Users are reminded of the requirement to carry a copy of the National VTS Regulations aboard their vessel and are recommended to carry a copy of the San Francisco VTS User's Manual.

Routes

(115) The routes for approaching San Francisco Bay are described in chapter 3 and at the beginning of this chapter under San Francisco Traffic Separation Scheme.

(116) Taking care to avoid the circular 0.5-mile-radius area centered on San Francisco Approach Lighted Whistle Buoy SF, steer a course to enter the charted eastbound San Francisco Bay traffic lane. The recommended route for outbound vessels is via the charted westbound San Francisco Bay traffic lane to the precautionary area of the San Francisco Traffic Separation Scheme.

(117) Vessels with a draft of 45 feet or greater bound for the deepwater anchorages S of the San Francisco-Oakland Bay Bridge or N to San Pablo Bay and Carquinez Strait should use the charted **Deep Water Route** E of the Golden Gate Bridge. Vessels intending to use the Deep Water Route should notify San Francisco Traffic before passing Mile Rocks. Deep draft vessels will neither meet nor overtake in the Deep Water Route. Deep draft vessels bound for Anchorage 9, S of San Francisco-Oakland Bay Bridge, should pass E of Blossom Rock then through the C-D or D-E spans of the bridge.

(118) From the Golden Gate Bridge, vessels with drafts less than 45 feet bound for San Pablo Bay and Carquinez Strait set a course to follow the charted Traffic Separation Scheme to the precautionary area E of Alcatraz Island, thence N through the charted Traffic Separation Scheme to San Pablo Bay and Carquinez Strait.

(119) Mariners are cautioned that the traffic lanes between Angel Island and North Point are frequently crossed by tugs with barges, and self-propelled dredges. These vessels normally transit to and from the dumping ground S of Alcatraz Island.

(120) The **San Francisco Harbor Safety Committee**, in conjunction with the Coast Guard, has established a **Ferry Traffic Routing Protocol** for: the area surrounding the Ferry building terminal along the waterfront of San Francisco, the waters of Central San Francisco Bay, and the waters of San Pablo Bay. The protocol is intended to increase safety in the area by reducing traffic conflicts. Ferryboat operators and other mariners should be aware of these safety measurers and adhere to the procedures set forth in the protocol. For additional information, see the San Francisco Vessel Traffic Service website: **www.uscg.mil/d11/vtssf.**

Channels

(121) The principal approach to San Francisco Bay is through the buoyed **Main Ship Channel** over the bar on bearing **070°** toward Alcatraz Light. The project depth is 55 feet in the 2,000-foot wide channel. (See Notice to Mariners and latest edition of chart for controlling depths.) In September 1998, a sunken wreck was reported W of Buoy 8, in about 37°46'30"N., 122°35'21"W. Caution is advised when transiting the area.

(122) From N, coasters and other vessels use buoyed **Bonita Channel**, between the E end of Potatopatch Shoal and the shore N of Point Bonita. The channel is narrowed to 0.2 mile by several rocky patches including **Sears Rock**, covered 19 feet, 1.2 miles NW of Point Bonita.

Regulated navigation areas

(123) **Security zones** have been established in the entrance to San Francisco Bay (Main Ship Channel) and Golden Gate. (See **165.1183 and 165.1187**, chapter 2, for limits and regulations.)

(124) A **Regulated Navigation Area** has been established in Golden Gate and San Francisco Bay. (See **165.1181**, chapter 2, for limits and regulations.)

Caution

(125) Vessels departing San Francisco Bay through Bonita Channel on the ebb current must use extreme caution when crossing the tide rip off Point Bonita. When the bow passes the rip the stern is thrown to port and, unless promptly met, the vessel will head straight for the rocks off the point. Vessels favoring Potatopatch Shoal too closely have reported a set toward it.

(126) Bonita Channel should not be used by large vessels. Strangers wishing to cross the bar in thick weather should either wait for clearing or take a pilot. Fog is prevalent in the Golden Gate; radar is a great aid here.

(127) It has been reported, however, that radar targets at the entrance to San Francisco Bay may be difficult to identify at times because of ghost echoes.

Currents

(128) The currents at the entrance to San Francisco Bay are variable, uncertain, and at times attain considerable velocity. Immediately outside the bar there is a slight current to the N and W, known as the **Coast Eddy**

Current. The currents at San Francisco Approach Lighted Whistle Buoy SF are described in some detail in the Tidal Current Tables. The currents most affecting navigation in this vicinity are the tidal currents. Across the bar the flood current converges toward the entrance and is felt sooner around Point Lobos and Point Bonita than across the Main Ship Channel. The ebb current spreads from the entrance over the bar, but the main strength is WSW, parallel with the S edge of the Potatopatch Shoal, and through the Main Ship Channel. In the Bonita Channel the ebb current is weak and of short duration; the flood current begins so early that during the last half of the ebb in the Golden Gate the current in Bonita Channel forms an eddy flowing SE around Point Bonita into Bonita Cove.

(129) In the vicinity of Mile Rocks the currents attain considerable velocity within a few minutes after slack on both flood and ebb.

(130) In the Golden Gate the flood current sets straight in, with a slight tendency toward the N shore, with heavy overfalls both at Lime Point and Fort Point when strong. It causes an eddy in the bight between Point Lobos and Fort Point. The ebb current has been observed to have a velocity of more than 6.5 knots between Lime Point and Fort Point, and it sets from inside the bay on the N side toward the latter point. Like the flood current, it causes an eddy in the bight between Fort Point and Point Lobos, and a heavy rip and overfall reaching about 0.25 mile S from Point Bonita. At the Golden Gate Bridge, large current eddies near the foundation piers cause ships to sheer off course.

(131) Daily current predictions are given in the Tidal Current Tables. In October 1991, tidal currents at San Francisco Bay Entrance (Golden Gate) were reported to deviate significantly from official predictions published by the National Ocean Service. Mariners should exercise caution and discretion in the use of published tidal current predictions. Also, previously available Tidal Current Charts of San Francisco Bay have been withdrawn.

Weather, San Francisco Bay

(132) Winter winds, from about November through February, are variable. The procession of lows and highs brings frequent wind shifts and a great range of speeds. Calms occur from 15 to 40 percent of the time inside the bay and about 10 to 12 percent outside, while extreme winds of 50 knots with gusts of 68 knots (January 1951) have occurred in winter. Strongest winter winds are often out of the SE through SW, ahead of a cold front; sometimes strong W through N winds follow. Inside the bay, gales occur less than 1 percent of the time; this rises to around 2 percent in the ocean approaches. December is the month with most frequent gales followed closely by January and May. Gales are unheard of during August and September.

(133) Spring is often the windiest season and June the windiest month, as reflected by the average wind speeds which range from about 6 to 12 knots inside the bay and up to 15 knots in the ocean approaches. While the extremes of winter are less likely, winds in the 17- to 28-knot range are more likely. Inside the bay, they occur 5 to 10 percent of the time, except at exposed locations like San Francisco International Airport, where winds pour through the San Bruno Gap at these speeds up to 25 percent of the time. Over the ocean approaches, they blow in this 17- to 28-knot range up to 40 percent of the time. Wind directions in spring become less variable as strong NW winds are generated by the Pacific High and reinforced by the sea breeze. SW and W winds are also common, as directions are deflected and channeled by the hills that surround the bay.

(134) Summer winds are the most constant and predictable of all. Wind directions inside the bay are often local, but they are derived from the NW through N flow that persists outside the bay. At San Francisco International Airport, for example, winds are out of the W through NW 80 percent of the time; they usually back to the SW briefly in the early morning hours. In the southern part of the bay, NW through N winds come funneling in through the San Bruno and Crystal Springs Gaps, aided by the onshore sea breeze. Along the E shores, these two factors result in a SW through NW flow. Over the northern part of the bay, winds S of W prevail as the W flow through the Golden Gate is deflected N by topography and the heating of the Petaluma and Napa Valleys. If an area is completely protected from the prevailing flow, then a local onshore sea breeze will most likely develop. At Petaluma River entrance, summer winds out of the SE are most common.

(135) This flow is usually so persistent that it continues through the night, with only a reduction in speed and perhaps a slight shift in direction. Only over the extreme southern part of the bay does an offshore land breeze develop at night–and even here it is an infrequent occurrence.

(136) Wind speeds over the bay increase during the day, owing to the strengthening of the sea breeze, and then fall off late at night. In general, depending upon exposure, winds blow at 3 to 10 knots from 2300 to 0900. During the morning hours, they increase to 6 to 15 knots. By early afternoon they are blowing at 14 to 20 knots, and this usually lasts until early evening, when they begin to drop off to nighttime levels. This same diurnal variation exists over the Gulf of the Farallones,

with speeds sometimes reaching 25 knots or so during the afternoon.

(137) Few changes take place in this summertime pattern, but one that occasionally disrupts it occurs when a high-pressure system gets situated over the Pacific Northwest. During these periods, a NE flow, sometimes very strong, comes whipping down the high plateaus of interior Washington and Oregon and Idaho, across the Cascades and Sierra through the coastal valleys and gaps in the inner coast range, to flood the bay region with warm and often hot, dry air. Due to the compression of sinking air, it warms and dries out as it falls into lower elevations. This flow clears the fog and stratus from the bay. Sometimes these NE winds are just enough to offset the prevailing flow, but at other times they blow fiercely across the area for a few days. They are so dry that many devastating brush fires have occurred in the bay area during these periods.

(138) The summer conditions last through October, although they are not as persistent in October as the Pacific High weakens and occasional weather fronts affect the area.

(139) Fog is a problem in the San Francisco Bay area, particularly in and around the Golden Gate. The foggiest months at the airport are December and January when, on average, 17 days, report foggy conditions. The foggiest months at the Golden Gate are July and August for reasons discussed later. June is the most fog-free month reporting, on average, only three foggy days. It can be local or widespread, thick or wispy, low or high. It may roll in rapidly from the sea or creep out from the land.

(140) Fog ebbs and flows in cycles, daily and seasonal. They are long-term fluctuations not predictable enough to be termed cycles. Several foggy summers may be followed by several clear ones and one clear summer may be succeeded by a foggy one. Daily and seasonal cycles are more predictable.

(141) Summer fog and stratus are advected off the Pacific by the prevailing onshore winds. They pour through the gaps and passes in the Coast Range and spread out over San Francisco Bay. Low stratus clouds are often referred to as high fog–an accurate term, since fog is simply stratus clouds touching the surface. This high fog is much more prevalent than dense surface fog in the bay.

(142) Several conditions usually exist in summer to create this fog and stratus. The large Pacific High becomes well established off the coast. Its clockwise circulation generates a NW flow along the coast. This drives a cool California current S and even more importantly causes the upwelling of cold water close to the coast. On the E side of the high, air aloft subsides and warms, creating a layer of warm, dry air aloft (inversion). As warm, moist air moves across the Pacific and into the coastal region, it is chilled, first by the California current and then further by the cold pools of coastal water. If the air mass isn't too dry, then condensation through cooling causes fog and stratus to form from the surface, possibly to the height of the inversion (usually 500 to 1,500 feet, 153 to 458 m). This situation occurs often enough to create a semipermanent fog bank off the coast during the summer.

(143) Meanwhile, the inland valleys of California are heated by the summer sun, creating a large thermal low pressure system and setting up a flow from the ocean to the land–sea breeze. This intensifies the normal onshore flow, particularly during the afternoon and evening. This flow is blocked or deflected by the coast ranges except where there are gaps and passes. In the San Francisco Bay area, there are six major gaps, including the largest and only sea-level gap, the Golden Gate. It is the most influential feature in the climate of the bay. Minor gaps and passes are numerous also, resulting in very local conditions as cool, damp ocean air funnels through to the bay.

(144) Under normal summer conditions, a daily cycle is evident. What happens in the Golden Gate usually occurs along the other passes to a lesser degree. Usually a sheet of fog appears in the early forenoon on either side of the bold headlands of the Golden Gate. It becomes more formidable as the day wears on. By late afternoon, it begins to move through the Golden Gate at a speed of about 14 knots, on the afternoon sea breeze. Once inside the bay, it is carried by local winds. Because of warm bay temperatures and other factors, it usually becomes high fog or stratus, E of Alcatraz. The height of the cloud base often lifts to 500 to 1,500 feet (143 to 458 m), and visibilities range from 3 to 7 miles (5 to 11 km) on the E side of the bay. A narrow tongue of fog and stratus sometimes follows a local wind N into San Pablo Bay and then E into Carquinez Strait. Another night wind carries some fog and stratus into the S part of the bay, while the W wind pushes some clouds across the bay through the Golden Gate to Berkeley and the E shores. In a similar pattern, high fog moves over the bay through the other gaps and passes.

(145) As the sun rises, fog and stratus burn off; first from the shore and near-shore areas and then gradually from the middle of the bay. In general, the N part of the bay is the last to be enveloped at night and the first to clear in the morning. Occasionally the stratus is so thick that the bay remains blanketed all day. It is most persistent in the central part of the bay from the Golden Gate to Berkeley.

(146) The foggiest waters lie at the ocean approaches to the Golden Gate. In the Gulf of Farallones, fog signals operate 40 to 50 percent of the time during August, the

worst month. In Bolinas and Drakes Bays, fog is constantly pushed in against the shores. At Point Reyes, the fog signal, 300 feet (92 m) above mean sea level, operates about 45 to 50 percent of the time during July and August. At the entrance to the Golden Gate, fog signals blow about 30 percent of the time during an average August. Frequencies drop slightly in the channel itself, particularly at places like Anita Rock, which is somewhat sheltered by land. However, fog signals in the Golden Gate operate 15 to 25 percent of the time during August. July through September remain the foggiest months. Alcatraz represents the E extent of the frequent dense summer fog.

(147) Once inside the bay, the extent of fog and stratus is determined by the winds, water temperature, and nearby land temperatures. Stratus continues across the bay to Berkeley. Often it is carried N through Southhampton Shoal into San Pablo Bay and then E into Carquinez Strait. Usually it is not touching the surface, so visibilities remain above 5 miles (9 km). Some cool, moist night air also reaches these N waters through Muir Woods Gap, Nicasio Gap, and Estero Lowland. While stratus touches the hills in these areas, it usually overhangs the bay. If nighttime cooling has been sufficient, it can build down to the surface. Fog is only likely to affect Richardson Bay and Raccoon Strait when the wind is a few points S of W. At the entrance to the Petaluma River, August visibilities drop below 7 miles (13 km) on about 6 days, but below 0.5 mile (0.9 km) on only 1 day on the average. In N waters, the narrow stretch through Southhampton Shoal to Carquinez Strait is the most likely place to encounter fog.

(148) While stratus is common at night along the Alameda-Oakland coast, dense fog is rare. Prevailing nighttime conditions are stratus at 500 to 1,900 feet (153 to 580 m) with visibilities of 7 to 15 miles (13 to 28 km), occasionally dropping to 3 to 6 miles (6 to 11 km). At Moffett Field, August visibilities are reduced to less than 7 miles (13 km) on about 8 days, but fall below 0.5 mile (0.9 km) on 1 day, at most. Fog and most often stratus reach the S part of the Bay, mainly through the San Bruno and Crystal Springs Gaps. At San Francisco International Airport, visibilities drop below 0.5 mile (0.9 km) on about 1 day in August.

(149) There are times, however, when the whole bay becomes blanketed by fog. It can occur over a period of several days or a couple of weeks. On the average, it is a weekly cycle. At these times the indraft of air through the gaps is so strong that sea fog penetrates as far E as Sacramento and Stockton. If this flow continues for a few days, cooler ocean air replaces the warm valley air, finally causing the sea breeze mechanism to break down. Winds diminish, and the bay area clears for a few days. Slowly the valley reheats, and the process begins again.

(150) Sea fog occurs infrequently in fall and winter. It is most likely with the warm, moist flow ahead of a frontal system, and it occurs most often near the approaches to and in the Golden Gate. A visibility problem that is most likely in fall is smog. It occurs when an inversion forms at low levels and traps pollutants. At times, the afternoon sea breezes push this smog from San Francisco across the bay to the Berkeley Hills, and a gray, noxious vapor can blanket this part of the bay and drop visibilities to less than 2 miles (4 km). If winds are light, San Francisco can become wrapped in a dense smog that reduces visibilities to below 0.5 mile (0.9 km). These conditions are most likely when a large high-pressure system settles over the bay area.

(151) This high pressure also gives rise to radiation fog, particularly in late fall and winter. Under its clear skies and light winds, land temperatures fall rapidly at night. In low, damp places such as the Delta, this results in a shallow radiation fog. Because this fog forms most readily in regions where tules and other marsh plants grow, they are commonly called "**tule fogs**". Often they are nothing more than a wisp a few feet deep. However, these fogs can build to several hundred feet (>31 m) deep and become dense, particularly if conditions persist for several days. The cool inland areas and the warmer ocean waters tend to create a land breeze on these occasions. In the early morning hours, the fog will drift seaward through the Carquinez Strait and other gaps in the Berkeley Hills, move across the bay to San Francisco and Marin, and roll slowly out the Golden Gate. It is often aided by radiation fog that has formed along the shores of the bay, or sometimes even over the bay itself. Most often, this relatively shallow fog burns off by late morning. Conditions conducive to this phenomenon usually last just a few days.

(152) Tule fog is most likely in December and January, when calm conditions occur up to 40 percent of the time at some locations around the bay. In areas like Richardson Bay, Southampton Shoal, Raccoon Strait, and Carquinez Strait, fog signals operate 10 to 20 percent of the time on the average during these months. The addition of sea fog makes poor visibilities just as frequent in the Golden Gate and over its ocean approaches. Most shore points around the bay are affected much more by winter fog than summer fog. At the entrance to the Petaluma River, visibilities drop below 0.5 mile (0.9 km) on 5 to 8 days per month from October through February. At Oakland, Alameda, Moffett, and San Francisco Airports, visibilities are reduced below 0.5 mile (0.9 km) on an average of 4 to 6 days per month during December and January.

(153) Spring visibilities are usually excellent. March and April are the best months. Strong breezes and a lack of highs inhibit the formation of land fog, while fewer frontal passages reduce the chances of sea fog. Fog signals operate about 7 to 10 percent of the time in the Golden Gate and around the bay. At land stations, visibilities drop below 0.5 mile (0.9 km) on about 1 day per month, and below 7 miles (13 km) on less than 5 days per month. At sheltered locations like Hamilton Air Force Base, these figures are a little higher. Fog is infrequent but often a haze hangs over the bay and surrounds hills in various shapes, such as wreaths and domes. It is one time of the year that fog may be enjoyed.

Pilotage, San Francisco

(154) Pilotage in and out of San Francisco is compulsory for all vessels of foreign registry and U.S. vessels under enrollment not having a federal licensed pilot on board. The San Francisco Bar Pilots provide pilotage to ports in San Francisco Bay and to ports on all tributaries to the bay, including Stockton and Sacramento.

(155) The San Francisco Bar Pilots keep one of two vessels on station at all times, the SAN FRANCISCO or the CALIFORNIA. The pilot boats are 85 feet long with a blue waterline band, international orange hull, and white superstructure. The top of the cabin houses, the mast, and after deck covers are orange. The word "PILOT" is shown on the fore part as well as the port and starboard sides of the midship house. The boat displays the standard day and night signals. The pilot vessel cruises on station 24 hours a day near the San Francisco Approach Lighted Whistle Buoy SF, or, in foul weather, seaward of it. Prior arrangements with the bar pilots' office can be made by telephone (415-393-0457), telex (SF Pilot 415-371-5595), fax messages (415-982-4721), or cable (BARPILOTS, San Francisco). If prior arrangements have not been made with the pilots' office on Pier 9, masters may give these signals upon approaching the San Francisco Approach Whistle Buoy SF:

(156) **Clear visibility:** by day, hoist code flag "G"; by night, four long flashes on the signal lamp. **Limited visibility**: four long blasts and lay to. The pilot boat monitors VHF-FM channels 10, 13, and 16. The pilot boats' radio calls are SAN FRANCISCO WYZ-8288 and CALIFORNIA WYK-4689; the pilot office call is KMG-389; cable address: BARPILOTS, San Francisco. The office monitors VHF-FM channel 10. Masters or agents are requested to advise the pilots whenever there is a change in the draft, arrival or sailing time, or maneuvering or equipment limitations.

(157) The pilots board directly from the pilot boat. Pilot ladders should be rigged clear of all discharges and spouts about 10 feet from the waterline and amidship of the vessel at all times. The ladder must comply with International Maritime Organization (IMO) and IMPA recommendations and be made in one length and not consist of two lengths shackled or lashed together, and should be equipped with spreaders about ten feet apart to comply with SOLAS Regulation 17, Chapter 5, (not in this text). A light must be ready to illuminate the ladder if necessary. Contact pilot boat about 30 minutes prior to arrival to determine on what side the ladder should be rigged. No lines should be attached to the lower end of the ladder. A manrope, heaving line, and a ring buoy with a self-igniting light must be provided; vessel speed, 6 to 8 knots.

(158) Pilot boarding is usually conducted in all but the most severe conditions. Extensive fog conditions are often experienced. Strong currents, accelerated by river freshets in the winter and spring months, often exist and greatly alter the predicted current calculations.

(159) The preferred anchorage for deep-draft vessels in the vicinity of the bar pilots pickup station (San Francisco Approach Lighted Whistle Buoy SF) is an area with a 1 mile radius centered in 37°49'N., 122°42'W. Anchoring offshore is strictly forbidden. Exceptions may be made for vessel engine casualties or severe weather preventing transit into port. Any vessel anchoring outside of established anchorages is required to notify the VTS immediately.

(160) **Inbound tank vessels under escort embark pilots about 1 mile W of San Francisco Approach Lighted Whistle Buoy SF.**

Coast Guard

(161) Golden Gate Coast Guard Station is about 0.4 mile NNE of the bridge at the entrance to Horseshoe Bay. Station Golden Gate is participating in the Coastal Weather Display Program. A 35-foot flag pole is located near the S end of the Coast Guard Station, visible to mariners exiting San Francisco Bay. The following flags will be flown from 1 hour before sunrise to 1 hour after sunset:

(162) Small-craft Warning (One ORANGE pennant – forecasted winds of 25-33 knots)

(163) Gale Warning (Two ORANGE pennants – forecasted winds of 34-47 knots)

(164) Storm Warning (One square RED flag with BLACK square center – forecasted winds of 48-63 knots)

(165) Hurricane Warning (Two square RED flags with BLACK square center – forecasted winds of 64 knots and above)

(166) Weather flags are flown only at select Coast Guard stations to supplement other weather notification sources. Light signals corresponding to these flags are

not displayed at night. In all cases mariners should rely upon National Weather Service broadcasts as their primary source of government provided weather information.

State regulations

(167) **Tank Vessel Escort Regulations** have been established by the State of California for San Francisco, San Pablo, and Suisun Bays. Tank vessel masters, owners, and operators are expected to be familiar and in compliance with the regulations. Failure to be in compliance may result in unsafe transit delays, and fines. The regulations can be found on the internet at **www.dfg.ca.gov**, or may be obtained by calling the California Office of Spill Prevention and Response 24-hour Communications Center at 916-445-0045. Tank vessel masters should contact their agent or vessel manager/owner for additional information. The San Francisco Marine Exchange may also be able to provide mariners with additional information and can be contacted at 915-441-6600.

Chart 18650

(168) **San Francisco**, one of America's great cities, occupies the N portion of the peninsula forming the S entrance to the bay. The 3-mile N shore of San Francisco from the Golden Gate Bridge to the main waterfront includes the **Presidio of San Francisco**; several yacht harbors; Government buildings and piers on Black Point; Aquatic Park; and Fisherman's Wharf. Shoals with depths less than 10 feet extend up to 0.2 mile from the shore.

(169) The charted **recreation area** extending along this shore is intended primarily for use by recreation vessels. It should not be utilized by vessels 300 tons or more for through passage or for any other purpose, except in case of emergency or special circumstances.

(170) **Alcatraz Island**, 2.5 miles E of the Golden Gate Bridge, is one of the leading marks in entering San Francisco Bay. The small island is 148 feet high and has many buildings on it. Near the NW end of the island is a water tower, which is reported to be usually the only landmark visible when that area is in fog. **Alcatraz Light** (37°49.6'N., 122°25.3'W.), 214 feet above the water, is shown from a gray, octagonal pyramidal tower on the SE part of the island. Fog signals are on the extreme NW and SE ends of the island.

(171) A rock awash, marked on its W side by a bell buoy, is 125 yards W of the NW end of Alcatraz Island. The rocks and tide pools, which extend about 100 feet from the S tip of the island, are reported to cover at high water.

(172) Mariners are advised that surveys indicate shoaling tends to build to the W of the disposal area S of Alcatraz Island and caution should be used in the area. A shoal oriented SW to NE with depths less than 42 feet extends off the E shore of the island.

(173) Alcatraz Island, a part of the Golden Gate National Recreation Area, is administered by the Department of Interior's National Park Service.

(174) Federal regulations require that prior permission to land at Alcatraz, or to berth vessels at Fort Mason, Black Point, and Aquatic Park must be obtained from the General Superintendent, Golden Gate National Recreation Area, Fort Mason, San Francisco, Calif. 94123.

(175) A passenger ferry, which operates frequently, uses a dock on the SE side of the island. In December 1979, 28 feet was reported off the dock.

(176) **Yerba Buena Island**, 345 feet high and 2.5 miles SE of Alcatraz Island, is of small extent, irregular in shape, and covered with a scrubby growth of trees. On its summit is a former lookout tower and the Coast Guard operated San Francisco Vessel Traffic Service Operation Center and radar antenna site. **San Francisco Coast Guard Station** is on the E side of the island.

(177) **Treasure Island** is a low filled area N of and connected by a causeway to Yerba Buena Island. Built originally for the San Francisco International Exposition of 1939-40, Treasure Island now belongs to the city of San Francisco. A light is on the N end of the island and a shoal, covered 15 feet, is off the N end of the island.

(178) When the prevailing W winds are blowing, deep-draft vessels proceeding to the berthing area on the E side of the island may have extreme difficulty making the 90° turn from the narrow channel between the 30-foot curves SE of Yerba Buena Island.

(179) **Naval restricted areas**, are off the N end of Treasure Island and between this island and Yerba Buena Island. (See **334.1070 and 334.1080**, chapter 2, for limits and regulations.) A **restricted area** surrounds the Coast Guard Station off the E side of Yerba Buena Island. (See **334.1065**, chapter 2, for limits and regulations.)

(180) The **San Francisco-Oakland Bay Bridge**, said to be the eighth longest bridge in the world, crosses the bay from **Rincon Point** in San Francisco to Yerba Buena Island, thence to Oakland. Racons mark the main bridge spans. The recommended passage for southbound traffic is under the NE half of span A-B (midspan clearance 204 feet). Northbound traffic should use the SW half of span D-E (midspan clearance 204 feet). The midspan clearance of spans B-C and C-D are each 220 feet. The bridge span between Yerba Buena Island and Oakland has a greatest vertical clearance of 184 feet between piers G and H and a least vertical clearance of 141 feet between piers M and N. These clearances are approximate; they may be reduced by several feet due to heavy

traffic on the bridge and prolonged periods of extremely high temperature, and as much as 10 feet under extreme conditions. Maintenance scaffolding located in each span reduces vertical clearance by approx 5 feet and is lighted at night with red lights. Caltrans will move the scaffolding if requested for the passage of vessels. Mariners should contact Caltrans Toll Sargent at 510-286-1148. In June 2002, a replacement bridge was under construction, just N of the existing bridge between Yerba Buena Island and Oakland, with a design clearance of 140 feet over the main navigation channel.

(181) The **Port of San Francisco** is the oldest on the Pacific coast. Though primarily a general cargo port, grain, bulk liquids, containers, newsprint, automobiles, bananas, copra, cotton, and other commodities are handled here. San Francisco is a popular port of call for passenger vessels on regular scheduled and special cruises.

Prominent features

(182) The skyline of the city of San Francisco is unmistakable, with several dominant landmarks: the 980-foot television tower supporting three antennas, the pyramid-shaped Transamerica Building, the Coit Tower on Telegraph Hill 3.4 miles E of the bay entrance, and the Bay Bridges with their freeway elevated approaches. Inside the bay, the Bank of America Building, the Bank of America Clock Tower, the clock tower at the S end of the San Francisco-Oakland Bay Bridge, the old Ferry Building with its 240-foot clock tower on the waterfront S of Pier 1, and the U.S. Coast Guard radar tower on Yerba Buena Island are prominent.

(183) The **Ferry Building**, terminal of many ferry boats, also houses the **San Francisco Port Authority** offices, the offices of the Marine Exchange, Inc., and the many offices and exhibits of the World Trade Center.

Channels

(184) Depths of 45 feet or more are available from the Golden Gate Bridge to most of the anchorages; depths ranging from 29 to 40 feet can be taken to most of the San Francisco piers.

Anchorages

(185) General, naval, and explosives anchorages are in San Francisco Bay. (See **110.1 and 110.224**, chapter 2, for limits and regulations.)

Warning

(186) Two submarine pipeline areas cross San Francisco Bay within General Anchorage 9; one crosses between Metropolitan Oakland International Airport and **Brisbane**, and the other about 1.5 miles to the S. Mariners are cautioned not to anchor in these areas. (See chart 18651.)

Dangers

(187) **Anita Rock**, 1.1 miles E of Fort Point and 300 yards from shore, is covered 3 feet and marked by a light.

(188) There are several rocky patches with depths of 33 to 35 feet W and NW of Alcatraz Island that must be avoided by deep-draft vessels. The northwesternmost of these shoals is **Harding Rock**, marked by a lighted buoy equipped with a racon.

(189) The Trans-Bay Tube of the Bay Area Rapid Transit District crosses San Francisco Bay from the vicinity of the Ferry Tower to Oakland. Mariners are **prohibited** from dropping or dragging anchors when in the vicinity of the tunnel crossing.

(190) Heavy tide rips occur in the vicinity of Alcatraz Island.

Regulated navigation areas

(191) **Regulated navigation areas** have been established in the waters of San Francisco Bay. (See **165.1181** and **165.1185**, chapter 2, for limits and regulations.)

Tides

(192) The mean range of tide at Golden Gate is 4.1 feet, and the diurnal range of tide is 5.8 feet. A range of about 9 feet may occur at the time of maximum tides. The lowest low water is about 2.5 feet below mean lower low water. Daily tide predictions for Golden Gate are given in the Tide Tables.

Currents

(193) Inside the Golden Gate the flood current sets into all parts of the bay and causes swirls from the Golden Gate as far E as Alcatraz and Angel Islands and through Raccoon Strait, N of Angel Island. The ebb current, inside the Golden Gate, is felt first along the S shore. In the Golden Gate, the average duration of the ebb stream is somewhat greater than that of the flood. The Sacramento and San Joaquin Rivers have weak flood currents during periods of freshets.

(194) The San Francisco-Oakland Bridge has large current eddies near the foundation piers that cause ships to sheer off course.

(195) Strong currents due to heavy spring runoffs have been reported along the San Francisco waterfront between piers 39 and 94.

Caution

(196) Oakland's Seventh Street Marine Terminal, about 1 mile E of Yerba Buena Island, forms a current lee on both the flood and the ebb current. Vessels making for Middle Harbor and Oakland Inner Harbor on a flood

current will encounter a lee on the S side of the terminal; when the bow enters the slack water, the vessel will tend to sheer to the left. Similarly, vessels bound for the Outer Harbor on an ebb current will encounter slack water on the N side of the terminal, with a tendency to sheer to the right. This condition may be dangerous to deep-draft, loaded vessels, and should be anticipated.

(197) See the Tidal Current Tables for daily predictions for San Francisco Bay area.

Weather, San Francisco

(198) San Francisco enjoys a marine-type climate characterized by mild and moderately wet winters and by dry, cool summers. Winter rains (December through March) account for about three-fourths of the average annual rainfall of just over 19 inches (483 mm), and measurable precipitation occurs on an average of 13 days per month during this period. Snowfall occurs, but is infrequent. The greatest amount is 1.5 inches (38 mm) recorded in January 1962. Flurries have occurred in each month, December through March. There are frequent dry periods lasting well over a week. Severe winter storms with gale winds and heavy rains occur only occasionally. December is the month most likely to experience gales followed by January. Thunderstorms average five a year and may occur in any month, but are usually very mild.

(199) The daily and annual range in temperature is small ranging from an average annual maximum of 65.2°F (18.4°C) and an average annual minimum of 48.7°F (9.3°C). A few frosty mornings occur during the winter, but the temperature seldom drops below freezing. The coldest temperature on record at the International Airport is 24°F recorded in December 1972. Each month, November through March, has recorded temperatures below freezing (0°C). Winter temperatures generally rise to the high fifties (13.9° to 15°C) in the early afternoon.

(200) The summer weather is dominated by a cool sea breeze resulting in an average summer wind speed of nearly 13 knots. Winds are light in the early morning, but normally reach 17 to 22 knots in the afternoon, depending on location. Where topography and man-made structures funnel the winds, higher gusts may occur in those areas.

(201) A sea fog, arriving over the station during the late evening or night as a low stratified cloud, is another persistent feature of the summer weather. This "high" fog, occasionally producing drizzle or mist, usually disappears during the late forenoon. Despite the morning overcast, summer days are remarkably sunny. On the average a total of only 15 days during the 4 months from June through September are classified as cloudy.

(202) Daytime temperatures are held down both by the morning low overcast and the afternoon strengthening sea breeze, resulting in daily maximum readings averaging in the lower- to middle seventies (21.7° to 23.9°C) from May through August. However, during these months occasional "hot" spells lasting a few days are experienced without the usual "high" fog and sea breeze. September, when the sea breeze becomes less pronounced, is the warmest month with an average maximum of 73°F (22.8°C). Minimum temperatures during the summer are in the lower- to middle fifties (10.6° to 12.8°C). The all-time high temperature recorded at the International Airport is 106°F (41.1°C) recorded in June 1961.

(203) A strong temperature inversion with its base usually at a height of 1,500 feet (458) m) persists throughout the summer. Inversions close to the ground are infrequent in summer, but rather common in fall and winter. As a consequence of these factors and the continued population and economic growth of the area, atmospheric pollution has become a problem of increasing importance.

(204) The National Weather Service maintains offices in Oakland, Redwood City, and at San Francisco International Airport; barometers may be compared there or by telephone. (See Appendix A for addresses.)

(205) (See Appendix B for **San Francisco climatological table**.)

Towage

(206) Tugboats are available in sufficient quantity for the traffic in the greater harbor.

Quarantine, customs, immigration, and agricultural quarantine

(207) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(208) San Francisco–Oakland is a **customs port of entry**.

(209) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

Coast Guard

(210) A **marine safety office** and a **vessel documentation office** are on Coast Guard Island. (See Appendix A for addresses.) **San Francisco Coast Guard Air Station** is at San Francisco International Airport. A Coast Guard base and station are on the E side of Yerba Buena Island.

(211) The **Marine Exchange** of the San Francisco Bay region reports and records all Golden Gate ship arrivals and departures and conducts communications to serve the bay area commercial traffic. The station can be called 24 hours a day for relay of messages and other

marine related services on VHF-FM channels 10 and 18. The station also monitors channels 13 and 16. The ship spotting station is located in Building B, Fort Mason, about 2.5 miles E of the Golden Gate Bridge.

Harbor regulations

(212) The Port of San Francisco is under control of the city of San Francisco, and its management is vested in the San Francisco Port Commission, in direct charge of the port director of that body. The office of the **Chief Wharfinger** is in the Ferry Building.

(213) The harbor regulations are prescribed by the San Francisco Port Authority and enforced by the Chief Wharfinger.

Navigation Guidelines, San Francisco

(214) In addition to the harbor regulations prescribed by the San Francisco Port Authority, the Coast Guard Captain of the Port has prescribed the following supplemental regulations for vessels carrying explosives and certain hazardous bulk cargoes.

(215) Vessels entering or leaving San Francisco Bay laden with explosives (Class A or Military) having a net explosive weight in excess of 100 short tons for ships and in excess of 5 short tons for barges, or carry cargoes of a particular hazard as listed in 33 CFR 126.10 (not in this Coast Pilot), may be escorted by a Coast Guard patrol craft while underway within the bay. These escorts are at the discretion of the Captain of the Port (COTP). Each vessel shall coordinate all movements with the Captain of the Port and ensure:

(216) (a) Speed of transit shall not exceed 12 knots.

(217) (b) No Vessel movement will occur unless visibility is a minimum of 1,000 yards, in/out or within the San Francisco Bay area.

(218) (c) A 24 hour advance notice of arrival is required.

(219) (d) Vessels shall participate in the Vessel Traffic Service (VTS) and adhere to the traffic separation scheme, except as permitted by VTS or COTP.

Wharves

(220) The general cargo and specialized terminals of the Port of San Francisco are on the bay and on Islais Creek and the canal extending from China Basin; the facilities on the latter waterways are included in the description of these waterways. All of the piers described are owned by the San Francisco Port Authority and leased to private concerns. Only the major piers are described. The alongside depths given for each facility described are reported depths. (For information on the latest depths, contact the Port of San Francisco.) The deck height of each pier is 12 feet unless otherwise stated.

(221) The port has 30 active deepwater piers, 29 of which have 74 berths used primarily for general cargo. Several of the other piers are used for the receipt of oil and fish, ship repairs, mooring various types of small vessels, and for other purposes. Four other piers, actually wharves, are used mostly as special-purpose terminals and can accommodate five vessels.

(222) All of the piers have rail trackage on the aprons and one or more transit sheds. Most of the port's inbound and outbound cargo moves to and from the piers by truck. The Embarcadero, a four-lane thoroughfare, provides access to most of the piers; truck connections to piers S of Pier 46A are via other marginal and arterial streets. The arterials connect with the city's extensive freeway system.

(223) Cargo at the port is handled mostly by ship's tackle, but hoisting and heavy lift equipment is available in the port. Most piers have electrical shore power and water connections.

(224) The port operates its own beltline railroad, which connects to three major railroads; five ferry slips are maintained by the port for the transfer of railroad cars to and from other ports in the bay. Bonded warehouses, cold storage facilities, extermination and fumigation services, marine and cargo surveying services, and other maritime services are available in San Francisco. For a complete description of the port facilities refer to Port Series No. 30, published and sold by the U.S. Army Corps of Engineers. (See Appendix A for address.)

Piers N of Ferry Building (37°47.7'N., 122°23.5'W.):

(225) Pier 9 (37°48'04"N., 122°23'42"W.): S side 800 feet, face 154 feet, N side 800 feet; 15 feet alongside; transit shed 820 by 112 feet; mooring company-owned floating equipment; mooring pilot boats; operated by Blue and Gold Fleet LP and San Francisco Bar Pilots.

(226) Piers 15 and 17 (37°48'09"N., 122°23'45"W.): S side 800 feet, face 485 feet, 35 feet alongside; N side 800 feet, 17 feet alongside; transit sheds 820 feet by 167 feet and 780 feet by 143 feet; mooring company-owned floating equipment; operated by Baydelta Maritime.

(227) Pier 27 (37°48'19"N., 122°24'01"W.): E side 1,358 feet, 18 to 33 feet alongside; face 266 feet, 33 feet alongside; mooring vessels; operated by the Port of San Francisco.

(228) Pier 33 (37°48'32"N., 122°24'11"W.): E side 687 feet, face 150 feet, W side 787 feet; 15 feet alongside; transit shed 800 feet by 110 feet, 66,900 square feet covered storage; receipt of seafood; mooring fishing vessels; operated by the Port of San Francisco.

(229) Pier 35 (37°48'36"N., 122°24'20"W.): E side 1,053 feet, face 200 feet; W side 802 feet; 35 feet alongside, two berths; transit shed 990 feet by 162 feet; 171,200 square of covered storage; passengers; operated by Metropolitan Stevedore Co.

(230) Pier 45 (37°48'37"N., 122°24'57"W.): Sheds A and C; face, 1,314 feet; 14 to 35 feet alongside; transit sheds, 98,000 square feet covered storage; mooring transient vessels; various operators; Sheds B and D; face, 1,200 feet; 14 to 25 feet alongside; transit sheds, 88,000 square feet covered storage; receipt of seafood; mooring and icing fishing vessels; operated by the Port of San Francisco.

Piers S of Ferry Building:

(231) Piers 30 and 32 (37°47'12"N., 122°23'00"W.): N side 932 feet, 18 to 38 feet alongside; face 622 feet, 38 feet alongside; S side 845 feet, 12 to 18 feet alongside; three berths; mooring vessels; operated by the Port of San Francisco.

(232) Pier 50 (Mission Rock Terminal) (37°46'24"N., 122°22'50"W.): N side 1,575 feet; S side 1,480 feet; 35 feet alongside; face 1,000 feet, 45 feet alongside; six berths; four transit sheds, 231,000 square feet of covered storage; mooring vessels; various operators.

(233) Pier 54 (37°46'11"N., 122°22'56"W.): N side 630 feet; face 150 feet; S side 730 feet; 18 to 20 feet alongside; transit shed, 15,000 square feet of covered storage; mooring vessels; receipt of seafood; operated by Crowley Maritime Corp and Sea-K Fish Co.

(234) Pier 70 (37°45'43"N., 122°22'47"W.): E side 1,300 feet, face 80 feet; W side 1,180 feet, 35 feet alongside; mooring vessels; operated by the Port of San Francisco.

(235) Pier 80 (North Container Terminal) (37°45'02"N., 122°22'33"W.): N side 2,657 feet, face 1,296 feet, S side 1,138 feet; 38 feet alongside; nine berths; two transit sheds, 10.5 acres covered storage; container cranes on a track running along the N and S sides and the face; receipt and shipment of conventional, containerized, and roll-on/roll-off general cargo; operated by Marine Terminals Corp.

(236) **China Basin**, 1.1 miles S of the Ferry Building, is a canal extending about 0.6 mile SW from San Francisco Bay. The 3rd and 4th Street bascule bridges across the canal have a least clearance of 1 foot. (See **117.1 through 117.59 and 117.149**, chapter 2, for drawbridge regulations.) The bridgetender monitors VHF-FM channel 9 and works on channels 13, 17, and 65A; call sign WXY–959, San Francisco Drawbridges. China Basin is a no anchorage zone.

(237) **Islais Creek Channel** is entered 2.9 miles S of the Ferry Building. A dredged approach area with a project depth of 35 feet is off the entrance. The 3rd Street bascule bridge with a clearance of 4 feet crosses the creek about 0.6 mile above the entrance. (See **117.59** and **117.163**, chapter 2, for drawbridge regulations.) The bridgetender monitors VHF-FM channel 16 and uses channel 9 for working; call sign WXY-977, San Francisco Drawbridges.

(238) The wharves described in Islais Creek Channel are owned by the San Francisco Port Authority and leased to private concerns. The alongside depths given for each facility described are reported depths. (Contact the Port of San Francisco for latest depths.)

(239) Pier 80 (North Container Terminal), on the entrance: described earlier under wharves for the Port of San Francisco.

(240) Pier 90 (37°44'50"N., 122°23'04"W.): 1,210 feet of berthing space; 28 feet alongside; deck height, 12 feet; grain elevator with 2-million-bushel capacity; six automated loading spouts, loading rate, 40,000 bushels per hour; mooring vessels; operated by the Port of San Francisco.

(241) Pier 92 (37°44'50"N., 122°22'48"W.): face 868 feet; 35 feet alongside; deck height, 12 feet; storage tanks, 2.9-million-gallon capacity; shipment of tallow; receipt of sand; operated by Darling International, Inc. and Mission Valley Rock.

(242) Piers 94-96 (37°44'34"N., 122°22'13"W.): face, 2,456 feet; 40 feet alongside; cranes to 40 tons; 76 acres open storage; mooring vessels; operated by the Port of San Francisco.

Supplies

(243) Fuel oils, gasoline, and all other marine supplies and services may be had in any desired quantity. Fuel oil is usually delivered by barge. Water can be obtained on the piers or by barge.

Repairs

(244) San Francisco, Oakland, Richmond, and Alameda have facilities for making repairs to vessels and machinery of all kinds and sizes. The largest commercial floating drydock in San Francisco has a length of 900 feet, width of 148 feet, and a lifting capacity of 65,000 tons. There are several small drydocks on the San Francisco side, and several marine railways and floating docks on the Oakland side.

Communications

(245) San Francisco is the terminus of several transpacific steamship lines and the port of call for numerous lines of foreign, coastal, and intercoastal vessels. It is served directly by a major highway and is connected by the Bay Bridge to several others. The city is served by three transcontinental railroads; connections to two of the railroads are by barge, while one has tracks extending S and E around the S bay. San Francisco International Airport is on the W shore of the bay about 5 miles S of the city; it is served by many airlines.

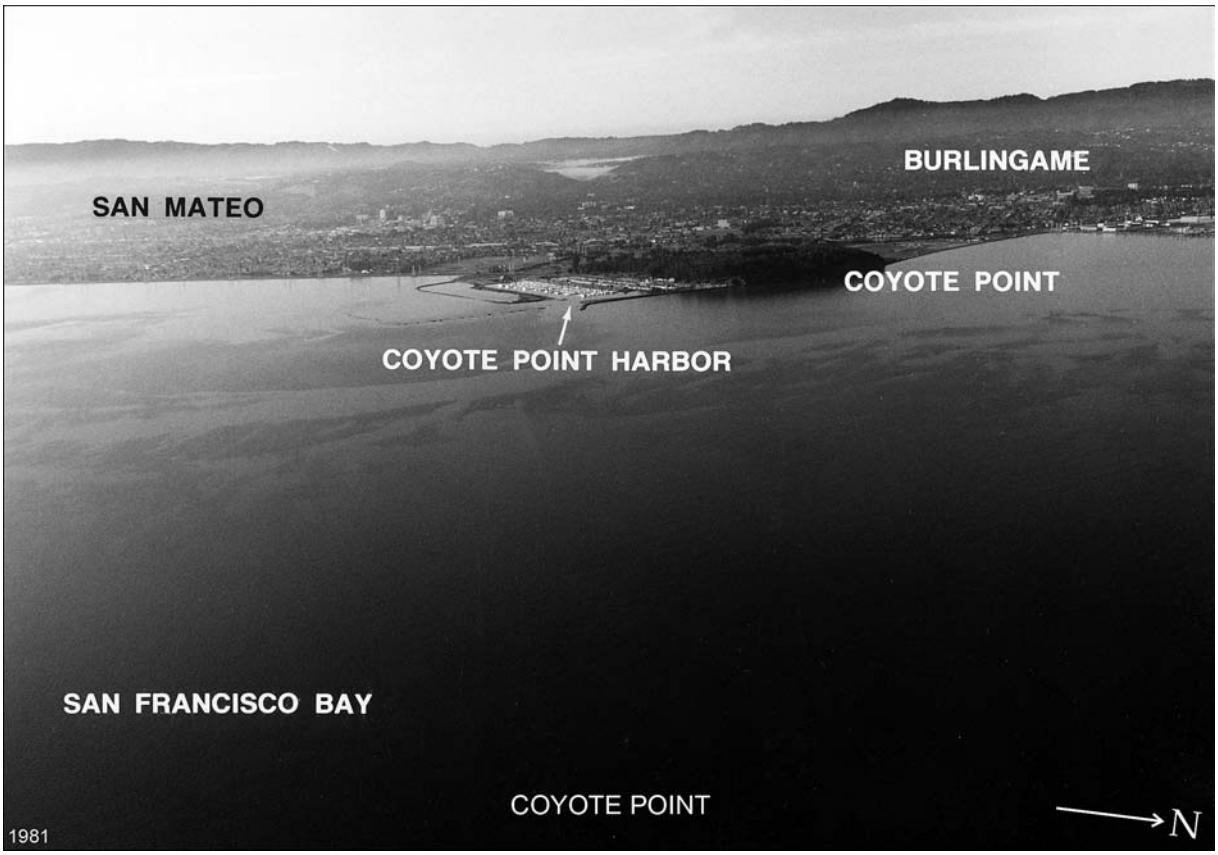
Small-craft facilities

(246) San Francisco Municipal Yacht Harbor, 1.8 miles E of the Golden Gate Bridge with a W and E basin about 0.3 mile apart, has depths of 8 to 12 feet to the berths. A light near the end of a point marks the N side of the entrance to W basin; a prominent stone tower is 0.2 mile W of the light. The E basin is protected on the N by a breakwater extending E from the W shore, and on the E by a pier of **Fort Mason**. The seaward end of the breakwater is marked by a light. E basin is entered between the breakwater light and the pier. The harbor accommodates about 700 boats in the W and E basins. Guest berths are available; transients should report to the harbormaster's office on the S side of the W basin for berth assignment.

(247) **Aquatic Park**, 2.6 miles E of the Golden Gate Bridge, is a recreation area protected on the W by a curved pier extending out from Black Point and on the E by a pier that berths historic ships of the National Maritime Museum. The basin is closed to power vessels, and other vessels must stay offshore away from buoys marking a swimming area. The **speed limit** is 3 knots. Depths of 9 to 16 feet are inside the basin. Small craft can find anchorage in about 13 feet. Permission to anchor for more than 24 hours must be obtained from the Aquatic Park Ranger Station.

Charts 18651, 18652

(248) S of San Francisco, **Point Avisadero**, which is the E extremity of Hunters Point, **Sierra Point,** Oyster Point, **Point San Bruno**, and Coyote Point, all on the W shore of the bay, are prominent natural features. In January 1986, a sunken wreck was reported about 1 mile SE of Point Avisadero in about 37°42'59"N., 122°20'30"W. The Bayshore Freeway extends S on a filled area from the vicinity of **Candlestick Point**, and cuts back inland at Sierra Point. Sierra Point is the site of a small-boat harbor which can accommodate about 500 boats. **Oyster Point Channel**, marked by private lights, has depths of about 5 feet, except for a 2-foot shoal in about 37°40'09.5"N., 122°22'47.5"W., and leads to a small basin. A spur channel, marked by private lights, branches off the N side of Oyster Point Channel and leads to the entrance to the small-boat harbor at Sierra Point. The basin at the end of Oyster Point Channel has two private wharves in ruins and sheds on the W side; a marina that can accommodate about 200 boats is on the S side.



(249) **Oyster Point**, a low filled area, is the site of a small-boat harbor accommodating about 570 boats. Depths of about 8 feet are in the harbor. An entrance channel E of the harbor is marked by private lights. In 2006, the channel had a reported depth of 10 feet. Transients should report to the harbormaster's office for berth assignment. A prominent sculptured tower is on the hill 0.7 mile S of Oyster Point; the tower is floodlighted.

(250) The area between Point San Bruno and Coyote Point is occupied by **San Francisco International Airport.** A **security zone** has been established in the waters surrounding the airport. (See **165.1192**, chapter 2, for limits and regulations.)

(251) **Coyote Point** is covered by a heavy growth of trees and is raised as an island. It is the most prominent point on the S bay. A small-craft harbor accommodating about 580 boats is on the E side of the point. The entrance channel, marked by two private lights, had a reported depth of depth of 10 feet in 2006. The harbor, operated by San Mateo County, is composed of two basins having depths of about 8 feet. Transients should report to the harbormaster's office on the NW side of the harbor for berth assignment; guest berths are usually available. A harbor patrol boat is maintained.

(252) (See the small-craft facilities tabulation on chart 18652 for services and supplies available at the small-craft facilities at Oyster Point and Coyote Point.)

(253) The **San Mateo-Hayward Bridge** crossing the lower part of San Francisco Bay near **San Mateo** has a fixed span with a clearance of 135 feet over the main channel. The bridge is marked at mid span by a racon. An overhead power cable with a clearance of 160 feet over the main channel crosses the bay just S of the bridge.

(254) A section of the old San Mateo lift bridge, now used as a fishing pier, extends 4,135 feet from the San Mateo shore just S of the new bridge. A part of the fishing pier extends into the W part of the main channel.

(255) In June 1983, a 34-foot shoal was reported to extend from under to just SE of the bridge in about 37°35'N., 122°15'W.

(256) **Redwood Creek**, 4 miles SE of San Mateo Bridge, is entered through a marked channel that leads to the municipal wharves at the **Port of Redwood City**, 2.5 miles above the mouth. Turning basins are to the N and S of the wharves. Federal project depths are 30 feet in the channel and basins. (See Notice to Mariners and latest editions of charts for controlling depths.)

(257) Traffic in the waterway is in bulk cement, gypsum, rock salt, sand, and scrap metal. Overhead power cables

across the waterway have a clearance of 155 feet. Prominent silos of a cement plant are at the junction with **Westpoint Slough**, just N of the port.

Wharves

(258) The Port of Redwood City operates five deepwater municipal wharves. Only the wharves with shiphandling facilities are described. For a complete description of the port facilities refer to Port Series No. 30, published and sold by the U.S. Army Corps of Engineers. (See Appendix A for address).

(259) Wharves 1 and 2 (37°30'47"N., 122°12'35"W.): 1,651 feet of berthing space with dolphins; 32 to 35 feet alongside; deck height, 15 feet; storage silos with a total capacity of 58,000 tons; open storage for 85,000 tons of sand; receipt of sand and bulk cement; various operators.

(260) Wharf 3 (37°30'42"N., 122°12'40"W.): just S of Wharves 1 and 2; 750 feet of berthing space with dolphins; 34 feet alongside; deck height, 15 feet; conveyor systems with up to 500-ton-per-hour capacity; two 40-ton, diesel crawler cranes; open storage for 50,000 tons of scrap metal and 60,000 tons of gypsum; receipt of bauxite, mill scale, gypsum, and sand; shipment of scrap metal; various operators.

(261) Wharf 4 (37°30'34"N., 122°12'43"W.), just S of Wharf 3, is operated by the U.S. Geological Survey, Department of the Interior, and is used for mooring research vessels. Wharf 5 (37°30'25"N., 122°12'44"W.), just S of Wharf 4, is operated by the Port of Redwood City and is used for mooring cruise vessels.

(262) Cargill Salt, Redwood City Wharf (37°30'16"N., 122°12'55"W.): 620 feet of berthing space; 30 feet alongside; deck height, 16 feet; occasional shipment of liquid magnesium chloride; owned and operated by Cargill Salt Inc.

(263) **Redwood City** is 2 miles S of the port facilities. Redwood City Municipal Marina, just S of the port, can accommodate about 225 small craft. Other small-craft facilities are SW of the Municipal Marina. (See the small-craft facilities tabulation of chart 18652 for services and supplies available.)

(264) **Ravenswood Point** and **Dumbarton Point** are at the head of the bay and the mouth of Coyote Creek. Two bridges and an aqueduct cross the bay at this point. The **Dumbarton Highway Bridge**, the NW bridge, has a fixed span with a clearance of 85 feet. About 1,100 yards SE of the Dumbarton bridge, an aqueduct, used to supply the city of San Francisco with water, crosses the bay. On the W shore, the aqueduct is carried on a trestle to a concrete building (charted) where it tunnels the channel to the E shore. The **Dumbarton Railroad Bridge**. just S, has a swing span with a clearance of 13 feet. The bridge is maintained in the open position. (See **117.1 through 117.49**, chapter 2, for drawbridge regulations.)

(265) **Coyote Creek** has many tributary sloughs. The main channel is marked as far as **Calaveras Point**, about 4 miles above the railroad bridge at Dumbarton Point. The power cables, 1.3 miles above Calaveras Point, have a clearance of 65 feet.

(266) A channel, marked by a daybeacon at the entrance, leads for about 3 miles through **Guadalupe Slough.** In July 1985, a submerged obstruction with 3 feet over it was about 150 yards NNW of Daybeacon 20; caution is advised when transiting the area. An overhead power cable with a clearance of 65 feet crosses the slough about 1 mile above the entrance.

(267) Just S of the Metropolitan Oakland International Airport, a dredged channel leads to a small-craft harbor operated by the city of San Leandro. The channel is marked by lights and daybeacons; a seasonal fog signal is at the entrance. In January 2008, the controlling depth was 3.4 feet in the entrance channel to the basin (except for lesser depths to 2.5 feet along the SE edge between Lights 12 and 14), thence the basin had depths of 1 to 4 feet. The channel branching E from the entrance to the basin had a controlling depth of 2.4 feet.

(268) The harbor accommodates about 500 small craft; 15 guest slips are maintained. The harbormaster's office is on the SW side of the basin. A high-speed patrol boat is maintained. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.)

Charts 18650, 18652

(269) **Alameda** is on an island separated from the mainland by **San Leandro Bay** on the E, and Oakland Inner Harbor and Tidal Canal on the N.

(270) **Encinal Basin**, on the Alameda side of the Oakland Inner Harbor opposite Coast Guard Island, has facilities which are owned by Encinal Terminals. Depths in the basin are about 30 feet.

(271) Encinal Terminals, Berths 4, 3, 2, and 1: S side of Oakland Inner Harbor along the E entrance point to Encinal Basin has 525 feet of berthing space; E side of Encinal Basin has 1,600 feet of berthing space; 35 feet alongside; deck height, 14½ feet; mobile cranes to 150 tons; 75,000 square feet of covered storage; receipt of steel and petroleum products, receipt and shipment of general cargo; operated by Crescent Wharf and Warehouse Co. and Pennzoil Co.

(272) Encinal Terminals, Berth 5: W side of the basin; 750 feet of berthing space; 35 feet alongside; deck height,

14½ feet; two 30-ton container cranes; receipt and shipment of containerized cargo; operated by Eagle Marine Services, Inc.

(273) **Fortmann Basin**, on the Alameda side of the Inner Harbor, just SE of the Encinal Basin has facilities operated by Fore Terminals, Inc. Berth 6, on the E side of the basin: 590 feet of berthing space; 30 feet alongside; receipt and shipment of bulk liquids, including tallow, vegetable and corn oil.

Coast Guard

(274) The Coast Guard Support Center is on **Coast Guard Island** (Government Island). A **security zone** has been established along the SW side of the island surrounding the Coast Guard pier. The security zone extends into the navigation channel about 10 to 20 yards at each end and is outlined by a floating security barrier. (See **33 CFR 165.1190**, chapter 2, for limits and regulations.)

(275) **Alameda Naval Air Station** is on a filled area just W of the city and S of Oakland Inner Harbor.

(276) Vessels entering Alameda Naval Air Station area with tow are requested to advise Port Services, Alameda, of type of tow, destination, and any assistance that may be required. The station monitors VHF-FM channel 6 (156.30 MHz) 24 hours.

(277) **Ballena Bay Yacht Harbor**, a large small-craft harbor, is on the E side of an island along the S shore of Alameda. This harbor offers safe refuge in storms. A private light marks the entrance to the harbor. In 2006, a reported depth of 7 feet was in the approach to the harbor; a depth of 8 feet was reported alongside the berths. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.) A depth of 9 to 10 feet is available in the channel between the island and Alameda. A fixed bridge, with a clearance of 5 feet, crosses the channel about midway along the N shore of the island.

(278) **Oakland**, on the E or mainland shore opposite San Francisco, is the second largest city on San Francisco Bay. It is the main-line terminus of the transcontinental railroads entering the San Francisco Bay area.

(279) The **Port of Oakland** is entirely distinct from the Port of San Francisco; it is a separate customs **port of entry**. The Port of Oakland is the largest general cargo port on the bay, and a leading container-ship terminal on the Pacific coast.

(280) The Port of Oakland encompasses two areas: Outer and Inner Harbors. **Oakland Outer Harbor** is between the Ben E. Nutter Container Terminal (Seventh Street

Marine Terminal) on the S and the San Francisco-Oakland Bay Bridge approach on the N. A **restricted area** is in the N end of Oakland Outer Harbor adjacent to the Oakland Army Base. (See **334.1050 and 334.1060**, chapter 2, for limits and regulations.)

(281) **Oakland Inner Harbor** is that part of Inner Harbor Channel extending E from San Francisco Bay to **Tidal Canal**. It is adjacent to the most highly developed section of the city, bordering Oakland to the N and Alameda to the S. At the E end of the harbor, the artificial Tidal Canal leads to San Leandro Bay where a channel continues to the Metropolitan Oakland International Airport. Mariners should exercise caution when transiting Oakland Inner Harbor to prevent wake damage to boats moored at marinas along the waterway.

(282) A **restricted area** is in Oakland Inner Harbor from the entrance to the E boundary of the Naval Air Station. (See **334.1020 and 334.1030** chapter 2, for limits and regulations.)

Channels

(283) A **Federal project** provides for channel depths as follows: Bar Channel to and including Oakland Outer Harbor, 42 feet; Oakland Inner Channel to the end of Brooklyn Basin South Channel, 42 feet, thence 42 feet to Tidal Canal. (See Notice to Mariners and latest editions of charts for controlling depths.)

Bridges

(284) The fixed highway bridge across Brooklyn Basin at the E end of Coast Guard Island has a clearance of 11 feet. The three highway drawbridges across Tidal Canal have a least clearance of 15 feet. The vertical lift railroad bridge across Tidal Canal has a clearance of 13 feet down and 135 feet up. The bridgetenders monitor VHF-FM channel 16 and work channel 9. (See **117.1 through 117.59 and 117.181**, chapter 2, for drawbridge regulations.)

Quarantine, customs, immigration, and agricultural quarantine

(285) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(286) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

Harbor regulations

(287) The Port of Oakland is under the jurisdiction of the Board of Port Commissioners of the City of Oakland, and is managed by an executive director. The port's general offices are at 530 Water Street, Oakland, CA 94607.

Wharves

(288) The Port of Oakland owns and leases 12 major marine terminals, which have a total of 30 deep-draft berths. The port has 500 acres of container facilities with 22 full container-ship berths, 34 container cranes, and 45 acres of general cargo/special commodity facilities; 459,000 square feet of covered storage is also available. All of the major terminals have railroad trackage that connects to three major railroads and truck connections to the city's freeway system.

(289) The port also has a number of smaller piers and wharves that are used for mooring small vessels, repair work, and for other purposes. There are several privately owned general cargo piers in the Inner Harbor. Most major deep-draft facilities are described. The alongside depths given for each facility described are reported depths. (For information on the latest depths contact the Port of Oakland or the facility operator.)

(290) General cargo at the port is usually handled by ship's tackle; special handling equipment, if available, is mentioned in the description of the particular facility. Floating cranes to 350 tons are available.

(291) For a complete description of the port facilities, refer to Port Series No. 31, published and sold by the U.S. Army Corps of Engineers. (See Appendix A for address.)

Facilities in Outer Harbor:

(292) **Burma Road Terminal Berth 7** (37°49'12"N., 122°19'03"W.): 1,459 feet long; 35 feet alongside; deck height, 14 feet; 29 acres of open storage; 100-ton gantry crane; receipt and shipment of break bulk general cargo, including steel products, roll-on/roll-off cargo, and heavy lift items; operated by Marine Terminals Corp.

(293) **Maersk Sealand Terminal, Berths 20, 21 and 22** (37°49'09"N., 122°18'39"W.): 2,241 feet of berthing space; 42 feet alongside; deck height, 14 feet; 59 acres of open container storage including 362 positions for refrigerated cargo containers; three 30-ton container cranes, receipt and shipment of containerized cargo; operated by APM Terminals.

(294) **Maersk Sealand Terminal, Berth 23** (37°49'02"N., 122°18'56"W.): 900 feet long; 42 feet alongside; deck height, 14 feet; 46 acres of open storage area including 256 positions for refrigerated cargo containers; two container cranes to 50 tons; water and electrical shore-power connections; receipt and shipment of containerized general cargo; operated by APM Terminals.

(295) **Maersk Sealand Terminal, Berth 24** (37°48'53"N., 122°19'04"W.): 1,261 feet long; 42 feet alongside; deck height, 14 feet; 57 acres of open container storage including 261 positions for refrigerated cargo containers; three container cranes to 50 tons; water and electrical shore-power connections; receipt and shipment of containerized general cargo; operated by APM Terminals.

(296) **TransBay Container Terminal, Berths 25 and 36** (37°48'43"N., 122°19'15"W.): 1,138 feet long; 42 feet alongside; deck height, 14 feet; 40 acres of open container storage including 288 positions for refrigerated cargo containers; two container cranes to 40 tons; water and electrical shore-power connections; receipt and shipment of containerized general cargo; operated by TransBay Container Terminal Company.

(297) **TraPac Terminal, Berth 30** (37°48'37"N., 122°19'31"W.): 1,075 feet long; 42 feet alongside; deck height, 14 feet; 33 acres of open container storage including 282 outlets for refrigerated cargo containers; three container cranes to 40 tons; water and electrical shore-power connections; receipt and shipment of containerized general cargo; operated by Trans Pacific Container Service Corp.

(298) **Outer Harbor Container Terminal, Berths 32, 33, and 34** (37°48'39"N., 122°19'53"W.): 1,761 feet long; 38 feet alongside; 65 acres of open storage including 386 outlets for refrigerated cargo containers; container cranes to 40 tons; water connection; receipt and shipment of containerized general cargo; operated by Stevedoring Services of America Terminals.

(299) **Ben E. Nutter Container Terminal, Berths 35, 37, and 38** (37°48'26"N., 122°20'23"W.): Berths 35 and 37, 2,257 feet long; 42 feet alongside; Berth 38, 862 feet long; 38 feet alongside; 58 acres of open storage including 330 outlets for refrigerated cargo containers; water and electrical shore-power connections; container cranes to 50 tons; receipt and shipment of containerized general cargo; operated by Seaside Transportation Services.

Facilities on N side of Inner Harbor:

(300) **Hanjin Terminal, Berths 55 and 56** (37°47'50"N., 122°19'18"W.): 2,400 feet long; deck height, 14 feet; 42 feet alongside; 120 acres open storage; four container cranes to 60 tons; water and electrical shore-power connections; receipt and shipment of containerized general cargo; operated by Total Terminals Inc., LLC.

(301) **Oakland International Container Terminal, Berths 57-59**; SE of Berths 55 and 56: 3,600 feet of berthing space; 50 feet alongside; 146 acres of storage including 898 outlets for refrigerated cargo containers;

6 container cranes; receipt and shipment of containerized general cargo; operated by SSA Terminals, Inc.

(302) **APL Terminal, Berths 60-63** (37°47'37"N., 122°18'01"W.) E of Berths 57-59: 2,743 feet long; deck height, 14 feet; 42 feet alongside; 81 acres open storage including 374 outlets for refrigerated cargo containers; container cranes to 45 tons; water and electrical shore-power connections; receipt and shipment of containerized general cargo; operated by Eagle Marine Services.

(303) **Schnitzer Steel Products Co.**, 7th Street Pier, 6th Street Pier, and Bulkhead Wharf (37°47'38"N., 122°17'33"W.): the ends of two adjacent piers and a bulkhead wharf provide 2,075 feet of berthing space; depths of 31 to 36 feet alongside; 33 acres of open storage area; electrical shore-power connection at both piers; shipment of ferrous and shredded scrap metal; receipt of scrap metal; owned and operated by Schnitzer Steel Products Co.

(304) **Charles P. Howard Container Terminal, Berths 67 and 68** (37°47'41"N., 122°17'03"W.): 1,946 feet long; 42 feet alongside; deck height, 14 feet; container cranes to 50 tons; 50 acres open storage space including 234 outlets for refrigerated cargo containers; electrical shore-power connections; receipt and shipment of conventional, containerized, and roll-on/roll-off and general cargo, and heavy lift items; operated by Stevedoring Services of America Terminals.

Supplies

(305) Bunker fuel, diesel oil, gasoline, water, and most other marine supplies and services are available in Oakland. Bunker fuel is usually delivered by barge.

Repairs

(306) A drydock and repair firm in Oakland has a maximum drydock capacity of 2,800 tons; marine railways here are capable of hauling out to 500 tons. All kinds of repairs are made to both hulls and engines.

Small-craft facilities

(307) There are many small-craft facilities on both sides of the channel from Oakland Inner Harbor entrance to the airport at the S end of San Leandro Bay. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.) Mariners should exercise caution when transiting Oakland Inner Harbor to prevent wake damage to boats moored at marinas along the waterway.

Communications

(308) Oakland is served directly by three major highways, with connections to several others. The city is the main-line terminus of three transcontinental railroads. Metropolitan Oakland International Airport, on the bay about 5 miles SE of the city, is served by many airlines.

Chart 18650

(309) **San Leandro Channel** connects San Leandro Bay with San Francisco Bay. The channel is very narrow with shallow uneven depths at the E end. Mariners should seek local knowledge before transiting the channel. Three bascule bridges, operating simultaneously, with a minimum clearance of 20 feet at the S side of the draw, cross the channel at its E end. The bridgetender for the San Leandro Bay bridges at Alameda monitors VHF-FM channel 16, and works on channel 9; call sign: WHX 870, Bay Farm Island Bridge. (See **117.1 through 117.59 and 117.193**, chapter 2, for drawbridge regulations.)

Charts 18649, 18653, 18652

(310) **Berkeley**, the site of the University of California, adjoins Oakland and **Emeryville** to the N. The long pier extending into the bay is marked by a light; the 1.7-mile offshore section of the pier is in ruins, and the inshore 3,000-foot section is used for fishing. In clear weather the Campanile (bell tower) at the university shows prominently from the bay.

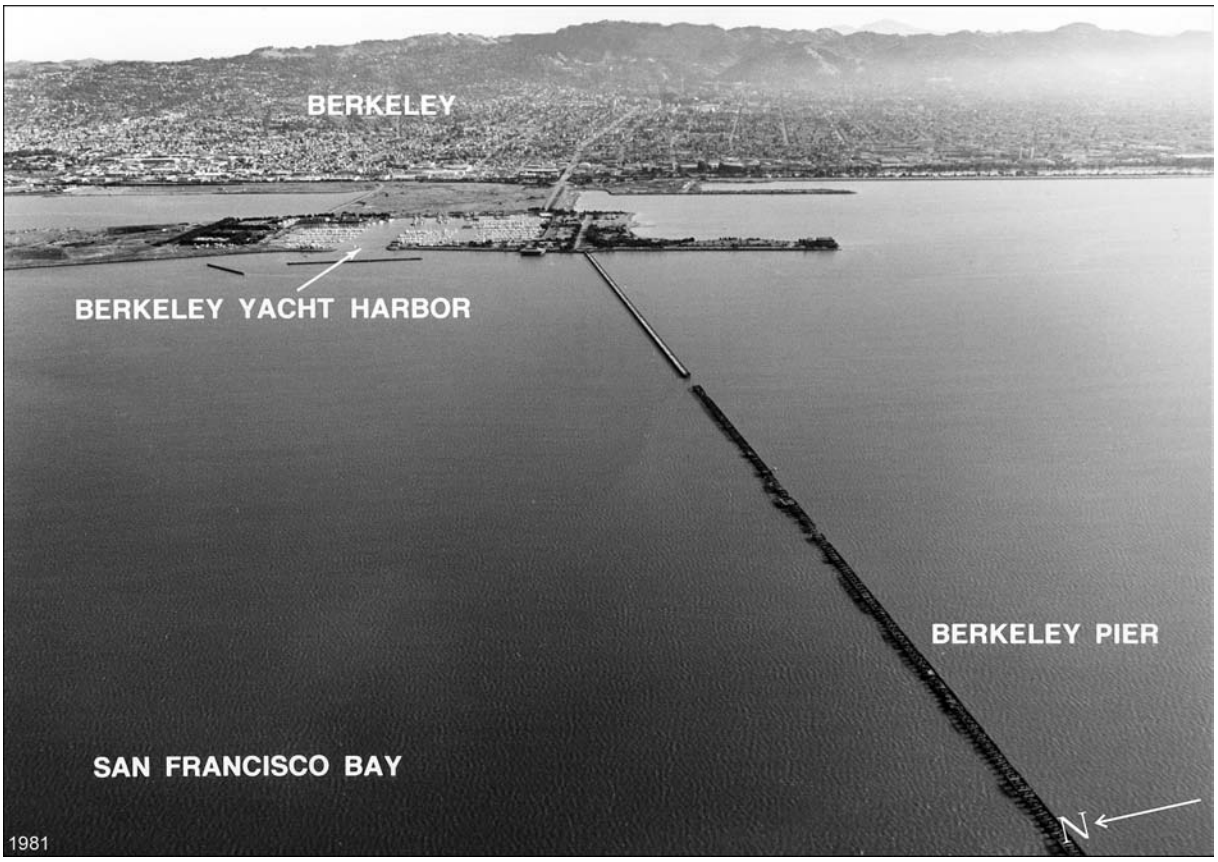
(311) **Berkeley Yacht Harbor**, on the N side of the long pier, is protected at the entrance by two detached breakwaters. The S breakwater is marked by a light on the S end, a light at the center, and a light and fog signal at the N end. The N breakwater is marked by a light on the NE and SW ends. The N side of the entrance into the harbor is marked by a private light, and the S side by a private light and fog signal. **Berkeley Reef**, awash, is 0.9 mile NW from the inner harbor entrance; it is marked by a light. About 925 boats can be accommodated in the harbor, including 20 guest berths. Transients should report to the harbormaster's office on the S side of the harbor.

(312) Two marinas are at Emeryville, about 1.5 miles S of Berkeley Yacht Harbor. The enclosed basin can accommodate about 730 small craft.

(313) (See the small-craft facilities tabulation on chart 18652 for services and supplies available at Berkeley Yacht Harbor and at Emeryville.)

(314) **Southampton Shoal Light** (37°52.9'N., 122°24.0'W.), 32 feet above the water, is shown from a white cylindrical tower near the S end of the 1.6-mile-long shoal. A fog signal is at the light.

(315) Vessels going from San Francisco Bay proper bound for Richmond usually use the 45-foot project



channel through the shoal area NW of Southampton Shoal Light.

(316) **Red Rock**, 3.2 miles NNW of Southampton Shoal Light, is 169 feet high and prominent in the S approach. Buoyed **Castro Rocks**, 0.6 mile ENE of Red Rock, are small and low.

(317) **Richmond Harbor**, on the E shore of San Francisco Bay 1.5 miles N of Southampton Shoal Light, includes the port facilities to Point San Pablo. The harbor is the terminus of the Atchison, Topeka, and Santa Fe Railroad and the Southern Pacific Lines, and is an important oil refining center and oil shipping port.

Channels

(318) A **Federal project** provides for a depth of 45 feet in Southampton Shoal Channel and in the maneuvering area off Richmond Long Wharf, thence 35 feet in the channels leading to the port facilities at the Port of Richmond, to a point about 2,000 feet in Sante Fe Channel, thence 30 feet in the remainder of Sante Fe Channel and the turning basin. The channel is well marked by navigational aids. (See Notice to Mariners and latest editions of charts for controlling depths.) A 10,000-foot training wall is S of the dredged channel and extends W from Brooks Island.

(319) A **Federal project** further provides for an approach area 32 feet deep to the wharves at Point Orient and Point San Pablo. (See latest editions of charts for controlling depths.)

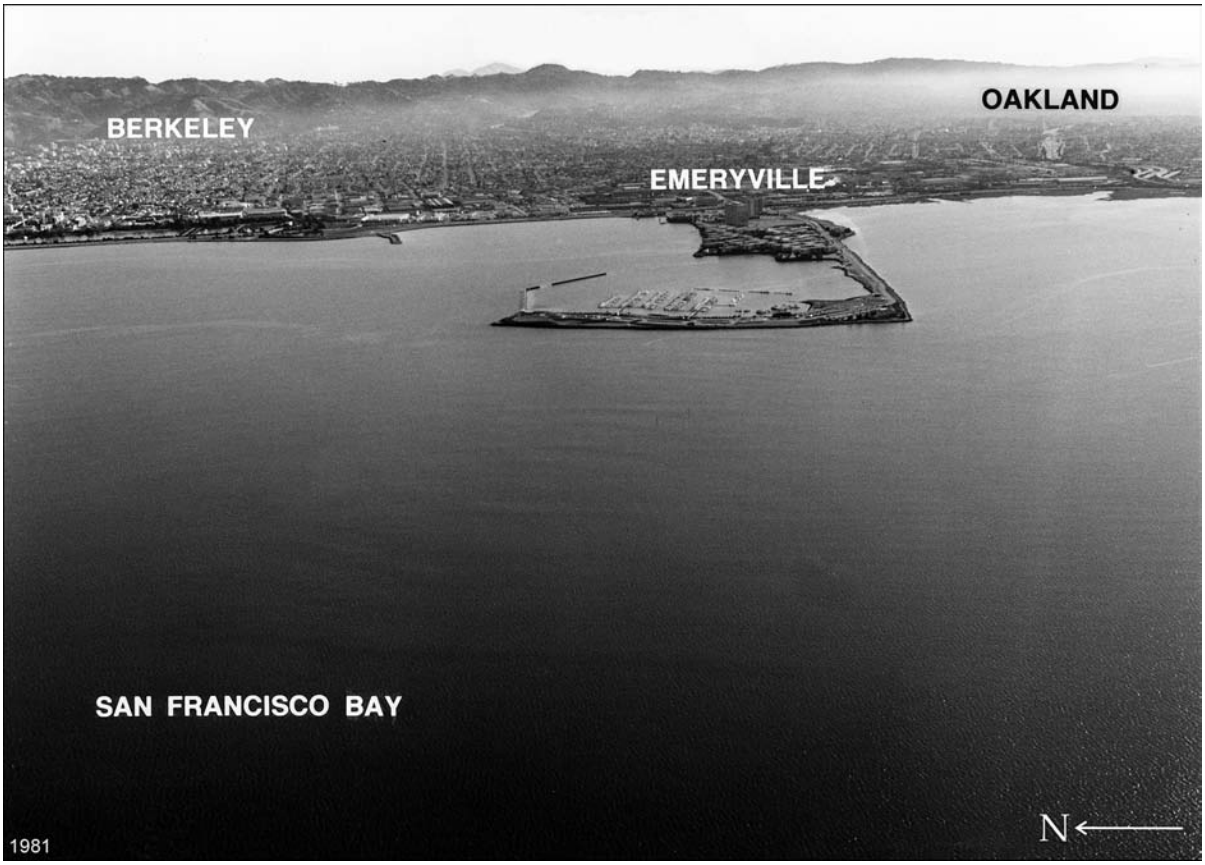
Quarantine, customs, immigration, and agricultural quarantine

(320) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(321) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

Wharves

(322) The city of Richmond owns six deepwater terminals. The city leases two small wharves to private concerns engaged in shipbreaking and construction. There are a number of private deep-draft facilities and barge wharves. All major deep-draft facilities are described. The alongside depths given for each facility described are reported; the operators of the wharves should be contacted for information on the latest depths. Most of



the large oil wharves have hose-handling cranes. Of the facilities described, all have truck access and rail connections to the Atchison, Topeka, and Santa Fe Railroad and/or Southern Pacific Lines. Water and electrical shore power are available at most piers.

(323) General cargo at the port is usually handled by ship's tackle; special handling equipment, if available, is mentioned in the description of the particular facility. Floating cranes to 350 tons are available. For a complete description of the port facilities refer to Port Series No. 31, published and sold by the U.S. Army Corps of Engineers. (See Appendix A for address.)

Facilities at Richmond:

(324) City of Richmond, Terminal No. 4 Wharf (37°57'50"N., 122°25'41"W.): on the W side of Point San Pablo; 1,047-foot off-shore wharf; 35 feet alongside; deck height, 14½ feet; receipt and shipment of bulk liquids including petroleum products, petrochemicals, and chemicals; operated by Richmond Terminal Agency for Paktank Corp., Pacific Molasses Co., and Modesto Tallow.

(325) Chevron, Richmond Long Wharf (37°55'25"N., 122°24'40"W.): 2,463-foot offshore wharf; 3,065 feet of berthing space with dolphins; 40 to 50 feet alongside; deck height, 15 feet; rear of face, north section, 1,660 feet of berthing space; 20 feet alongside; deck height, 13 feet; rear of face, south section, 630 feet of berthing space; 20 feet alongside; deck height, 15 feet; pipelines should extend from wharf to 350 steel storage tanks with a total capacity of 20 million barrels; receipt of crude oil; receipt and shipment of petroleum products, bunkering vessels; owned and operated by Chevron Co. A **security zone** has been established around the wharf. (See **165.1197**, chapter 2, for limits and regulations.)

(326) City of Richmond Terminal No. 1 Wharf (37°54'30"N., 122°23'10"W.): marginal wharf, 557 feet long; 36 feet alongside; deck height, 13½ feet; 34,000 square feet of covered storage; receipt and shipment of vegetable oils and petrochemicals; owned by the City of Richmond and operated by Petromark, Inc.

Facilities on Harbor Channel

(327) City of Richmond, Terminal No. 7 Wharf (37°54'35"N., 122°21'48"W.): 700-foot wharf; 35 feet alongside; deck height, 12 feet; receipt of automobiles; owned by City of Richmond, operated by Pasha Services, a Division of the Pasha Group.

(328) ARCO Tanker and Barge Docks: N of Terminal No. 7 Wharf; offshore wharves joined by walkway, tanker wharf 247 feet long, barge wharf 151 feet long, together provide 710 feet of berthing space; 35 feet alongside; deck heights, 12 feet; receipt and shipment of petroleum products and petrochemicals, bunkering vessels; owned and operated by ARCO Petroleum Products Co.

(329) Union Oil Co., Tanker Dock; N of ARCO docks; 736 feet of berthing space with barge dock; 35 feet alongside; deck heights, 12 feet; receipt and occasional shipment of petroleum products and bunkering vessels; owned by Union Oil Co. of California, operated by Union Oil Co. of California and GATX Terminals Corp.

(330) City of Richmond, Container Terminal No. 3 Wharf (37°54'50"N., 122°21'39"W.): 1,009 feet of berthing space; 35 feet alongside; deck height, 13 feet; two 37-ton container cranes, two 37-ton gantry cranes; 41 acres of open storage; receipt and shipment of containerized cargo; owned by City of Richmond, operated by Matson Terminals, Inc.

(331) City of Richmond, Terminal No. 2, Upper and Lower Wharves; just N of Terminal No. 3; 710 feet of berthing space; 35 feet alongside; deck height, 13 feet; receipt and shipment of liquid chemicals; owned by City of Richmond, operated by Richmond Terminal Agency for California Fats and Oils, and Union Carbide.

Facilities on Santa Fe Channel

(332) Time Oil Co. Wharf (37°55'05"N., 122°21'48"W.): 260 feet of berthing space with dolphins; 36 feet alongside; deck height, 12 feet; receipt and shipment of petroleum products; owned and operated by Time Oil Co.

(333) Levin-Richmond Terminal Berths A, B, and C (37°55'12"N., 122°21'58"W.): deck height, 13 feet; Berth A side fronts on Sante Fe Channel, 650 feet long, 35 to 33 feet alongside; Berths B and C front on Lauritzen Canal, 1,200 feet of berthing space; 35 to 33 feet alongside; 35,000 square feet covered storage; cranes up to 50 tons, equipped with electromagnets, slings, or buckets; receipt and shipment of dry bulk cargoes, chemicals, and steel; owned and operated by Levin Richmond Terminal Co.

(334) Texaco Wharf (37°55'17"N., 122°22'08"W.): 635 feet of berthing space with dolphins; 35 feet alongside; deck height, 8 feet; receipt and shipment of petroleum products; owned and operated by Texaco, Inc.

(335) Gold Bond Building Products Division, National Gypsum Co. Dock (37°55'10"N., 122°22'01"W.): 233

feet long; 30 feet alongside; deck height, 9 feet at dolphins, 11 feet at walkway; center dolphin has receiving hopper for self-unloading vessels, maximum unloading rate, 1,400 tons per hour; receipt of gypsum rock; owned and operated by Gold Bond Building Products Division, National Gypsum Co.

(336) Burmah-Castrol Wharf (37°55'21"N., 122°22'24"W.): 600 feet of berthing space; 32 feet alongside; deck height, 7 feet; receipt and shipment of petroleum products; owned and operated by Burmah-Castrol, Inc.

Repairs

(337) The largest commercial drydock in Richmond has a length of 748 feet, width of 84 feet, and can handle drafts to 31 feet.

Small-craft facilities

(338) Some small-craft facilities are along Santa Fe Channel. A marina and yacht club are in **Richmond Marina Bay**, and a private yacht harbor is on the E side of Point Richmond. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.)

Bridge

(339) The 21,343-foot **Richmond-San Rafael Highway Bridge**, 8.8 miles above the Golden Gate Bridge, is one of the longest fixed high level double deck bridges. The E 970–foot fixed channel span clearance is 135 feet; the W fixed span has a 1,000–foot opening with a clearance of 185 feet. The centerline of both channels through the bridge spans is marked by a racon. The bridge is well lighted, and the channels leading to it are marked with navigational aids.

(340) A **restricted area** extends 0.3 mile offshore at **Molate Point**, site of a Navy fuel depot 0.8 mile N of Richmond-San Rafael Bridge. (See **334.1090**, chapter 2, for limits and regulations.) In May 2000, shoaling to 16 feet was off the end of the Navy depot in about 37°56'47"N., 122°25'40"W.

(341) **Invincible Rock**, 1.3 miles N of Richmond-San Rafael Bridge, is covered 7 feet. **Whiting Rock**, covered 13 feet, is 0.2 mile NNE of Invincible Rock. Both rocks are buoyed. The buoy marking Whiting Rock is reported to submerge during strong ebb currents caused by the heavy spring runoffs in the area. Large vessels changing course and other craft in this area are advised to use caution.

(342) **The Brothers**, 1.7 miles N of Richmond-San Rafael Bridge, are two small low flat-topped islands. **East Brother Island Light** (37°57.8'N., 122°26.0'W.), 61 feet above the water, is shown from a white square tower on dwelling on the E island. A seasonal fog signal is at the station.

(343) **Point San Pablo**, 0.3 mile NE of East Brother Island Light, is the NW extremity of a low ridge of hills on the E shore of San Francisco Bay at its junction with San Pablo Bay. The point rises abruptly to a height of 140 feet. A dredged channel off the NE shore of the point is used by commercial and sport fishermen. Depths of 8 feet were reported in the channel to the fishery and the former whaling station docks.

(344) A small-boat basin used by commercial and sport fishermen is 0.5 mile SE from Point San Pablo.

(345) A private yacht basin is 1 mile SE from Point San Pablo. A channel leading to the basin has reported depths of about 2 feet.

(346) **Point Cavallo**, on the W side of San Francisco Bay 0.5 mile NE of the Golden Gate Bridge, is sharp and rocky with some visible and covered rocks under its face. **Horseshoe Bay** is a shallow bight W of the point.

Coast Guard

(347) Golden Gate Coast Guard Station is located at the entrance to Horseshoe Bay. Station Golden Gate is participating in the Coastal Weather Display Program. A 35-foot flag pole is located near the S end of the Coast Guard Station, visible to mariners exiting San Francisco Bay. The following flags will be flown from 1 hour before sunrise to 1 hour after sunset:

(348) Small-craft Warning (One ORANGE pennant – forecasted winds of 25-33 knots)

(349) Gale Warning (Two ORANGE pennants – forecasted winds of 34-47 knots)

(350) Storm Warning (One square RED flag with BLACK square center – forecasted winds of 48-63 knots)

(351) Hurricane Warning (Two square RED flags with BLACK square center – forecasted winds of 64 knots and above)

(352) Weather flags are flown only at select Coast Guard stations to supplement other weather notification sources. Light signals corresponding to these flags are not displayed at night. In all cases mariners should rely upon National Weather Service broadcasts as their primary source of government provided weather information.

(353) From Point Cavallo the steep rocky shore tends N for 0.3 mile to **Yellow Bluff**, thence NW for 1 mile to Sausalito. A rock, covered 5 feet, is about 100 yards ESE of Yellow Bluff in about 37°50.2'N., 122°28.2'W.

(354) **Richardson Bay**, 2 miles N of the Golden Gate Bridge, is shoal except for the S part fronting Sausalito. In the N part of Richardson Bay, a wildlife sanctuary, established by the National Audubon Society, provides safe refuge for migratory fowl that arrives each fall. The sanctuary is closed to marine traffic from October to

March. Seasonal buoys N of a line approximately **097°** True from Strawberry Point to Belvedere, mark the perimeter of the sanctuary. A **special anchorage** is in Richardson Bay. Local authorities control the anchoring of vessels and placement of moorings in Richardson Bay. Mariners should contact the Richardson Bay Regional Agency at (415) 289-4143 for specific information. Richardson Bay is a no-discharge zone; it is illegal for vessels to discharge any form of waste into the bay. (See **110.1 and 110.126a**, chapter 2, for limits and regulations.) A channel leading NW through Richardson Bay to facilities at Sausalito is marked by lights, daybeacons, and buoys.

(355) A **no-wake speed limit** is in all channels in Richardson Bay.

(356) **Sausalito** harbors some commercial fishing boats and many pleasure craft. Several boatbuilding and repair yards have marine ways, the largest of which can handle craft up to 350 tons. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.)

(357) The Corps of Engineers has an operations base and model current-flow basin at Sausalito.

(358) **Belvedere Cove,** 3 miles NNE of the Golden Gate Bridge, is entered between **Peninsula Point** on the S and **Point Tiburon** on the N. Two private yacht clubs are in the cove. There are several small piers used by ferry boats about 0.2 mile W of Point Tiburon. Passenger ferry service is available between Tiburon and San Francisco and between Tiburon and Angel Island. The ruins of an abandoned railroad ferry slip is just W of Point Tiburon.

(359) **Angel Island**, 3 miles NE of the Golden Gate Bridge, is partially wooded and level on top. The irregular-shaped island is separated from the mainland by Raccoon Strait. The island, formerly an immigration detention station, is now a State park. A ferry operates from the island to Tiburon and just S of Pier 1 in San Francisco.

(360) **Point Blunt**, the SE extremity of Angel Island, terminates in a 60–foot-high knob, and is connected with the island by a low neck of land. **Point Blunt Light** (37°51.2'N., 122°25.2'W.), 60 feet above the water, is shown from a white house on the point; a fog signal is at the station. A shoal with visible and covered rocks extends SSE for 0.1 mile. Tide rips and swirls are heavy around the point, especially with a large falling tide.

(361) **Quarry Point**, the E end of Angel Island, is a bold bluff with deepwater close-to. The wharf 0.6 mile N of the point is in ruins. The point is marked by a light.

(362) A lighted buoy is off **Point Stuart**, the W extremity of Angel Island. A shoal area covered 14 to 30 feet, extending SW from **Point Knox**, is marked by a lighted buoy.

(363) **Ayala Cove**, indenting the N side of Angel Island, about 0.6 mile NE of Point Stuart, is reported to afford good anchorage in depths of 10 to 12 feet, mud bottom, and protection from S and W winds. Slips are available for day use only; mooring buoys are available for overnight stays. A pier at the State park facility in the cove is used by ferries and State park personnel.

(364) **Raccoon Strait**, nearly 0.5 mile wide between Angel Island and the mainland, is used by ferry boats and pleasure craft. The tidal currents in the strait have considerable velocity, and rips and swirls are heavy at times. A midchannel course can be followed. **Raccoon Shoal**, covered 29 feet, is 500 yards N of Raccoon Strait Lighted Buoy 4. A strong ebb current sets directly across the channel at the E entrance.

(365) The charted **recreation area** extending SW of Angel Island and including all of Raccoon Strait and Richardson Bay is intended primarily for use by recreation vessels. It should not be utilized by vessels 300 tons or more for through passage or for any other purpose, except in case of emergency or special circumstances.

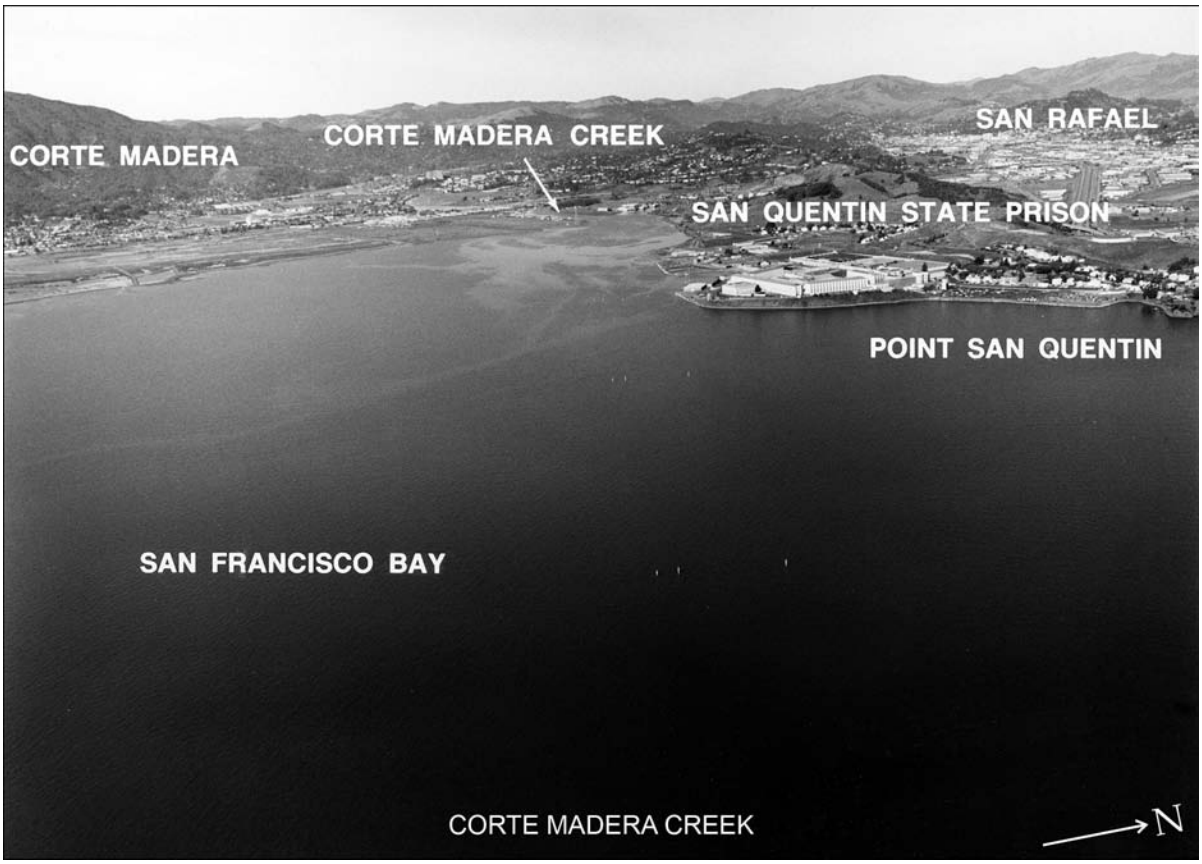
(366) **Bluff Point**, on the mainland and marked by a light, is the E extremity of Tiburon Peninsula 1.2 miles N of Point Stuart. Point Chauncey, 0.8 miles NW of Bluff Point, is the site of the University of San Francisco Romberg Fisheries Laboratory as well as the National Oceanic and Atmospheric Administration's Tiburon Fisheries Laboratory. Pier ruins at the site are marked by lights.

(367) **Paradise Cay**, a filled real estate project 2.6 miles NW of Bluff Point, has a small-boat harbor that accommodates about 200 boats. The harbor is on the N side of the project.

(368) **Corte Madera Creek**, at the head of a marshy bight about 2 miles NW of Paradise Cay, is the site of a ferry terminal with frequent service to and from San Francisco.

(369) **Corte Madera Channel** leads NW from deep water in the bay over the flats to a turning basin at the mouth of the creek. In December 1999, the controlling depth in the dredged channel was 4 feet (7 feet at midchannel) to the turning basin, thence 4½ to 7 feet in the turning basin; thence in 1984, natural depths in the creek were 3 to 12 feet to the fixed highway bridges, 0.5 mile above the turning basin. The channel is marked by lights and daybeacons.

(370) A railroad bridge, 0.4 mile above the turning basin, has a 38-foot bascule span with a clearance of 10 feet. (See **117.1 through 117.59 and 117.153**, chapter 2, for drawbridge regulations.) The bridge remains in the open position except when trains or rail maintenance equipment are crossing the creek. The fixed highway bridges, 0.1 mile above the railroad bridge, have 35-foot channel spans with a clearance of 21 feet.



Submerged obstructions that protrude 3 to 4 feet from the bottom are under the fixed bridges. The obstructions are marked by signs on either side of the bridges. In 1984, a submerged obstruction was reported on the N edge of the channel about 400 yards W of the fixed bridges. The power cables over the turning basin and creek have a least clearance of 120 feet.

(371) **Point San Quentin**, at the W end of the Richmond-San Rafael Bridge, has low land on either side. The buildings of the State Prison S of the bridge and the long wharf N of it are prominent. A State **security zone** extends off the SE side of Point San Quentin. The buoys are orange and white and display the words "San Quentin Prison."

(372) **San Rafael Creek**, 1.8 miles NW of Point San Quentin, is used by many small craft basing at the city of **San Rafael**. A dredged channel leads across the flats in **San Rafael Bay** into San Rafael Creek to a turning basin about 1.1 miles above the mouth, thence for another 0.2 mile above the turning basin. In January 2008, the controlling depths were 3 feet (with lesser depths along the edges) in the entrance and across the flats to the mouth of the creek, thence 2.5 feet to the turning basin (except for shoaling to 1.4 feet along the S edge of the channel opposite the front range light); the turning basin had depths of 4 to 5 feet. The channel entrance is marked by lights and a **293°** lighted range. The overhead power cables near the entrance to the creek have a clearance of 125 feet. The Grand Avenue Bridge has a 30–foot fixed span with a clearance of 4 feet.

(373) The municipal yacht harbor is on the S side of San Rafael Creek, about 400 yards E of the turning basin, and there are numerous small-craft facilities elsewhere along the creek. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.)

(374) **Point San Pedro**, 3 miles N of Point San Quentin at the W entrance to San Pablo Bay, extends 100 yards E of 356–foot-high **San Pedro Hill**. Three charted brick stacks are just S from the point. There is a large quarry just N from the point.

Charts 18654, 18652, 18658

(375) **San Pablo Bay**, is nearly circular, 10 miles long in a NE direction, with a greatest width of 8 miles. The N part consists of low marshes intersected by numerous

sloughs and a large area of shoal water and mudflats that bare at extreme low water. The S shore is bolder, except between Point San Pablo and Pinole Point, where it is low and marshy for about 3 miles. Carquinez Strait joins San Pablo Bay with Mare Island Strait and Suisun Bay at its E extremity. There is considerable traffic through the bay. Deep-draft oil tankers and sugar-laden vessels pass through the bay bound for Crockett and Martinez. Lighter draft vessels pass through bound for points on Suisun Bay, and the Sacramento River to Sacramento, and on the San Joaquin River to Stockton.

(376) Mariners are advised that winds and currents in San Pablo Bay may be particularly strong and must be taken into consideration by tankers bound for the oil terminals. Vessels transiting the Pinole Shoal Regulated Navigation Area westbound on an ebb current should use extra caution to avoid being set down on the aids to navigation following the turn at San Pablo Bay Channel Light 11.

(377) The marked channel through San Pablo Bay extends in a gentle curve N and E from the entrance to the E end. The Federal project depth is 35 feet across Pinole Shoal. (See Notice to Mariners and latest editions of charts for controlling depths.) A **regulated navigation area** has been established in Pinole Shoal Channel. (See **33 CFR 165.1181(e)(2)**, chapter 2, for limits and regulations.) Vessels that do not meet the draft requirements to transit the Pinole Shoal Regulated Navigation Area (**165.1181**) follow an informal transit pattern along the 25–foot curve just to the south of Pinole Shoal between San Pablo Bay Channel Lighted Buoy E and the entrance to Carquinez Strait.

Anchorages

(378) **General** and **naval anchorages** are in San Pablo Bay. (See **110.1 and 110.224**, chapter 2, for limits and regulations.)

(379) Shoals and flats, which uncover, extend from Point San Pablo to Pinole Point, thence NE to Lone Tree Point.

(380) **Pinole Point** is a moderately high, rocky bluff, projecting about 1 mile from the SE shore of San Pablo Bay. A T-head fishing pier extends NW from the E side of the point. Piles and a light are off the face of the pier. The ruins of a former wharf extend from the E side of

the point, and numerous oil tanks are on the hills about 2 miles in back of it. About 3.5 miles E of Pinole Point, the black and white tank at a chemical fertilizer plant is prominent. A pleasure fishing pier and a small-craft harbor are at **Lone Tree Point,** 4.6 miles E from Pinole Point. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.) A steel skeleton tower is 0.6 mile S of Lone Tree Point. **Oleum,** on **Davis Point**, is an oil town. There are many prominent oil tanks, painted in pastel colors, on the hills back of the town. Six stacks in a line SE of Davis Point are also prominent.

(381) The Conoco-Phillips Wharf, a T-shaped wharf, extends out from the Oleum refinery on Davis Point. In June-July 2005, a least depth of 40 feet was alongside the 1,250-foot wharf; 1,375 feet of berthing space is available with dolphins. All four corners of the wharf are marked by private lights, and a private fog signal is at the E end; the trestle leading to the wharf is lighted at night. The deck height is 17 feet. Pipelines extend from the wharf to nearby storage tanks. The wharf is used for receipt and shipment of petroleum products and for bunkering vessels. A **security zone** has been established surrounding the wharf. (See **165.1197**, chapter 2, for limits and regulations.)

(382) The Pacific Refining Co. Wharf, 0.5 mile offshore, is about 1,000 yards W of the T-shaped wharf. The wharf is 160 feet long with 1,228 feet of berthing space with dolphins; depths alongside are 35 feet. Deck height is 17 feet. The E and W ends are marked by private lights, and a fog signal is at the center of the wharf. Pipelines lead from the wharf SW to the shore just S of Lone Tree Point. Water and electric shore power connections are available. The wharf is used for the receipt and shipment of petroleum products.

(383) Shore Oil Terminal Wharf, about 1 mile E of the Conoco-Phillips wharf, has a 72-foot face with 980 feet of berthing space with dolphins and 40 to 45 feet alongside; deck height, 20 feet. The wharf is used for receipt of petroleum products

(384) **Gallinas Creek** enters San Pablo Bay about 1.5 miles NW of Point San Pedro. The entrance channel, marked by private markers on the N side, leads across flats to the mouth of the creek. In April 1983, the channel had a controlling depth of 2 feet. Local knowledge is advised. Overhead cables crossing the creek have a minimum clearance of 65 feet.

(385) A dredge offloading facility and booster pump facility are about 1.43 miles NE of Point San Pedro in about 38°00'22"N., 122°25'53"W. and 38°01'15"N., 122°27'04"W., respectively. The two facilities consist of several pilings with permanently moored barges. A marked, submerged pipeline and power cables connect the two facilities, thence runs NW to the shoreline in about 38°02'47"N., 122°29'36"W. Mariners are advised to use caution when transiting the area.

(386) **Petaluma River** enters San Pablo Bay on the NW side. The city of **Petaluma**, 12 miles above the mouth, is the center of an extensive dairy and egg industry. The river is used by pleasure craft and by barges handling gravel, oyster shell, heavy construction equipment, and prestressed concrete products.

(387) A dredged channel leads from deep water in San Pablo Bay to the mouth of the Petaluma River and continues upstream to the city of Petaluma. A Federal project provides for depths of 8 feet in the entrance and through the river to a turning basin at Petaluma, thence 4 feet to the upstream limit of the project. (See Notice to Mariners and latest edition of the chart for controlling depths.)

(388) Least clearances over Petaluma River are: drawbridges, 4 feet; fixed bridges, 8 feet; and power cables, 70 feet. The bridgetender for the D Street highway bridge at Petaluma monitors VHF-FM channel 16, and works channel 9; call sign: WQX 644, D Street Bridge. (See **117.1 through 117.59 and 117.187**, chapter 2, for drawbridge regulations.)

(389) A privately dredged channel with private markers leads SSW from the dredged entrance channel to Petaluma River just below the entrance to the river and thence to **Novato Creek**. In 1985, the reported controlling depth was 2 feet.

Danger zones

(390) Danger zones are in the E part of San Pablo Bay adjacent to the W shore of Mare Island and in the N central part of the bay. (See **334.1160 and 334.1170**, chapter 2, for limits and regulations.)

Charts 18655, 18652

(391) **Mare Island Strait**, at the mouth of the Napa River, is between the mainland and **Mare Island**. Vallejo is on the E side of the strait and the Mare Island Naval Shipyard is on the W side, about 2 miles above the S entrance. The project depth for the Mare Island Strait Channel, from the entrance to the first bridge (Vallejo-Mare Island Causeway Bridge), about 2.9 miles above the entrance, is 30 feet, except for 26 feet at the N end. (See Notice to Mariners and latest editions of charts for controlling depths.) In the 0.6–mile section between the first and second bridges, shoal spots limit the controlling depth to about 13 feet. With local knowledge and use of the chart, drafts of 20 feet can be taken to the second bridge.

(392) **Notice.**–Ships destined for **Mare Island U.S. Naval Shipyard** should await arrival of the Navy pilot at Carquinez Strait. The waters around Mare Island are included in a **restricted area.** (See **334.1100**, chapter 2, for limits and regulations.)

(393) A power cable crossing lower Mare Island Strait between Vallejo and Mare Island has a clearance of 206 feet. If the clearance between the masthead and the cable is less than 10 feet or if the clearance is not known, vessels shall not move under the cable without authority.

(394) The entrance to Mare Island Strait is between two dikes. On the E side of the entrance, Dike No. 9 extends about 700 yards SW from the mainland and on the W side, Dike No. 14 extends about 500 yards SE from Mare Island; both dikes have submerged outer sections. Dike No. 9 is marked at the outer end by a light and Dike No. 14 is marked at the outer end by a lighted buoy.

Coast Guard

(395) **Coast Guard Station Vallejo**, about 2.5 miles above the entrance to Mare Island Strait just below the Vallejo-Mare Island causeway lift bridge, is on the E side of the strait.

(396) **Vallejo**, on the E shore of Mare Island Strait, is the terminal of a railroad connecting interior N points. A large flour mill is prominent S of the railroad yard. The city of Vallejo supplies a large amount of fresh provisions to the naval shipyard and affords residences for employees and others attached there. It is also a distributing point for a considerable agricultural area in its vicinity. The shipyard, on the W side of Mare Island Strait, has drydocks and extensive facilities for repairing and building vessels of all sizes. A passenger ferry operates between Vallejo and San Francisco.

(397) Two small-craft facilities are also on the E side of the Mare Island strait. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.)

(398) The Vallejo-Mare Island causeway and lift bridge connect Mare Island with the city of Vallejo near the N end of the Naval Shipyard. It has a lift span with a clearance of 100 feet up and 12 feet down. (See **117.1 through 117.59 and 117.169**, chapter 2, for drawbridge regulations.) The bridge is equipped with radiotelephone. The bridgetender monitors VHF-FM channel 16 (156.80 MHz) and works on channel 13 (156.65 MHz); voice call, Mare Island Causeway Bridge. Just above **Sears Point**, 1 mile above Vallejo, a fixed highway bridge with a clearance of 100 feet crosses the strait. A public fishing pier is close S of this bridge and extends about 350 yards from the E side of the strait. A Navy reserve fleet pier is on the W side of the strait between Vallejo-Mare Island causeway lift bridge and the fixed bridge just above Sears Point. If practical, approach the bridges only when running against the current. No passage should be attempted during the periods of peak flood or ebb current.

Charts 18654, 18652

(399) **Napa River**, the continuation of Mare Island Strait above the naval shipyard, is used by barges and pleasure boats. Barge traffic on the river is in crushed rock, salt, and steel. A dredged channel leads from the Vallejo-Mare Island Causeway Bridge to a turning basin at **Jacks Bend**, thence to the head of navigation at the 3rd Street Bridge in **Napa,** 13 miles above the causeway bridge. In April 1999, the midchannel controlling depth was 8 feet from the Vallejo-Mare Island Causeway Bridge to Light 3; thence in August 2007, the controlling depth was 9.3 feet to Light 20 at **Horseshoe Bend** (except for shoaling to 1.3 feet on the left side of the channel just below the lift bridge at Brazos, to 7.6 feet on the right side of the channel just above the lift bridge and to 6.8 feet on the left side of the channel opposite Light 16.) A **Federal project** provides a depth of 10 feet from Horseshoe Bend to the upstream limit of the channel. (See Notice to Mariners and latest editions of charts for controlling depths.) Napa River is marked to Horseshoe Bend by lights and a daybeacon; above Horseshoe Bend, the river is marked by lights and daybeacons to the 3rd Street Bridge in Napa. A visible wreck, marked by a buoy, is on the E side of the channel just N of Slaughterhouse Point. In 2004, a submerged obstruction was reported in the channel E of Knight Island in about 38°08'16.5"N., 122°16'57.2"W.

(400) The railroad bridge across Napa River at **Brazos**, about 6.8 miles above the Vallejo-Mare Island Causeway, has a vertical lift span with a clearance of 2 feet down and 97 feet up. (See **117.1 through 117.59 and 117.169**, chapter 2, for drawbridge regulations.) The channel through the bridge crosses from one bank to the other causing a hazardous condition, particularly for downbound loaded barges, because the direction of the ebb current is as much as 50° from the axis of the channel.

(401) A fixed highway bridge with a clearance of 107 feet crosses the Napa River at Suscol, about 9.7 miles above the Vallejo-Mare Island Causeway.

(402) Near **Imola**, 12 miles above Vallejo-Mare Island Causeway bridge, a fixed highway bridge crosses the river with a clearance of 60 feet. The three fixed bridges in Napa have a minimum width of 47 feet and a clearance of 3.7 feet. The minimum clearance of the power

cables crossing the river below Napa is 125 feet, and in Napa, 40 feet.

(403) A small-craft basin is on the W side of Napa River opposite **Bull Island**, 8 miles above the Vallejo-Mare Island Causeway, and several other small-craft facilities are elsewhere on the river. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.)

Charts 18656, 18652

(404) Six-mile-long **Carquinez Strait** connects San Pablo and Suisun Bays. For the first 3.5 miles it is a little less than 0.5 mile wide, and then widens to about 1 mile. It is deep throughout with the exception of a small stretch of flats on the N shore, and a small shoal area in the bight on the S shore near the E end. In October 2003, shoaling to 10.5 feet was in the NW corner of Naval Anchorage No. 21.

Anchorages

(405) **General anchorages** are in Carquinez Strait. (See **110.1 and 110.224**, chapter 2, for limits and regulations.)

Caution

(406) In October 1991, tidal currents in Carquinez Strait were reported to deviate significantly from official predictions published by the National Ocean Service. Mariners should exercise caution and discretion in the use of published tidal current predictions.

Charts 18655, 18652

(407) The **California State Maritime Academy** and pier are in **Morrow Cove**, on the N shore of the W entrance to Carquinez Strait.

(408) Interstate Route 80 fixed highway bridges cross Carquinez Strait near its W entrance at **Semple Point**. The channel on each side of the center pier is 998 feet wide; the clearances are 146 feet through the N span and 134 feet through the S span. Private fog signals are sounded at the bridges; racons are at the center of each span and an aerolight is atop the center pier. In 1999, a fixed highway bridge, with a maximum design clearance of 158 feet, was being built just W of the existing bridges.

(409) Power cables cross the strait 0.3 mile W of the highway bridges and 1.2 miles E of it; the minimum clearance is 179 feet.

(410) **Crockett**, on the S shore just E of the highway bridges, is built around The California and Hawai'ian Sugar Co. Refinery. The refinery's wharf has a 2,715-foot face with 2,815 feet of berthing space with dolphins, and a deck height of 12 feet. A depth of 30 feet is alongside. Four cranes and a conveyor system serve the wharf, maximum unloading rate is 250 tons per hour each; water is available. The wharf is used for receipt and shipment of sugar products and the transfer of bulk liquid molasses; it is owned and operated by California and Hawai'ian Sugar Co.

(411) A marina is on the S shore just W of the highway bridges, and a small-boat basin is in **Elliot Cove** on the N side of the strait opposite Crockett. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.)

Charts 18657, 18652

(412) A light is 130 yards off the S side of Carquinez Strait, 1.5 miles E of Interstate Route 80 fixed highway bridges; a light is off **Port Costa**, 0.6 mile to the E. On the N side of the strait, a light is on **Dillon Point** and another is off **Benicia Point**.

(413) The Defense Fuel Supply Center Support Point, Ozol Oil Wharf, at **Ozol**, is about 1.6 miles SE of Port Costa. The 270-foot offshore wharf, marked by lights on the E and W ends, has 880 feet of berthing space with dolphins; 37 feet alongside; deck height is 8 feet; water and electrical shore power connections are available; it is owned by the U.S. Government and operated by Blaiz Co., Inc.

(414) There are three wharves extending out to deep water at **Martinez**, 2 miles SE of Point Carquinez.

(415) The westernmost of these facilities is the municipal fishing pier with a tugboat slip on its W side. A small-boat harbor, protected by breakwaters, is on the E side of the pier. A private light is on the channel end of both breakwaters. In 1994, shoaling to a depth of about 4 feet was reported at the entrance to the marina.

(416) The Shell Oil Co., Martinez Refinery Wharf, E of the municipal fishing pier, is a 900-foot offshore wharf, 1,850 feet usable with dolphins; depth of 42 feet alongside decreasing to 39 feet at the W end; deck height is 15 feet; water and electrical shore power connections are available; owned and operated by Shell Oil Co. The wharf is marked by private lights and a fog signal. A **security zone** has been established around the wharf. (See **165.1197**, chapter 2, for limits and regulations.)

(417) The Tesoro Amorco Pier, Upper and Lower Wharves, 400 yards E of the Shell Oil Co. Wharf, have depths of 35 feet alongside and both are used for bunkering vessels as well as the receipt and shipment of petroleum products. The W wharf is a 76-foot offshore wharf with 281 feet usable with dolphins; depth of 35 feet alongside; deck height is 15 feet. The E wharf is a 76-foot offshore wharf with 512 feet usable with dolphins; deck height is 17 feet. The wharves provide 978 feet of continuous berthing space; owned and operated by Tesoro Corporation. Both wharves are marked by private lights. A **security zone** has been established around the wharves. (See **165.1197**, chapter 2, for limits and regulations.)

(418) **Benicia** is on the N shore at the E end of Carquinez Strait. Most of the smaller piers around the town are in ruins.

(419) A marina, protected by breakwaters, is at Benicia. Private lights on the breakwater mark the entrance. (See the small-craft facilities tabulation on Chart 18652 for services and supplies available.)

(420) In November 1988, a sunken wreck with a least depth of 21 feet was reported about 600 yards WSW of the Port of Benicia in about 38°02'17.5"N., 122°08'39.6"W.

(421) The **Port of Benicia** is at Army Point at the E end of the town. Highway and railroad connections, and water and electrical shore power connections are available at all of the facilities.

(422) Valero-Benicia Refinery (38°02'41"N., 122°07'45"W.): 1,100 feet of berthing space; 40.4 feet alongside; deck height, 15 feet; receipt and shipment of petroleum products; receipt of crude oil; owned and operated by Valero Energy Corporation. A **security zone** has been established around the wharf. (See **165.1197**, chapter 2, for limits and regulations.)

(423) Benicia Industries, Wharf No. 95 (38°02'28"N., 122°08'05"W.): 2,404 feet of berthing space; 38 feet alongside; deck height, 11 to 15 feet; receipt of automobiles and crude oil; receipt and shipment of general cargo; shipment of bagged rice, petroleum coke, and petroleum products; owned by Benicia Industries, Inc., and operated by various companies.

(424) Three bridges cross Carquinez Strait at the E end from **Army Point** to **Suisun Point**. The Benicia-Martinez Highway Bridge has a fixed span with a clearance of 135 feet over Suisun Point Reach. A fog signal and RACON are over the main channel span between piers 10 and 11 and a fog signal is between piers 6 and 7. The Union Pacific Railroad Bridge, just E of the fixed bridge, has a lift span with clearances of 70 feet down and 135 feet up over the main channel. The I-680 Highway Bridge, 0.1 mile E of the railroad bridge, has a fixed span with a clearance of 153 feet over Bulls Head

Channel. (See **117.1** through **117.49**, chapter 2 for drawbridge regulations.) The bridgetender monitors VHF-FM channel 13 and works on channel 14; call sign KQ-7193, Union Pacific Railroad Bridge. All mariners intending to transit underneath the Union Pacific Railroad Bridge should be familiar with the communications protocol established specifically for vessel-to-bridge radiotelephone communications at the bridge. The protocol addresses procedures for requesting an opening of the bridge as well as special emergency communication procedures for all vessels transiting underneath the bridge. For a complete explanation of the communications protocol, visit the VTS San Francisco web page at the following URL: **http://www.uscg.mil/d11/vtssf/training/uprrb.htm** or contact the VTS San Francisco Training Director at the following email address: **humphrey@d11.uscg.mil**.

(425) **Bulls Head Point**, just E of the S end of the bridge, shows as a 100-foot rounding hill with a prominent high white stack.

(426) The Tesoro Corporation, Avon Refinery Wharf extends across the flats at **Avon**, 1.5 miles E of the Suisun Point bridges. Total berthing space is 1,320 feet; depths alongside the channel face are 32 feet; deck height is 19 feet, with 14 feet at the center section. Tankers berth along the channel side of the face, and barges along the inshore side of the face; receipt and shipment of petroleum products; owned and operated by Tesoro Corporation. Private lights and fog signals are on the outer ends of the pier. A **security zone** has been established around the wharf. (See **165.1197**, chapter 2, for limits and regulations.)

(427) The Shore Oil Terminal Wharf, 970 feet of berthing space with dolphins, is 0.5 mile W of the Tesoro Wharf; depth alongside, 34 feet; receipt and shipment of petroleum products. The wharf is owned and operated by Shore Terminals Oil Corp.

Charts 18656, 18652

(428) **Suisun Bay** is a broad shallow body of water with marshy shores and filled with numerous marshy islands, many of which have been reclaimed and are now under cultivation. It is practically the delta of the Sacramento and San Joaquin Rivers which empty into the E part of the bay. Two narrow winding channels lead to the mouths of the rivers. They are marked by lights. The rivers and the channels near the mouths have been improved by the Government to increase the depth, remove obstructions, and provide relief during freshet seasons. A **Federal project** provides for a main channel 35 feet deep through the bay to the San Joaquin River. (See Notice to Mariners and latest editions of charts for controlling depths.)

(429) The bay is used by many light-draft vessels having local knowledge. It is recommended that large vessels take a pilot if bound above Crockett. For information on obtaining an inland pilot contact the San Francisco Marine Exchange or San Francisco Bar Pilots.

(430) A large wind turbine on the NW side of the bay in about 38°09'21"N., 122°07'26"W., is reported to be prominent.

Anchorages

(431) **General anchorages** are in Suisun Bay. (See **110.1 and 110.224,** chapter 2, for limits and regulations.) Mariners are advised that a cable area runs through Anchorage No.23.

(432) **Suisun Slough** empties into the NW side of Suisun Bay 5.5 miles N of Benicia. A dredged channel leads from Suisun Bay into the entrance to the slough. In 1990, the controlling depth was 6½ feet. The entrance channel is marked by lights. Above the dredged channel, river channel had a reported depth of 6.3 feet in July 2001, from the mouth to **Suisun City**, 12 miles above the entrance. The mean range of tide is about 4 feet. Traffic on the slough includes gasoline, jet fuel, and residual fuel oil. Petroleum products are barged to an oil distributor at Suisun City. A power cable with a clearance of 110 feet crosses the slough just S of the city.

(433) A **restricted berthing area** for Maritime Administration Reserve Fleet vessels is along the W side of Suisun Bay. (See **162.270,** chapter 2, for limits and regulations.)

(434) (See **117.1 through 117.59, 117.151, and 117.185**, chapter 2, for drawbridge regulations for the bridges over the minor tributaries of Suisun Bay.)

Charts 18658, 18652

(435) The site of the **Concord U.S. Naval Weapons Station** is on the S side of the bay. A **restricted area** has been established along the waterfront of the Naval Station (See **33 CFR 334.1110**, chapter 2, for limits and regulations.) A **security zone** has also been established around the piers of the Naval Station. (See **33 CFR 165.1199**, chapter 2, for limits and regulations.

Charts 18656, 18652

(436) Two adjacent small-craft basins are on the S side of the flats about 1.6 miles E of **Middle Point**, the E boundary of the Navy weapons station. The basins are

connected to the bay by twin canals cut through the flats. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.)

Charts 18659, 18661, 18652

(437) **Pittsburg**, on the S side of New York Slough 12 miles E of Suisun Point bridges, is a manufacturing city with several deepwater berths.

(438) The PGE-Pittsburg Fuel Pier, about 0.3 mile W of **New York Point**, is an offshore wharf with 1,070 feet of berthing space, 35 feet alongside, and a deck height of 14 feet. It is used for receiving and transshipping petroleum products.

(439) The Diablo Service Corp. Wharf, about 0.6 mile E of New York Point is an offshore wharf with 1,154 feet of berthing space with dolphins, 35 feet alongside, and deck height of 12 feet. There is a conveyer system and crawler tractors. Rail and highway connections, and water and electrical shore-power connections are available. It is owned by Tosco Corp. and is used for the receipt of petroleum coke.

(440) USS-Posco Industries, Pitsburg Wharf, about 1.3 mile E of New York Point, is a 891-foot marginal wharf with depths of 33 feet alongside and a deck height of 11 feet. Three 37½-ton cranes are available, and there are rail and highway connections, and water and electrical shore power connections. It is used for receipt of semi-finished steel.

(441) The Dow Chemical Co., Pitsburg Plant Wharf, about 2 miles E of New York Point, is an offshore wharf with 672 feet of berthing space with dolphins, 40 feet alongside and a deck height of 20 feet. It is used for shipment and receipt of caustic soda.

(442) **Antioch** on the S side of San Joaquin River 16 miles E of Suisun Point bridges, is a manufacturing city with waterborne commerce.

(443) Georgia-Pacific Corp., Antioch Plant Wharf, about 38°00'56"N., 121°47'08"W., is a 197-foot offshore wharf, 780 feet usable with dolphins, with 31 feet alongside and a deck height of 11 feet. A conveyor system is available for the receipt of gypsum rock. Highway connections, and water and electrical shore power connections are available.

(444) Gaylord Container Corp., California Mill Wharf, about 0.5 mile E of Kaiser Gypsum Co. Pier, is a 291-foot offshore wharf, 766 total berthing space, with depths of 35 feet alongside. Receipt of miscellaneous dry bulk commodities.

(445) There are also barge facilities at Antioch.

(446) The Fulton Shipyard, on the E edge of the city, has a marine railway that can haul out vessels up to 350 tons for general repairs. The yard repairs auxiliary vessels such as towboats and barges.

(447) Several small-craft facilities are at Pittsburg and Antioch. (See the small-craft facilities tabulation on chart 18652 for services and supplies available.)

Charts 18661, 18662

(448) The **Delta Region**, the combined deltas of the San Joaquin and Sacramento Rivers, comprises the feeder rivers, sloughs, and canals that directly or indirectly connect with one or both of the rivers. Hundreds of miles of navigable waterways for small boats are available in the Delta; both local and visiting small craft use these waterways extensively. Common types of pleasure craft peculiar to the Delta include pontoon boats and houseboats, but many conventional powerboats and sailboats use these waters also, especially in summer when San Francisco Bay is foggy and choppy. Some of the more important sloughs are used by tugs and barges.

(449) Bordering the various waterways are levees which are 12 feet or more higher than the land behind them. The levees are built up from dredged material taken from the adjacent waterway, and because of the settlement of the levees, dredging has been done periodically to keep the tops at height and grade. As material is needed for levee work, the dredge pays more attention to the requirements of the levee than to the depth of the channel for navigation purposes. This leaves an uneven bottom. The tops of the levees generally have dirt roads. **Tule** is often found on the channel side of the levees. Tule is the name given to a tall aquatic plant growth similar to bulrush.

(450) Many public and private small-boat harbors, marinas, and boating resorts are spread over the Delta region. All types of facilities and services for small craft are available, though some areas in the Delta are much more developed than others. Groceries are one of the most difficult items to obtain in this region; groceries in any quantity must be obtained from the larger towns on the Sacramento River, at Antioch or Stockton on the San Joaquin River, or at one of the larger resorts. Diesel oil is similarly rather scarce, since most craft on these waters use gasoline. Diesel oil may be obtained at the junction of the Mokelumne and San Joaquin Rivers, on the W side of King Island, at or near the cities of Antioch and Stockton, and at Bethel Island.

(451) Some areas in the Delta in which small-craft facilities are especially concentrated are: most of the perimeter of **Bethel Island (Bethel Tract)**, 3.4 miles E from Antioch Bridge; the S side of San Joaquin River on both sides of Antioch Bridge; the W side of the Mokelumne

River from its junction with the San Joaquin River to Georgiana Slough; and the San Joaquin River from Fourteenmile Slough through Stockton. (See the small-craft facilities tabulation on charts 18661 and 18662 for services and supplies available at the small-craft facilities in the Delta Region.)

Cable ferries

(452) The Sacramento and San Joaquin Rivers, including some of the feeder rivers, sloughs, and canals that directly or indirectly connect with one or both of the rivers, are crossed by cable ferries (see charts 18661 and 18662). These ferries in the delta region are guided by cables and sometimes propelled by a cable rig attached to the shore. Cables to the ferries, which extend from both banks of the waterway, may be at, near, or above the water surface. Operating procedures vary and mariners are advised to use extreme caution and seek local knowledge. In 1978, the U.S. Coast Guard advised that cable ferries were not operating in many charted locations in the delta region. These ferries may operate intermittently, so caution is advised while operating in their vicinity. **DO NOT ATTEMPT TO PASS A MOVING CABLE FERRY.**

(453) **Clearances for structures** (bridges, cables, pipelines, etc.) across all navigable waterways throughout the **Delta Region** (except the San Joaquin River) are listed on structure-crossing tables. These tables are located near the waterways being discussed in the text. Mariners are advised that **low water datum** listed on the tables is **mean lower low water** at **low-river stage**; overhead cable clearances reference **high water datum**. During **flood stage levels**, bridge and overhead cable clearances may be **reduced** as much as 29 feet or more. See chapter 1 for more information about bridges and overhead cables.

Charts 18661, 18660, 18663

(454) **San Joaquin River** rises in the Sierra Nevada, flows 275 miles in a W direction, and enters Suisun Bay through **New York Slough**. The winding river is navigable for deep-draft vessels to Stockton. The water is generally fresh at Antioch. The mean range of tide is about 3 feet from the entrance to Stockton. Major floods in the river valley may occur from November to April, caused by intense general storms of several days' duration. At the mouth of the river an ordinary flood will cause a rise of 8 feet and an extreme flood a rise of 10 feet in the river level. At Stockton, ordinary flood will cause a rise of 8.5 feet, and extreme flood a rise of 13.5 feet in the river level. The delta of the river is formed of many marshy islands intersected by sloughs and channels. The islands are reclaimed tule and cattail marshes which have been converted to agriculture. Bordering the river are levees that are 12 feet or more higher than the land behind them.

(455) Reports of gage heights of the San Joaquin River delta can be obtained from the Sacramento National Weather Service Office at any time. The information is published in the Sacramento Bee and, in addition, is reported on radio broadcasts from station KFBK whenever the gage heights are sufficient to be of general interest.

(456) Information on gage heights can also be obtained from the State Department of Water Resources, 1416 9th Street, Sacramento, CA 95814 or by recorded message at (916) 653-6416.

(457) A **Federal project** provides for a 35-foot channel from the mouth of the San Joaquin River to a turning basin at Stockton, and for suitable passing and turning basins. (See Notice to Mariners and latest editions of charts for controlling depths.)

Anchorages

(458) **General and explosives anchorages** are in the San Joaquin River on the W side of Sherman Island near the mouth, and just N of Venice Cut between Mandeville Island and Venice Island. (See **110.1 and 110.224**, chapter 2, for limits and regulations.)

(459) (See **162.205**, chapter 2, for rules and regulations governing maximum speed, passing, right-of-way, collision, and wrecks in the San Joaquin River.)

(460) **Antioch Bridge**, (State Route 160), a fixed highway bridge with a clearance of 142 feet, crosses San Joaquin River about 3 miles E of Antioch. There are no other bridges over the main channel below the turning basin at Stockton. Power cables over the main channel of San Joaquin River from the mouth to the turning basin at Stockton have a minimum clearance of 140 feet.

(461) There are small-craft facilities on the S side of San Joaquin River on both sides of Antioch Bridge. (See the small-craft facilities tabulation on chart 18661 for services and supplies available.)

(462) The main channel in San Joaquin River to Stockton is marked by a daybeacon, buoys, lights, and lighted ranges. At **Mandeville Cut** and **Venice Cut**, 15 miles above Antioch Bridge, the river still follows its old channel and violent sheers are experienced if the navigator is not prepared to meet the river current when passing from the cuts into the river and from the river into the relatively quiet waters of the dredged channel. Under freshet conditions, vessels tend to sheer off course at the junction of the San Joaquin

River and the main ship channel at Channel Point near Stockton.

(463) **Stockton**, 28 miles above Antioch Bridge, is in the center of the fertile San Joaquin Valley. The deep-draft harbor is near the W city limits.

Bridges

(464) A fixed highway bridge with a clearance of 45 feet at high water (50 feet at low water) crosses the upper Stockton channel 0.2 mile E of the turning basin.

Tides and currents

(465) The mean range of tide is 3.1 feet, and the tidal current is negligible.

Weather, Stockton

(466) Stockton, the county seat of San Joaquin County, is near the center of the great **Central Valley** of California, on the SE corner of the broad delta formed by the confluence of the San Joaquin and Sacramento Rivers. The surrounding terrain is flat, irrigated farm- and orchard-land, near sea level, with the rivers and canals of the delta controlled by a system of levees.

(467) About 25 miles (46 km) E and NE of Stockton lie the foothills of the Sierra Nevada, rising gradually to an elevation of about 1,000 feet (305 m). Beyond the foothills, the mountains rise abruptly to the crest of the Sierra, at a distance of about 75 miles (139 km), with some peaks here exceeding 9,000 feet (2745 m) in elevation. On a few days during the year, when atmospheric conditions are favorable, the "downslope" effect of a N or NE wind can bring unseasonably dry weather to the delta area; but on the whole the Sierra Nevada has little or no effect on the weather of San Joaquin County. The Sierra Nevada does affect the area, however, to the extent that the entire economy of the Central Valley depends upon the underground water supplies and rivers which are fed in summer by the melting snows which have piled up during the winter on the windward (W) slopes of the mountains.

(468) To the W and SW, the Coast Range, with peaks above 2,000 feet (610 m), form a barrier separating the Central Valley from the marine air, which dominates the climate of the coastal communities. Several gaps in the Coast Range in the San Francisco Bay Area, however, permit the passage inland of a sea breeze which fans out into the delta and has a moderating effect on summer heat, with the result that Stockton enjoys slightly cooler summer days than communities in the upper San Joaquin and Sacramento Valleys.

(469) Stockton's climate is characterized in summer by warm, dry days and relatively cool nights, with clear skies and no rainfall; and in winter by mild temperatures and relatively light rains, with frequent heavy fogs. The annual average temperature is 62°F (16.7°C) with an average daily maximum of 74°F (23.3°C) and an average daily minimum of 49°F (9.4°C).

(470) The annual rainfall averages between 13 and 14 inches (330 to 356 mm), with 90 percent of this precipitation falling in the winter-half year, i.e., November through April. Thunderstorms are infrequent, occurring on 3 or 4 days a year, generally in the spring, and occasionally in summer, although rainfall with summer thunderstorms is negligible. Measurable rain can be expected on about 52 days a year, and rain exceeding 0.5 inch (13 mm) on about 7 days a year. Since the Pacific storms that bring rainfall to this area are associated with above-freezing temperatures (>0°C) at sea-level elevations, snowfall is practically unknown in the Stockton area with trace amounts happening a few times and measurable snowfall happening only one time; February 1976.

(471) In summer, temperatures exceeding 100°F (37.8°C) can be expected on 6 days in July and about 14 days during the entire summer. During these hot afternoons the air is extremely dry, with relative humidities running generally less than 20 percent. Even on these hot days, however, temperatures will fall into the low sixties (16.1° to 17.2°C) at night. In winter the nighttime temperature on clear nights will fall to, or slightly below, freezing (0°C), and will rise in the afternoon into the low fifties (10.6° to 11.7°C). The all-time recorded maximum for Stockton is 114°F (45.5°C) recorded in July 1972 while the all-time minimum is 16°F (-8.9°C) recorded in January 1949. Each month, April through October, has recorded temperatures in excess of 100°F (37.8°C) while each month, November through April, has recorded temperatures of freezing (0°C) or lower.

(472) In late autumn and early winter, clear still nights give rise to the formation of dense fogs, which normally settle in during the night and burn off sometime during the day. In December and January, the so-called fog season, under stagnant atmospheric conditions the fog may last for as long a 4 or 5 weeks, with only brief and temporary periods of clearing.

Pilotage, San Joaquin River

(473) River pilots, commissioned by the Port of Stockton, are obtained by ship's agents, through the office of the Port of Stockton, or the San Francisco Bar Pilots.

Towage

(474) It has not been necessary for towage companies to operate at this port because all vessels operate under

their own power; however, tugs up to 1,200 hp are available.

Quarantine, customs, immigration, and agricultural quarantine

(475) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(476) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

Wharves

(477) Deep-draft facilities at the Port of Stockton are on the S side of San Joaquin River, along the NE side of **Rough and Ready Island** (West Complex), and along the S side of Stockton Deep Water Channel from the junction with the San Joaquin River E to the turning basin (East Complex). The facilities have highway connections and are served by the port's beltline railroad, which connects with two major railroads. Warehouse facilities are available in the port; the wharves have water and electrical shore power connections. General cargo is usually handled by ship's tackle or by shore side traveling cranes; special handling equipment, if available, is mentioned in the description of the particular facility. Rental cranes are available locally, and floating cranes for heavy lifts can be obtained from San Francisco. The wharf operator, unless otherwise stated, is the Stockton Port District. Depths alongside are reported; for information on the latest depths contact the Stockton Port District. Only the deep-draft facilities are described. For a complete description of the port facilities refer to Port Series No. 32, published and sold by the U.S. Army Corps of Engineers. (See Appendix A for address.)

(478) Port of Stockton (West Complex), on Rough and Ready Island, has a total of 5.5 million square feet of covered storage. Wharves 14-20, are along the NE side of the island. The wharves range in length from 745 to 1,104 feet, and depths alongside are 22 to 25 feet; each wharf has 120,000 square feet of covered storage.

(479) Port of Stockton (East Complex), Wharves 12 and 13 (37°57'02"N., 121°20'05"W.): at Channel Point; 566-foot offshore wharf; 843 feet of berthing space with dolphins; 35 feet alongside; deck height, 13 feet; loading tower served by conveyor system, loading rate 4,000 tons per hour; shipment of dry bulk products and receipt of petroleum products.

(480) Port of Stockton, Wharves 10 and 11; just E of Channel Point; 812-foot marginal wharf, 1,011 feet usable with dolphins; 35 feet alongside; deck height, 15½ feet; two 30-ton traveling cranes; receipt of liquid fertilizer, dry bulk, and general cargo; shipment of general cargo.

(481) Port of Stockton, Wharf 9: E of and in line with Wharves 10 and 11; 645-foot marginal wharf; 35 feet alongside; deck height, 15½ feet; 56,800 square feet covered storage; forklift trucks; receipt of liquid fertilizer and general cargo; shipment of general cargo.

(482) Port of Stockton, Wharf 8: S part of E side of Slip 1, which is about 0.3 mile E of Channel Point; wharf and trestle extension 484 feet long; 35 feet alongside; deck height, 15½ feet; 36,150 square feet covered storage; forklift trucks; receipt and shipment of general cargo, receipt of molasses, liquid fertilizer, and anhydrous ammonia.

(483) Port of Stockton, Wharf 7: immediately N and in line with Wharf 8: 516 feet long; 35 feet alongside; deck height, 15½ feet; 25,100 square feet covered storage; forklift trucks; receipt and shipment of general cargo.

(484) Port of Stockton, Wharf 6: immediately E of entrance to Slip 1; 418-foot marginal wharf; 35 feet alongside; deck height, 15½ feet; 17,650 square feet covered storage; forklift trucks; receipt and shipment of general cargo.

(485) Port of Stockton, Wharf 5: E of and in line with Wharf 6; 429-foot marginal wharf; 35 feet alongside; deck height, 15½ feet, 41,000 square feet covered storage; forklift trucks; receipt and shipment of general cargo.

(486) Port of Stockton, Wharf 4: E of and in line with Wharf 5; 461-foot marginal wharf; 35 feet alongside; deck height, 15½ feet; 41,300 square feet covered storage; receipt and shipment of general cargo.

(487) Port of Stockton, Wharf 3: E of and in line with Wharf 4; 461-foot marginal wharf; 35 feet alongside; deck height, 15½ feet; 30,000 square feet covered storage; forklift trucks and a 30-ton traveling crane; receipt and shipment of general cargo.

(488) Wharves 6, 5, and 4 can provide a total of 1,769 feet of berthing space.

(489) Port of Stockton, Wharf 2: SW corner of turning basin; 585-foot marginal wharf; 35 feet alongside; deck height, 15½ feet; one cargo evacuator; 56,000-ton storage capacity for bulk cargo; 34,000-ton storage capacity for cement; receipt and shipment of general cargo.

(490) Penny Newman Grain Co. Inc., Stockton Elevator Wharf: S side of turning basin, just E of Open Wharf 2; 564-foot marginal wharf; 37 feet alongside; deck height, 15½ feet; unloader consists of a receiving hopper and a conveyor which connects to grain elevator; loader consists of two towers, each with a movable spout, interconnected and also connecting to the grain elevator, combined loading rate of 1,000 tons (33,200 bushels) per hour; grain elevator back of wharf has capacity of over 6.8 million bushels; shipment of grain by ship and barge, receipt of grain by self-unloading

barges; owned and operated by Penny Newman Grain Co. Inc.

Supplies

(491) Supplies may be had in any quantity, and water is piped to the wharves. Ships may fuel from barges; alongside bunkering of large vessels may be done at the oil terminals in San Pablo Bay and Carquinez Strait.

Repairs

(492) Some dockside facilities are available here, but major repairs to oceangoing vessels must be done at the drydocks in San Francisco, Oakland, Alameda, and Richmond. Several facilities make repairs to small craft; marine railways up to 200–ton capacity are available.

Small-craft facilities

(493) Several small-craft facilities are at Stockton or nearby. (See the small-craft facilities tabulation on chart 18661 for services and supplies available.)

San Joaquin River above Stockton

(494) From its junction with Stockton Channel, the river has a controlling depth of about 3 feet for 70 miles to Hills Ferry, and is used only by small pleasure craft, fishermen, and an occasional small barge. The only facilities available are those dispensing gasoline, lubricants, and water at a few points.

Bridges

(495) More than 15 bridges cross San Joaquin River between Stockton and Hills Ferry. The minimum clearance for bridges crossing the river between Stockton and Mossdale, about 13 miles above Stockton, is 17 feet. (See **117.1 through 117.59 and 117.191**, chapter 2, for drawbridge regulations.)

Charts 18661, 18662

(496) The principal tributaries of the San Joaquin River are described as the river is ascended. Bridge clearances are at low water. (See **117.1 through 117.59, 117.143, 117.150, 117.157, 117.159, 117.161, 117.167, 117.171, 117.175, and 117.183**, chapter 2, for drawbridge regulations.)

(497) **Threemile Slough**, meets the San Joaquin River 5.8 miles above Antioch Bridge and joins the Sacramento River at the N end of Decker Island. The slough is a route frequently used by tugs and barges making passage between Sacramento and Stockton. Near the junction with the Sacramento River is a highway lift bridge with clearances of 16 feet down and 110 feet up at low water. The bridgetender monitors VHF-FM channel 16 and works on channel 9; call sign KMJ–385, Threemile Slough Bridge. (See **117.1 through 117.49**, chapter 2, for drawbridge regulations.) The power cable E of the bridge has a clearance of 108 feet.

Anchorage

(498) A **restricted anchorage area** is along the E side of **Decker Island**. (See **162.205**, chapter 2, for limits and regulations.).

(499) **Mokelumne River**, one of the principal tributaries of the San Joaquin River, rises in the Sierra Nevada and empties into it 11.8 miles above Antioch Bridge. The river separates, 3.5 miles above its mouth, into two branches, the **North Mokelumne River (North Fork)** and the **South Mokelumne River (South Fork)** The branches continue in a N direction and rejoin 9 miles NNE from the mouth. The river then describes a semicircular route for 7 miles to the N and E to the head of navigation at the Galt-New Hope Bridge.

(500) Corps of Engineers project maps for 1978 show the following controlling depths for Mokelumne River: 12 feet from the mouth to the lower junction of the North and South Mokelumne Rivers, thence 7 feet by North Mokelumne River to Snodgrass Slough; thence 2 feet to upper junction of the North and South Mokelumne Rivers; 7 feet from the lower junction by South Mokelumne River to the upper junction; and thence 2 feet to the Galt–New Hope bridge. Mokelumne River is subject to shoaling; local knowledge is advised.

(501) The mean range of **tide** in Mokelumne River at the entrance to Georgiana Slough is 2.4 feet; the diurnal range of tide is 3.2 feet. At Galt-New Hope Bridge, during low river stages, the mean range of tide is 2.7 feet; the diurnal range is 3.6 feet.

(502) **Little Potato Slough** (38°06'00"N., 121°29'30"W.) enters the South Fork of the Mokelumne River about 6 miles E of the confluence of the north and south forks and connects the river with other tributaries of the San Joaquin River.

(503) **Georgiana Slough** enters Mokelumne River about 3 miles above the mouth, and connects that river with the Sacramento River at Walnut Grove. The controlling depth through the slough is about 13 feet. Tugs and barges formerly used the slough in making the run from Sacramento to Stockton, but to avoid the snags and sharp turns they now favor the route through Threemile Slough.

(504) **Old River** flows into the San Joaquin River about 13 miles above the Antioch Bridge after diverging from the latter river about 38 miles above the bridge. It is the most W branch of the interconnecting tidal channels

Structures Across the Principal Tributaries of the San Joaquin River

	Name•Description•Type	Location	Clear Width of Draw or Span Opening (feet)	Clear Height above Water Datum (feet)		Information
				Low	High	
	Mokelumne River					
1	Mokelumne River highway swing bridge	38°07'34"N., 121°34'47"W.	100	11	8	Bridgtender monitors VHF-FM channel 16 and works channel 9; call sign KMJ-382 Mokelumne River Bridge. **(Note 1)**
	South Fork Mokelumne River					
2	Overhead power cable	38°07'04"N., 121°29'44"W.			110	
3	Overhead power cable	38°13'32"N., 121°29'30"W.			110	
4	San Joaquin County highway bridge (removable span)	38°13'32"N., 121°29'30"W.	58	16	13	**(Note 1)**
	North Fork Mokelumne River					
5	Millers Ferry highway swing bridge	38°13'25"N., 121°30'25"W.	85	15	12	Bridgetender monitors VHF-FM channel 16 and works channel 9; call sign WBE-8326 Millers Ferry Bridge. **(Note 1)**
6	Wilson Bridge/Deadhorse Island Bridge (removable span)	38°13'28"N., 121°30'17"W.	56	14	11	
	Mokelumne River					
7	Interstate 5 fixed highway bridges	38°15'18"N., 121°26'52"W.	65	24	21	
8	Franklin Road swing bridge	38°15'20"N., 121°26'23"W.	80	21	18	Clearances are for the south draw only. **(Note 1)**
9	Union Pacific Railroad swing bridge	38°15'17"N., 121°25'54"W.	61	19	16	Clearances are for the south draw only. **(Note 1)**
10	Galt-New Hope Road fixed bridge	38°14'12"N., 121°25'07"W.	62	18	2	
	Little Potato Slough					
11	Potato Slough (swing, highway) Bridge	38°06'56"N., 121°29'52"W.	100	37	35	Bridgetender monitors VHF-FM channel 16 and works channel 9; call sign KSK-278 Potato Slough Bridge. **(Note 2)**
	Georgiana Slough					
12	Overhead power cable	38°08'47"N., 121°36'03"W.			85	
13	Tyler Island (swing) Bridge Road	38°09'43"N., 121°35'05"W.	80	13	10	Bridgetender monitors VHF-FM channel 16 and works channel 9; call sign WHU-246 Tyler Island Bridge. **(Note 3)**
	Old River					
14	Overhead power cable	38°04'16"N., 121°34'32"W.			110	
15	Overhead power cable	37°58'57"N., 121°34'53"W.			110	
16	BNSF Railroad Bascule Bridge	37°56'24"N., 121°33'38"W.	95 (75 feet open)	14	11	Bridgetender monitors VHF-FM channel 16 and works channel 9; call sign WHU-322 Santa Fe Railroad Bridge.
17	Overhead power cable	37°55'44"N., 121°33'32"W.			125	
18	State Route 4 highway swing bridge	37°53'28"N., 121°34'13"W.	98	16	12	**(Note 4)**
19	Old River Fixed Bridge	37°50'36"N., 121°32'16"W.	24	18	14	
20	Overhead power cable	37°50'36"N., 121°32'16"W.			110	
21	Overhead power cable	37°50'21"N., 121°32'20"W.			115	
22	Overhead power cable	37°49'44"N., 121°33'09"W.			110	
23	Overhead power cable	37°49'08"N., 121°33'15"W.				data unavailable
24	Overhead power cable	37°48'54"N., 121°33'11"W.			26	
25	Overhead power cable	37°47'26"N., 121°30'51"W.				data unavailable
26	Tracy Boulevard Fixed Bridge	37°48'16"N., 121°26'59"W.	46	18	15	
27	Overhead power cable	37°48'28"N., 121°24'36"W.			110	
	Junction with San Joaquin River	37°48'30"N., 121°19'39"W.				
	Middle River					
28	Bacon Island Swing Bridge	37°57'23"N., 121°31'41"W.	37[1] 90[2]	18[1] 11[2]	15[1] 8[2]	[1]Clearances for west span [2]Clearances for east span Bridgetender monitors VHF-FM channel 16 and works channel 9; call sign WHU-8326 Bacon Island Bridge. **(Note 5)**
29	Overhead power cable	37°56'33"N., 121°31'57"W.			110	
30	BNSF Railroad Bascule Bridge	37°56'23"N., 121°32'00"W.	85 (79 feet open)	14	11	**(Note 5)**
31	Overhead power cable	37°56'09"N., 121°31'52"W.			125	

Structures Across the Principal Tributaries of the San Joaquin River *(continued)*

	Name•Description•Type	Location	Clear Width of Draw or Span Opening (feet)	Clear Height above Water Datum (feet)		Information
				Low	High	
32	Overhead power cable	37°54'24"N., 121°30'26"W.			114	
33	State Route 4 Highway Fixed Bridge	37°53'28"N., 121°29'21"W.	105	14	11	**(Note 5)**
34	Overhead power cable	37°53'04"N., 121°28'15"W.			110	
35	Tracy Boulevard Fixed Bridge	37°52'56"N., 121°27'23"W.	68	15	12	
36	Overhead power cable	37°53'28"N., 121°26'25"W.			110	
37	Overhead power cable	37°53'35"N., 121°25'51"W.			70	
38	Howard Road Fixed Bridge	37°52'39"N., 121°23'00"W.	24	18	15	
39	Undine Road Fixed Bridge	37°50'05"N., 121°23'02"W.	45	18	15	
40	Overhead power cable	37°49'57"N., 121°23'07"W.				**data unavailable**
41	Overhead power cable	37°49'45"N., 121°23'11"W.			110	
	Junction with Old River	37°49'20"N., 121°22'30"W.				
	Turner Cut					
42	Zuckerman Bridge (retractable span)	37°58'35"N., 121°28'30"W.	30	19	16	Bridgetender monitors VHF-FM channel 16 and works channel 9; call sign WHV-959 Zuckerman Brothers Bridge (202-464-1253). **(Note 6)**

Note 1 – See **117.1 through 117.59 and 117.175**, chapter 2 for limits and regulations
Note 2 – See **117.1 through 117.59 and 117.167**, chapter 2 for limits and regulations
Note 3 – See **117.1 through 117.59 and 117.157**, chapter 2 for limits and regulations
Note 4 – See **117.1 through 117.59 and 117.183**, chapter 2 for limits and regulations
Note 5 – See **117.1 through 117.59 and 117.171**, chapter 2 for limits and regulations
Note 6 – bridge maintained in the open position except when being crossed by a vehicle. If it is necessary for the bridge to be in the closed position for an extended period, the bridgetender may be contacted.

into which San Joaquin River divides in crossing its delta. Old River has many sloughs and canals that connect with Middle River to the E.

(505) In 1978, the controlling depths in Old River were: 10 feet for 10 miles from the mouth to Orwood; thence 10 feet for 9 miles to the lower end of Grant Line Canal; thence 7 feet for 9 miles to the Holly Sugar Factory near Tracy; and from the other end of Grant Line Canal to the head of Old River in San Joaquin River, 5 feet.

(506) The mean range of **tide** at Orwood on Old River is 2.8 feet, and the diurnal range is 3.7 feet; ordinary flood fluctuations are 15 feet and 5½ feet, respectively, and extreme flood fluctuations are 19 feet and 8 feet, respectively. The Holly Sugar Co. refinery and terminal near Tracy has a large wharf and an unloading basin; a passing basin is about 0.5 mile downstream from the terminal.

(507) **Middle River** enters the San Joaquin River 15.3 miles above Antioch Bridge. The river and connecting channels are a part of a complicated network of tidal canals, some natural and some artificial, in the delta of the San Joaquin River. One of the principal channels, Middle River leaves Old River at the SW corner of Roberts Island about 7 miles SSW of Stockton and roughly parallels Old River to the San Joaquin River.

(508) The controlling depth in Middle River is about 6 feet to the Bacon Island swing bridge, about 15.5 miles below the junction with Old River. The channel is not maintained above the bridge, and navigation is obstructed by many snags and shoals.

Cable ferry

(509) Woodward Island Ferry crosses Middle River about 12.5 miles below the junction with Old River. The ferry carries passengers and vehicles, and operates from 0800 to 1700 daily. White warning signs, with black letters and orange borders, are posted about 500 feet on either side of the ferry crossing. Flashing red beacons are shown by the ferry when underway. When the ferry is underway, the cables are 6 to 7 feet above the water surface; when docked, the cables are on or within 1 or 2 feet of the bottom. **DO NOT ATTEMPT TO PASS A MOVING CABLE FERRY.**

(510) **Empire Cut** enters Middle River about 16.5 miles below the latter's junction with Old River.

Cable ferries

(511) Mildred Island Ferry crosses Empire Cut about 0.6 mile E of the junction with Middle River. This private cable ferry carries passengers, vehicles and farm equipment, and operates during daylight hours. When the ferry is underway, the cables are suspended at an unknown depth below the water surface; when docked, the cables are dropped to the bottom. A sign on each

side of the ferry warns of the cables; a flashing red signal is shown when underway. **DO NOT ATTEMPT TO PASS A MOVING CABLE FERRY.**

(512) The mean range of **tide** at the Bacon Island swing bridge on Middle River is 2.6 feet, and the diurnal range is 3.5 feet.

(513) Gasoline and fishing supplies may be obtained at the town of **Middle River**, about 8.5 miles above the mouth.

(514) **Little Connection Slough** enters the San Joaquin River about 1 mile above the mouth of Middle River.

Cable ferry

(515) Venice Island Ferry crosses Little Connection Slough about 1 mile above the entrance. The ferry carries passengers and vehicles and operates from 0800 to 1700 daily. White warning signs, with black letters and orange borders, are posted about 500 feet on either side of the ferry crossing. Flashing red beacons are shown by the ferry when underway. When the ferry is underway, the cables are 6 to 7 feet above the water surface; when docked, the cables are dropped to the bottom. **DO NOT ATTEMPT TO PASS A MOVING CABLE FERRY.**

(516) **Turner Cut** enters the San Joaquin River about 7.5 miles below Stockton and is crossed about 2 miles above the entrance by a highway bridge with a 30-foot retractable span. The bridge is normally maintained in the open position except when it is being crossed by a vehicle.

(517) **Sacramento River** rises in the Trinity Mountains in N central California, flows S for 325 miles, and enters Suisun Bay on the N side of **Sherman Island**. Deep-draft vessels follow the lower Sacramento River to Cache Slough, 1.5 miles above Rio Vista Bridge, thence through a deepwater ship channel to Sacramento, a distance of 37 miles above the mouth of the river. Barges and other small craft also use Sacramento River all the way to Sacramento, a distance of 50 miles. Above Sacramento, small craft go to Colusa, 125 miles above the mouth, but there is no regular navigation above this point.

Cable ferry

(518) **Steamboat Slough** enters Cache Slough about 1.8 miles above Rio Vista bridge. A cable ferry crosses the Steamboat Slough about 5 miles above the junction with Cache Slough. The ferry carries passengers and vehicles, and operates 24 hours daily. When the ferry is underway, the cable is suspended below the water surface at varying depths. When the ferry is docked, the cable is about 5 feet below the surface of the water. Warning signs are posted at the crossing. When underway, the ferry shows flashing red lights. **DO NOT ATTEMPT TO PASS A MOVING CABLE FERRY.**

Channels

(519) **Sacramento River Deep Water Ship Channel** extends from Suisun Bay through lower Sacramento River, Cache Slough, and a 22–mile land cut to a triangular harbor and turning basin at the Port of Sacramento. The **William G. Stone Lock** is on the barge canal that once connected the Deep Water Ship Channel with the Sacramento River; the lock is closed to all navigation.

(520) The project depth in the ship channel is generally maintained. (See Notice to Mariners and latest editions of charts for controlling depths.) The controlling depth in the river route is about 10 feet. Above Sacramento, the controlling depth is about 6 feet to Colusa. The sounding datum is **mean lower low water at low-river stage.**

(521) Numerous uncharted piles, snags, pumps, and pipes, some submerged, may exist along the edges of the river. Mariners are advised to exercise extreme caution while navigating close to the banks of the river.)

Tides and currents

(522) At low-river stages the mean range of tide is 2.8 feet at the entrance to Sacramento River and 2.3 feet in the river at Sacramento; at other stages the tide is negligible.

(523) Currents in Sacramento River depend on the river stage. During high-river stages, there is little or no flood current and the ebb current is strong to Sacramento. During the dry season a flood current can be carried to Paintersville and from there slack water to Freeport, 30 and 41 miles above the mouth, respectively. At times of extreme low-river stages, flood current may be evident as far as Sacramento. Local knowledge is required to estimate current conditions for a particular time.

(524) Major floods in the Sacramento River valley usually occur from November to April and are generally caused by intense general storms of several days' duration, the runoff from which may be augmented by the melting of snow in the mountains. At the mouth of the river an ordinary flood will cause a rise of 8 feet and an extreme flood a rise of 10 feet in the river level. At Sacramento, ordinary flood will cause a rise in the river level of 20 feet and extreme flood, a rise of 30 feet.

(525) Reports of gage heights of the Sacramento River can be obtained from the Sacramento National Weather Service Office at any time of the year. The information is published in the **Sacramento Bee** and, in

addition, is reported on the radio broadcast from station KFBK whenever the gage heights are of sufficient magnitude to be of general interest. Information on gage heights can also be obtained from the State Department of Water Resources, 901 "P" Street, Sacramento, CA 95814 or by recorded message at 916-651-0725.

(526) The upper 20 miles of Sacramento River Deep Water Ship Channel are free of river current and flood waters. However, the area is still affected by tidal currents.

Weather, Sacramento Valley

(527) The climate of the lower Sacramento Valley is mild, with plenty of sunshine year round. Cloudless skies prevail during the spring, summer, and fall. Winter is the rainy season, with measurable amounts falling on about 10 days per month. Snow is rare, since freezing temperatures are rare. The valley is protected from most severe winter storms by the mountains to the W, N, and E. Sometimes, torrential rains on the slopes can cause flooding along the Sacramento River. The average annual precipitation for the Sacramento Airport is about 17.5 inches (445 mm) with about 90% of this amount falling from November through April.

(528) The mountains are responsible for the predominantly S winds throughout the valley. These are oceanic winds that have moved through the Carquinez Strait and been turned N by the Sierra ranges. At the port of Sacramento, SE through SW winds prevail, particularly during spring and summer. NW through N winds are also frequent, and bring warm, dry air down the mountains. These winds cause brief heat waves, with temperatures rising to over 100°F (37.8°C) in summer, and they modify cool weather in winter. Strongest winds occur in winter although gales occur less than 1 percent of the time, even in midwinter. Winds of 17 to 28 knots occur 6 to 10 percent of the time from December through March, and less than 5 percent of the time during July, August, and September. Extreme winds have reached 60 knots, with gusts of more than 70 knots; these are most likely during fall or winter.

(529) Dense fog is common in winter, infrequent during spring and fall, and rare in summer. It is a radiation type fog that occurs during the late night and early morning hours. It usually clears by noon. Occasionally stagnant weather conditions will cause the fog to hang on for a few days. Visibilities at Sacramento drop below 0.5 mile (0.9 km) on about 5 to 10 nights per month, from November through February. During this same period, they fall below 7 miles (13 km) on about 10 to 20 occasions per month. During the summer, visibilities are almost always better than 7 miles (13 km). Twenty-two out of 31 days during each month, December and January, can expect fog. This number drops to less than one day for both June and July.

Routes

(530) The deep-draft channel to the Port of Sacramento through Sacramento River Deep Water Ship Channel is marked with navigational aids.

(531) The shallow-draft route continues in Sacramento River from 1.5 miles above the Rio Vista Lift Bridge to Sacramento, and for the most part is marked by leading lights.

(532) From Ida Island for a distance of 3.5 miles upstream there are shifting shoals. After passing Ida Island work gradually over to the W half of the channel and favor that side around the next bend. From this point to Clarksburg the channel is clear, and midchannel courses may be followed favoring the falling tide bends. At Clarksburg favor the E shore a little until just past the town, then swing into midchannel again. From just below Freeport the channel is rather shoal and wing dams have been built at several places to scour out the channel. These are covered at high-water stages and may be struck if the shore is approached too closely. By favoring the ebbtide bends no trouble should be encountered from here to Sacramento.

(533) **NOTE:** Care should be exercised at all times to keep clear of the levees, as most of them are faced with rock which may damage vessels that drag along them.

Pilotage, Sacramento River

(534) River pilots, commissioned by the Port of Sacramento, are arranged for by the ship's agents, but may be obtained through the office of the port of Sacramento or the San Francisco Bar Pilots

Towage

(535) Tugs up to 1,500 hp are available.

Chart 18661

(536) **Rio Vista**, 10.5 miles above the mouth of the Sacramento River, is the most important town, commercially, below Sacramento. A dredging company is at Rio Vista. An Army storage area and **Rio Vista Coast Guard Station** are just S of the town. A small-craft harbor on the S side of the town has gasoline, water, and berths available. A lift here can handle craft up to 40 feet for hull and engine repairs.

(537) **Ida Island**, on the S bank 13.5 miles above the mouth of the river, is the site of a resort and small-boat basin. Gasoline, water, and moorage are available. A marine railway can handle craft up to 45 feet.

(538) **Isleton**, on the S bank 15 miles above the mouth of the river, has an inactive landing formerly used for oil barge traffic. Gasoline and some supplies are available in town.

Chart 18662

(539) **Walnut Grove**, 24 miles above the mouth of Sacramento River, is at the junction with Georgiana Slough. Gasoline, and marine supplies may be obtained in moderate quantities. A wharf and a large wooden shed are on the E side of the river 1.2 miles above Walnut Grove; gasoline and some repair work is available. A **measured nautical mile** along the NE side of the river begins 1.2 miles above Walnut Grove. A resort is at the junction of Steamboat Slough with the river. Gasoline and water are available. Five miles above Walnut Grove at the small village of **Paintersville**, a highway bridge with a double-bascule span across the river has a clearance of 24 feet. (See **117.1 through 117.59 and 117.189**, chapter 2, for drawbridge regulations.) The bridgetender monitors VHF-FM channel 16 and works on channel 9; call sign: KMJ–381, Paintersville Bridge.

(540) **Courtland**, 31 miles above the mouth of the river, has supplies in moderate quantities; gasoline, oil, water, and ice are available.

(541) At **Clarksburg**, 37.5 miles above the mouth of the river, there are two abandoned oil company landings.

(542) **Freeport**, 41.5 miles above the mouth of the river, has gasoline.

(543) A paved highway between Antioch and Sacramento runs along the levee of the river for nearly its entire distance.

(544) **Sacramento** the State capital, is the head of navigation for most of the shipping on the river, and is a distribution and transportation center for N California and parts of Nevada and Oregon. The **Port of Sacramento**, 79 miles above the Golden Gate Bridge and at the head of the deepwater channel, is an important point for interchange of cargo between rail, highway, and water transportation.

Weather, Sacramento

(545) The lower Sacramento Valley, where Sacramento is located, enjoys a mild climate and abundance of sunshine throughout the year. Cloudless skies prevail during the summer and largely in the spring and autumn. The summers are remarkably dry, with warm days and pleasant nights. In the winter "rainy season" (December, January, and February) over one-half of the total annual precipitation falls, yet rain in measurable amounts occurs only on about 10 days monthly during winter. Snow is rare since freezing temperatures are rare, with trace amounts falling several times and measurable snowfall having fallen on only one occasion, two inches (51 mm) in February 1976. Mountains surround the valley to the W, N, and E. The Sierra Nevada snow fields are only 70 miles E of Sacramento and usually provide a plentiful supply of water in the valley streams during the dry season. Because of the shielding influence of the high mountains around the valley, winter storms reach valley districts in modified form. However, torrential rain and heavy snow frequently fall on the western Sierra slopes, the southern Cascades, and to a lesser extent the Coastal Range. As a result, flood conditions occasionally occur along the Sacramento River and its tributaries. Excessive rainfall and damaging windstorms are rare in the valley. The average annual precipitation for the Sacramento Airport is about 17.5 inches (445 mm) with about 90% of this amount falling from November through April.

(546) Prevailing winds at Sacramento are S all year, due to the N-S direction of the valley and the deflecting effect of the towering Sierra Ranges on the prevailing oceanic winds that move through the Carquinez Strait at the junction of the Sacramento and San Joaquin Rivers. No other tidewater gap exists in the coastal mountains to admit marine air into the Sacramento or the San Joaquin Valley. Occasionally a steep northerly barometric pressure gradient develops and air is forced over the Siskiyou Mountains to the N, warmed dynamically with descent, and reaches the valley floor as a warm, dry, N wind. These occasionally disagreeable winds, known as "northers" in the valley, are the counterpart of the well-known "chinook" winds of the Rocky Mountains, and they, or modifications of them, produce the pronounced heat waves in summer. Fortunately, they are of infrequent occurrence and produce an unstable atmospheric condition that is usually followed within 2 or 3 days by the normally cool S breezes, especially at night. Summer nights in the lower Sacramento Valley are, with few exceptions, cool and invigorating, the result of a prevailing oceanic influence. While it is true that "northers" cause dry, hot weather for brief periods during the summer, it is equally true they are the modifications of cold waves in the winter. Winter northers, with only a few exceptions, are comparatively warm, drying winds. The average annual temperature for Sacramento is 61°F (16.1°C) with an average maximum of 74°F (23.3°C) and an average minimum of 48°F (8.9°C). The all-time maximum occurred in June 1961 when the mercury climbed to 115°F (46.1°C). The all-time minimum of 18°F (-7.8°C) was recorded in December 1990. Each month, May through October, has seen temperatures in excess of 100°F (37.8°C) while every month, November through

Structures Across the Sacramento Deep Water Ship Channel, Sacramento River and its Principal Tributaries

	Name•Description•Type	Location	Clear Width of Draw or Span Opening (feet)	Clear Height above Water Datum (feet)		Information
				Low	High	
	Sacramento River					
1	Overhead power cable	38°03'55"N., 121°47'09"W.			125	
2	Overhead power cable	38°04'56"N., 121°45'10"W.			140	
3	Overhead power cable	38°05'07"N., 121°44'45"W.			130	Clearance of 160 feet over ship channel
4	Rio Vista Vertical Lift Bridge (highway)	38°09'31"N., 121°40'57"W.	270	22 (down) 149 (up)	18 (down) 144 (up)	Bridgetender monitors VHF-FM channel 16 and works on channels 9 and 13; call sign KMJ-384, Rio Vista Bridge. **(Note 1)**
5	Overhead power cable	38°10'04"N., 121°37'43"W.			125	
6	Overhead power cable	38°09'52"N., 121°37'16"W.			125	
7	Isleton Bascule Bridge (highway)	38°10'19"N., 121°35'38"W.	200 (166 open)	18	15	Bridgetender monitors VHF-FM channel 16 and works on channel 9; call sign KMJ-383, Isleton Bridge. **(Note 2)**
8	Walnut Grove Bascule Bridge (highway)	38°14'33"N., 121°30'53"W.	199 (187 open)	24	21	Bridgetender monitors VHF-FM channel 16 and works on channel 9; call sign KMJ-491, Walnut Grove Bridge. **(Note 2)**
9	Overhead power cable	38°17'34"N., 121°33'45"W.			110	
10	Paintersville Bascule Bridge (highway)	38°19'07"N., 121°34'40"W.	198	27	24	Bridgetender monitors VHF-FM channel 16 and works on channel 9; call sign KMJ-381, Paintersville Bridge. **(Note 2)**
11	Overhead power cable	38°20'45"N., 121°32'56"W.			125	
12	Freeport Bascule Bridge (highway)	38°27'21"N., 121°30'07"W.	199 (190 open)	32	29	Bridgetender monitors VHF-FM channel 16 and works on channel 9; call sign KMJ-490, Freeport Bridge. **(Note 2)**
13	Overhead power cable	38°28'02"N., 121°30'17"W.			125	
14	Interstate 80 Fixed Bridges	38°34'18"N., 121°30'57"W.	214	84	81	
15	Tower Vertical Lift Bridge (highway)	38°34'50"N., 121°30'30"W.	170	32 (down) 98 (up)	30 (down) 96 (up)	Bridgetender monitors VHF-FM channel 16 and works on channel 9; call sign KDO-739, Tower Bridge. **(Notes 2 and 7)**
16	I Street Swing Bridge (highway & railway)	38°35'11"N., 121°30'23"W.	148	32	30	**(Note 2)**
17	Overhead power cable	38°35'11"N., 121°30'23"W.			80 (east draw) 74 (west draw)	Clearances reference the draws of the I Street Swing Bridge
	Junction with American River	38°35'50"N., 121°30'32"W.				
18	Overhead power cable	38°35'33"N., 121°30'28"W.			125	
19	Interstate 80 Fixed Bridges	38°35'54"N., 121°32'53"W.	250	85	82	
20	Overhead power cable	38°35'58"N., 121°33'00"W.			80	
21	Interstate 5 Fixed Bridges	38°40'24"N., 121°37'35"W.	175	84	55	
22	Overhead power cable	38°47'00"N., 121°37'06"W.			125	
	Junction with Feather River	38°47'06"N., 121°37'16"W.				
23	Overhead power cables	38°45'49"N., 121°41'00"W.			80	
24	Overhead power cables	38°45'49"N., 121°41'15"W.			125	
25	State Highway 113 (Knights Landing Bascule Bridge)	38°48'08"N., 121°43'12"W.	199 (160 open)	23		**(Note 2)**
26	Overhead power cables	38°48'13"N., 121°43'23"W.			125	
27	Overhead power cable	38°49'09"N., 121°43'27"W.			124	
28	Overhead power cable	38°51'34"N., 121°43'52"W.			125	
29	Overhead power cable	38°51'35"N., 121°43'52"W.			125	
30	Overhead power cable	38°53'58"N., 121°48'12"W.			80	
31	Overhead power cable	39°00'51"N., 121°49'32"W.			125	
32	Overhead power cable	39°02'27"N., 121°50'02"W.			80	
33	Overhead power cable	39°04'00"N., 121°52'13"W.			125	
34	Overhead power cable	39°04'25"N., 121°53'26"W.			60	
35	Meridian Swing Bridge (SH 20)	39°08'44"N., 121°55'04"W.	143	39	10	**(Note 2)**
36	Overhead power cable	39°08'45"N., 121°55'04"W.			120	
37	Overhead power cable	39°10'12"N., 121°56'15"W.			106	
38	River Road Bridge (removable span)	39°12'51"N., 122°00'02"W.	100	32		Vertical clearance is 6 feet (25 feet when raised) above flood level. **(Note 2)**
39	Overhead telephone cable	39°12'52"N., 121°00'04"W.			75	
40	Overhead power cable	39°12'53"N., 121°00'07"W.			75	

Structures Across the Sacramento Deep Water Ship Channel, Sacramento River and its Principal Tributaries *(continued)*

	Name•Description•Type	Location	Clear Width of Draw or Span Opening (feet)	Clear Height above Water Datum (feet) Low	High	Information
	Sacramento Deep Water Ship Channel at Cache Slough					
41	Overhead power cable	38°11'16"N., 121°39'36"W.			137	
42	Overhead power cable	38°15'58"N., 121°39'52"W.			140	
43	Overhead power cable	38°19'17"N., 121°39'02"W.			140	
44	Overhead power cable	38°28'26"N., 121°35'01"W.			140	
45	Overhead power cable	38°33'08"N., 121°34'43"W.			140	
46	Overhead power cable	38°33'40"N., 121°33'33"W.			140	
47	Industrial Boulevard Fixed Bridge	38°33'41"N., 121°32'20"W.	130	32	29	
48	Jefferson Boulevard Bascule Bridge (highway/railway)	38°33'41"N., 121°31'43"W.	86 (73 open)	20	17	
	Steamboat Slough					
49	Overhead power cable	38°13'49"N., 121°36'09"W.			125	
50	Steamboat Slough Bascule Bridge	38°18'17"N., 121°34'28"W.	200 (184 open)	24	21	Bridgetender monitors VHF-FM channel 16 and works on channel 9; call sign WHX-295, Steamboat Slough Bridge. **(Note 3)**
	Lindsey Slough					
51	Hastings Farm Highway Bridge (removable span)	38°14'49"N., 121°52'09"W.	53	22	19	**(Note 4)**
52	Overhead power cable	38°14'51"N., 121°42'24"W.			110	
53	Overhead power cable	38°15'30"N., 121°43'37"W.			85	
	Miner Slough					
54	Overhead power cable	38°15'56"N., 121°38'37"W.			114	
55	State Route 84 Swing Bridge	38°17'32"N., 121°37'51"W.	72	21	17	**(Note 5)**
56	Overhead power cable	38°17'12"N., 121°36'27"W.			110	
	Sutter Slough					
57	Overhead power cable	38°16'00"N., 121°36'08"W.			93	
58	Overhead power cable	38°19'44"N., 121°34'42"W.			93	
59	State Route 160 Swing Bridge	38°19'40"N., 121°34'35"W.	75	22	19	**(Note 6)**

Note 1 – See **117.1 through 117.59**, chapter 2 for limits and regulations
Note 2 – See **117.1 through 117.59 and 117.189**, chapter 2 for limits and regulations
Note 3 – See **117.1 through 117.59 and 117.199**, chapter 2 for limits and regulations
Note 4 – See **117.1 through 117.59 and 117.165**, chapter 2 for limits and regulations
Note 5 – See **117.1 through 117.59 and 117.173**, chapter 2 for limits and regulations
Note 6 – See **117.1 through 117.59 and 117.201**, chapter 2 for limits and regulations
Note 7 – The decorative lighting on the bridge will be extinguished upon request of the mariner.

April, has recorded temperatures at or below freezing (0°C).

(547) The average annual thunderstorm occurrence is three. They are usually mild and are most likely in February and March. However, they have been documented in each of the twelve months. Snow falls so rarely, and in such small amounts, that its occurrence may be disregarded as a climatic feature. Heavy fog occurs mostly in midwinter, rarely in summer, and seldom in spring or autumn. Light and moderate fog are more frequent and may come anytime during the wet, cold season. The fog is usually the radiational cooling type, and confined to the early morning hours. An occasional winter fog, under stagnant atmospheric conditions, may continue for several days.

(548) (See Appendix B for **Sacramento climatological table**.)

Pilotage, Sacramento

(549) See Pilotage, Sacramento River, indexed as such, earlier in this chapter.

Towage

(550) Tugs up to 1,500 hp are available.

Quarantine, customs, immigration, and agricultural quarantine

(551) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

Facilities in the Port of Sacramento

	Name	Location	Berthing Space (feet)	Depths* (feet)	Deck Height (feet)	Mechanical Handling Facilities and Storage	Purpose	Owned/ Operated by:
1	Port of Sacramento Berth 8	38°33'56"N., 121°33'04"W.	840	35	19	• Covered storage (308,000 square feet) • Open storage (27.3 acres)	Shipment of miscellaneous dry bulk commodities	Port of Sacramento
2	Port of Sacramento Berth 7	38°33'53N., 121°32'58"W.	840	35	19	Covered storage (86,400 square feet)	Receipt and shipment of general cargo	Port of Sacramento
3	Port of Sacramento Berth 6	38°33'50"N., 121°32'54"W.	600	35	19	Open storage (6 acres)	Receipt and shipment of general cargo and miscellaneous dry bulk	Port of Sacramento
4	Port of Sacramento Berth 5	38°33'46"N., 121°32'48"W.	600	35	19	• Silo storage (1.2 million bushels) • Vessel loading spouts	Shipment of grain, feed pellets, miscellaneous dry and liquid bulk	Port of Sacramento/ Cargill, Inc.
5	Port of Sacramento Berth 2	38°33'42"N., 121°32'38"W.	600	35	19	Covered storage (86,400 square feet)	Receipt and shipment of general cargo	Port of Sacramento
6	Port of Sacramento Berth 1	38°33'42"N., 121°32'31"W.	613	35	19	• Silo storage (21,500 tons) • Vessel loading spouts	Receipt and shipment of bulk rice	Port of Sacramento

* The depths given above are reported. For information on the latest depths contact the port authorities or the private operators.

(552) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

Coast Guard

(553) **Sacramento Coast Guard Air Station** is NE of Sacramento at McClellan Air Force Base.

Harbor regulations

(554) Copies of the harbor regulations are available from the Port of Sacramento located at 1110 West Capital Avenue, West Sacramento, CA 95691.

(555) The port radio station KPB–386 VHF-FM channel 18A is monitored 24 hours a day.

Wharves

(556) The deepwater facilities of the Port of Sacramento consist of six berths, each of which has a berthing length of at least 600 feet with a deck height of 19 feet and reported depths alongside of 35 feet. All berths are served by railroad and highway connections, and all berths have water and electrical shore power connections. General cargo at the port is usually handled by ship's tackle; mechanical handling equipment, if available, is mentioned in the facilities table. All of these facilities are owned and most are operated by the Sacramento-Yolo Port District. For a complete description of the port facilities refer to Port Series No. 32 published and sold by the U.S. Army Corps of Engineers. (See Appendix A for address.) or visit the website www.portofsacramento.com for additional information.

Supplies

(557) Provisions are available in any quantity. Some marine supplies may be obtained. Fuel oil may be obtained by tank truck or barge. Ships do not normally take on fuel or provisions in Sacramento.

Repairs

(558) There are no repair facilities for large oceangoing vessels in Sacramento; the nearest shipyards with large drydocks are at Richmond, Oakland, Alameda, and San Francisco.

Small-craft facilities

(559) There are several small-craft facilities along the Sacramento River at Sacramento. (See the small-craft facilities tabulation on chart 18662 for services and supplies available.) Mariners are advised that there are no facilities serving small craft along the Sacramento Deep Water Ship Channel and at the Port of Sacramento. Once at the head of navigation on the channel, there is no way to pass through the locks to the Sacramento River.

Communications

(560) Sacramento is served by four railroads, several highways, and two airports.

Chart 18664, 18667

(561) Above Sacramento the prevailing flood conditions are as follows: At Verona at the junction of Feather River, 70 miles above the mouth, 20 feet at ordinary floods and 24 feet at extreme floods; at Colusa, 125 miles above the mouth, 25 feet at ordinary floods and 32 feet at extreme floods.

(562) Between Sacramento and Colusa are numerous warehouses and small landings.

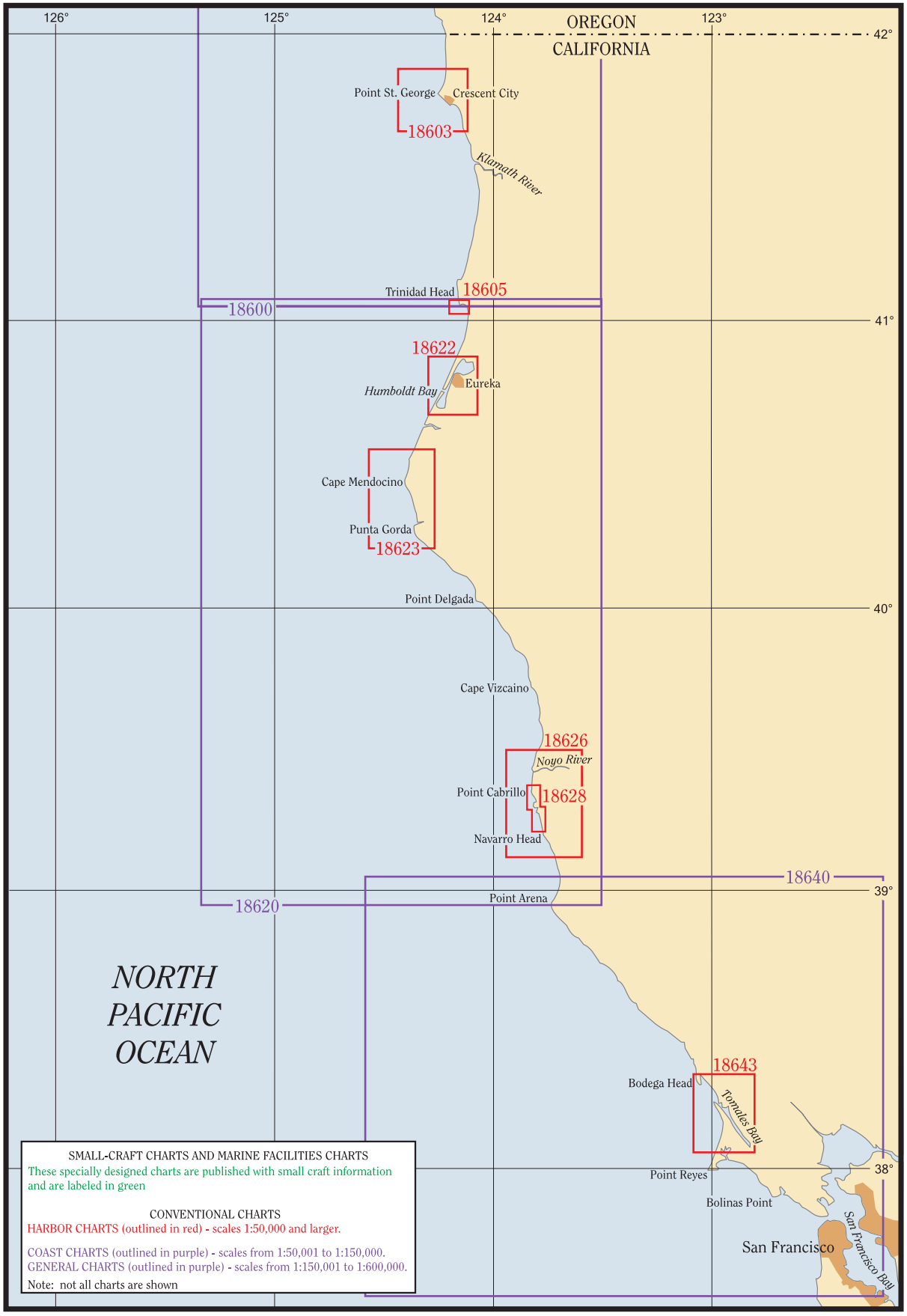
(563) **Feather River** rises in the Sierra Nevada and empties into Sacramento River at **Verona**, 18 miles above Sacramento. The river has been improved by snagging and the construction of wing dams at **Marysville**, 26 miles above the mouth. The controlling depth is usually 3 feet from about February 15 to June 15. Ordinary flood fluctuation is 20 feet, and extreme flood fluctuation is about 25 feet. With the exception of several small privately owned landings, all loading is handled on the banks. There has been no commercial navigation on the Feather River in recent years.

Chart 18665

(564) **Lake Tahoe** (39°06'N., 120°00'W.), California-Nevada, is a recreation area almost surrounded by Tahoe, Toiyabe, and Eldorado National Forests. **Restricted areas** established by Federal regulations are given in **162.210 and 162.215**, chapter 2. Lake Tahoe is to be navigated by leaving all red buoys to starboard when transiting in a counterclockwise direction. Safe water will always be found toward the center of the lake from red federal buoys. Information about facilities may be obtained from one of the local offices of the Forest Service, U.S. Department of Agriculture.

Coast Guard

(565) **Lake Tahoe Coast Guard Station** is on the W shore of the lake about 1.2 miles NE of Tahoe City.


126°
125°
124°
123°
42°
41°
40°
39°
38°
OREGON
CALIFORNIA
Point St. George
Crescent City
18603
Klamath River
Trinidad Head
18605
18600
18622
Humboldt Bay
Eureka
Cape Mendocino
Punta Gorda
18623
Point Delgada
Cape Vizcaino
18626
Noyo River
Point Cabrillo
18628
Navarro Head
18640
Point Arena
18620
NORTH
PACIFIC
OCEAN
18643
Bodega Head
Tomales Bay
Point Reyes
Bolinas Point
San Francisco
San Francisco Bay
SMALL-CRAFT CHARTS AND MARINE FACILITIES CHARTS
These specially designed charts are published with small craft information and are labeled in green
CONVENTIONAL CHARTS
HARBOR CHARTS (outlined in red) - scales 1:50,000 and larger.
COAST CHARTS (outlined in purple) - scales from 1:50,001 to 1:150,000.
GENERAL CHARTS (outlined in purple) - scales from 1:150,001 to 1:600,000.
Note: not all charts are shown

Appendix A

Sales Information

(1) National Ocean Service (NOS) publications, nautical charts and unclassified National Geospatial-Intelligence Agency (NGA) nautical charts are sold by NOS and its authorized sales agents in many U.S. ports and in some foreign ports through the National Aeronautical Charting Office. Mail orders should be addressed to:

(2) Federal Aviation Administration
(3) National Aeronautical Charting Office
(4) Distribution Division (AVN-530)
(5) 10201 Good Luck Road
(6) Glenn Dale, MD 20769-9700.

(7) Mail orders must be accompanied by a check or money order (payable in U.S. funds) payable to FAA. Remittance from outside the United States should be make either by an International Money Order or by a check payable on a U.S. bank. Chart catalogs, which include a listing of authorized sales agents, are free upon request. Telephone orders may be placed by calling 301-436-8301 or toll-free 1-800-638-8972 (Visa, MasterCard or Discover accepted); or by FAX, 301-436-6829 or by Email: 9-AMC-Chartsales@faa.gov. Sales information is located on the internet website address, http://www.naco.faa.gov.

National Ocean Service Offices

(8) **Washington, DC (Headquarters)**: Assistant Administrator, National Ocean Service, NOAA, Herbert C. Hoover Bldg., 14th Street and Constitution Avenue, NW, Washington, DC 20230-0001.

(9) **Silver Spring**: Chief, Office of Coast Survey (N/CS), National Ocean Service, NOAA, 1315 East-West Highway, Silver Spring, MD 20910-3282.

(10) **Norfolk**: Director, Atlantic Marine Center, National Ocean Service, NOAA, 439 West York Street, Norfolk, VA 23510-1114.

(11) **Seattle**: Director, Marine Operations Center (Pacific), National Ocean Service, NOAA, 1801 Fairview Avenue East, Seattle, WA 98102-3767.

Charts and Publications–National Ocean Service

Nautical Charts (See Chart Catalogs)

(12) United States Coastal and Intracoastal waters, and possessions.

(13) Great Lakes, Lake Champlain, New York State Canals, and the St. Lawrence River–St. Regis to Cornwall, Canada.

(14) **Publications** (See the publication **Dates of Latest Editions** for latest editions and prices)

Reporting chart deficiencies

(15) Users are requested to report all discrepancies and suggested additions to NOAA nautical charts, including depth information in privately maintained channels and basins; obstructions, wrecks, and other dangers; new landmarks or the nonexistence or relocation of charted ones; uncharted fixed private aids to navigation; and deletions or additions of small-craft facilities. All such reports should be sent to:

(16) Chief, Marine Chart Division (N/CS2)
(17) National Ocean Service, NOAA
(18) 1315 East-West Highway
(19) Silver Spring, MD 20910-3282.

(20) The Marine Chart Division also maintains a website, http://ocsdata.ncd.noaa.gov/dr/, where the public can report NOAA nautical chart and Coast Pilot discrepancies or suggested changes.

(21) **Note:** Reported discrepancies and suggested changes to NOAA's nautical charts are also examined for possible revisions to the corresponding NOAA Coast Pilot.

Chart validity

(22) **CAUTION: A NOAA nautical chart is not a valid document until its publication is announced in the NGA Weekly Notice to Mariners. This also applies to NOAA nautical publications such as Coast Pilot. The date of a chart** is also of vital importance to the navigator. When charted information becomes obsolete, further use of the chart for navigation may be dangerous.

Coast Pilots

(23) U.S. Coast Pilot 1, Atlantic Coast, Eastport to Cape Cod.

(24) U.S. Coast Pilot 2, Atlantic Coast, Cape Cod to Sandy Hook.

(25) U.S. Coast Pilot 3, Atlantic Coast, Sandy Hook to Cape Henry.

(26) U.S. Coast Pilot 4, Atlantic Coast, Cape Henry to Key West.

(27) U.S. Coast Pilot 5, Atlantic Coast–Gulf of Mexico, Puerto Rico, and Virgin Islands.

(28) U.S. Coast Pilot 6, Great Lakes, Lakes Ontario, Erie, Huron, Michigan and Superior, and St. Lawrence River.

(29) U.S. Coast Pilot 7, Pacific Coast, California, Oregon, Washington, and Hawaii.

(30) U.S. Coast Pilot 8, Pacific Coast Alaska, Dixon Entrance to Cape Spencer.

(31) U.S. Coast Pilot 9, Pacific and Arctic Coasts, Alaska–Cape Spencer to Beaufort Sea.

Reporting Coast Pilot deficiencies

(32) Users are requested to report all significant discrepancies or additions to NOAA Coast Pilots, including depth information in privately maintained channels and basins; obstructions, wrecks, and other dangers; new landmarks, landmarks that have moved or been demolished; uncharted fixed private aids to navigation; and deletions or additions of small-craft facilities. A form has been included at the back of this book (NOAA Form 77-6) which can be used to report discrepancies. Discrepancies can also be reported using the NOAA website at **http://ocsdata.ncd.noaa.gov/dr/inquiry.asp**. All correspondence regarding Coast Pilots should be addressed to:

(33) Chief, Coast Pilot Branch

(34) NOAA, SSMC3, N/CS51

(35) 1315 East-West Highway

(36) Silver Spring, MD 20910-3282.

(37) **Note**: Reported discrepancies and suggested changes to NOAA's Coast Pilot are also examined for revisions to the corresponding NOAA nautical charts.

Distance Tables

(38) Distances Between United States Ports (available on the internet only at http://chartmaker.ncd.noaa.gov/nsd/ports.html.)

Tide Tables

(39) Europe and West Coast of Africa.

(40) East Coast, North and South America.

(41) West Coast, North and South America.

(42) Central and Western Pacific Ocean and Indian Ocean.

(43) Supplemental Tidal Predictions-Anchorage, Nikiski, Seldovia, and Valdez Alaska.

Tidal Current Tables

(44) Atlantic Coast, North America.

(45) Pacific Coast, North America and Asia.

Dates of Latest Editions

(46) Information concerning the dates of latest editions for the full suite of NOAA's nautical charts and U.S. Coast Pilot volumes can be found at: **www.nauticalcharts.noaa.gov/mcd/dole.htm**.

Charts and Publications–Other U.S. Government Agencies

(47) A partial list of publications and charts considered of navigational value is included for the ready reference of the mariner. In addition to the agents located in the principal seaports handling publication sales, certain libraries have been designated by the Congress of the United States to receive the publications as issued for public review.

Government Printing Office

(48) Publications of the U.S. Government Printing Office may be ordered from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325. Orders may be charged to Visa, MasterCard or Choice by calling (202) 512-1800 during normal business hours. Inquiries on availability, cost, etc, of GPO publications may be addressed to a 24-hour FAX number: 202-512-2250.

National Geospatial-Intelligence Agency Procurement Information

(49) Unclassified publications produced by the National Geospatial-Intelligence Agency (NGA) are available from the U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-1954. Orders can be placed on the U.S. Government Online Bookstore (http://bookstore.gpo. gov), by phone (202-512-1800) or by FAX (202-512-2250). Classified NGA publications and charts are available to authorized users from National Geospatial-Intelligence Agency Combat Support Center (Attn: PMSR), Washington, DC 20315-0020. NGA Customer Assistance Office may be contacted at 1-800-826-0342 or 287-2495 (Autovon).

Nautical Charts

(50) **U.S. Waters:**

(51) **Apalachicola, Chattahoochee and Flint Rivers Navigation Charts, Alabama River Charts, and Black Warrior-Tombigbee Rivers River Charts:** Published and for sale by U.S. Army Engineer District Mobile, P.O.

Box 2288, AL 36602, Attn: Map Sales, LM-SR; telephone, 251-441-5631.

(52) **Flood Control and Navigation Maps of the Mississippi River, Cairo, IL to the Gulf of Mexico:** Published by Mississippi River Commission and for sale by U.S. Army Engineer District Vicksburg, 4155 Clay Street, Vicksburg, MS 39183-3435, Attn: Map Sales; telephone: 601-631-5042.

(53) **Upper Mississippi River Navigation Charts (Mississippi River, Cairo, IL to Minneapolis, MN):** Published and for sale by U.S. Army Engineer District Rock Island, Clock Tower Bldg., P.O. Box 2004, Rock Island, IL 61204-2004; telephone, 309-794-5338.

(54) **Charts of the Illinois Waterway, from Mississippi River at Grafton, IL to Lake Michigan at Chicago and Calumet Harbors:** Published and for sale by U.S. Army Engineer District Rock Island, Clock Tower Bldg., P.O. Box 2004, Rock Island, IL 61204-2004; telephone, 309-794-5338.

(55) **Foreign Waters:** Published by National Geospatial-Intelligence Agency (see National Geospatial-Intelligence Agency Procurement Information above).

(56) **Marine Weather Services Charts:** Published by the National Weather Service; for sale by NOS Distribution Division (see Sales Information above).

Publications

(57) **Notices to Mariners:**

(58) Electronic versions of the Local Notices to Mariners are posted weekly on the U.S. Coast Guard Navigation Center's website at : http://www.navcen.uscg.gov/lnm/default.htm. The National Geospatial-Intelligence Agency Notices to Mariners are available at: http://pollux.nss.nga.mil/untm/.

(59) **Special Notice to Mariners** are published annually in National Geospatial-Intelligence Agency Notice to Mariners 1. These notices contain important information of considerable interest to all mariners. Interested parties are advised to read these notices.

(60) **Light Lists (United States and Possessions):** Published by U.S. Coast Guard; for sale by the Government Printing Office. (See Government Printing Office, early this Appendix A.)

(61) **List of Lights (Foreign Countries):** Published by National Geospatial-Intelligence Agency (see National Geospatial-Intelligence Agency Procurement Information above).

(62) **Sailing Directions (Foreign Countries):** Published by the National Geospatial-Intelligence Agency (see National Geospatial-Intelligence Agency Procurement Information above).

(63) **Radio Navigational Aids,** Pub. 117: Published by the National Geospatial-Intelligence Agency (see National Geospatial-Intelligence Agency Procurement Information above).

(64) The **Nautical Almanac**, the Air Almanac, and Astronomical Almanac: Published by U.S. Naval Observatory; for sale by Government Printing Office. (see Government Printing Office, early this Appendix A.)

(65) **American Practical Navigator Bowditch** Pub. 9: Published by the National Geospatial-Intelligence Agency (see National Geospatial-Intelligence Agency Procurement Information above).

(66) **International Code of Signals** Pub. 102: Published by National Geospatial-Intelligence Agency (see National Geospatial-Intelligence Agency Procurement Information above).

(67) **Marine Product Dissemination Information**: maintained by the National Weather Service on the internet, (http://www.new.noaa.gov/om/marine/home htm.

(68) **Navigation Rules**: Navigation Rules, International-Inland (COMDTINST M16672.2 series): Published by the U.S. Coast Guard; for sale by Government Printing Office. (see Government Printing Office, early this Appendix A.)

(69) **Federal Requirements for Recreational Boats:** Published by U.S. Coast Guard; available without charge by contacting the toll free Boating Safety Hotline (telephone, 800-368-5647).

(70) **Port Series of the United States:** Published and sold by U.S. Army Corps of Engineers, Institute for Water Resources, Navigation Data Center, (CEIWR-NDC-N), 7701 Telegraph Road, Casey Building, Alexandria, VA 22315-3868; telephone 703-428-8059.

National Ocean Service Center for Operational Oceanographic Products and Services

(71) **For Tide and Tidal Current Predictions:**
(72) Products and Services Division (N/OPS3)
(73) Room 7115
(74) 1305 East-West Highway
(75) Silver Spring, MD 20910-3281
(76) TEL 301-713-2815 Exts. 123, 122 (voice)
(77) FAX 301-713-4500 (24 hours)
(78) EMAIL Tide.Predictions@noaa.gov

(79) **For Tide Observations, Datums and Levels, Benchmark Sheets:**
(80) Products and Services Division (N/OPS3)
(81) Room 7317
(82) 1305 East-West Highway
(83) Silver Spring, MD 20910-3281
(84) TEL 301-713-2877 Exts. 128, 176
(85) FAX 301-713-4437 (24 hours)
(86) EMAIL Stephen.Lyles@noaa.gov

(87) **PORTS® Information and Data**
(88) Products and Services Division (N/OPS3)
(89) Room 7317

(90) 1305 East-West Highway
(91) Silver Spring, MD 20910-3281
(92) TEL 301-713-2877 Exts. 128, 176
(93) FAX 301-713-4437 (24 hours)
(94) EMAIL Stephen.Lyles@noaa.gov

Publishers of Tide Tables and Tidal Current Tables:

(95) **ProStar Publications Inc.**
(96) 8643 Hayden Place
(97) Culver City, CA 90232-2901
(98) TEL (800) 481-6277
(99) TEL (800) 481-6277
(100) **International Marine**
(101) P.O. Box 547
(102) Backlick, OH 43004
(103) TEL (800) 626-4729

U.S. Army Corps of Engineers (USACE) Offices

(104) **Pacific Ocean Division Office:** Bldg. 230, Fort Shafter, Hawaii 96858-5440.

(105) The Pacific Ocean Division includes the State of Hawaii. The division also performs protection and preservation works at the islands of Guam and American Samoa.

(106) **Los Angeles District Office:** 300 North Los Angeles Street, Los Angeles, CA 90012.

(107) The Los Angeles District includes the coastal waters and tributaries of California from the Mexican boundary to Cape San Martin (35°54'N., 121°27'W.).

(108) **Portland District Office:** Duncan Plaza, 333 S.W. First Avenue, P.O. Box 2946, Portland, OR 97208.

(109) The Portland District includes the coastal waters and tributaries of Oregon, and the waters and tributaries of the Columbia River as far as the bridge at Umatilla, Oreg., just below McNary Dam.

(110) **Sacramento District Office:** 650 Capitol Mall, Federal and Court Bldg., Sacramento, CA 95814-4794.

(111) The Sacramento District includes Suisun Bay, and the Sacramento and San Joaquin Rivers and their tributaries.

(112) **San Francisco District Office:** 211 Main Street, San Francisco, CA 94105-1905.

(113) The San Francisco District includes the coastal waters and tributaries from Cape San Martin to the Oregon boundary, including San Francisco Bay but not Suisun Bay and the Sacramento and San Joaquin Rivers and their tributaries.

(114) **Seattle District Office:** 4735 East Marginal Way South, Seattle, Wash. 98134.

(115) The Seattle District includes the coastal waters and tributaries of Washington except the Columbia River.

(116) **Walla Walla District Office:** Bldg. 602, City-County Airport, Walla Walla, WA 99362-9265.

(117) The Walla Walla District includes the Columbia River and tributaries above the bridge at Umatilla, Oreg., just below McNary Dam.

Environmental Protection Agency (EPA) Offices

(118) Regional offices and States in the EPA coastal regions:

(119) **Region I** (New Hampshire, Vermont, Maine, Massachusetts, Connecticut, Rhode Island): J. F. Kennedy Federal Bldg., Boston, MA 02203.

(120) **Region II** (New Jersey, New York, Puerto Rico, Virgin Islands): 26 Federal Plaza, New York, NY 10278.

(121) **Region III** (Delaware, Maryland, Virginia, District of Columbia, Pennsylvania): 841 Chestnut Street, Philadelphia, PA 19107.

(122) **Region IV** (Alabama, Florida, Georgia, Mississippi, South Carolina, North Carolina): 345 Courtland Street, NE., Atlanta, GA 30365.

(123) **Region V** (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin): 230 South Dearborn Street, Chicago, IL 60604.

(124) **Region VI** (Louisiana, Texas): 1445 Ross Avenue, Dallas, TX 75270.

(125) **Region IX** (California, Hawaii, Guam): 215 Fremont Street, San Francisco, Calif. 94105.

(126) **Region X** (Alaska, Oregon, Washington): 1200 Sixth Avenue, Seattle, Wash., 98101.

U.S. Coast Guard Navigation Center (NAVCEN)

(127) The Navigation Center is the United States Coast Guard's Navigation Center of Excellence. It is located in Alexandria, VA, south of the Washington Beltway, on the grounds of the Coast Guard Telecommunications and Information Systems Command (TISCOM) facility.

(128) Formerly the "Omega Navigation Center", NAVCEN now controls 78 DGPS sites and 24 LORAN stations across the United States (approximately half of the DGPS sites and LORAN stations are controlled by the Navigation Center Detachment in Petaluma, California). In addition, NAVCEN has responsibility for the development of high accuracy DGPS, and the development of new navigation technologies such as the use of inertial and enhanced LORAN to back up GPS.

(129) For further information and/or operational questions regarding GPS, DGPS, OR LORAN-C, contact:

(130) Commanding Officer
(131) U.S. Coast Guard Navigation Center
(132) 7323 Telegraph Road
(133) Alexandria, VA 22315
(134) TEL: 703-313-5900; FAX: 703-313-5920;
(135) Email: NISWS@navcen.uscg.mil;
(136) Website: http://www.navcen.uscg.gov/

Coast Guard District Offices

(137) Commander, Eleventh Coast Guard District, Coast Guard Island, Building 50-6, Alameda, CA 94501-5100. Arizona; Utah; Nevada; California; and the ocean area bounded by a line from the California-Oregon state line westerly to 40°N., 150°W., thence southeasterly to 5°S., 100°W., thence northeasterly to the border between Guatemala and Mexico on the Pacific Coast (14°38'N., 92°19'W.).

(138) Commander, Thirteenth Coast Guard District, 915 Second Avenue, Jackson Federal Building, Seattle, Wash. 98174-1067. The coastal waters and tributaries in Oregon, Washington, Idaho, and Montana.

(139) Commander, Fourteenth Coast Guard District, Prince Kalanianaole Federal Building, 300 Ala Moana Boulevard, Honolulu, Hawaii 96850-4982. The State of Hawaii and the Pacific Islands belonging to the United States west of 150°W., and south of 40°N.

(140) **Note:** A Marine Safety Office combines the functions of the Captain of the Port and Marine Inspection Office.

(141) The symbol (D) preceding an office indicates that a Documentation Office is at the same address.

Coast Guard Marine Safety Offices (MSO)

(142) **USCG Sector Honolulu** – 400 Sand Island Parkway, Honolulu HI 96819

(143) **MSO San Diego** – 2710 North Harbor Drive, San Diego CA 92101

(144) **MSO/Group Los Angeles-Long Beach** – 1001 South Seaside Avenue, Bldg. 20, San Pedro CA 90731

(145) **MSO San Francisco Bay** – Coast Guard Island, Bldg. 14, Alameda CA 94501

(146) **MSO Portland** – 6767 North Basin Avenue, Portland OR 97217

(147) **MSO Puget Sound** – 1519 Alaskan Way South, Bldg. 1, Seattle WA 98134

Coast Guard Stations

(148) The stations listed are in the area covered by this Coast Pilot. They have search and rescue capabilities and may provide lookout, communication, and/or patrol functions to assist vessels in distress. The National VHF-FM Distress System provides continuous coastal radio coverage outwards to 20 miles on channel 16. After contact on channel 16, communications with the Coast Guard should be on channel 22. If channel 22 is not available to the mariner, communications may be made on channel 12. Selected stations guard the International Radiotelephone Distress, Safety and Calling Frequencies.

(149) **California:**

(150) Humboldt Bay Air Station (40°59'N., 124°06'W.). At McKinleyville.

(151) Bodega Bay (38°18.7'N., 123°03.0'W.). On E side of channel 0.8 mile inside Bodega Harbor.

(152) Channel Islands Harbor (34°09.7'N., 119°13.3'W.). On the E side of the harbor about 0.4 mile above the entrance.

(153) Golden Gate (37°49'54"N., 122°28'30"W.). At entrance to Horseshoe Bay, about 0.4 mile NNE of Golden Gate Bridge.

(154) Humboldt Bay (40°46.1'N., 124°13.2'W.). E side of North Spit at the entrance to Humboldt Bay.

(155) Lake Tahoe (39°10.8'N., 120°07.1'W.). On W shore of the lake, about 1.3 miles W of Dollar Point.

(156) Los Angeles/Long Beach (33°43'26"N., 118°16'06"W.). On the W side of Reservation Point.

(157) Los Angeles Air Station (33°57'N., 118°24'W.). At Los Angeles International Airport.

(158) Vallejo (38°06'38"N., 122°16'12"W.) 2.5 miles above the entrance to Mare Island Strait just below the Vallejo-Mare Island causeway lift bridge.

(159) Rio Vista (38°08.8'N., 121°41.5'W.). On the W side of the Sacramento River, 0.9 mile below bridge.

(160) Sacramento Air Station (38°40'N., 121°24'W.). NE of the city at McClellan Air Force Base.

(161) San Diego (32°43.6'N., 117°10.9'W.). In North San Diego Bay, 700 yards NE of E end of Harbor Island.

(162) San Diego Air Station (32°43.6'N., 117°10.9'W.). In North San Diego Bay.

(163) San Francisco Base and Station (37°48.7'N., 122°21.6'W.). On the E side of Yerba Buena Island.

(164) San Francisco Air Station (37°38'N., 122°23'W.). At San Francisco International Airport.

(165) **Hawaii:**

(166) Barbers Point Air Station (21°18.8'N., 128°04.4'W.). At Barbers Point Naval Air Station.

(167) Honolulu Base (21°18.6'N., 157°52.6'W.). On Sand Island, 0.8 mile from harbor entrance.

(168) Maui (20°47.5'N., 156°30.6'W.). At Maalaea Village in Maalaea Bay.

(169) **Oregon:**

(170) Astoria Air Station (46°10'N., 123°53'W.). At Clatsop County Airport.

(171) Chetco River (42°02.8'N., 124°16.0'W.). On E side of river, about 450 yards above the entrance.

(172) Coos Bay (43°20.7'N., 124°19.3'W.). S side of Charleston Boat Basin.

(173) Depoe Bay (44°48.6'N., 124°03.5'W.). On E side of bay.

(174) North Bend Air Station (43°25'N., 124°15'W.). At North Bend Municipal Airport.

(175) Siuslaw River (44°00.1'N., 124°07.2'W.). On E side of river, about 1.3 mile above the entrance.

(176) Tillamook Bay (45°33.5'N., 123°55.2'W.). On N shore at Garibaldi.

(177) Umpqua River (43°40.9'N., 124°10.9'W.). In Winchester Bay, 2 miles above the mouth.

(178) Yaquina Bay (44°37.6'N., 124°03.3'W.). Newport waterfront, N side of bay near bridge.

(179) **Washington:**

(180) Bellingham (48°45.4'N., 122°30.4'W.). In Squalicum small-boat harbor.

(181) Cape Disappointment (46°16.8'N., 124°02.7'W.). At Fort Canby on SW side of Baker Bay.

(182) Grays Harbor (46°54.3'N., 124°06.1'W.). On the S side of Westhaven Cove.

(183) Neah Bay (48°22.3'N., 124°35.8'W.). About 0.5 mile S of Waadah Island.

(184) Port Angeles Air Station (48°08.4'N., 123°24.5'W.). On Ediz Hook about 0.3 mile W of the E extremity of the hook.

(185) Quillayute River (47°54.5'N., 124°38.2'W.). At La Push.

(186) Seattle (47°39.8'N., 122°23.5'W.). On S side Lake Washington Ship Canal, 0.8 mile from W entrance.

Coast Guard Radio Broadcasts

(187) Urgent, safety, and scheduled marine information broadcasts are made by Coast Guard radio stations. In general, these broadcasts provide information vital to vessels operating in the approaches and coastal waters of the United States including Puerto Rico and U.S. Virgin Islands. Transmissions are as follows:

(188) **By radiotelephone:** (a) upon receipt; (b) repeated 15 minutes later, (for urgent messages only); (c) text only on the first scheduled broadcast unless canceled; (d) additional broadcasts at the discretion of the originator.

(189) **Urgent broadcasts** are preceded by the urgent signal PAN-PAN. Both the urgent signal and message are transmitted on 2182 kHz, and VHF-FM channel 16.

(190) **Safety broadcasts** are preceded by the safety signal SECURITY. After the preliminary safety signal is broadcast on 2182 kHz and VHF-FM channel 16, broadcast stations will shift to 2670 kHz and VHF-FM channel 22A, respectively.

Scheduled broadcasts

(191) The following Coast Guard radio stations make scheduled broadcasts, preceded by a preliminary call on 2182 kHz and VHF-FM channel 16 at the times and frequencies indicated:

(192) **NOR,** San Diego, Calif., VHF-FM channel 22A, 0903 and 1703 P.s.t. (Remote antennas on Point Loma and San Clemente Island.)

(193) **NMQ-9,** Los Angeles/Long Beach, Calif., 2670 kHz, 1000 and 2100 P.s.t.; VHF-FM channel 22A, 0500 and 1800 P.s.t. (Remote VHF-FM antennas on San Pedro Hill, Laguna Peak (34°07'N., 119°04'W.), and Tranquillon Mountain.)

(194) **NMC-6,** Monterey, Calif., VHF-FM channel 22A, 0733, 0815, 1545, and 1933 P.s.t. (Remote VHF-FM antennas at Cambria, Point Sur, and Mount Umunhum (37°09'38"N., 121°53'51"W.))

(195) **NMC,** San Francisco, Calif., 2670 kHz, 0603 and 1803 P.s.t.

(196) **NMC–17,** San Francisco, Calif., VHF-FM channel 22A, 0800, 1100 and 1530 P.s.t.

(197) **NMC–11,** Humboldt Bay, Calif., 2670 kHz, 0703 and 1903 P.s.t.; VHF-FM channel 22A, 0815 and 1515 P.s.t. (Remote VHF-FM antennas at Cahto Peak, Trinidad Head and Point St. George.)

(198) **NOE,** North Bend, Oreg., 2670 kHz, 1003 and 2203 P.s.t.; VHF-FM channel 22A, 1003 and 2203 P.s.t.

(199) **NMW,** Astoria, Oregon, 2670 kHz, 0933 and 2133 P.s.t.; VHF-FM channel 22A, 0933 and 2133 P.s.t.

(200) **NMW–44,** Portland, Oregon, VHF-FM channel 22A, 0945 P.s.t.

(201) **NOW,** Port Angeles, Wash., 2670 kHz, 1015 and 2215 P.s.t.; VHF-FM channel 22A, 1015 and 2215 P.s.t.

(202) **NMW–43,** Seattle, Wash., VHF-FM channel 22A, 1030 and 2230 P.s.t.

(203) **NMO,** Honolulu, Hawaii, 2670 kHz, 1103 and 2303 H.A.s.t.; VHF-FM channel 22A, 0700 and 1900 H.A.s.t.

U.S. NAVTEX Transmitting Stations

(204) The International Maritime Organization has designated NAVTEX as the primary means for transmitting coastal urgent marine safety information to ships worldwide. NAVTEX transmissions have a designed range of 400 NM and coverage is reasonably continuous in the east, west and Gulf coasts of the United States, as well as the area around Kodiak, Alaska, Guam and Puerto Rico. All NAVTEX broadcasts are made on 518 kHz. NAVTEX broadcast stations and message content for the West Coast are as follows:

STATION	ID	WX BROADCAST SCHEDULE (UTC)
Kodiak	J	0300, 0700, 1100*, 1500, 1900, 2300*
	X	0340, 0740, 1140*, 1540, 1940, 2340*
Astoria	W	0130, 0530, 0930*, 1330, 1730, 2130*
San Francisco	C	0000, 0400*, 0800, 1200, 1600*, 2000
Cambria	Q	0045, 0445*, 0845, 1245, 1645*, 2045
Marianas	V	0100, 0500, 0900, 1300, 1700, 2100
Honolulu	O	0040, 0440, 0840*, 1240, 1640, 2040*

(205) *Routine weather forecasts are broadcast four times per day with these being the normal times when repeats of Notices to Mariners are broadcast in lieu of

weather. Weather warnings may be broadcast at any time.

(206) **Cambria (NMC) (Station Q)**

(207) Eleventh Coast Guard District Broadcast Notices to Mariners.

(208) Distress, Urgent, and Safety messages.

(209) Gale, storm, and Hurricane warnings.

(210) Coastal weather forecasts for Point St George to Guadalupe Island and 60 NM offshore.

(211) **San Francisco (NMC) (Station C)**

(212) Eleventh Coast Guard District Broadcast Notices to Mariners.

(213) Distress, Urgent, and Safety messages.

(214) Gale, storm, and hurricane warnings.

(215) Offshore marine weather forecasts for:

(216) North of 30 N., East of 160 E.;

(217) South of 30 N., East of 140 W.

(218) **Astoria (NMW)(Station W)**

(219) Thirteenth Coast Guard District Broadcast Notice to Mariners.

(220) Distress, Urgent, and Safety messages.

(221) Gale, storm, and hurricane warnings.

(222) Offshore marine weather forecasts for the Canadian border to Point St. George and 250 NM offshore.

(223) **Kodiak (NOJ)(Station J)**

(224) Seventeenth Coast Guard District Broadcast Notice to Mariners.

(225) Distress, Urgent, and Safety messages.

(226) Gale, storm, and hurricane warnings.

(227) Offshore marine weather forecasts for the Canadian border to 85 N including the Aleutian Chain.

(228) **Kodiak (NOJ) (Station X)**

(229) Seventeenth Coast Guard District Broadcast Notice to Mariners.

(230) Distress, Urgent, and Safety messages.

(231) Gale, storm, and hurricane warnings.

(232) Coastal weather forecasts for the Andreanof Island vicinity.

(233) **Honolulu (NMO)(Station O)**

(234) Fourteenth Coast Guard District Broadcast Notice to Mariners.

(235) Distress, Urgent, and Safety messages.

(236) Gale, storm, tropical storm, and typhoon warnings.

(237) Offshore marine weather forecasts for:

(238) North Pacific to 50 N. and 160 E. to 140 W.;

(239) South Pacific to 25 S. and 160 E. to 110 W.

(240) **Marianas (NRV) (Station V)**

(241) Marianas Section Broadcast Notice to Mariners.

(242) Distress, Urgent, and Safety messages.

(243) Gale, storm, tropical storm, and typhoon warnings.

(244) Offshore marine weather forecasts.

Customs Ports of Entry and Stations

(245) Vessels may be entered and cleared at any port of entry or customs station, but at the latter only with advance authorization from the Customs Service district director.

(246) **Pacific Region**

(247) **San Diego District:**

(248) Port of Entry: San Diego.

(249) Los Angeles District:

(250) Ports of Entry: Los Angeles-Long Beach, Port San Luis.

(251) Customs Station: Port Hueneme.

(252) **San Francisco District:**

(253) Ports of Entry: San Francisco-Oakland, Eureka.

(254) Customs Station: Monterey.

(255) Columbia-Snake (at Portland) District:

(256) Ports of Entry: Astoria, Coos Bay, Longview, Newport.

(257) **Seattle District:**

(258) Ports of Entry: Aberdeen, Blaine, Point Roberts, Puget Sound (includes Anacortes, Bellingham, Everett, Friday Harbor, Neah Bay, Olympia, Port Angeles, Port Townsend, and Tacoma).

(259) **Honolulu District:**

(260) Ports of Entry: Barbers Point, Hilo, Honolulu, Kahului, Nawiliwili-Port Allen.

National Weather Service Offices

(261) The following offices will provide forecasts and climatological data or arrange to obtain these services from other offices. They will also check barometers in their offices or by telephone; refer to the local telephone directory for numbers:

California

(262) Eureka Weather Forecast Office: 300 Startare Drive, Eureka, CA 95501

(263) Los Angeles/Oxnard Weather Forecast Office: 520 North Elevar Street, Oxnard, CA 93030

(264) Sacramento, California Weather Forecast Office

(265) San Diego Weather Forecast Office: 11440 W. Bernardo Court, Suite 230, San Diego, CA 92127

(266) San Francisco Bay Area Weather Forecast Office: 21 Grace Hopper Avenue, Stop 5, Monterey, CA 93943-5505

(267) San Joaquin Valley Weather Forecast Office: 900 Foggy Bottom Road, Hanford, CA 93230-5236

Hawaii

(268) Honolulu Weather Forecast Office: 2525 Correa Road, Ste 250, Honolulu, HI 96822

Oregon

(269) Medford Weather Forecast Office: 4003 Cirrus Drive, Medford, OR 97504-4198

(270) Pendleton Weather Forecast Office: 2001 NW 59th Drive, Pendleton, OR 97801

(271) Portland Weather Forecast Office: 5241 NE 122nd Avenue, Portland, OR

Washington

(272) Seattle Weather Forecast Office: 7600 Sandpoint Way NE, Seattle, WA 98115-6349

(273) Spokane Weather Forecast Office: 2601 N. Rambo Road, Spokane, WA 99224

Radio Weather Broadcasts

(274) Taped or direct broadcasts of marine weather forecasts and storm warnings are made by commercial and Coast Guard radio stations in the area covered by this Coast Pilot. These broadcasts usually are made several times a day; the transmission schedules are shown on the **Marine Weather Services Charts** for the following areas:

(275) Mexican Border to Point Conception, Calif.

(276) Point Conception, Calif. to Point St. George, Calif.

(277) Point St. George, Calif. to Canadian Border.

(278) Hawai'ian Waters.

(279) The weather broadcasts schedules of Coast Guard radio stations are also listed in the descriptions of Coast Guard marine services found elsewhere in this Appendix A.

NOAA Weather Radio

(280) National Weather Service VHF-FM radio stations provide mariners with continuous FM broadcasts of weather warnings, forecasts, radar reports, and surface weather observations. These stations usually transmit on 162.55, 162.475, or 162.40 MHz. Reception range is up to 40 miles from the antenna site, depending on the terrain, type of receiver, and antenna used. The following VHF-FM radio stations with location of antenna are in or near the area covered by this Coast Pilot.

(281) **KEC–62**, San Diego, Calif., (33°01'N., 116°57'W.), 162.40 MHz.

(282) **WWG-21**, Santa Ana, Calif., (33°50'N., 117°36'W.) 162.45 MHz

(283) **KWO-37**, Los Angeles, Calif., (34°13'N., 118°03'W.) 162.55 MHz

(284) **KIH-34**, Santa Barbara, Calif., (34°26'N., 119°46'W.) 162.40 MHz

(285) **WWF-62**, Santa Barbara, Calif., (34°31'N., 119°58'W.) 162.475 MHz

(286) **KIH–31**, San Luis Obispo, Calif., (35°21'N., 120°39'W.), 162.55 MHz.

(287) **KEC–49**, Monterey, Calif., (37°11'N., 121°54'W.) 162.55 MHz.

(288) **KHB–49**, San Francisco, Calif., (37°27'N., 122°30'W.), 162.40 MHz.

(289) **KIH–30**, Point Arena, Calif., (39°01'N., 123°31'W.), 162.40 MHz.

(290) **KEC–82**, Eureka, Calif., (40°25'N., 124°07'W.), 162.40 MHz.

(291) **KIH–37**, Brookings, Oreg., (42°07'N., 124°12'W.), 162.55 MHz.

(292) **WNG-596**, Port Orford, Oreg., (42°42'N., 124°27'W.), 162.425 MHz.

(293) **KIH–32**, Coos Bay, Oreg., (43°23'N., 124°07'W.), 162.40 MHz.

(294) **WNG-674**, Florence, Oreg., (44°03'N., 124°02'W.), 162.500 MHz.

(295) **KIH–33**, Newport, Oreg., (44°45'N., 124°02'W.), 162.55 MHz.

(296) **WWF-95**, Tillamook, Oreg., (45°28'N., 123°56'W.), 162.475 MHz.

(297) **KIG–98**, Portland, Oreg., (45°34'N., 122°47'W.), 162.55 MHz.

(298) **KEC–91**, Astoria, Oreg., (46°22'N., 123°48'W.), 162.40 MHz.

(299) **KXI-27**, Forks, Wash., (47°50'N., 124°23'W.), 162.425 MHz.

(300) **KIH–36**, Neah Bay, Wash., (48°22'N., 124°40'W.), 162.55 MHz.

(301) **WWG-24**, Puget Sound, Wash., (48°02'N., 122°58'W.), 162.425 MHz.

(302) **KHB–60**, Seattle, Wash., (47°32'N., 121°55'W.), 162.55 MHz.

(303) **WXM–62**, Olympia, Wash., (46°33'N., 122°55'W.), 162.475 MHz.

(304) **CFA–240**, Mt Tuam, Canada, (48°43'N., 123°29'W.), 162.40 MHz. (Canadian Government weather radio station.)

(305) **KBA–99**, Hilo, Hawaii, (19°44'N., 155°05'W.), 162.55 MHz.

(306) **KBA–99**, Maui, Hawaii, (20°43'N., 156°16'W.), 162.40 MHz.

(307) **KBA–99**, Honolulu, Hawaii, (21°31'N., 158°09'W.), 162.55 MHz.

(308) **KBA–99**, Kauai, Hawaii, (22°07'N., 159°40'W.), 162.40 MHz.

(309) The National Weather Service provides **Radio Facsimile Weather Information** for Pacific coast and Hawaiian waters through Coast Guard Communications Station Pt. Reyes (NMC) and DOD Communication Station Honolulu (KVM70). Broadcasts are made on the following frequencies:

(310) Pt. Reyes (NMC) – 4346 (except 19z, 23z), 8682, 12590.5, 17151.2, 22527 (19z, 23z) kHz.

(311) Honolulu – 9982.5 (11z), 11090 (except 23z), 16135 (except 11z), 23331.5 (23z) KHz.

(312) For carrier frequency, subtract 1.9 kHz. Fax schedules are transmitted at 1104 and 2324 GMT (Pt. Reyes), 1045 and 2018 GMT (Honolulu), providing area coverage and descriptions of services. For further information, go to **www.nws.noaa.gov/om/marine/radiofax.htm.**

Marine Weather Forecasts

(313) Scheduled coastal marine forecasts are issued four times daily by National Weather Service Offices. For further information on coastal marine forecasts as well as additional types of forecasts, go to **www.nws.noaa.gov/om/marine/forecast.htm.**

Space Environment Center (SEC)

(314) The Space Environment Center disseminates space weather alerts and forecasts (information concerning solar activity, radio propagation, etc.).

(315) For general information write or call:

(316) NOAA, National Weather Service

(317) National Center for Environmental Prediction

(318) Space Environment Center, W/NP9

(319) 325 Broadway

(320) Boulder, CO 80305

(321) Telephone (303) 497-3171

(322) Website: http://www.sec.noaa.gov/

Public Health Service Quarantine Stations

(323) Stations where quarantine examinations are performed:

(324) Honolulu: U.S. Quarantine Station, Honolulu International Airport, Terminal Box #67, Honolulu, Hawaii 96819-1832.

(325) Los Angeles: U.S. Quarantine Station, P.O. Box 90834, Los Angeles, CA 90009-0834.

(326) San Francisco: U.S. Quarantine Station, P.O. Box 8548 SFIA, San Francisco, Calif. 94128-0548.

(327) Seattle: U.S. Quarantine Station, Room S-212, Seattle-Tacoma International Airport, Seattle, WA 98158-1720.

(328) At other ports, quarantine and/or medical examinations are usually performed by Public Health Service contract personnel or by quarantine inspectors from the nearest quarantine station. Inquiries concerning quarantine matters should be directed to the nearest quarantine station.

Food and Drug Administration (FDA) Regional Offices

(329) **Northeast Region** (New York, Maine, Connecticut, New Hampshire, Vermont, Rhode Island): 830 Third Avenue, Brooklyn, NY 11232.

(330) **Mid-Atlantic Region** (Delaware, Pennsylvania, Virginia, Maryland, Ohio, New Jersey): U.S. Customhouse, 2nd and Chestnut Streets, Philadelphia, PA 19106.

(331) **Southeast Region** (South Carolina, North Carolina, Georgia, Alabama, Louisiana, Mississippi, Florida, Puerto Rico): 60 Eighth Street, N.E., Atlanta, GA 30309. Midwest Region (Illinois, Indiana, Michigan, Wisconsin): 20 N. Michigan Avenue, Chicago, IL 60602.

(332) **Southwest Region (Texas)**: 3032 Bryan Street, Dallas, TX 75204.

(333) **Pacific Region** (California, Hawaii, Alaska, Washington, Oregon): 50 U.N. Plaza, San Francisco, CA 94102.

Department of Agriculture, Animal and Plant Health Inspection Service (APHIS) Offices

(334) Listed below are ports covered by this volume where APHIS inspectors are available to inspect plants, and plant and animal products, and locations of Animal Import Centers where livestock and birds are inspected.

(335) Information on importation of plants, animals, and plant and animal products is available from APHIS, Department of Agriculture, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782. The specific offices to contact are as follows: for plants, including fruits and vegetables, and plant products, Plant Protection and Quarantine, Room 635, telephone 301-436-6799; for animal products, Import-Export Animals and Products Staff, Room 756A, telephone 301-436-7885; and for live ruminants, swine, equines, poultry and other birds, Veterinary Services, Import-Export Animals and Products Staff, Room 764, telephone 301-436-8590.

(336) **California:**

(337) Los Angeles: Bldg. D North, 9650 La Cienega Boulevard, Inglewood 90301.

(338) Los Angeles: International Arrivals Area, Satellite 2, World Way Center Post Office, Los Angeles International Airport, 90009.

(339) San Diego: U.S. Border Station, San Ysidro 92073.

(340) San Francisco: Agriculture Bldg., Embarcadero and Mission Streets 94120.

(341) San Francisco: Airport Station, San Francisco International Airport 94128.

(342) **Hawaii:**

(343) Hilo: General Lyman Field 96720.

(344) Honolulu: International Arrivals Bldg., Honolulu International Airport 96820.

(345) Wailuku: Federal Post Office Bldg., 96793.

(346) **Oregon:**

(347) Astoria: Port Docks 97103.

(348) Coos Bay: U.S. Postal Service Bldg., 235 West Anderson Street 97420.

(349) Portland: Federal Bldg., 511 Northwest Broadway 97209.

(350) **Washington:**

(351) Blaine: U.S. Customs House, 98230.

(352) Seattle: Federal Office Bldg., 909 First Avenue 98174.

(353) Seattle: Seattle-Tacoma International Airport 98158.

Animal Import Centers:

(354) Honolulu, Hawaii: 300 Ala Moana Boulevard, 96850.

(355) Miami, Fla.: 8120 N.W. 53rd Street, 33166.

(356) Rock Tavern, N.Y., New York Animal Import Center, Stewart Airport, Rural Route 1, Box 74, 12575.

Immigration and Naturalization Service Offices

(357) **California:**

(358) Los Angeles: 300 North Los Angeles Street 90012.

(359) Sacramento: Federal and U.S. Courthouse Bldg., 650 Capitol Mall 95814.

(360) San Diego: 880 Front Street 92188.

(361) San Francisco: Appraisers Bldg., 630 Sansome Street 94111.

(362) San Luis Obispo: Frontage Road South Highway 101, 93406.

(363) San Pedro: Terminal Island 90731.

(364) Stockton: U.S. Post Office Bldg., 401 North San Joaquin Street 95202.

(365) **Hawaii:**

(366) Honolulu: 595 Ala Moana Boulevard 96809.

(367) **Oregon:**

(368) Portland: Federal Office Bldg., 511 Northwest Broadway 97209.

(369) **Washington:**

(370) Bellingham: Federal Bldg., Magnolia and Cornwall Streets 98227.

(371) Blaine: Peace Arch Inspection Station 98230.

(372) Longview: U.S. Postal Service Bldg., 1603 Larch Street 98632.

(373) Port Angeles: U.S. Post Office Bldg., First and Oak Streets 98362.

(374) Seattle: 815 Airport Way South 98134.

(375) Tacoma: U.S. Post Office Bldg., 11th and A Streets 98401.

Department of Interior, U.S. Fish and Wildlife Service

(376) Interior, Department of Refuge Manager, Hawai'ian/Pacific Islands National Wildlife Complex, U.S. Fish and Wildlife Service, 300 Ala Moana Boulevard, P.O. Box 50167, Honolulu, HI 96850. See National Wildlife Refuges (indexed as such), chapter 15.

Federal Communications Commission Offices

(377) **District field offices:**

(378) Waipahu, Hawaii: P.O. Box 1030, 96797.

(379) Long Beach, Calif.: 3711 Long Beach Boulevard, 90807.

(380) Portland, Oreg.: 1782 Federal Bldg., 1220 S.W. Third Avenue 97204.

(381) La Mesa, Calif., 7840 El Cajon Blvd., 92041.

(382) San Francisco, Calif., 424 Customhouse, 555 Battery Street 94111.

(383) Bellevue, Wash.: One Newport, Room 414, 3605 132nd Avenue, S.E. 98006.

Radio shore stations providing medical advice

(384) Messages to shore stations may be transmitted in code groups or plain language; messages should be signed by the master and be prefixed: "RADIOMEDICAL". The following stations will provide radio services for medical advice. (See Medical advice, chapter 1.)

(385) **NMC**, San Francisco, CA, U.S. Coast Guard, and

(386) **NMO**, Honolulu, HI, U.S. Coast Guard on HF single-sideband radiotelephone channels 424(4134 kHz), 601(6200 kHz), 816(8340 kHz), or 1205(12242 kHz).

(387) **NOJ**, Kodiak, AK, U.S. Coast Guard, and

(388) **KLB**, Seattle, WA, Mobile Marine Radio, Inc.

Measured Courses

(389) The positions of measured courses are shown on the chart and their description is included in the Coast Pilots when information is reported to the National Ocean Service. Courses are located in the following places covered by this Coast Pilot.

(390) Carr Inlet, on the NE shore of McNeil Island; 18448.

(391) Channel Islands Harbor, on the breakwater N of the entrance; 18725.

(392) Commencement Bay, on the SW shore between Ruston and Tacoma; 18474.

(393) Dungeness Bay, on the strait side of Dungeness Spit; 18465.

(394) Edmonds, N of Edwards Point on the E shore of Puget Sound; 18473.

(395) Kaneohe Bay, SE of Moku o Loe Island in S part of bay; 19359.

(396) Lake Washington, on pontoon bridge from Foster Island to Evergreen Point; 18447.

(397) Lake Washington, on pontoon bridge to Mercer Island; 18447.

(398) Long Beach Harbor, on Long Beach Breakwater; 18751.

(399) Marina del Rey, just N of entrance; 18744.

(400) Newport Harbor, W side of harbor entrance; 18754.

(401) Pacific Beach, just N of Scripps Institution of Oceanography; 18765.

(402) Parry Bay, on the NW shore of the bay; 18465.

(403) Port Angeles, in SW part of the harbor; 18468.

(404) Sacramento River, on NE side of river N of Walnut Grove; 18662.

(405) San Clemente Island, S of West Cove; 18763.

(406) San Diego Bay, on W side of North Island; 18773.

(407) San Diego Bay, on S side of Harbor Island; 18773 (not charted).

(408) Sinclair Inlet, S of Bremerton naval shipyard; 18452.

(409) Vashon Island, E of Point Beals; 18448.

(410) The pages in the text describing the courses can be obtained by referring to the index for the geographic places; the chart number follows the names.

Appendix B

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

SAN DIEGO, CA (32°44'N, 117°10'W) 13 feet (4 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1018.5	1017.9	1016.6	1015.5	1014.5	1013.0	1013.3	1013.1	1012.2	1014.3	1016.8	1018.2	1015.3	48
TEMPERATURE (°F)														
Mean	57.1	58.4	59.5	62.1	64.1	66.8	70.7	72.2	71.2	67.4	62.1	57.7	64.1	48
Mean daily maximum	65.4	66.2	66.3	68.4	69.2	71.8	75.9	77.5	77.1	74.2	70.5	66.3	70.8	48
Mean daily minimum	48.3	50.0	52.2	55.3	58.4	61.4	65.1	66.5	64.8	60.2	53.2	48.5	57.0	48
Extreme (highest)	88	90	93	98	96	101	95	98	111	107	97	88	111	48
Extreme (lowest)	29	36	39	44	48	51	55	58	51	43	38	34	29	48
RELATIVE HUMIDITY														
Average percentage	60.5	54.0	41.0	29.7	19.7	5.3	7.7	6.3	-3.2	18.2	43.4	56.6	28.1	48
CLOUD COVER														
Percent of time clear	36.4	33.7	28.2	26.9	22.6	23.6	29.3	30.8	37.2	33.4	42.8	39.1	32.0	48
Percent of time scattered	18.3	17.6	19.5	19.2	17.5	16.7	20.1	20.9	18.8	18.6	18.5	19.8	18.8	48
Percent of time broken	17.7	19.1	21.0	19.8	16.3	12.4	13.6	13.9	12.5	15.3	16.4	17.0	16.2	48
Percent of time overcast	27.6	29.5	31.4	34.1	43.7	47.3	36.9	34.4	31.5	32.8	22.3	24.0	32.9	48
PRECIPITATION (inches)														
Mean amount	2.1	1.6	1.9	0.7	0.1	0.0	0.0	0.0	0.1	0.3	1.1	1.4	9.9	48
Greatest amount	9.0	5.4	6.9	3.7	1.7	0.8	0.2	2.1	1.9	1.7	5.8	6.6	19.4	48
Least amount	T	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	48
Maximum amount (24 hours)	2.5	1.7	2.1	1.4	1.4	0.4	0.2	1.4	0.9	1.0	2.0	2.1	2.5	48
Mean number of days	9	8	10	7	7	5	3	2	3	4	6	7	71	48
SNOW														
Mean amount	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	T	48
Greatest amount	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	T	48
Least amount	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48
Maximum amount (24 hours)	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	T	48
Mean number of days	Miss	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Miss	Miss	48
WIND														
Percentage with gales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48
Mean wind speed (knots)	5.3	5.7	6.6	6.9	7.0	6.8	6.6	6.5	6.3	5.7	5.2	4.9	6.1	48
Direction (percentage of observations)														
North	6.7	6.4	5.5	4.9	3.9	4.5	5.8	6.5	7.0	7.8	7.1	7.4	6.1	48
North Northeast	4.6	4.5	3.8	3.6	3.2	3.2	3.8	4.5	5.5	5.4	5.2	4.9	4.4	48
Northeast	5.5	5.2	4.3	3.4	2.3	2.1	2.1	2.9	3.3	4.8	5.2	5.3	3.9	48
East Northeast	4.9	4.5	3.8	2.7	1.8	1.0	0.7	1.2	1.8	3.5	4.7	4.6	2.9	48
East	4.2	3.9	3.6	2.5	1.3	0.8	0.4	0.7	1.5	2.4	4.4	4.2	2.5	48
East Southeast	4.0	3.8	3.6	2.5	1.5	0.8	0.4	0.5	0.9	1.9	3.7	3.8	2.3	48
Southeast	3.5	3.1	2.6	1.9	1.0	0.7	0.4	0.5	0.8	1.7	2.4	3.3	1.8	48
South Southeast	4.6	3.7	3.3	2.9	2.5	2.2	1.6	1.5	2.2	2.4	3.6	3.5	2.8	48
South	6.0	5.9	6.2	6.6	8.2	8.5	7.2	6.1	5.7	5.1	5.0	5.1	6.3	48
South Southwest	4.6	5.2	6.0	7.4	10.2	10.9	10.3	8.1	6.4	5.4	4.1	4.2	6.9	48
Southwest	4.0	4.3	5.8	7.4	10.0	10.3	9.2	7.5	5.9	5.2	4.1	3.8	6.5	48
West Southwest	3.6	4.5	6.5	7.1	10.5	9.2	7.2	6.9	5.1	4.7	3.8	3.4	6.1	48
West	4.8	5.4	7.4	8.6	9.5	8.2	8.1	8.3	6.8	5.9	4.5	4.3	6.8	48
West Northwest	10.1	11.8	14.7	17.3	16.9	18.1	20.4	21.3	18.3	14.7	11.9	9.6	15.5	48
Northwest	10.4	11.4	10.9	11.6	10.9	12.6	14.5	15.3	17.0	14.0	11.5	10.8	12.6	48
North Northwest	6.6	6.8	5.6	5.5	4.5	5.7	7.0	7.1	8.9	7.8	7.2	7.4	6.7	48
Calm	12.0	10.0	6.7	4.5	2.3	1.8	1.4	1.6	3.5	7.3	11.6	14.6	6.4	48
Direction (mean speed, knots)														
North	4.2	4.3	4.5	4.5	4.5	4.9	4.7	4.6	4.5	4.3	4.1	4.2	4.4	48
North Northeast	4.5	4.6	4.6	4.5	4.6	4.5	4.7	4.5	4.5	4.4	4.2	4.5	4.5	48
Northeast	4.6	4.2	4.3	4.3	4.3	4.1	4.2	4.1	4.3	4.2	4.3	4.7	4.3	48
East Northeast	4.4	4.5	4.4	4.1	4.3	4.1	3.9	3.7	4.0	4.2	4.3	4.6	4.3	48
East	4.1	4.1	4.0	4.1	3.7	3.4	3.1	3.7	3.8	3.8	3.9	4.3	4.0	48
East Southeast	5.2	5.3	5.3	5.4	5.1	4.5	4.1	4.5	4.8	5.4	5.1	5.0	5.1	48
Southeast	6.1	6.4	6.5	6.3	5.9	5.4	4.8	5.6	5.2	5.4	5.7	5.8	6.0	48
South Southeast	7.9	8.3	8.7	7.9	6.9	7.1	6.6	6.7	7.1	6.4	6.9	7.0	7.4	48
South	7.1	8.0	8.0	7.4	7.0	6.9	6.3	6.5	6.6	6.1	6.5	6.2	6.9	48
South Southwest	6.6	6.8	7.7	7.7	7.3	7.4	6.7	6.6	6.4	6.6	6.5	6.1	6.9	48
Southwest	6.2	7.1	7.6	7.6	7.6	7.4	6.9	7.0	6.8	7.0	6.4	5.9	7.1	48
West Southwest	6.5	6.9	7.9	7.9	7.7	7.1	6.6	6.7	6.8	7.0	6.4	5.8	7.1	48
West	6.3	6.9	8.1	7.9	7.6	6.9	6.8	6.7	6.7	7.0	6.2	6.3	7.1	48
West Northwest	7.6	7.9	8.8	8.7	8.1	8.0	7.8	8.0	8.0	7.9	7.7	7.5	8.0	48
Northwest	7.0	7.6	8.0	8.2	8.0	7.5	7.3	7.2	7.3	7.4	7.3	7.0	7.5	48
North Northwest	5.3	5.7	5.8	6.1	6.0	5.8	5.6	5.4	5.7	5.5	5.3	5.4	5.6	48
VISIBILITY														
Mean number of days with fog	11	9	8	6	6	7	6	7	9	11	11	11	102	48

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

LOS ANGELES, CA (33°56'N, 118°23'W) 100 feet (30.5 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1018.5	1017.8	1016.4	1015.5	1014.3	1013.1	1013.3	1013.1	1012.4	1014.5	1017.0	1018.2	1015.3	44
TEMPERATURE (°F)														
Mean	56.2	57.5	58.1	60.6	62.8	66.0	69.3	70.4	69.7	66.6	61.7	57.3	63.0	49
Mean daily maximum	64.8	65.6	65.4	67.6	69.1	72.0	75.3	76.5	76.3	74.1	70.6	66.2	70.3	49
Mean daily minimum	47.1	48.9	50.3	53.0	56.1	59.5	62.7	63.8	62.6	58.7	52.4	47.9	55.3	49
Extreme (highest)	88	92	95	102	97	104	97	98	110	106	101	94	110	49
Extreme (lowest)	27	34	37	43	45	48	52	51	47	43	38	32	27	49
RELATIVE HUMIDITY														
Average percentage	59.8	52.6	39.1	29.9	17.8	5.6	8.3	6.2	-1.1	20.5	45.3	57.2	28.3	44
CLOUD COVER														
Percent of time clear	33.9	33.2	31.5	34.4	31.3	34.2	36.9	38.4	38.3	35.5	39.1	37.6	35.4	44
Percent of time scattered	19.3	18.5	21.0	20.0	17.8	16.4	20.9	21.1	19.2	20.5	20.7	20.0	19.6	44
Percent of time broken	16.1	16.2	16.6	15.7	13.9	11.9	14.2	13.8	13.0	14.5	15.7	15.4	14.7	44
Percent of time overcast	30.7	32.1	30.9	29.9	36.9	37.5	28.0	26.8	29.5	29.5	24.6	27.0	30.3	44
PRECIPITATION (inches)														
Mean amount	2.8	2.4	1.9	0.7	0.1	0.0	0.0	0.1	0.2	0.2	1.3	1.6	11.8	49
Greatest amount	12.7	11.0	6.3	4.5	2.5	0.7	0.3	2.4	1.9	1.7	7.4	5.7	29.4	49
Least amount	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	49
Maximum amount (24 hours)	4.5	3.9	3.1	1.2	1.6	0.7	0.2	2.1	1.6	1.7	5.6	2.8	5.6	49
Mean number of days	8	7	8	6	5	4	2	2	3	4	5	6	60	49
SNOW														
Mean amount	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	49
Greatest amount	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	49
Least amount	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49
Maximum amount (24 hours)	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	49
Mean number of days	Miss	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Miss	49
WIND														
Percentage with gales	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	44
Mean wind speed (knots)	5.8	6.5	7.0	7.4	7.2	6.9	6.7	6.6	6.3	6.0	5.8	5.7	6.5	44
Direction (percentage of observations)														
North	4.7	4.0	3.0	2.1	1.3	0.7	1.1	1.3	1.3	2.5	4.5	5.0	2.6	44
North Northeast	5.5	3.6	2.5	1.3	0.8	0.6	0.6	0.7	1.2	2.0	4.4	5.7	2.4	44
Northeast	7.9	5.6	4.0	2.3	1.4	1.1	0.7	1.0	1.7	3.2	6.3	8.3	3.6	44
East Northeast	9.6	7.3	6.2	4.8	3.2	2.0	1.5	1.6	2.6	5.2	8.4	9.3	5.1	44
East	11.5	10.5	8.8	7.5	5.8	4.2	3.3	3.7	5.3	8.0	10.5	11.1	7.5	44
East Southeast	8.0	7.8	6.2	5.9	4.3	4.0	3.2	3.1	4.5	6.2	7.6	8.2	5.7	44
Southeast	4.1	4.8	4.3	4.0	3.7	4.1	3.3	3.3	3.9	4.1	3.8	3.8	3.9	44
South Southeast	2.2	2.4	2.4	2.3	2.3	2.5	2.2	2.0	2.5	2.2	2.2	2.0	2.3	44
South	2.0	2.5	2.2	2.7	2.4	2.7	2.9	2.5	3.2	2.3	2.0	1.6	2.4	44
South Southwest	1.8	2.0	2.2	2.0	2.2	2.2	2.0	2.3	2.3	1.8	1.6	1.5	2.0	44
Southwest	3.9	5.2	6.3	7.4	9.2	9.8	8.3	8.5	7.4	6.5	4.3	3.3	6.7	44
West Southwest	12.2	15.7	21.6	26.6	31.7	33.9	34.8	33.7	29.4	23.4	14.9	11.3	24.1	44
West	11.0	13.4	16.7	19.3	21.3	20.9	23.3	22.7	20.5	17.5	13.4	10.9	17.6	44
West Northwest	3.1	3.1	3.7	3.6	3.5	3.6	3.8	3.7	3.2	3.7	3.0	3.0	3.4	44
Northwest	2.3	2.0	1.7	1.7	1.2	1.3	2.0	1.9	1.7	1.6	2.0	2.7	1.8	44
North Northwest	3.0	3.0	2.4	2.0	0.9	0.9	1.2	1.4	1.3	1.8	3.0	4.0	2.1	44
Calm	7.4	7.1	6.0	4.7	5.0	5.7	5.9	6.7	8.0	8.3	8.1	8.4	6.8	44
Direction (mean speed, knots)														
North	6.3	6.9	6.3	5.9	4.2	3.1	3.3	3.6	3.5	4.8	5.8	6.5	5.7	44
North Northeast	5.5	6.1	5.1	4.7	4.7	3.9	3.6	4.2	4.3	5.0	5.3	5.8	5.3	44
Northeast	5.4	5.5	5.2	5.2	4.5	4.3	3.9	3.7	4.3	4.9	5.2	5.4	5.2	44
East Northeast	5.4	5.2	5.0	5.1	4.7	4.4	4.3	4.5	4.4	4.7	5.0	5.2	5.0	44
East	5.4	5.4	5.3	5.0	4.8	4.6	4.5	4.4	4.6	4.5	5.0	5.1	5.0	44
East Southeast	5.3	5.7	5.4	5.2	5.1	5.0	4.7	4.9	4.9	4.5	5.1	5.1	5.1	44
Southeast	5.8	5.9	6.0	5.5	5.4	5.2	5.1	4.9	4.9	4.8	5.2	5.3	5.4	44
South Southeast	5.3	5.8	5.7	5.6	5.0	4.9	4.8	4.6	4.5	4.3	5.0	5.2	5.1	44
South	5.4	5.9	5.1	5.1	4.5	4.4	4.3	4.2	4.3	4.2	4.6	5.0	4.7	44
South Southwest	7.1	8.4	7.0	6.6	5.9	5.3	4.8	5.0	5.2	5.2	6.4	6.1	6.0	44
Southwest	6.9	7.4	7.9	7.6	7.6	7.2	6.9	6.6	6.8	6.6	6.7	6.4	7.1	44
West Southwest	7.6	8.3	9.2	9.2	8.9	8.6	8.4	8.4	8.4	8.1	7.7	7.4	8.5	44
West	8.1	8.9	9.8	9.9	9.1	8.6	8.3	8.4	8.3	8.4	8.2	7.8	8.7	44
West Northwest	7.1	7.5	8.3	8.3	7.4	6.6	5.9	6.0	6.3	6.5	7.4	6.9	7.0	44
Northwest	7.1	7.8	6.9	6.6	5.4	4.7	4.5	4.4	4.8	5.1	7.0	7.3	6.1	44
North Northwest	7.3	10.0	8.7	9.5	5.9	4.4	4.1	4.0	4.3	6.3	7.9	8.5	7.5	44
VISIBILITY														
Mean number of days with fog	11	10	8	7	6	6	7	8	9	11	11	11	105	49

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

SAN FRANCISCO, CA (37°37'N, 122°23'W) 8 feet (2.4 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1020.1	1019.3	1018.0	1017.5	1016.1	1014.5	1014.7	1014.7	1014.1	1016.6	1019.0	1020.3	1017.1	43
TEMPERATURE (°F)														
Mean	48.9	51.9	53.5	55.7	58.3	61.4	62.7	63.4	64.1	61.1	55.0	49.7	57.2	50
Mean daily maximum	55.6	59.1	60.8	63.7	66.4	69.9	71.3	71.9	73.3	70.2	62.9	56.2	65.2	50
Mean daily minimum	41.6	44.3	45.7	47.2	49.7	52.4	53.7	54.5	54.3	51.5	46.7	42.6	48.7	50
Extreme (highest)	72	77	85	92	97	106	105	100	103	99	85	75	106	50
Extreme (lowest)	26	30	31	36	39	43	44	45	41	37	31	24	24	50
RELATIVE HUMIDITY														
Average percentage	75.6	67.7	55.4	49.8	36.0	20.2	21.7	22.3	15.5	40.8	64.8	77.8	45.6	43
CLOUD COVER														
Percent of time clear	25.7	28.8	26.6	31.5	36.8	43.1	49.8	44.8	50.3	43.8	32.6	27.6	36.8	43
Percent of time scattered	16.3	16.2	19.0	20.4	20.6	20.1	19.6	20.6	17.7	18.4	18.0	16.6	18.6	43
Percent of time broken	17.1	18.2	21.0	20.2	18.1	14.3	13.7	15.1	14.1	16.1	18.8	17.0	17.0	43
Percent of time overcast	40.8	36.8	33.3	27.9	24.6	22.5	16.9	19.5	17.9	21.7	30.5	38.8	27.6	43
PRECIPITATION (inches)														
Mean amount	4.2	3.1	3.0	1.2	0.3	0.1	0.0	0.0	0.2	1.0	2.3	3.4	19.2	50
Greatest amount	11.2	9.5	9.0	6.3	3.8	0.8	0.3	0.6	2.3	7.3	7.9	12.3	38.3	50
Least amount	0.2	T	0.0	T	T	T	0.0	T	T	T	T	0.0	8.6	50
Maximum amount (24 hours)	5.5	2.2	1.9	2.3	1.5	0.8	0.3	0.3	2.2	2.6	2.3	3.1	5.5	50
Mean number of days	14	12	15	11	9	7	6	8	6	8	11	13	120	50
SNOW														
Mean amount	0.0	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	50
Greatest amount	1.5	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	1.5	50
Least amount	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50
Maximum amount (24 hours)	1.5	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	1.5	50
Mean number of days	Miss	Miss	Miss	0	0	0	0	0	0	0	0	Miss	Miss	50
WIND														
Percentage with gales	0.08	0.06	0.04	0.04	0.08	0.04	0.03	0.00	0.00	0.02	0.04	0.12	0.09	43
Mean wind speed (knots)	6.7	7.7	9.4	10.8	11.8	12.0	11.7	11.0	9.8	8.3	6.9	6.8	9.4	43
Direction (percentage of observations)														
North	4.3	3.3	2.5	1.5	0.8	1.0	1.0	0.9	1.3	2.2	3.5	4.7	2.2	43
North Northeast	5.6	3.8	2.3	1.3	1.0	1.2	1.2	1.1	1.9	2.7	3.2	5.0	2.5	43
Northeast	6.0	4.2	2.7	1.8	1.6	1.7	1.8	1.7	2.6	3.7	4.7	5.7	3.2	43
East Northeast	5.8	4.1	2.4	1.8	1.5	1.1	1.1	1.3	1.9	2.7	4.1	6.4	2.8	43
East	5.4	4.1	2.4	1.1	0.7	0.5	0.3	0.4	1.0	1.9	3.6	5.8	2.3	43
East Southeast	6.5	4.5	2.2	0.9	0.5	0.3	0.2	0.2	0.4	1.5	4.4	6.4	2.3	43
Southeast	9.4	6.6	4.2	2.0	0.7	0.5	0.2	0.3	0.7	2.2	6.6	8.9	3.5	43
South Southeast	6.8	5.2	3.9	2.2	1.1	0.5	0.2	0.5	1.0	2.6	5.4	6.9	3.0	43
South	7.2	6.2	5.5	3.7	2.4	1.4	0.8	1.2	2.3	4.2	6.5	7.4	4.1	43
South Southwest	5.1	5.4	4.7	3.8	2.9	2.4	1.0	1.5	2.3	3.6	5.0	4.5	3.5	43
Southwest	4.1	4.6	5.4	4.7	4.3	2.8	2.2	2.2	3.6	3.9	4.5	3.9	3.8	43
West Southwest	3.8	5.1	6.2	7.3	8.9	8.8	6.3	6.5	6.4	5.1	4.1	3.4	6.0	43
West	5.5	8.8	14.5	20.0	24.7	26.5	18.3	19.2	16.2	12.8	7.1	4.9	14.9	43
West Northwest	8.9	17.3	26.4	33.5	33.6	33.3	33.5	32.1	32.5	28.6	17.6	9.5	25.6	43
Northwest	3.7	6.5	7.9	9.9	12.0	15.0	26.7	25.3	20.2	13.3	7.5	4.4	12.7	43
North Northwest	1.5	2.0	1.8	1.2	1.0	1.5	3.1	3.1	2.5	1.8	1.7	1.7	1.9	43
Calm	10.9	8.2	5.0	3.5	2.8	2.1	2.7	3.0	3.8	7.5	10.6	10.6	5.9	43
Direction (mean speed, knots)														
North	7.6	8.1	8.3	8.2	6.2	5.5	6.4	6.5	6.7	8.9	7.3	8.5	7.8	43
North Northeast	6.4	6.7	7.8	7.1	6.8	7.0	6.7	6.8	6.3	6.6	6.5	7.0	6.8	43
Northeast	6.2	6.0	6.1	5.9	6.3	6.8	7.1	6.8	6.1	5.7	6.0	6.4	6.2	43
East Northeast	6.1	6.0	5.6	5.7	5.9	5.8	6.0	5.9	5.6	5.3	6.0	6.6	6.0	43
East	6.0	5.5	5.9	5.5	5.1	4.9	5.2	5.3	5.4	5.4	5.6	5.8	5.7	43
East Southeast	6.3	6.4	7.4	7.6	5.3	4.5	4.1	6.0	5.9	6.1	6.4	6.2	6.4	43
Southeast	7.6	8.0	8.9	9.1	6.5	5.7	5.8	5.8	5.9	7.1	7.2	7.5	7.6	43
South Southeast	7.1	7.1	7.8	8.3	7.1	7.4	5.8	5.7	5.6	6.8	6.7	6.8	7.1	43
South	8.0	8.4	8.7	8.6	7.0	6.2	5.9	5.3	5.6	6.9	6.7	7.4	7.5	43
South Southwest	8.8	9.8	9.0	9.1	10.0	8.9	8.3	7.6	7.4	6.7	7.0	8.2	8.5	43
Southwest	8.4	8.3	8.1	9.1	10.1	10.1	9.3	8.3	7.9	6.8	7.3	8.2	8.4	43
West Southwest	8.0	7.8	8.5	9.2	10.2	10.6	10.3	9.7	8.4	7.3	7.1	8.2	9.1	43
West	8.3	9.9	11.2	12.7	13.9	13.8	13.0	12.3	11.3	10.0	8.5	8.3	12.0	43
West Northwest	9.3	10.7	12.4	13.1	13.8	13.5	12.7	12.0	11.4	10.8	9.9	9.4	12.0	43
Northwest	8.2	9.4	10.5	11.4	11.9	12.3	12.8	12.4	11.5	10.3	8.9	9.0	11.4	43
North Northwest	7.1	7.7	8.1	8.0	8.0	8.7	10.0	9.9	9.2	8.3	7.0	8.5	8.6	43
VISIBILITY														
Mean number of days with fog	17	12	7	4	4	3	4	4	6	9	12	17	99	50

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

SACRAMENTO, CA (38°31'N, 121°30'W) 18 feet (5.5 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1020.7	1019.1	1017.2	1015.9	1014.0	1012.0	1011.8	1012.2	1012.2	1015.3	1019.0	1020.7	1015.8	47
TEMPERATURE (°F)														
Mean	45.7	50.7	53.8	58.8	65.2	71.5	75.6	74.8	71.8	64.4	53.4	45.8	61.0	48
Mean daily maximum	53.0	59.8	64.1	71.4	79.8	87.3	92.9	91.5	87.5	77.9	63.6	53.2	73.6	48
Mean daily minimum	37.8	41.0	43.0	45.8	50.2	55.1	57.9	57.6	55.7	50.3	42.7	37.9	48.0	48
Extreme (highest)	70	76	88	93	105	115	114	109	108	101	87	72	115	48
Extreme (lowest)	20	23	26	32	34	41	48	48	43	35	26	18	18	48
RELATIVE HUMIDITY														
Average percentage	82.2	66.1	47.0	34.1	14.6	-5.4	-6.7	-2.5	-3.4	28.3	65.2	82.5	33.3	48
CLOUD COVER														
Percent of time clear	22.8	31.4	34.1	39.2	46.9	63.3	78.5	76.3	71.1	55.2	38	22.3	48.5	47
Percent of time scattered	12.9	16.4	18.6	19.8	21.5	19.0	13.1	13.7	15.2	18.5	17.6	14.1	16.7	47
Percent of time broken	12.4	16.3	17.4	18.7	17.5	11.4	6.3	7.4	8.7	12.3	14.4	12.4	12.8	47
Percent of time overcast	51.9	35.9	29.9	22.3	14.1	6.3	2.1	2.5	5.0	13.9	29.9	51.2	22.0	47
PRECIPITATION (inches)														
Mean amount	3.7	2.8	2.5	1.2	0.4	0.1	0.0	0.0	0.3	0.9	2.2	2.8	17.3	48
Greatest amount	9.6	8.7	8.1	4.2	3.1	1.2	0.7	0.6	2.7	7.5	7.4	12.6	33.4	48
Least amount	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	5.5	48
Maximum amount (24 hours)	3.0	2.6	1.8	2.1	1.5	1.1	0.7	0.6	1.7	3.7	2.4	2.8	3.7	48
Mean number of days	13	11	11	7	4	2	1	1	2	5	9	12	78	49
SNOW														
Mean amount	T	0.0	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	48
Greatest amount	T	2.0	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	2.0	48
Least amount	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48
Maximum amount (24 hours)	T	2.0	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	2.0	48
Mean number of days	Miss	Miss	0	0	0	0	0	0	0	0	0	Miss	Miss	49
WIND														
Percentage with gales	0.15	0.05	0.05	0.01	0.01	0.00	0.00	0.01	0.02	0.02	0.03	0.09	0.04	48
Mean wind speed (knots)	6.2	6.5	7.4	7.5	7.9	8.4	7.8	7.4	6.4	5.6	5.3	5.8	6.8	48
Direction (percentage of observations)														
North	5.9	5.1	3.7	3.0	2.8	2.0	0.9	1.2	3.2	5.3	5.8	5.8	3.7	48
North Northeast	1.8	1.6	1.3	0.7	0.6	0.4	0.4	0.3	0.8	1.4	1.6	2.1	1.1	48
Northeast	1.8	1.7	1.1	0.8	0.6	0.4	0.2	0.2	0.6	1.3	1.7	1.7	1.0	48
East Northeast	1.4	1.4	0.8	0.7	0.4	0.3	0.1	0.1	0.6	0.8	1.2	1.6	0.8	48
East	3.5	3.2	2.3	1.8	1.0	0.6	0.4	0.4	1.0	2.0	2.9	3.5	1.9	48
East Southeast	5.7	5.2	4.6	3.5	2.1	1.7	1.5	1.7	2.3	3.8	4.6	5.3	3.5	48
Southeast	13.5	11.1	10.0	7.9	6.1	5.0	5.7	6.5	7.1	7.2	9.4	11.5	8.4	48
South Southeast	11.6	10.2	9.2	7.1	6.4	7.8	10.0	9.9	8.0	6.3	8.0	10.9	8.8	48
South	7.0	8.3	9.6	10.2	12.3	14.6	18.3	17.5	12.1	8.3	6.1	6.3	10.9	48
South Southwest	3.4	5.3	9.5	12.6	17.7	21.2	25.0	23.2	15.7	8.4	4.0	2.9	12.5	48
Southwest	2.8	4.8	10.8	16.1	20.5	21.9	21.3	19.7	15.6	9.2	3.8	2.7	12.5	48
West Southwest	1.6	2.2	3.8	4.9	4.8	4.2	4.5	5.0	4.6	3.5	2.1	1.4	3.5	48
West	2.0	2.9	2.9	3.0	2.8	2.5	2.3	2.7	2.8	2.5	2.0	2.1	2.5	48
West Northwest	3.0	3.6	3.8	3.6	3.2	2.8	2.2	2.2	3.1	3.0	3.3	2.8	3.0	48
Northwest	7.4	8.4	8.2	7.9	6.7	5.4	2.5	2.6	5.0	7.7	9.0	8.2	6.6	48
North Northwest	10.1	9.9	9.0	8.8	6.6	5.4	1.7	1.9	6.6	10.2	11.6	11.0	7.7	48
Calm	17.9	15.3	10.0	8.0	6.0	4.5	3.7	5.4	11.3	19.3	23.1	20.3	12.1	48
Direction (mean speed, knots)														
North	6.9	7.1	8.2	7.8	8.0	7.3	5.6	5.4	6.7	6.8	6.8	6.6	7.0	48
North Northeast	5.4	5.5	6.1	6.6	6.0	6.9	4.5	5.2	5.1	5.6	5.5	5.6	5.6	48
Northeast	4.6	4.5	4.4	4.9	5.0	5.4	4.2	4.2	4.4	4.5	4.3	4.3	4.5	48
East Northeast	4.3	4.7	5.2	4.9	4.8	4.9	5.3	4.3	4.4	4.4	4.3	4.5	4.6	48
East	4.4	4.4	4.7	4.7	4.0	4.6	3.8	3.8	4.4	4.2	4.4	4.4	4.4	48
East Southeast	5.7	5.7	5.7	5.4	5.1	5.2	4.6	4.9	4.8	4.7	5.0	5.6	5.3	48
Southeast	8.4	8.1	7.8	6.6	5.9	5.8	5.8	5.7	5.7	5.8	7.2	7.9	7.0	48
South Southeast	10.1	9.6	8.8	7.5	6.5	6.4	6.3	6.5	6.1	6.7	8.3	9.9	7.9	48
South	7.4	7.2	7.4	7.1	7.4	8.0	7.5	7.4	6.6	6.2	6.4	6.8	7.2	48
South Southwest	7.8	8.2	8.6	9.1	9.6	10.1	9.4	9.1	8.5	7.9	7.7	7.2	9.0	48
Southwest	7.4	8.5	9.3	9.3	10.0	10.5	9.8	9.4	9.0	8.4	7.4	7.0	9.4	48
West Southwest	6.0	6.4	7.2	7.6	7.9	8.0	7.3	6.9	6.5	6.4	5.3	5.7	7.0	48
West	5.0	4.5	5.8	5.8	5.7	5.9	5.6	5.6	5.1	4.6	4.4	4.4	5.2	48
West Northwest	5.6	6.1	7.0	7.5	7.0	7.0	6.2	6.1	5.5	5.6	5.6	5.5	6.3	48
Northwest	7.3	8.3	9.6	9.6	9.0	8.8	6.8	6.7	7.2	7.3	7.3	7.3	8.1	48
North Northwest	8.7	9.8	10.5	10.6	9.8	9.6	7.0	6.8	8.4	9.1	8.3	8.7	9.2	48
VISIBILITY														
Mean number of days with fog	22	14	8	3	1	Miss	Miss	1	2	7	16	22	96	49

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

EUREKA, CA (40°48'N, 124°07'W) 59 feet (18 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
TEMPERATURE (°F)														
Mean	48.0	49.3	49.4	50.6	53.2	55.7	57.0	58.0	57.4	55.0	51.8	48.7	52.9	47
Mean daily maximum	54.1	55.3	55.2	56.0	58.1	60.2	61.4	62.4	62.8	60.9	58	54.9	58.3	47
Mean daily minimum	41.4	42.8	43.2	44.7	47.8	50.6	52.2	53.1	51.6	48.6	45.1	42.1	46.9	47
Extreme (highest)	78	80	76	80	82	81	76	82	86	87	78	77	87	47
Extreme (lowest)	26	27	30	34	36	41	46	47	42	32	29	21	21	47
PRECIPITATION (inches)														
Mean amount	6.6	5.0	5.3	2.8	1.6	0.6	0.1	0.3	0.7	2.7	5.6	6.4	38.1	47
Greatest amount	13.9	10.8	11.1	10.6	6.0	2.5	1.1	3.4	3.3	13.0	16.5	14.1	67.2	47
Least amount	0.6	0.1	1.1	0.3	0.0	T	0.0	T	T	0.0	0.2	0.5	21.0	47
Maximum amount (24 hours)	3.7	4.8	2.9	2.3	1.4	1.1	0.8	1.5	1.4	5.0	2.7	3.3	5.0	47
Mean number of days	17	16	19	14	12	9	7	7	8	12	15	16	152	32
SNOW														
Mean amount	0.1	0.1	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	47
Greatest amount	2.8	3.5	1.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.9	3.5	47
Least amount	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47
Maximum amount (24 hours)	1.5	2.0	0.9	T	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.9	2.0	47
Mean number of days	1	1	Miss	Miss	0	0	0	0	0	0	0	Miss	2	32
VISIBILITY														
Mean number of days with fog	13	11	10	12	13	16	22	23	21	21	15	15	192	32

SEATTLE (PORTAGE BAY), WA (47°39'N, 122°18'W) 20 feet (6.1 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
TEMPERATURE (°F)														
Mean	41.1	43.7	46.5	51.0	56.5	61.1	65.2	65.0	60.7	53.8	46.8	42.7	52.9	92
Mean daily maximum	45.3	48.9	52.7	58.3	64.3	69.0	74.1	73.5	68.1	59.6	51.4	46.7	59.4	92
Mean daily minimum	36.4	38.0	39.8	43.2	48.3	52.7	55.8	56.1	52.8	47.5	41.7	38.2	45.9	92
Extreme (highest)	67	70	76	87	92	100	100	97	92	82	73	65	100	92
Extreme (lowest)	0	1	22	30	35	40	44	46	36	19	0	9	0	92
PRECIPITATION (inches)														
Mean amount	5.0	3.7	3.2	2.1	1.6	1.4	0.6	0.8	1.6	2.9	5.1	5.3	33.9	92
Greatest amount	10.9	8.1	7.2	5.2	4.6	3.7	2.1	5.4	5.6	8.0	11.2	15.3	48.1	92
Least amount	0.6	0.3	0.4	0.1	0.3	0.0	0.0	T	0.0	0.1	0.5	1.0	19.5	92
Maximum amount (24 hours)	4.2	2.2	2.5	2.0	1.1	1.4	0.9	1.5	1.7	2.5	2.6	3.4	4.2	92
Mean number of days	28	25	27	24	23	23	17	19	20	25	26	28	285	25
SNOW														
Mean amount	4.0	1.9	0.6	0.1	0.0	0.0	0.0	0.0	0.0	T	0.6	1.4	8.5	92
Greatest amount	31.0	35.4	8.6	2.4	0.0	0.0	0.0	0.0	0.0	T	9.6	13.5	63.6	92
Least amount	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92
Maximum amount (24 hours)	11.5	21.5	5.5	1.5	0.0	0.0	0.0	0.0	0.0	T	6.0	10.0	21.5	92
Mean number of days	7	4	3	1	0	0	0	0	0	Miss	1	3	19	25
VISIBILITY														
Mean number of days with fog	3	2	1	1	1	1	1	3	4	3	3	3	26	25

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

PORTLAND, OR (45°36'N, 122°36'W) 21 feet (6.4 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1019.4	1018.2	1016.9	1018.0	1017.5	1017.3	1017.5	1016.7	1016.6	1018.1	1018.8	1019.4	1017.9	47
TEMPERATURE (°F)														
Mean	39.5	43.3	47.5	52.0	57.9	63.4	68.3	68.4	63.6	55.1	46.2	41.4	53.9	62
Mean daily maximum	44.7	50.0	55.6	61.2	67.7	73.2	79.5	79.5	74.5	64.0	52.4	46.3	62.5	62
Mean daily minimum	33.8	36.1	38.9	42.3	47.6	53.0	56.6	56.7	52.3	45.7	39.5	36.0	44.9	62
Extreme (highest)	65	71	83	90	100	102	107	107	105	92	73	65	107	62
Extreme (lowest)	-2	-3	19	29	29	39	43	44	34	26	13	6	-3	62
RELATIVE HUMIDITY														
Average percentage	69.2	56.9	43.5	55.1	50.5	48.1	49.5	42.3	40.6	55.7	62.8	68.6	53.7	47
CLOUD COVER														
Percent of time clear	11.6	11.3	10.2	12.1	14.0	19.0	37.8	33.4	33.9	18.9	10.4	7.9	18.4	47
Percent of time scattered	8.6	10.5	12.2	13.8	15.9	17.1	17.2	19.1	17.6	15.4	10.4	9.1	13.9	47
Percent of time broken	12.9	15.8	19.2	21.0	22.9	21.5	16.3	16.5	16.8	18.1	15.9	14.4	17.6	47
Percent of time overcast	66.8	62.4	58.4	53.2	47.2	42.3	28.8	31.0	31.7	47.5	63.3	68.5	50.2	47
PRECIPITATION (inches)														
Mean amount	5.3	4.0	3.7	2.4	2.0	1.5	0.5	0.8	1.6	3.0	5.3	6.5	37.3	62
Greatest amount	12.8	11.4	8.1	6.2	4.3	4.0	2.6	4.5	4.3	8.4	14.4	17.4	55.4	62
Least amount	0.0	0.6	1.1	0.5	0.1	0.0	0.0	T	T	0.1	0.3	1.3	22.4	62
Maximum amount (24 hours)	2.4	1.8	2.0	1.8	1.4	1.9	1.0	1.4	2.2	2.4	2.4	3.9	2.4	62
Mean number of days	22	19	21	19	16	13	7	8	11	16	21	23	196	48
SNOW														
Mean amount	3.3	1.3	0.5	T	T	0.0	0.0	0.0	0.0	0.0	0.5	1.5	7.0	48
Greatest amount	41.4	13.2	12.9	T	T	0.0	0.0	0.0	0.0	0.0	8.2	15.7	44.3	48
Least amount	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	48
Maximum amount (24 hours)	9.3	6.1	7.6	T	T	0.0	0.0	0.0	0.0	0.0	7.0	8.0	9.3	48
Mean number of days	6	3	2	1	Miss	0	0	0	0	0	1	4	17	48
WIND														
Percentage with gales	0.04	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.09	47
Mean wind speed (knots)	8.6	8.0	7.2	6.4	6.2	6.2	6.6	6.1	5.7	5.7	7.5	8.4	6.9	47
Direction (percentage of observations)														
North	1.3	1.6	2.6	3.8	5.7	8.2	9.6	8.2	5.3	2.9	1.5	1.5	4.4	47
North Northeast	0.8	0.8	1.1	1.2	2.0	2.2	2.7	2.4	2.1	1.3	0.8	0.9	1.5	47
Northeast	1.0	1.0	1.1	2.0	1.8	1.8	1.7	1.8	1.5	1.3	1.0	0.9	1.4	47
East Northeast	2.1	2.1	2.4	2.3	2.2	1.8	1.6	1.5	2.0	1.5	1.3	1.5	1.8	47
East	8.3	7.5	6.1	4.8	3.7	2.4	1.7	1.8	3.8	4.2	5.1	6.8	4.7	47
East Southeast	25.4	22.7	15.0	8.5	4.8	3.4	1.8	2.5	6.2	12.5	20.6	24.8	12.3	47
Southeast	13.7	12.0	7.6	4.4	3.0	1.8	1.1	2.3	4.4	8.6	12.8	14.3	7.1	47
South Southeast	3.8	3.5	3.6	3.1	2.3	1.9	1.4	1.8	2.9	4.1	4.8	3.9	3.1	47
South	8.1	7.6	8.5	7.9	5.8	5.1	2.7	3.8	5.0	7.1	9.0	7.8	6.5	47
South Southwest	8.6	9.3	9.6	7.9	5.6	4.9	2.1	2.8	4.6	6.2	8.8	9.0	6.6	47
Southwest	4.2	4.4	5.1	5.2	4.2	3.0	1.6	2.1	3.4	3.9	4.5	4.5	3.8	47
West Southwest	2.6	2.5	4.0	4.6	3.9	2.9	2.3	2.1	3.7	3.6	3.1	2.7	3.2	47
West	2.8	3.5	4.8	5.7	5.7	5.2	4.5	4.8	6.4	5.8	4.1	3.0	4.7	47
West Northwest	3.7	4.8	7.2	9.6	12.0	11.6	12.3	12.4	11.8	8.2	5.0	3.5	8.5	47
Northwest	2.9	3.8	6.0	10.6	16.0	19.2	25.2	23.7	15.1	8.4	4.3	3.1	11.6	47
North Northwest	1.5	2.0	3.6	6.9	12.1	16.1	22.1	18.6	10.2	5.0	2.1	1.9	8.6	47
Calm	9.5	11.2	11.7	11.6	9.4	8.7	6	7.7	11.8	15.6	11.6	10.1	10.4	47
Direction (mean speed, knots)														
North	3.8	3.9	4.8	5.1	5.6	6.2	6.0	5.7	5.3	4.8	4.5	4.2	5.5	47
North Northeast	4.4	4.4	4.7	4.7	4.8	5.0	4.9	4.8	5.0	4.8	4.6	4.8	4.8	47
Northeast	4.7	4.7	4.9	4.6	4.8	4.7	4.8	4.7	5.6	4.6	4.5	5.0	4.8	47
East Northeast	9.3	6.9	6.2	5.8	5.6	5.3	5.6	5.8	8.1	6.5	6.7	7.3	6.6	47
East	11.6	9.9	8.2	7.0	5.6	4.9	5.3	5.1	8.6	8.0	10.4	11.1	8.9	47
East Southeast	10.6	9.9	8.6	7.3	6.4	5.7	5.8	5.9	6.7	8.0	10	10.8	9.3	47
Southeast	9.1	9.2	8.1	6.5	6.0	5.8	5.9	5.4	5.6	6.8	8.3	9.0	8.0	47
South Southeast	7.6	8.0	7.6	6.8	6.8	6.1	6.3	5.8	5.6	6.3	7.0	7.1	6.9	47
South	10.5	9.9	9.6	8.7	7.6	6.8	6.6	6.4	6.6	7.9	9.4	9.9	8.7	47
South Southwest	12.4	12.4	11.4	10.1	8.6	8.5	8.5	7.6	8.4	9.5	11.1	12.3	10.7	47
Southwest	10.2	10.6	10.0	9.0	8.2	7.9	7.3	7.2	6.8	7.3	9.0	9.9	8.9	47
West Southwest	7.4	7.6	7.8	7.4	7.1	7.1	6.3	5.9	5.6	5.2	6.4	6.8	6.7	47
West	4.9	5.7	6.2	6.3	6.1	6.0	5.6	5.5	5.0	4.7	5.1	5.3	5.5	47
West Northwest	5.5	6.0	6.6	6.8	6.8	7.0	7.1	6.7	6.3	5.6	5.8	5.6	6.5	47
Northwest	5.7	6.2	6.8	7.0	7.2	7.3	7.6	7.2	6.7	6.0	5.8	6.0	7.0	47
North Northwest	5.6	5.3	6.2	6.9	7.2	7.5	7.8	7.4	6.9	6.2	5.5	5.7	7.2	47
VISIBILITY														
Mean number of days with fog	15	12	9	7	5	4	3	5	12	18	17	16	123	48

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

ASTORIA, OR (46°09'N, 123°53'W) 8 feet (2.4 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1017.6	1017.5	1015.9	1018.0	1018.0	1018.1	1018.9	1018.0	1017.3	1017.7	1017.2	1018.1	1017.7	43
TEMPERATURE (°F)														
Mean	42.3	44.4	45.7	48.3	52.8	57.1	60.3	60.9	58.7	52.9	46.9	43.0	51.2	43
Mean daily maximum	47.9	51.0	53.0	55.8	60.4	64.1	67.6	68.7	67.7	61.2	53.4	48.6	58.3	43
Mean daily minimum	36.2	37.3	37.8	40.3	44.7	49.5	52.5	52.6	49.2	44.2	39.9	36.9	43.5	43
Extreme (highest)	67	72	73	83	87	93	100	96	95	85	71	64	100	43
Extreme (lowest)	11	9	22	29	30	37	39	39	33	26	15	6	6	43
RELATIVE HUMIDITY														
Average percentage	51.4	49.8	34.1	54.5	54.8	55.9	63.7	54.8	47.6	52.0	46.7	56.5	51.9	47
CLOUD COVER														
Percent of time clear	11.5	11.7	9.3	10.1	10.1	9.8	18.3	16.9	23.5	16.5	10.8	10.0	13.3	40
Percent of time scattered	10.2	11.0	12.9	14.1	15.8	15.9	16.3	18.2	18.9	17.0	12.6	12.6	14.6	40
Percent of time broken	13.1	14.6	17.5	19.0	20.9	18.2	15.5	15.8	16.1	15.6	16.1	15.2	16.4	40
Percent of time overcast	65.2	62.7	60.4	56.9	53.2	56.2	49.9	49.1	41.6	50.9	60.5	62.2	55.6	40
PRECIPITATION (inches)														
Mean amount	9.9	7.5	7.0	4.9	2.9	2.5	1.1	1.3	2.7	5.9	10.3	10.5	67.0	43
Greatest amount	18.9	21.8	13.4	9.4	6.6	5.4	4.3	5.2	6.9	12.5	17.4	16.5	87.3	43
Least amount	0.6	1.3	0.9	1.3	0.3	0.5	0.0	0.0	0.0	0.5	1.4	2.6	41.5	43
Maximum amount (24 hours)	4.5	2.8	2.5	2.7	1.7	2.0	1.7	1.6	2.4	3.5	3.6	3.5	4.5	43
Mean number of days	23	21	23	22	20	19	16	15	15	19	23	24	240	43
SNOW														
Mean amount	2.1	0.4	0.5	0.0	T	0.0	0.0	0.0	0.0	T	0.2	1.1	4.3	42
Greatest amount	26.3	4.0	6.7	1.1	T	0.0	0.0	0.0	0.0	T	4.6	19.0	27.3	42
Least amount	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42
Maximum amount (24 hours)	10.8	4.0	4.5	1.0	T	0.0	0.0	0.0	0.0	T	4.3	5.7	10.8	42
Mean number of days	4	2	2	1	Miss	0	0	0	0	Miss	1	3	13	43
WIND														
Percentage with gales	0.12	0.05	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.08	0.09	0.13	45
Mean wind speed (knots)	8.0	7.7	7.7	7.5	7.4	7.4	7.5	7.0	6.5	6.4	7.5	7.8	7.4	45
Direction (percentage of observations)														
North	1.3	1.9	2.2	2.1	2.4	2.2	2.3	2.3	2.5	2.1	1.2	1.0	1.9	45
North Northeast	1.6	1.5	1.7	1.3	1.0	0.8	0.4	0.8	2.0	1.8	1.4	1.1	1.3	45
Northeast	4.9	4.4	3.3	1.8	1.3	0.9	0.6	0.7	2.8	3.9	4.1	4.5	2.7	45
East Northeast	11.4	10.1	4.9	2.7	1.5	1.0	0.7	0.7	3.2	6.0	9.2	11.5	5.2	45
East	16.5	12.5	7.6	5.2	2.8	2.1	1.2	1.9	4.4	8.2	13.7	16.2	7.7	45
East Southeast	11.5	10.4	9.1	7.4	5.5	4.1	3.4	4.8	7.7	11.1	13.0	13.9	8.5	45
Southeast	7.1	7.3	9.6	8.4	6.6	5.7	4.7	6.5	9.3	11.1	9.6	8.5	7.9	45
South Southeast	4.0	4.7	5.5	5.0	3.9	3.8	3.0	3.7	5.2	5.7	5.8	4.5	4.5	45
South	7.8	8.6	8.6	6.6	5.5	5.1	4.3	5.4	6.4	7.7	8.4	7.5	6.8	45
South Southwest	7.7	8.0	8.0	7.4	6.3	6.6	5.4	6.7	7.6	7.8	7.4	6.5	7.1	45
Southwest	5.8	6.3	7.8	9.5	10.2	11.3	10.4	11.3	9.4	6.9	5.2	4.9	8.3	45
West Southwest	4.1	4.3	5.6	8.6	9.6	9.6	9.2	9.6	6.7	4.3	3.8	4.0	6.6	45
West	3.9	4.4	6.2	8.3	10.4	10.3	10.3	8.6	5.2	3.4	3.2	3.7	6.5	45
West Northwest	2.3	3.0	5.6	8.4	11.1	12.2	14.2	10.9	6.4	3.4	2.7	2.8	7.0	45
Northwest	1.4	2.6	5.1	8.0	12.0	13.9	18.3	14.5	8.8	4.5	1.8	1.2	7.7	45
North Northwest	0.9	1.5	2.5	3.3	4.2	5.9	7.4	5.5	4.1	2.4	0.8	0.7	3.3	45
Calm	7.7	8.6	6.9	6.3	6.3	5.5	5.4	6.8	8.8	10.2	8.3	7.8	7.4	45
Direction (mean speed, knots)														
North	4.5	4.9	5.5	6.1	6.1	6.7	6.7	6.1	5.7	5.5	5.0	5.2	5.8	45
North Northeast	6.1	6.1	6.9	6.9	6.7	6.0	7.6	6.2	7.4	7.0	6.5	6.2	6.7	45
Northeast	7.1	7.5	7.9	7.9	7.0	6.9	7.4	7.1	8.6	8.2	7.5	7.9	7.7	45
East Northeast	7.6	7.6	7.5	7.1	6.3	5.6	5.8	6.3	7.5	7.1	7.2	7.5	7.3	45
East	7.1	6.7	5.9	5.3	4.2	4.0	4.1	4.0	5.3	5.7	6.4	6.8	6.2	45
East Southeast	6.6	6.1	5.5	5.1	4.4	4.3	4.3	4.2	4.6	5.0	5.8	6.3	5.5	45
Southeast	5.8	5.9	5.5	5.0	4.7	4.4	4.3	4.4	4.5	4.8	5.6	6.1	5.1	45
South Southeast	8.4	8.2	7.5	6.5	5.7	5.4	5.2	5.1	5.5	6.9	8.2	8.4	6.9	45
South	13.1	12.4	10.9	9.3	7.2	6.7	6.3	6.4	7.5	9.4	12.1	12.9	10.0	45
South Southwest	14.0	12.9	11.7	10.2	8.8	8.0	7.4	7.6	8.7	10.2	13.2	13.7	10.7	45
Southwest	11.9	10.8	10.2	9.4	8.6	8.0	7.0	7.2	7.7	8.7	11.2	11.8	8.9	45
West Southwest	10.5	9.5	8.9	8.5	7.8	7.4	6.8	6.7	6.8	7.5	9.1	10.1	7.9	45
West	9.3	8.5	8.7	8.1	7.8	7.5	7.3	6.8	6.6	6.6	8.8	9.6	7.8	45
West Northwest	10.1	9.7	10.2	9.5	9.4	9.2	9.5	9.5	9.0	8.2	10.6	10.7	9.5	45
Northwest	8.6	8.7	9.9	10.7	10.6	10.5	10.5	10.3	9.8	8.7	9.9	10.3	10.2	45
North Northwest	6.1	7.0	7.9	8.6	9.0	9.6	9.3	9.1	8.5	7.5	7.9	7.5	8.7	45
VISIBILITY														
Mean number of days with fog	18	16	15	14	12	13	13	17	18	20	17	18	191	43

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

SEATTLE-TACOMA, WA (47°27'N, 122°18'W) 450 feet (137 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1017.5	1016.9	1016	1017.3	1017.3	1017.2	1017.9	1017	1017	1017.8	1017.3	1017.5	1017.2	48
TEMPERATURE (°F)														
Mean	39.7	42.9	45.3	49.4	55.6	60.7	65.0	64.9	60.5	52.6	45.2	40.9	51.9	48
Mean daily maximum	44.5	48.8	52.2	57.3	64.3	69.6	75.1	74.6	69.4	59.5	50.4	45.4	59.3	48
Mean daily minimum	34.5	36.6	37.9	41.0	46.3	51.3	54.4	54.7	51.2	45.3	39.5	35.8	44.1	48
Extreme (highest)	64	70	75	85	93	96	100	99	98	89	74	64	100	48
Extreme (lowest)	0	1	11	29	28	38	43	44	35	28	6	6	0	48
RELATIVE HUMIDITY														
Average percentage	49.7	44.5	35.3	47.7	48.3	46.8	53.6	45.2	44.6	53.2	48	49.6	47.2	48
CLOUD COVER														
Percent of time clear	9.5	10.6	11.2	11.1	12.9	15.5	31.5	28.4	27.7	15.0	8.9	7.9	15.9	48
Percent of time scattered	9.3	11.2	14.1	15.2	18.7	18.5	18.5	19.0	17.7	15.4	11.1	9.7	14.9	48
Percent of time broken	13.6	15.7	19.2	21.7	23.5	23	17.9	18.1	17.9	19.1	16.1	15.3	18.4	48
Percent of time overcast	67.6	62.4	55.5	52.0	44.9	43.0	32.1	34.6	36.7	50.4	63.9	67.1	50.8	48
PRECIPITATION (inches)														
Mean amount	5.6	4.1	3.7	2.5	1.6	1.4	0.7	1.1	1.8	3.4	5.9	5.8	38.0	48
Greatest amount	12.9	9.1	8.4	6.5	4.7	3.8	2.3	4.5	5.9	7.7	10.7	11.8	55.1	48
Least amount	0.5	0.3	0.5	0.3	0.1	0.1	T	0.0	T	0.3	0.7	1.3	23.7	48
Maximum amount (24 hours)	2.9	2.9	2.7	2.6	1.8	1.7	0.8	1.6	1.6	2.7	3.4	2.1	3.4	48
Mean number of days	23	19	21	19	16	14	10	11	12	17	22	23	207	48
SNOW														
Mean amount	4.9	1.7	1.3	0.1	T	0.0	0.0	0.0	0.0	0.0	0.9	2.6	11.6	48
Greatest amount	57.2	13.1	18.2	2.3	T	0.0	0.0	0.0	0.0	2.0	17.5	22.1	60.6	48
Least amount	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	48
Maximum amount (24 hours)	20.0	7.0	6.0	1.2	T	0.0	0.0	0.0	0.0	2.0	7.8	9.3	20.0	48
Mean number of days	7	4	3	1	Miss	0	0	0	0	Miss	2	5	22	48
WIND														
Percentage with gales	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.13	48
Mean wind speed (knots)	8.4	8.3	8.4	8.2	7.7	7.6	7.2	6.9	7.1	7.4	8.2	8.4	7.8	48
Direction (percentage of observations)														
North	6.4	7.2	7.5	6.7	8.3	9.2	9.9	10.2	12.8	9.8	6.7	6.0	8.4	48
North Northeast	7.6	7.8	7.2	6.6	7.9	8.3	10.3	9.0	10.9	9.1	6.9	7.4	8.3	48
Northeast	4.8	4.2	4.1	4.2	4.6	4.3	5.0	5.1	5.4	4.2	3.8	4.0	4.5	48
East Northeast	2.8	2.9	1.8	1.5	1.2	1.0	1.3	1.2	1.8	1.6	2.3	2.6	1.8	48
East	6.5	5.3	4.0	2.6	1.5	1.0	0.8	1.1	2.2	3.0	4.6	6.0	3.2	48
East Southeast	9.5	7.8	6.2	3.6	2.3	1.4	0.8	1.5	3.0	6.2	8.3	9.7	5.0	48
Southeast	9.3	7.9	6.9	5.8	3.6	2.7	1.9	2.9	5.4	8.6	11.0	10.8	6.4	48
South Southeast	7.2	7.5	6.7	5.7	4.6	3.5	2.8	3.7	4.7	7.1	8.6	8.5	5.9	48
South	14.1	13.7	12.7	12.4	10.6	10.1	8.1	9.7	10.4	13.3	16.1	15.5	12.2	48
South Southwest	13.7	13.7	15.1	15.9	14.9	15.2	13.1	12.5	11.0	11.5	12.4	13.1	13.5	48
Southwest	6.9	8.1	10.7	13.3	13.4	15.2	13.2	11.3	7.7	7.0	6.3	6.5	10.0	48
West Southwest	1.9	2.5	4.0	5.6	6.4	6.9	7.0	6.6	3.8	2.7	2.0	1.9	4.3	48
West	1.0	1.5	1.9	3.2	4.2	4.9	5.8	5.5	3.2	2.1	1.3	1.0	3.0	48
West Northwest	0.6	1.1	1.7	2.5	3.8	4.0	4.6	4.7	3.1	2.3	0.8	0.7	2.5	48
Northwest	0.8	1.2	2.0	2.5	3.4	3.4	4.1	3.8	2.6	2.1	1.0	0.6	2.3	48
North Northwest	1.7	2.7	3.7	3.9	5.6	5.2	7.2	6.2	6.1	3.8	2.2	1.5	4.1	48
Calm	5.5	5.5	4.3	4.4	4.2	3.9	4.3	5.0	6.2	6.1	5.9	5.0	5.0	48
Direction (mean speed, knots)														
North	8.3	8.3	8.4	8.6	8.5	8.3	8.2	7.8	8.3	7.8	8.2	7.8	8.2	48
North Northeast	7.9	7.9	8.0	8.2	8.2	8.1	8.0	7.7	8.0	8.3	7.8	7.8	8.0	48
Northeast	7.1	7.4	7.2	7.9	8.1	8.0	7.9	7.5	7.5	7.2	7.3	7.0	7.5	48
East Northeast	7.1	6.8	7.0	6.8	6.5	5.9	6.5	6.0	5.5	5.7	6.4	6.6	6.5	48
East	7.3	7.2	6.5	6.4	5.3	5.2	4.0	4.4	5.3	6.0	6.6	7.0	6.5	48
East Southeast	7.7	7.4	7.0	6.4	5.8	5.5	5.4	5.2	5.7	6.5	7.7	7.6	7.0	48
Southeast	7.0	6.9	6.9	6.8	6.7	6.3	6.2	6.2	6.2	6.6	7.2	7.1	6.8	48
South Southeast	7.5	7.4	7.3	7.1	6.6	6.4	6.6	6.2	6.4	6.8	7.5	7.6	7.1	48
South	9.8	9.4	9.0	8.5	7.4	7.2	6.7	6.7	7.3	8.5	9.9	9.8	8.6	48
South Southwest	12.1	11.8	11.1	10.1	9.0	8.5	7.8	7.9	8.8	10.1	11.5	12.0	10.1	48
Southwest	12.8	12.4	12.0	11.1	9.8	9.3	8.3	8.2	9.2	10.4	11.7	13.0	10.4	48
West Southwest	8.9	8.7	9.6	8.7	8.1	7.8	7.1	7.1	7.0	7.4	8.9	8.9	8.0	48
West	4.3	5.5	6.3	6.6	6.3	6.3	6.3	6.1	5.9	4.8	5.2	4.5	6.0	48
West Northwest	5.4	5.5	6.1	6.3	6.3	6.5	6.8	6.5	5.9	5.6	4.8	5.1	6.2	48
Northwest	6.1	6.5	7.0	7.4	7.2	7.1	7.1	6.9	6.3	6.3	6.8	6.3	6.9	48
North Northwest	8.2	8.1	8.0	8.7	8.6	8.1	8.4	8.3	8.0	7.2	7.3	7.3	8.1	48
VISIBILITY														
Mean number of days with fog	18	15	13	10	8	8	8	11	16	19	19	19	164	48

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

QUILLAYUTE, WA (47°57'N, 124°33'W) 179 feet (54.6 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1016.6	1016.3	1014.8	1017.0	1017.5	1017.8	1018.9	1017.8	1017.8	1017.8	1015.4	1016.9	1017.1	29
TEMPERATURE (°F)														
Mean	40.4	42.4	44.0	46.7	51.7	55.9	59.3	59.7	57.1	50.4	44.3	40.7	49.4	29
Mean daily maximum	46.3	49.3	51.9	55.1	60.5	64.2	68.2	69.0	67.1	59.1	50.8	46.2	57.4	29
Mean daily minimum	34.1	34.9	35.7	37.8	42.4	46.9	49.8	49.9	46.6	41.2	37.4	34.6	41.0	29
Extreme (highest)	65	73	72	83	92	96	97	99	97	83	69	64	99	29
Extreme (lowest)	7	11	19	24	29	33	38	36	28	24	5	7	5	29
RELATIVE HUMIDITY														
Average percentage	41.3	37.8	22.8	45.4	50.1	53.0	64.3	53.4	52.5	52.9	29.2	44.4	45.7	29
CLOUD COVER														
Percent of time clear	12.0	13.2	11.9	9.8	10.4	10.9	16.3	20.0	25.0	16.8	8.8	12.5	14.0	29
Percent of time scattered	9.2	11.3	13.7	12.6	14.9	14.4	16.3	16.3	18.0	16.4	12.6	11.8	14.0	29
Percent of time broken	11.8	14.1	16.2	18.5	19.5	17.6	14.8	16.9	15.1	15.7	16.3	14.8	15.9	29
Percent of time overcast	67.1	61.3	58.1	59.1	55.2	57.1	52.7	46.8	41.8	51.1	62.3	60.8	56.0	29
PRECIPITATION (inches)														
Mean amount	13.7	12.0	10.9	7.7	5.2	3.1	2.3	2.8	4.6	10.0	14.2	14.8	101.7	29
Greatest amount	23.9	20.6	21.8	13.9	12.4	8.5	11.0	15.0	10.9	27.1	29.1	27.8	131.6	29
Least amount	1.2	0.8	1.8	2.9	1.0	0.4	0.3	0.3	0.1	1.3	4.4	3.6	60.2	29
Maximum amount (24 hours)	7.1	5.0	4.0	2.6	3.5	1.5	5.3	4.2	3.2	4.8	5.2	6.7	7.1	29
Mean number of days	23	20	22	22	20	19	16	15	15	20	23	24	239	29
SNOW														
Mean amount	4.6	2.9	1.6	0.3	T	0.0	0.0	0.0	T	T	1.0	2.7	13.1	29
Greatest amount	40.1	16.1	10.2	2.8	T	0.0	0.0	0.0	T	T	15.6	11.6	58.3	29
Least amount	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	29
Maximum amount (24 hours)	8.0	7.1	7.5	2.1	T	0.0	0.0	0.0	T	T	7.7	7.3	8.0	29
Mean number of days	5	4	4	3	Miss	0	0	0	Miss	Miss	2	5	23	29
WIND														
Percentage with gales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	29
Mean wind speed (knots)	5.8	5.9	5.8	5.5	5.2	5.1	4.8	4.5	4.3	4.7	5.6	5.8	5.2	29
Direction (percentage of observations)														
North	2.2	2.4	2.9	2.3	3.2	2.9	3.3	4.2	4.2	3.2	2.4	2.3	3.0	29
North Northeast	3.9	4.0	4.0	2.6	2.4	1.9	2.4	2.3	4.1	4.4	3.5	3.7	3.3	29
Northeast	11.5	10.6	6.7	4.7	3.5	2.4	2.2	2.7	6.0	6.7	9.3	10.0	6.3	29
East Northeast	11.3	11.0	8.2	6.8	4.8	2.9	2.7	2.9	5.8	8.0	11.5	11.3	7.3	29
East	7.2	7.8	6.3	5.5	3.8	2.3	2.1	2.6	3.8	5.9	8.2	8.2	5.3	29
East Southeast	4.8	5.0	5.0	4.4	3.1	2.3	1.6	1.9	2.6	4.7	5.4	5.2	3.8	29
Southeast	6.6	7.1	6.8	5.1	3.4	2.7	2.1	2.0	3.0	5.9	7.7	7.8	5.0	29
South Southeast	10.0	10.0	9.0	7.0	5.5	5.3	3.6	4.8	6.2	9.1	10.5	11.1	7.7	29
South	8.1	9.6	9.3	9.1	8.3	9.0	7.4	8.8	8.7	9.5	8.6	7.6	8.7	29
South Southwest	4.5	4.5	5.5	6.1	6.5	6.8	6.3	6.6	5.7	4.2	4.2	3.9	5.4	29
Southwest	3.3	3.9	4.3	5.2	6.5	7.1	6.7	6.9	4.7	3.5	2.9	2.6	4.8	29
West Southwest	2.7	2.9	3.9	6.3	7.6	7.5	8.2	7.2	5.2	3.6	2.2	2.3	5.0	29
West	3.3	2.8	3.9	6.7	7.0	7.3	7.4	5.5	3.9	3.2	2.8	2.9	4.7	29
West Northwest	2.5	2.2	4.3	7.0	8.0	9.3	8.8	7.0	4.4	3.0	3.1	2.7	5.2	29
Northwest	1.3	1.4	2.9	3.9	6.3	8.3	9.7	7.2	3.8	2.0	1.6	1.5	4.2	29
North Northwest	1.1	1.5	1.9	2.6	4.2	5.0	6.0	5.2	3.9	2.1	1.2	1.2	3.0	29
Calm	15.8	13.7	14.8	14.8	16.4	17.6	19.5	22.4	24	20.9	14.8	15.9	17.6	29
Direction (mean speed, knots)														
North	3.9	4.2	4.4	4.4	4.3	4.5	4.7	4.3	4.4	4.0	4.1	4.1	4.3	29
North Northeast	5.8	5.8	5.7	5.2	5.0	5.0	4.4	4.6	5.2	5.2	5.4	5.6	5.3	29
Northeast	7.0	7.2	6.5	5.7	5.1	5.1	4.5	4.4	5.6	5.5	6.3	6.9	6.2	29
East Northeast	5.1	5.3	5.0	4.5	4.2	4.1	4.0	4.1	4.4	4.5	4.9	5.2	4.8	29
East	4.5	4.5	4.4	4.2	3.9	3.6	3.7	3.5	3.8	4.1	4.4	4.5	4.2	29
East Southeast	5.0	5.0	5.2	4.8	4.4	4.2	4.0	4.0	4.2	4.5	4.9	5.2	4.8	29
Southeast	7.3	7.4	7.4	6.9	5.9	5.5	5.5	5.4	5.8	6.9	7.5	7.7	7.0	29
South Southeast	8.5	8.5	8.3	7.3	6.8	6.1	5.8	6.2	6.4	7.7	8.4	8.6	7.7	29
South	8.3	8.1	8.1	7.4	6.7	6.0	5.8	5.8	6.2	7.2	8.3	8.5	7.2	29
South Southwest	8.9	8.3	8.1	7.5	7.1	6.7	6.4	6.0	6.1	7.0	8.7	9.0	7.3	29
Southwest	9.4	9.0	8.7	8.1	7.1	7.2	6.7	6.4	6.5	7.2	8.8	9.6	7.6	29
West Southwest	9.0	7.7	7.9	7.3	7.2	6.8	6.6	6.6	6.3	6.5	8.0	8.6	7.1	29
West	7.6	6.5	7.2	7.3	6.9	6.4	6.3	6.3	5.8	5.8	6.4	7.1	6.6	29
West Northwest	8.5	7.8	7.5	7.1	7.1	6.7	6.4	6.2	6.4	6.6	7.4	8.5	7.0	29
Northwest	7.0	7.5	7.5	7.3	7.0	6.8	6.5	6.5	6.4	6.5	6.8	7.9	6.8	29
North Northwest	5.7	5.1	6.5	6.3	6.4	6.0	6.3	6.1	5.5	5.1	6.0	5.4	6.0	29
VISIBILITY														
Mean number of days with fog	21	19	20	17	17	18	19	20	20	22	21	22	236	29

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

TATOOSH ISLAND, WA (48°23'N, 124°44'W) 115 feet (35.1 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1015.6	1015.7	1014.8	1016.9	1017.6	1017.7	1018.5	1017.7	1016.5	1016.2	1015.8	1015.0	1016.5	19
TEMPERATURE (°F)														
Mean	41.4	43.3	43.5	46.9	50.6	53.4	55.4	56.2	55.1	52.0	47.3	44.1	49.1	18
Mean daily maximum	44.7	46.9	47.4	51.0	54.6	57.2	59.2	60.1	59.5	55.9	50.8	47.4	52.9	18
Mean daily minimum	37.6	39.2	39.1	42.4	46.1	49.2	51.1	51.8	50.2	47.7	43.3	40.3	44.8	18
Extreme (highest)	57	63	66	69	74	82	80	76	80	70	64	61	82	18
Extreme (lowest)	14	20	25	33	37	43	46	45	43	36	19	14	14	18
RELATIVE HUMIDITY														
Average percentage	30.9	31.9	23.2	44.4	51.4	52.0	60.5	52.1	40.1	36.7	32.5	24.9	40.1	19
CLOUD COVER														
Percent of time clear	11.0	11.3	9.2	10.1	10.3	9.6	15.9	13.5	20.1	13.8	10.5	7.4	11.9	19
Percent of time scattered	11.6	11.3	14.0	14.4	16.4	12.8	12.4	12.3	15.9	16.5	13.9	11.6	13.6	19
Percent of time broken	13.0	13.9	17.7	16.3	18.4	15.8	13.6	13.9	13.5	15.7	14.7	14.0	15.1	19
Percent of time overcast	64.4	63.6	59.1	59.2	55.0	61.7	58.1	60.3	50.5	54.0	60.9	67.1	59.5	19
PRECIPITATION (inches)														
Mean amount	10.9	9.5	7.9	5.4	2.6	2.5	2.0	2.3	3.3	8.6	11.5	12.5	79.6	18
Greatest amount	20.0	21.1	14.8	10.2	6.1	6.3	6.0	4.7	7.0	13.6	22.1	16.8	101.6	18
Least amount	1.8	4.2	2.9	0.6	0.8	0.4	0.0	0.1	1.1	2.5	4.4	7.2	68.7	18
Maximum amount (24 hours)	2.9	2.7	2.6	3.0	1.6	2.1	1.5	2.1	1.9	3.8	3.7	3.2	3.8	18
Mean number of days	25	22	24	20	19	19	18	19	16	20	23	26	251	18
SNOW														
Mean amount	4.4	2.1	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.0	13.5	17
Greatest amount	32.3	10.4	24.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	7.5	20.2	34.5	17
Least amount	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	17
Maximum amount (24 hours)	8.5	5.2	10.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	4.7	7.0	10.3	17
Mean number of days	6	4	4	Miss	0	0	0	0	0	0	1	4	19	18
WIND														
Percentage with gales	6.09	3.59	1.21	1.01	0.19	0.07	0.02	0.02	0.28	2.06	3.87	5.49	2.32	19
Mean wind speed (knots)	17.4	15.9	14.1	12.2	10.3	9.1	8.9	8.9	10.4	14.1	16.6	17.4	12.9	19
Direction (percentage of observations)														
North	0.8	1.5	1.9	2.1	1.7	1.5	1.2	1.7	2.9	1.4	0.8	1.0	1.5	19
North Northeast	0.4	0.3	0.4	0.4	0.6	0.7	0.7	0.7	1.1	0.5	0.7	0.4	0.6	19
Northeast	3.9	4.9	5.6	5.4	4.9	3.6	3.4	4.2	10.6	8.4	4.1	2.5	5.1	19
East Northeast	10.0	9.1	8.4	6.8	3.8	3.6	3.4	4.0	11.5	12.5	10.6	9.9	7.8	19
East	31.5	24.2	22.1	13.7	8.6	5.8	4.0	6.3	12.9	23.8	30.4	27.2	17.5	19
East Southeast	4.0	3.2	2.3	1.5	0.7	0.6	0.3	0.4	1.0	1.7	3.3	3.3	1.8	19
Southeast	6.5	5.7	5.3	4.3	2.4	1.4	1.4	1.8	2.2	4.8	6.9	6.3	4.1	19
South Southeast	5.6	6.1	5.7	3.5	3.0	3.5	2.7	3.5	4.3	6.1	5.6	6.3	4.6	19
South	13.0	13.8	12.6	14.2	15.5	19.5	24.1	30.6	20.9	15.2	12.9	14.5	17.2	19
South Southwest	3.1	2.5	3.6	5.4	5.9	9.1	12.6	11.8	6.1	4.1	2.7	2.9	5.8	19
Southwest	6.4	7.9	8.8	11.8	14.7	17.6	21.8	17.5	10.0	6.7	6.5	7.2	11.5	19
West Southwest	2.9	2.9	4.2	5.5	7.3	8.0	6.5	4.7	3.2	2.7	2.8	2.6	4.5	19
West	6.7	10.5	11.1	14.6	21.1	17.6	12.2	7.5	7.5	6.5	6.9	8.7	11.0	19
West Northwest	1.7	2.7	2.9	4.1	4.4	3.0	1.6	0.9	1.3	2.2	2.0	2.8	2.5	19
Northwest	1.5	3.1	3.1	4.0	2.7	1.6	1.2	1.4	1.5	1.4	2.2	2.5	2.2	19
North Northwest	0.4	0.4	0.4	0.5	0.4	0.4	0.3	0.2	0.3	0.2	0.4	0.3	0.3	19
Calm	1.3	1.3	1.8	2.4	2.4	2.7	2.8	2.8	2.7	1.9	1.1	1.6	2.1	19
Direction (mean speed, knots)														
North	8.1	6.6	6.7	5.8	5.3	5.2	5.8	4.7	5.3	5.2	8.1	7.2	5.9	19
North Northeast	11.0	7.5	10.0	7.9	8.4	6.6	6.7	6.4	7.7	6.6	11.1	10.1	8.2	19
Northeast	18.1	13.8	12.2	11.8	11.4	9.7	8.2	9.5	10.8	12.7	14.6	12.4	12.0	19
East Northeast	18.4	16.9	15.5	13.7	13.2	10.5	10.9	10.3	13.8	17.6	17.4	19.0	15.8	19
East	18.5	16.6	15.8	13.2	11.9	10.3	9.3	8.2	11.8	15.2	17.4	19.2	15.8	19
East Southeast	14.7	14.7	13.9	11.6	11.5	8.0	6.7	7.6	11.3	14.3	15.7	14.3	13.8	19
Southeast	12.9	13.4	11.8	11.5	8.4	8.2	8.3	8.9	9.5	12.0	13.3	13.9	12.0	19
South Southeast	15.8	16.4	15.2	14.5	12.9	11.3	11.2	11.3	12.9	16.3	16.1	17.9	14.9	19
South	19.1	17.9	14.8	14.3	11.8	10.9	10.6	10.8	11.6	15.0	19.0	20.1	13.9	19
South Southwest	22.9	18.9	15.5	14.4	11.9	10.3	11.1	9.5	10.5	14.4	22.2	21.7	13.1	19
Southwest	20.1	17.7	14.2	12.3	9.9	9.0	8.7	8.1	8.3	13.5	19.0	18.1	11.7	19
West Southwest	16.1	15.6	13.6	11.8	9.4	8.1	7.7	7.3	8.6	10.9	15.3	15.5	10.7	19
West	16.6	15.0	14.0	11.5	9.7	7.9	6.7	6.5	7.7	11.3	14.6	15.8	11.0	19
West Northwest	16.4	16.2	17.1	12.2	10.3	9.4	7.4	6.6	10.6	15.3	16.8	16.6	13.2	19
Northwest	13.8	13.4	10.1	10.3	8.0	7.7	6.3	5.5	6.5	11.6	14.4	13.1	10.4	19
North Northwest	10.8	10.5	7.1	6.0	6.3	7.3	6.6	5.2	5.2	5.5	11.1	8.8	7.8	19
VISIBILITY														
Mean number of days with fog	11	11	9	9	10	14	18	21	17	13	10	12	155	18

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

HILO, HI (19°43'N, 155°04'W) 36 feet (10.9 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1016.0	1016.0	1017.6	1017.8	1017.7	1017.5	1016.8	1016.3	1015.3	1015.6	1016.1	1016.2	1016.6	46
TEMPERATURE (°F)														
Mean	71.7	71.5	71.9	72.7	73.8	75.2	75.9	76.4	76.3	75.7	74.1	72.3	74.0	46
Mean daily maximum	79.5	79.3	79.2	79.5	80.9	82.4	82.8	83.4	83.7	83.0	81.0	79.6	81.2	46
Mean daily minimum	63.4	63.3	64.2	65.3	66.3	67.5	68.6	69.0	68.5	67.9	66.7	64.6	66.3	46
Extreme (highest)	91	92	93	89	94	90	89	93	92	91	90	93	94	46
Extreme (lowest)	54	53	54	59	59	61	62	63	61	62	58	55	53	46
RELATIVE HUMIDITY														
Average percentage	34.6	35.1	50.6	52.7	52.2	50.4	43.0	37.6	28.4	31.1	36.5	37.4	40.7	46
CLOUD COVER														
Percent of time clear	11.1	11.1	4.7	1.3	1.6	1.8	1.6	2.0	3.2	3.8	4.5	8.6	4.6	46
Percent of time scattered	27.1	25.4	22.2	17.1	17.5	22.8	21.1	22.1	25.8	24.3	21.3	24.6	22.6	46
Percent of time broken	26.1	25.8	28.5	30.5	30.6	34.0	33.8	33.7	32.4	31.8	29.1	28.5	30.4	46
Percent of time overcast	35.6	37.7	44.5	51.0	50.2	41.4	43.4	42.1	38.5	40.1	45.2	38.3	42.3	46
PRECIPITATION (inches)														
Mean amount	9.2	11.5	13.5	13.5	9.4	6.4	10.1	10.7	8.2	9.7	15.3	12.6	130.6	46
Greatest amount	32.2	45.5	49.9	43.2	25.0	13.2	28.5	26.9	21.8	26.1	45.7	50.8	211.2	46
Least amount	0.3	0.5	0.8	2.9	2.7	1.8	3.8	2.6	1.5	2.4	1.0	0.2	68.0	46
Maximum amount (24 hours)	9.5	16.8	15.6	9.6	7.8	2.8	5.9	9.6	8.6	8.6	15.4	9.3	16.8	46
Mean number of days	21	20	26	28	29	28	30	29	26	27	26	24	314	46
SNOW														
Mean amount	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Greatest amount	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Least amount	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Maximum amount (24 hours)	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Mean number of days	0	0	0	0	0	0	0	0	0	0	0	0	0	46
WIND														
Percentage with gales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	46
Mean wind speed (knots)	6.5	6.7	6.7	6.5	6.4	6.1	6.0	5.9	5.9	5.8	5.9	6.3	6.2	46
Direction (percentage of observations)														
North	6.5	7.1	6.5	5.9	5.3	4.5	5.7	5.4	5.5	5.0	5.1	5.7	5.7	46
North Northeast	4.6	5.2	5.6	5.7	5.4	5.7	6.7	6.6	6.1	4.7	3.7	4.4	5.4	46
Northeast	3.5	4.7	5.8	7.1	6.8	8.1	8.5	8.2	6.5	5.8	4.8	3.7	6.1	46
East Northeast	3.4	3.9	6.1	7.4	7.0	8.6	8.0	7.9	6.1	5.6	4.9	4.0	6.1	46
East	4.1	4.4	6.0	6.1	6.9	7.2	5.9	5.8	5.1	5.0	4.8	3.9	5.4	46
East Southeast	5.5	5.6	5.9	5.2	5.9	4.6	3.6	3.5	4.1	4.8	5.4	5.5	5.0	46
Southeast	4.8	4.5	3.9	3.2	2.7	2.5	2.0	2.0	2.4	3.0	3.8	4.5	3.3	46
South Southeast	4.3	3.2	2.3	2.0	1.9	1.6	1.4	1.5	1.8	2.4	3.0	3.5	2.4	46
South	5.9	5.8	4.6	4.4	4.2	3.2	3.0	3.1	3.4	3.9	4.9	5.7	4.3	46
South Southwest	12.1	10.7	9.0	8.1	7.6	7.3	5.7	6.6	8.5	9.5	9.5	11.1	8.8	46
Southwest	18.3	17.0	15.0	14.1	14.3	15.2	13.8	14.8	18.4	18.9	19.0	18.6	16.4	46
West Southwest	9.9	9.3	10.7	11.8	11.8	13.2	13.6	13.1	13.7	13.8	12.4	11.4	12.1	46
West	4.3	5.0	5.4	6.4	6.8	6.8	7.6	7.5	6.7	5.7	5.8	4.7	6.1	46
West Northwest	1.9	2.4	2.6	2.9	3.2	2.8	3.3	3.7	2.5	2.6	2.8	2.5	2.8	46
Northwest	2.3	2.8	2.4	2.7	2.8	2.0	2.7	2.5	2.2	2.3	2.2	2.7	2.5	46
North Northwest	4.2	4.1	3.6	3.1	3.0	2.2	3.3	2.8	2.6	2.5	3.1	4.1	3.2	46
Calm	4.9	4.5	4.8	4.5	5.0	5.2	5.6	5.4	5.0	5.0	5.5	4.5	5.0	46
Direction (mean speed, knots)														
North	8.6	9.1	8.8	7.9	7.7	6.5	6.5	6.8	6.8	6.7	7.6	8.3	7.7	46
North Northeast	8.0	8.7	8.1	8.1	8.1	7.5	7.4	7.3	7.2	7.3	7.3	7.6	7.7	46
Northeast	7.5	8.3	8.2	7.9	7.8	7.9	7.7	7.4	7.3	7.1	7.0	7.7	7.7	46
East Northeast	7.5	8.2	8.1	8.3	8.3	8.2	8.1	8.1	7.7	7.3	7.5	7.7	8.0	46
East	7.9	8.3	8.7	8.6	8.7	8.4	8.1	8.0	8.0	7.8	7.5	7.4	8.2	46
East Southeast	9.4	9.7	9.7	9.7	9.1	9.1	8.5	8.5	8.4	8.6	8.0	8.6	9.0	46
Southeast	9.3	9.3	9.6	9.7	8.3	7.5	7.3	7.6	8.0	8.3	8.4	8.8	8.7	46
South Southeast	8.3	7.7	7.2	7.2	6.3	5.8	5.3	5.9	6.1	6.7	6.9	7.8	7.1	46
South	6.0	5.3	5.2	5.1	5.0	4.2	4.3	4.4	4.6	4.6	5.1	5.4	5.0	46
South Southwest	5.2	5.1	5.1	5.0	5.0	4.8	4.7	4.7	4.8	4.8	4.9	5.0	4.9	46
Southwest	5.4	5.5	5.4	5.2	5.3	5.2	5.2	5.1	5.3	5.3	5.3	5.4	5.3	46
West Southwest	5.8	5.7	5.7	5.6	5.7	5.6	5.5	5.5	5.7	5.5	5.5	5.7	5.6	46
West	5.4	5.5	5.4	5.4	5.5	5.4	5.4	5.5	5.5	5.3	5.4	5.4	5.4	46
West Northwest	5.8	5.8	5.5	5.6	5.5	5.3	5.3	5.3	5.3	5.4	5.6	5.5	5.5	46
Northwest	7.0	7.0	6.9	6.3	6.5	5.5	5.5	5.7	5.6	5.8	6.2	6.9	6.3	46
North Northwest	8.5	8.9	8.4	7.3	7.5	6.1	6.0	6.6	6.3	6.6	7.6	8.4	7.5	46
VISIBILITY														
Mean number of days with fog	Miss	Miss	Miss	Miss	0	Miss	Miss	Miss	Miss	Miss	Miss	Miss	1	46

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

HONOLULU, HI (21°20'N, 157°55'W) 7 feet (2.1 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1015.6	1015.8	1017.3	1017.5	1017.4	1017.2	1016.5	1015.9	1015.0	1015.2	1015.7	1015.8	1016.2	46
TEMPERATURE (°F)														
Mean	73.0	73.0	74.2	75.7	77.4	79.4	80.4	81.3	81.0	79.6	77.3	74.5	77.2	46
Mean daily maximum	79.9	80.0	81.0	82.3	84.1	86.0	86.9	87.9	87.9	86.4	83.7	81.0	83.9	46
Mean daily minimum	65.5	65.5	67.0	68.6	70.2	72.2	73.4	74.2	73.5	72.3	70.4	67.5	70.0	46
Extreme (highest)	87	88	89	89	93	92	94	93	95	94	93	89	95	46
Extreme (lowest)	52	53	55	56	60	65	66	67	66	61	57	54	52	46
RELATIVE HUMIDITY														
Average percentage	31.3	32.9	48.3	49.6	48.8	46.6	39.9	33.8	25.4	27.5	32.1	33.4	37.5	46
CLOUD COVER														
Percent of time clear	12.4	10.7	7.4	4.4	3.6	3.2	2.9	3.3	5.9	5.9	6.5	9.9	6.3	46
Percent of time scattered	44.3	44.7	46.5	44.4	48.0	52.6	56.3	56.0	55.7	49.6	46.7	42.7	49.0	46
Percent of time broken	26.3	27.9	28.7	34.5	34.4	35.1	34.5	32.7	30.8	31.8	31.8	30.1	31.6	46
Percent of time overcast	17.0	16.7	17.4	16.7	14.0	9.0	6.3	7.9	7.5	12.8	15.0	17.3	13.1	46
PRECIPITATION (inches)														
Mean amount	3.3	2.6	2.8	1.3	0.9	0.3	0.5	0.5	0.7	2.0	2.5	3.5	21.5	46
Greatest amount	13.3	13.6	20.7	8.9	7.2	2.4	2.3	3.0	2.0	11.1	14.7	17.2	42.7	46
Least amount	0.1	0.0	0.0	0.0	0.0	T	0.0	T	0.0	0.1	0.0	0.0	5.0	46
Maximum amount (24 hours)	6.4	5.5	15.3	3.9	3.4	2.0	2.1	2.1	1.3	7.4	5.3	7.8	15.3	46
Mean number of days	17	16	19	20	19	19	20	18	17	18	19	18	220	46
SNOW														
Mean amount	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Greatest amount	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Least amount	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Maximum amount (24 hours)	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Mean number of days	0	0	0	0	0	0	0	0	0	0	0	0	0	46
WIND														
Percentage with gales	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.95	46
Mean wind speed (knots)	8.3	8.8	9.9	10.2	10.3	11.0	11.4	11.2	9.8	9.1	9.3	9.1	9.9	46
Direction (percentage of observations)														
North	5.8	5.4	5.1	4.4	3.0	1.4	0.9	1.3	2.5	3.8	4.6	5.0	3.6	46
North Northeast	5.1	4.7	4.9	4.6	4.1	2.7	2.4	2.5	3.7	4.3	4.5	4.7	4.0	46
Northeast	13.6	17.1	20.5	26.7	28.2	31.0	30.8	30.6	25.9	23.3	20.7	18.5	23.9	46
East Northeast	18.9	22.7	31.8	37.4	40.4	47.4	52.1	49.8	43.1	35.6	35.1	27.9	36.9	46
East	5.1	5.6	7.7	6.7	7.8	8.8	9.0	8.9	7.7	8.1	8.3	6.5	7.5	46
East Southeast	1.8	1.6	1.2	1.0	1.2	1.0	0.9	0.9	1.3	1.4	1.7	1.7	1.3	46
Southeast	3.0	2.8	2.3	1.8	1.6	0.8	0.7	1.1	1.7	2.5	2.2	2.8	1.9	46
South Southeast	4.2	3.0	2.7	2.1	1.7	1.1	0.5	0.7	1.9	2.3	2.6	3.3	2.2	46
South	5.5	4.1	3.1	2.1	1.9	0.9	0.4	0.6	1.8	2.4	2.5	3.5	2.4	46
South Southwest	4.2	3.1	2.2	1.3	1.0	0.6	0.1	0.2	0.8	1.5	1.5	2.3	1.6	46
Southwest	4.6	3.9	2.0	1.1	0.8	0.4	0.1	0.2	0.7	1.2	1.3	2.6	1.6	46
West Southwest	3.3	2.8	1.5	0.6	0.5	0.2	0.1	0.2	0.4	0.6	0.6	1.4	1.0	46
West	2.8	2.7	1.5	0.6	0.6	0.2	0.1	0.2	0.5	0.9	0.8	1.8	1.0	46
West Northwest	3.8	3.7	2.1	1.1	1.2	0.6	0.3	0.5	1.2	1.8	2.0	3.0	1.8	46
Northwest	7.8	7.4	5.1	3.5	2.6	1.1	0.8	1.1	2.6	4.0	5.0	6.6	4.0	46
North Northwest	6.0	6.0	4.3	3.3	2.2	1.0	0.6	0.8	2.2	3.4	4.0	5.3	3.3	46
Calm	5.1	3.9	2.5	2.2	1.8	1.2	0.7	1.0	2.4	3.2	2.9	3.4	2.5	46
Direction (mean speed, knots)														
North	5.8	6.1	6.4	5.9	5.7	4.7	5.0	4.9	4.9	5.0	5.6	6.0	5.7	46
North Northeast	7.4	7.8	8.4	8.3	8.8	8.1	8.9	8.2	7.4	7.4	7.7	7.7	8.0	46
Northeast	9.6	10.9	11.5	11.8	11.5	11.8	11.9	11.7	10.9	10.6	10.6	10.9	11.3	46
East Northeast	10.7	11.3	12.0	11.9	11.5	11.7	11.9	11.9	11.0	10.7	11.3	11.4	11.5	46
East	9.7	9.6	10.4	10.2	9.8	10.5	10.7	10.4	9.5	9.6	10.2	9.9	10.1	46
East Southeast	9.2	8.6	9.5	8.5	8.4	8.4	9.4	10.0	8.3	8.8	9.4	9.1	9.0	46
Southeast	9.9	10.3	11.1	9.4	10.3	10.1	10.7	11.6	11.1	10.6	10.5	10.3	10.4	46
South Southeast	9.9	9.6	9.8	10.1	9.3	10.5	9.8	9.9	9.0	9.5	10.1	9.7	9.7	46
South	8.8	7.9	7.9	7.7	7.2	7.6	7.1	8.2	7.6	7.6	7.6	8.3	8.0	46
South Southwest	9.3	8.2	8.4	8.2	7.8	7.8	6.2	9.0	8.2	7.9	7.5	8.8	8.4	46
Southwest	9.7	9.0	9.4	8.7	8.6	8.0	8.9	9.2	8.6	8.0	8.1	8.8	9.0	46
West Southwest	10.1	9.5	9.5	7.4	7.8	7.5	6.4	10.1	7.5	8.0	7.6	8.7	9.1	46
West	7.5	7.6	6.6	4.9	4.2	4.9	3.1	5.0	4.1	4.4	4.6	6.5	6.3	46
West Northwest	5.4	5.4	5.4	5.0	4.5	4.5	4.5	4.4	4.4	4.6	4.7	5.1	5.0	46
Northwest	5.6	5.8	5.8	5.5	5.3	5.2	5.2	5.1	4.9	5.0	5.5	5.5	5.5	46
North Northwest	6.0	6.2	5.7	5.8	5.5	4.8	4.9	4.9	4.8	5.0	5.5	5.9	5.7	46
VISIBILITY														
Mean number of days with fog	0	0	Miss	Miss	Miss	Miss	0	0	0	Miss	Miss	Miss	Miss	46

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

CLIMATOLOGICAL TABLES

T = trace (not measurable) amount of precipitation
Miss or blank is a missing value

LIHUE, HI (21°59'N, 159°21'W) 103 feet (31.4 m)														
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**	**YEARS OF RECORD**
SEA LEVEL PRESSURE*														
Mean (millibars)	1015.9	1016.2	1017.8	1018.2	1018.2	1017.9	1017.4	1016.7	1015.7	1015.8	1016.2	1016.2	1016.8	45
TEMPERATURE (°F)														
Mean	71.6	71.6	72.5	73.9	75.7	77.8	78.9	79.6	79.3	77.8	75.7	73.1	75.6	46
Mean daily maximum	77.9	77.9	78.2	79.2	81.0	83.0	83.9	84.7	84.8	83.3	80.8	78.6	81.1	46
Mean daily minimum	64.8	64.8	66.3	68.0	69.9	72.1	73.3	74.0	73.3	71.8	70.0	67.1	69.7	46
Extreme (highest)	85	86	88	88	88	89	89	90	90	90	89	86	90	46
Extreme (lowest)	50	52	51	56	59	61	62	66	65	61	57	52	50	46
RELATIVE HUMIDITY														
Average percentage	34.1	36.7	53.1	56.5	56.6	54.2	48.8	42.5	31.9	33.4	37.0	37.0	43.4	45
CLOUD COVER														
Percent of time clear	16.1	15.9	9.2	4.1	3.1	3.2	1.8	2.5	4.9	6.4	7.1	11.8	7.1	45
Percent of time scattered	31.4	31.7	30.6	28.7	33.0	38.7	37.9	38.0	44.9	37.8	32.8	31.0	34.8	45
Percent of time broken	29.2	29.0	32.2	36.0	37.3	37.8	40.5	38.7	35.4	34.4	33.7	31.9	34.7	45
Percent of time overcast	23.4	23.4	28.0	31.2	26.6	20.4	19.8	20.8	14.8	21.3	26.4	25.4	23.4	45
PRECIPITATION (inches)														
Mean amount	5.4	3.6	4.2	3.0	2.6	1.5	2.1	1.9	2.2	4.4	5.4	5.5	42.3	46
Greatest amount	17.5	11.3	14.5	10.6	12.5	4.8	8.8	8.1	10.8	18.0	18.4	22.9	74.4	46
Least amount	0.3	T	0.3	0.3	0.4	0.4	0.7	0.7	0.4	1.0	0.5	0.5	16.4	46
Maximum amount (24 hours)	10.7	5.4	5.1	5.3	4.9	2.0	4.9	5.3	7.1	7.8	9.7	11.2	10.7	46
Mean number of days	20	19	23	24	23	23	26	25	22	24	24	22	275	46
SNOW														
Mean amount	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Greatest amount	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Least amount	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Maximum amount (24 hours)	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Mean number of days	0	0	0	0	0	0	0	0	0	0	0	0	0	46
WIND														
Percentage with gales	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.97	45
Mean wind speed (knots)	9.6	9.9	10.9	11.5	11	11.3	11.9	11.4	10.1	10.0	10.5	10.2	10.7	45
Direction (percentage of observations)														
North	4.9	5.5	4.5	4.3	2.9	1.1	1.0	1.3	2.1	3.6	4.9	5.2	3.4	45
North Northeast	6.5	6.6	7.2	7.7	7.0	4.5	5.7	5.4	5.5	7.0	7.2	7.0	6.4	45
Northeast	13.6	18.3	23.8	31.3	34.7	36.5	41.2	39.7	31.3	26.2	22.6	19.9	28.3	45
East Northeast	14.8	17.4	25.8	30.2	31.9	42.8	42.2	40.9	35.7	29.4	26.6	19.7	29.9	45
East	7.1	7.7	9.4	8.9	8.8	7.0	6.1	7.1	8.5	8.7	8.8	8.0	8.0	45
East Southeast	2.2	2.6	2.3	1.3	1.6	0.8	0.5	0.6	1.4	1.8	2.1	2.4	1.6	45
Southeast	1.3	1.4	0.8	0.7	0.7	0.4	0.2	0.3	0.5	1.1	1.1	1.6	0.8	45
South Southeast	2.2	1.6	1.1	0.9	0.6	0.3	0.1	0.3	0.4	1.0	1.3	1.7	1.0	45
South	4.5	2.9	2.0	1.7	0.8	0.6	0.2	0.4	0.7	1.6	2.6	3.3	1.8	45
South Southwest	4.4	3.0	1.5	0.6	0.4	0.1	0.0	0.1	0.4	0.8	1.2	2.6	1.2	45
Southwest	7.1	5.4	2.2	0.7	0.6	0.2	0.0	0.2	0.7	1.1	2.0	3.9	2.0	45
West Southwest	7.6	6.1	3.5	1.3	1.2	0.6	0.2	0.3	1.4	2.4	2.8	4.7	2.7	45
West	12.6	10.9	7.8	4.3	4.0	2.6	1.0	1.6	5.2	7.1	7.7	9.7	6.2	45
West Northwest	6.1	5.6	4.3	3.2	2.9	1.6	0.9	1.3	3.7	4.8	5.1	5.6	3.7	45
Northwest	1.9	1.9	1.5	1.0	1.0	0.6	0.5	0.4	1.1	1.3	1.4	1.6	1.2	45
North Northwest	3.1	3.0	2.6	1.7	1.2	0.7	0.6	0.6	1.2	1.9	2.5	2.8	1.8	45
Calm	0.4	0.6	0.4	0.4	0.4	0.2	0.1	0.1	0.4	0.6	0.3	0.4	0.4	45
Direction (mean speed, knots)														
North	9.0	8.7	8.8	8.1	7.7	5.8	6.6	5.9	6.2	7.2	8.9	8.4	8.1	45
North Northeast	12.1	12.0	11.9	11.6	11.0	9.7	10.4	10.3	9.8	10.7	11.6	11.7	11.1	45
Northeast	12.3	12.5	12.9	12.9	12.2	11.8	11.9	11.5	11.1	11.3	12.3	12.7	12.0	45
East Northeast	11.8	12.2	13.2	13.1	12.1	12.2	12.6	12.1	11.2	11.6	12.5	12.7	12.2	45
East	10.4	10.6	11.7	12.1	10.7	10.9	11.9	11.3	10.2	10.8	11.4	11.2	11.1	45
East Southeast	8.1	8.5	9.5	9.7	9.5	10.3	12.2	10.8	8.9	8.9	10.5	9.3	9.4	45
Southeast	8.5	8.4	8.3	8.5	7.9	8.6	10.2	9.9	8.9	8.8	8.7	8.6	8.6	45
South Southeast	9.4	9.7	9.5	10.1	8.5	10.6	9.1	10.4	8.6	9.7	9.9	10.7	9.8	45
South	9.8	9.1	9.1	9.5	8.1	8.0	8.0	9.6	7.5	8.4	9.6	9.9	9.3	45
South Southwest	10.7	10.1	10.1	9.1	8.6	9.4	8.0	12.5	8.7	9.5	9.4	10.5	10.1	45
Southwest	10.5	10.5	10.2	8.0	7.8	7.4	7.5	9.3	7.9	7.9	8.3	10.0	9.8	45
West Southwest	7.8	8.3	7.0	5.9	6.7	5.7	6.5	5.7	6.2	5.9	6.4	6.8	7.1	45
West	6.1	5.9	5.6	5.4	5.2	5.1	5.0	5.1	5.5	5.5	5.4	5.9	5.7	45
West Northwest	5.9	5.8	5.5	5.6	5.5	5.2	5.3	5.4	5.6	5.7	5.5	5.6	5.6	45
Northwest	5.9	6.4	5.8	6.2	5.7	5.0	5.1	5.4	5.5	5.7	6.0	6.3	5.9	45
North Northwest	7.1	7.8	7.7	7.1	6.4	5.8	6.0	6.3	5.9	6.2	7.2	7.4	7.0	45
VISIBILITY														
Mean number of days with fog	Miss	Miss	Miss	Miss	Miss	Miss	Miss	0	0	Miss	Miss	Miss	1	46

* Sea level pressure is station pressure reduced to sea level

These tables were prepared by the National Climatic Data Center (NCDC), National Environmental Satellite, Data & Information Service (NESDIS), NOAA

METEOROLOGICAL TABLES

COASTAL AREA OFF SAN DIEGO, CA
Between 31°N to 34°N and 116°W to 120°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Wind > 33 knots [1]	0.4	0.5	0.4	0.4	0.3	0.1	0.0	0.0	0.1	0.1	0.2	0.5	0.2
Wave Height > 9 feet [1]	0.8	1.3	1.7	1.8	1.2	0.8	0.5	0.3	0.4	0.6	0.9	1.2	0.9
Visibility < 2 nautical miles [1]	4.4	4.5	2.8	2.4	1.5	3.2	2.9	2.2	3.0	4.7	3.3	4.0	3.2
Precipitation [1]	3.6	3.6	2.4	1.7	1.2	1.4	0.8	0.5	0.9	0.9	2.1	3.1	1.8
Temperature > 69° F	1.2	0.8	1.2	1.4	1.9	3.0	9.2	14.7	14.8	9.0	4.4	1.7	5.4
Mean Temperature (°F)	58.3	58.4	58.5	59.3	60.4	62.1	64.7	66.4	66.5	65.2	62.7	59.9	61.9
Temperature < 33° F [1]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean RH (%)	77	79	78	79	81	83	84	84	83	81	77	76	80
Overcast or Obscured [1]	19.4	21.4	22.2	25.7	37.9	48.1	45.7	38.8	31.4	26.3	15.4	16.7	29.3
Mean Cloud Cover (8^{ths})	3.8	3.9	4.1	4.2	5.0	5.5	5.6	5.3	4.6	4.2	3.4	3.5	4.4
Mean SLP (mbs)	1018	1018	1017	1015	1015	1013	1013	1013	1012	1014	1017	1018	1015
Ext. Max. SLP (mbs)	1040	1040	1037	1034	1030	1029	1027	1027	1028	1031	1035	1040	1040
Ext. Min. SLP (mbs)	996	996	995	998	999	998	999	998	997	997	999	995	995
Prevailing Wind Direction	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
Thunder and Lightning [1]	0.1	0.1	0.2	0.1	0.0	0.1	0.2	0.1	0.3	0.2	0.1	0.1	0.1

COASTAL AREA OFF POINT MUGU, CA
Between 34°N to 36°N and 119°W to 125°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Wind > 33 knots [1]	1.0	1.5	2.0	2.2	1.8	1.5	0.7	0.4	0.5	0.9	1.1	1.4	1.3
Wave Height > 9 feet [1]	4.4	6.0	8.1	10.4	10.6	8.1	5.3	4.4	3.9	3.8	4.6	6.4	6.4
Visibility < 2 nautical miles [1]	4.5	6.3	4.6	4.9	5.7	5.8	8.5	8.0	7.7	8.7	5.5	5.6	6.3
Precipitation [1]	5.5	5.8	5.0	3.2	1.6	1.7	1.5	1.6	1.4	1.4	3.4	4.8	3.0
Temperature > 69° F	0.6	0.5	0.5	0.5	0.7	1.4	3.4	3.6	4.2	2.6	1.5	0.8	1.7
Mean Temperature (°F)	55.5	55.8	55.9	56.7	57.6	59.4	61.1	62.1	62.8	61.7	59.5	57.4	58.8
Temperature < 33° F [1]	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean RH (%)	79	79	80	80	82	84	86	86	85	84	81	79	82
Overcast or Obscured [1]	21.2	25.7	24.4	24.5	32.1	40.0	50.6	48.2	36.6	29.4	18.9	20.4	31.4
Mean Cloud Cover (8^{ths})	4.1	4.3	4.3	4.2	4.5	4.7	5.4	5.4	4.6	4.3	3.7	3.9	4.5
Mean SLP (mbs)	1019	1019	1018	1017	1016	1015	1015	1015	1014	1016	1018	1019	1017
Ext. Max. SLP (mbs)	1036	1036	1045	1043	1035	1031	1033	1030	1032	1034	1040	1039	1045
Ext. Min. SLP (mbs)	987	992	990	996	997	995	998	998	996	998	996	991	987
Prevailing Wind Direction	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW
Thunder and Lightning [1]	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1

COASTAL AREA OFF SAN FRANCISCO, CA
Between 36°N to 38°N and 121°W to 126°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Wind > 33 knots [1]	2.2	2.2	2.9	2.9	2.9	2.4	1.1	0.8	1.0	1.5	1.9	2.9	2.1
Wave Height > 9 feet [1]	6.2	5.9	7.8	9.1	9.8	7.4	5.8	4.8	4.2	3.8	5.3	7.1	6.5
Visibility < 2 nautical miles [1]	7.8	7.3	4.6	3.4	4.7	6.2	7.9	7.6	8.2	8.9	8.8	8.1	6.9
Precipitation [1]	9.4	7.4	6.9	3.8	2.7	2.6	2.0	2.1	2.0	2.6	5.2	7.7	4.4
Temperature > 69° F	0.2	0.1	0.2	0.2	0.4	0.7	1.1	2.0	2.4	1.3	0.5	0.3	0.8
Mean Temperature (°F)	53.7	53.9	54.1	54.2	55.6	57.6	59.2	60.5	61	59.7	57.4	55.2	56.9
Temperature < 33° F [1]	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean RH (%)	82	83	81	81	83	85	86	87	85	85	83	81	84
Overcast or Obscured [1]	30.2	30.6	28.9	25.7	31.8	38.4	49.8	46.9	35.9	30.3	25.3	27.4	33.7
Mean Cloud Cover (8^{ths})	4.8	4.8	4.8	4.4	4.7	4.7	5.3	5.1	4.5	4.3	4.3	4.5	4.7
Mean SLP (mbs)	1019	1019	1018	1018	1017	1016	1016	1016	1015	1017	1019	1019	1017
Ext. Max. SLP (mbs)	1050	1051	1049	1041	1040	1042	1032	1031	1039	1033	1044	1042	1051
Ext. Min. SLP (mbs)	984	985	983	989	994	995	999	998	1000	997	996	989	983
Prevailing Wind Direction	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	N	NW
Thunder and Lightning [1]	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1

[1] Percentage Frequency

These data are based upon observations made by ships in transit. These ships tend to avoid bad weather when possible thus biasing the data toward good weather samples.

METEOROLOGICAL TABLES

COASTAL AREA OFF POINT ARENA, CA
Between 38°N to 40°N and 122°W to 127°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Wind > 33 knots [1]	3.6	3.1	3.3	4.1	6.1	4.8	4.0	2.4	2.6	2.8	2.6	3.4	3.6
Wave Height > 9 feet [1]	9.8	9.8	10.3	12.6	15.3	11.1	11.2	8.1	7.6	60	7.4	9.1	10.1
Visibility < 2 nautical miles [1]	8.0	8.6	5.7	4.1	5.2	7.0	9.4	10.0	11.8	9.7	9.4	10.4	8.2
Precipitation [1]	11.1	10.5	9.4	5.6	3.2	2.3	1.8	1.6	2.0	4.4	9.0	12.0	5.6
Temperature > 69° F	0.2	0.1	1.0	0.3	1.2	2.4	2.3	3.8	3.1	1.6	0.7	0.1	1.5
Mean Temperature (°F)	52.3	52.9	53.6	53.6	55.3	57.4	59.1	60.4	60.5	58.9	56.2	53.5	56.4
Temperature < 33° F [1]	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean RH (%)	82	81	80	80	82	84	85	85	85	85	82	82	83
Overcast or Obscured [1]	33.6	34.2	29.5	25.1	26.3	31.2	39.2	38.6	34.2	29.0	31.4	34.9	32.3
Mean Cloud Cover (8ths)	5.0	5.0	4.7	4.4	4.2	4.3	4.7	4.6	4.3	4.2	4.6	5.0	4.6
Mean SLP (mbs)	1019	1019	1018	1018	1017	1016	1016	1015	1015	1017	1019	1019	1017
Ext. Max. SLP (mbs)	1047	1036	1041	1043	1043	1042	1035	1030	1030	1033	1041	1051	1051
Ext. Min. SLP (mbs)	985	984	982	994	993	996	998	997	1000	995	985	991	982
Prevailing Wind Direction	N	NW	NW	NW	NW	NW	NW	NW	NW	NW	N	N	NW
Thunder and Lightning [1]	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.1	0.3	0.2

COASTAL AREA OFF EUREKA, CA
Between 40°N to 42°N and 124°W to 127°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Wind > 33 knots [1]	6.5	5.1	4.4	3.2	4.6	3.4	3.7	2.4	3.2	2.9	4.2	6.0	4.1
Wave Height > 9 feet [1]	10.8	8.8	10.7	5.5	9.9	7.4	8.8	5.9	6.9	5.0	7.7	11.3	8.2
Visibility < 2 nautical miles [1]	6.9	7.2	5.3	3.2	4.6	6.6	11.0	11.0	11.1	9.8	8.9	7.4	7.7
Precipitation [1]	15.1	12.9	12.2	8.2	4.3	3.2	2.1	3.2	3.3	6.1	12.3	15.0	7.6
Temperature > 69° F	0.0	0.0	0.0	0.1	0.2	0.8	0.9	2.2	1.7	0.8	0.2	0.0	0.6
Mean Temperature (°F)	51.7	51.8	52.1	52.6	54.2	56.7	58.2	59.5	59.5	57.6	55.0	52.5	55.3
Temperature < 33° F [1]	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Mean RH (%)	84	83	82	81	83	84	86	87	86	85	83	83	84
Overcast or Obscured [1]	38.8	39.8	35.8	31.6	31.4	32.4	40.4	40.5	35.5	33.2	36.5	37.5	36.1
Mean Cloud Cover (8ths)	5.4	5.5	5.3	4.9	4.8	4.6	4.8	4.8	4.3	4.5	5.2	5.4	4.9
Mean SLP (mbs)	1018	1018	1018	1019	1019	1018	1017	1017	1015	1017	1018	1018	1018
Ext. Max. SLP (mbs)	1042	1060	1047	1036	1050	1045	1043	1042	1044	1043	1037	1038	1060
Ext. Min. SLP (mbs)	960	982	984	985	992	992	998	993	990	987	978	984	960
Prevailing Wind Direction	S	S	N	N	N	N	N	N	N	N	N	S	N
Thunder and Lightning [1]	0.3	0.8	0.2	0.3	0.1	0.2	0.1	0.0	0.2	0.4	0.5	0.4	0.3

COASTAL AREA OFF NORTH BEND, OR
Between 42°N to 44°N and 124°W to 127°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Wind > 33 knots [1]	6.5	5.8	4.0	2.4	1.6	2.3	2.1	1.3	1.4	1.8	4.5	5.6	2.9
Wave Height > 9 feet [1]	11.9	11.4	9.8	5.5	5.4	4.7	5.2	3.2	3.3	4.9	11.3	12	6.5
Visibility < 2 nautical miles [1]	6.3	6.9	4.5	5.0	4.5	4.9	7.7	14.8	8.7	9.8	5.9	7.1	7.4
Precipitation [1]	18.7	17.7	15.9	10.1	7.6	5.7	3.6	4.0	4.6	6.8	15.2	18.2	9.3
Temperature > 69° F	0.0	0.0	0.0	0.1	0.3	0.7	1.3	1.5	1.2	0.4	0.1	0.1	0.6
Mean Temperature (°F)	49.7	50.0	50.3	51.5	53.6	56.5	58.9	59.3	59.8	57.0	54.0	51.1	55.0
Temperature < 33° F [1]	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Mean RH (%)	83	82	82	81	82	84	86	87	86	85	83	83	84
Overcast or Obscured [1]	42.9	43.2	39.4	34.0	33.6	37.0	37.6	43.6	32.9	34.4	41.4	40.4	38.0
Mean Cloud Cover (8ths)	5.7	5.7	5.6	5.2	5.1	5.3	4.8	5.2	4.4	4.7	5.5	5.6	5.2
Mean SLP (mbs)	1018	1017	1017	1019	1019	1019	1019	1017	1016	1018	1018	1018	1018
Ext. Max. SLP (mbs)	1037	1051	1039	1043	1042	1046	1040	1037	1038	1050	1050	1045	1051
Ext. Min. SLP (mbs)	969	973	984	980	988	995	997	992	985	982	976	961	961
Prevailing Wind Direction	S	S	S	N	N	N	N	N	N	N	S	S	N
Thunder and Lightning [1]	0.4	0.7	0.1	0.2	0.2	0.1	0.1	0.1	0.3	0.3	0.6	0.5	0.3

[1] Percentage Frequency

These data are based upon observations made by ships in transit. These ships tend to avoid bad weather when possible thus biasing the data toward good weather samples.

METEOROLOGICAL TABLES

COASTAL AREA OFF NEWPORT, OR Between 44°N to 46°N and 123°W to 127°W													
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**ANNUAL**
Wind > 33 knots [1]	6.0	3.8	3.2	1.2	0.6	0.5	0.4	0.3	0.4	2.0	4.6	7.9	2.0
Wave Height > 9 feet [1]	12.4	7.7	8.9	3.5	2.8	2.2	1.8	1.7	2.2	4.4	9.9	13.9	4.6
Visibility < 2 nautical miles [1]	6.1	8.0	4.5	3.4	4.2	4.0	4.4	7.5	6.5	7.1	6.5	7.3	5.7
Precipitation [1]	20.7	18.1	16.3	12.7	8.8	7.9	4.7	5.9	6.7	11.4	16.9	19.5	10.8
Temperature > 69° F	0.0	0.0	0.0	0.0	0.2	0.6	1.5	1.7	1.5	0.4	0.1	0.0	0.6
Mean Temperature (°F)	48.2	48.6	48.9	50.4	53.6	57.0	59.9	60.4	60.7	57.4	53	49.7	55.1
Temperature < 33° F [1]	0.5	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.1
Mean RH (%)	82	82	81	81	81	82	84	85	84	83	82	84	83
Overcast or Obscured [1]	44.8	42.6	39.4	34.6	35.5	40.6	40.0	40.1	34.0	33.6	40.4	44.1	38.8
Mean Cloud Cover (8^{ths})	6.0	5.8	5.7	5.5	5.5	5.8	5.5	5.5	4.8	5.0	5.7	5.9	5.5
Mean SLP (mbs)	1017	1017	1016	1019	1019	1019	1019	1018	1017	1018	1017	1017	1018
Ext. Max. SLP (mbs)	1040	1055	1042	1052	1049	1044	1042	1041	1055	1040	1043	1044	1055
Ext. Min. SLP (mbs)	970	960	972	986	993	990	996	992	985	966	981	964	960
Prevailing Wind Direction	S	S	S	N	N	N	N	N	N	N	S	S	N
Thunder and Lightning [1]	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.6	0.3	0.3

COASTAL AREA OFF ASTORIA, WA Between 46°N to 48°N and 122°W to 127°W													
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**ANNUAL**
Wind > 33 knots [1]	5.1	4.9	3.9	1.4	0.7	0.3	0.1	0.3	0.5	2.4	5.1	6.6	2.3
Wave Height > 9 feet [1]	8.0	6.9	5.9	3.4	1.9	1.7	1.3	0.9	1.3	4.0	8.7	9.3	4.0
Visibility < 2 nautical miles [1]	8.0	7.0	5.8	3.6	4.5	4.7	5.7	8.7	6.7	7.5	5.7	7.8	6.3
Precipitation [1]	21.1	19.7	17.6	13.1	10.9	8.6	5.1	6.5	7.8	12.5	20.0	22.0	13.0
Temperature > 69° F	0.0	0.0	0.0	0.0	0.2	0.6	2.1	2.0	1.2	0.2	0.0	0.0	0.6
Mean Temperature (°F)	45.6	47.0	47.7	49.6	52.9	56.4	59.5	60.3	59.8	56.1	50.9	47.6	53.4
Temperature < 33° F [1]	2.3	0.6	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	1.4	0.4
Mean RH (%)	84	84	82	82	84	84	85	87	85	84	83	84	84
Overcast or Obscured [1]	46.4	43.7	38.4	35.0	36.3	41.5	42.1	41.9	32.3	35.4	41.7	45.6	39.9
Mean Cloud Cover (8^{ths})	6.0	5.9	5.6	5.6	5.7	6.0	5.6	5.5	4.8	5.2	5.8	6.0	5.6
Mean SLP (mbs)	1017	1016	1016	1018	1018	1018	1019	1018	1017	1017	1016	1017	1017
Ext. Max. SLP (mbs)	1045	1041	1058	1040	1050	1043	1038	1037	1049	1040	1042	1050	1058
Ext. Min. SLP (mbs)	970	975	974	978	985	988	991	991	978	980	964	963	963
Prevailing Wind Direction	S	S	S	NW	NW	NW	NW	NW	N	S	S	S	NW
Thunder and Lightning [1]	0.2	0.3	0.3	0.1	0.2	0.1	0.1	0.2	0.3	0.3	0.5	0.3	0.2

COASTAL AREA OFF SEATTLE, WA Between 48°N to 50°N and 122°W to 129°W													
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**ANNUAL**
Wind > 33 knots [1]	3.6	2.8	2.3	1.2	0.8	0.6	0.3	0.3	0.5	1.7	3.1	3.4	1.6
Wave Height > 9 feet [1]	17.4	18.0	16.8	15.0	6.7	6.1	1.9	2.1	4.7	16.0	24.0	30.5	12.3
Visibility < 2 nautical miles [1]	11.4	10.4	8.1	7.1	6.6	6.7	9.2	14.0	12.0	13.2	11.7	12.1	10.3
Precipitation [1]	24.4	24.4	19.6	16.7	13.5	10.8	7.5	5.8	9.2	16.6	24.0	24.9	15.6
Temperature > 69° F	0.0	0.0	0.0	0.1	0.5	1.6	3.0	2.8	1.2	0.3	0.0	0.0	0.9
Mean Temperature (°F)	44.0	45.3	46.1	48.7	52.8	56.3	58.8	59.3	58.2	53.7	48.3	45.5	52.1
Temperature < 33° F [1]	3.3	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.4
Mean RH (%)	84	84	82	82	82	82	84	85	84	84	83	84	83
Overcast or Obscured [1]	46.3	43.3	34.5	32.8	32.7	33.1	32.6	32.9	30.6	36.5	38.4	41.3	35.8
Mean Cloud Cover (8^{ths})	6.2	6.0	5.5	5.5	5.4	5.5	5.1	5.0	4.7	5.4	5.9	6.0	5.5
Mean SLP (mbs)	1014	1015	1014	1016	1017	1017	1018	1017	1017	1016	1014	1014	1016
Ext. Max. SLP (mbs)	1041	1057	1041	1060	1044	1042	1048	1040	1050	1041	1043	1048	1060
Ext. Min. SLP (mbs)	951	974	967	977	987	988	993	990	973	967	966	964	951
Prevailing Wind Direction	SE	SE	SE	NW	NW	NW	NW	NW	NW	SE	SE	SE	NW
Thunder and Lightning [1]	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.2

[1] Percentage Frequency

These data are based upon observations made by ships in transit. These ships tend to avoid bad weather when possible thus biasing the data toward good weather samples.

METEOROLOGICAL TABLES

COASTAL AREA OFF HAWAI'IAN (WINDWARD) ISLANDS
Between 18°N to 22°N and 154°W to Island

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Wind > 33 knots [1]	1.4	0.8	1.3	0.4	0.0	0.1	0.2	0.2	0.1	0.2	1.1	1.9	0.6
Wave Height > 9 feet [1]	4.0	4.0	5.6	3.9	2.5	1.3	1.9	1.8	0.5	1.8	4.7	6.3	3.2
Visibility < 2 nautical miles [1]	1.2	0.6	0.3	0.5	0.2	0.3	0.2	1.0	0.6	0.4	0.6	0.3	0.5
Precipitation [1]	5.7	5.5	5.6	5.8	3.1	6.4	4.0	5.4	3.1	2.7	5.7	4.0	4.8
Temperature > 69° F	89.9	84.7	87.5	85.8	93.2	94.2	99.7	99.9	99.8	99.6	99.1	95.5	93.8
Mean Temperature (°F)	74.1	73.5	73.5	74.1	75.6	76.7	77.7	78.5	78.7	78.3	76.8	75.0	76.0
Temperature < 33° F [1]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean RH (%)	79	79	78	78	77	77	78	79	77	77	78	78	78
Overcast or Obscured [1]	12.5	13.0	14.7	13.2	7.6	7.1	6.9	7.0	5.7	8.4	11.9	11.0	9.9
Mean Cloud Cover (8ths)	4.1	4.2	4.5	4.5	4.1	4.3	4.2	4.1	3.9	4.0	4.4	4.1	4.2
Mean SLP (mbs)	1015	1016	1017	1017	1017	1017	1017	1016	1015	1015	1016	1016	1016
Ext. Max. SLP (mbs)	1030	1033	1038	1030	1028	1030	1030	1030	1031	1030	1033	1028	1038
Ext. Min. SLP (mbs)	998	996	997	1001	1002	1002	1002	1002	1001	999	1000	1001	996
Prevailing Wind Direction	E	E	E	E	E	E	E	E	E	E	E	E	E
Thunder and Lightning [1]	0.7	0.4	0.4	0.3	0.1	0.1	0.1	0.3	0.2	0.3	0.4	0.4	0.3

COASTAL AREA OFF HAWAI'IAN (LEEWARD) ISLANDS
Between 18°N to 22°N and from Island to 160°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Wind > 33 knots [1]	0.5	0.4	0.8	0.4	0.1	0.1	0.1	0.2	0.1	0.2	0.4	0.9	0.3
Wave Height > 9 feet [1]	2.3	2.5	2.9	2.0	0.9	0.7	1.2	0.9	0.9	1.5	2.2	4.5	1.8
Visibility < 2 nautical miles [1]	0.7	0.7	0.3	0.5	0.3	0.3	0.2	0.2	0.2	0.3	0.5	0.4	0.4
Precipitation [1]	4.0	4.6	4.0	3.7	3.2	2.2	2.1	2.2	2.1	2.8	3.9	4.5	3.2
Temperature > 69° F	94.7	93.6	93.1	97.0	99.1	99.8	99.8	99.9	99.9	99.8	99.7	97.6	97.8
Mean Temperature (°F)	75.1	74.7	74.7	75.7	77.1	78.5	79.2	79.7	80	79.3	77.9	76.2	77.4
Temperature < 33° F [1]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean RH (%)	77	77	77	78	77	77	77	77	77	77	78	78	77
Overcast or Obscured [1]	9.0	10.4	11.9	11.6	7.0	5.4	4.1	4.2	4.8	7.4	9.6	10.4	8.0
Mean Cloud Cover (8ths)	3.7	3.8	4.1	4.2	4.0	4.0	3.8	3.6	3.6	3.9	4.0	4.0	3.9
Mean SLP (mbs)	1015	1015	1016	1017	1017	1016	1016	1016	1015	1015	1015	1015	1016
Ext. Max. SLP (mbs)	1032	1030	1037	1031	1031	1031	1031	1032	1031	1032	1032	1033	1037
Ext. Min. SLP (mbs)	993	998	1000	1000	1001	1002	1003	1001	1000	999	998	998	993
Prevailing Wind Direction	E	E	E	E	E	E	E	E	E	E	E	E	E
Thunder and Lightning [1]	0.4	0.5	0.5	0.3	0.2	0.1	0.2	0.1	0.2	0.4	0.7	0.5	0.3

COASTAL AREA OFF BARKING SANDS, HI
Between 36°N to 38°N and 72°W to 76°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Wind > 33 knots [1]	0.6	0.4	0.6	0.2	0.1	0.3	0.2	0.1	0.0	0.2	0.8	0.7	0.3
Wave Height > 9 feet [1]	3.0	6.2	5.0	5.3	1.8	1.5	2.9	1.4	0.9	1.7	4.5	7.7	3.4
Visibility < 2 nautical miles [1]	0.7	0.4	0.3	0.3	0.2	0.1	0.1	0.2	0.5	0.4	0.4	0.6	0.3
Precipitation [1]	3.8	3.5	4.3	3.9	2.4	1.8	2.1	3.0	2.0	3.1	4.6	5.3	3.3
Temperature > 69° F	84.1	77.0	80.4	88.0	96.1	98.5	99.8	99.9	99.5	99.0	98.3	93.3	93.0
Mean Temperature (°F)	73.4	72.7	73.0	73.7	75.2	76.9	77.9	78.8	79.1	78.0	76.6	74.5	75.9
Temperature < 33° F [1]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean RH (%)	78	78	78	78	79	80	79	79	78	77	78	78	78
Overcast or Obscured [1]	11.3	13.9	13.5	12.4	8.7	5.1	4.6	4.7	3.6	8.7	11.9	14.7	9.3
Mean Cloud Cover (8ths)	3.9	4.2	4.3	4.4	4.2	3.9	4.0	4.0	3.7	3.9	4.1	4.3	4.1
Mean SLP (mbs)	1015	1016	1018	1018	1018	1018	1017	1017	1016	1016	1016	1016	1017
Ext. Max. SLP (mbs)	1028	1031	1031	1032	1030	1030	1027	1026	1030	1026	1032	1029	1032
Ext. Min. SLP (mbs)	997	999	998	1000	1007	1002	1004	1002	1002	1001	1002	995	995
Prevailing Wind Direction	E	E	E	E	E	E	E	E	E	E	E	E	E
Thunder and Lightning [1]	0.6	0.3	0.3	0.5	0.3	0.1	0.3	0.5	0.3	0.5	0.7	0.7	0.4

[1] Percentage Frequency

These data are based upon observations made by ships in transit. These ships tend to avoid bad weather when possible thus biasing the data toward good weather samples.

METEOROLOGICAL TABLES

COASTAL AREA OFF FRENCH FRIGATE SHOALS Between 23°N to 25°N and 165°W to 168°W													
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**ANNUAL**
Wind > 33 knots [1]	1.7	1.3	0.4	0.9	0.2	0.0	0.3	0.0	0.1	0.3	1.6	1.4	0.7
Wave Height > 9 feet [1]	6.7	5.4	3.5	5.2	1.5	0.5	1.5	0.3	0.4	3.0	3.1	7.5	3.1
Visibility < 2 nautical miles [1]	1.1	0.9	0.8	0.3	0.3	0.2	0.4	0.4	0.0	0.3	0.6	0.6	0.5
Precipitation [1]	5.4	4.8	6.1	4.8	4.2	1.8	2.8	4.2	2.9	4.0	6.7	4.5	4.4
Temperature > 69° F	68.7	66.4	68.5	80.7	94.1	99.6	99.9	99.9	100	99.8	97.9	87.1	88.9
Mean Temperature (°F)	72.0	71.7	71.9	73.1	75.0	77.9	78.7	79.4	79.4	78.5	76.4	73.8	75.7
Temperature < 33° F [1]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean RH (%)	77	78	79	78	79	79	79	79	78	77	78	76	78
Overcast or Obscured [1]	16.8	14.1	16.1	16.1	10.8	3.9	4.4	7.0	5.0	9.5	14.9	13.6	11
Mean Cloud Cover (8^{ths})	4.6	4.2	4.6	4.8	4.3	3.9	4.2	4.2	3.9	4.3	4.5	4.4	4.3
Mean SLP (mbs)	1015	1016	1018	1019	1018	1018	1018	1017	1016	1016	1016	1016	1017
Ext. Max. SLP (mbs)	1029	1027	1030	1031	1026	1027	1029	1026	1022	1026	1029	1034	1034
Ext. Min. SLP (mbs)	991	1000	1001	998	1002	1004	1009	1007	1002	1004	1003	991	991
Prevailing Wind Direction	E	E	E	E	E	E	E	E	E	E	E	E	E
Thunder and Lightning [1]	0.1	0.3	0.4	0.4	0.1	0.2	0.2	0.4	0.2	0.6	0.7	0.5	0.4

COASTAL AREA OFF MIDWAY ISLAND Between 27°N to 28°N and 176°W to 179°W													
WEATHER ELEMENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**ANNUAL**
Wind > 33 knots [1]	4.1	3.0	2.2	0.8	0.1	0.0	0.2	0.0	0.1	0.3	1.3	3.4	1.4
Wave Height > 9 feet [1]	11.0	12.2	4.7	2.8	1.6	0.2	1.0	0.9	1.4	2.0	7.3	11.2	5.3
Visibility < 2 nautical miles [1]	0.9	0.4	0.6	0.8	0.7	1.1	0.1	0.0	0.1	0.2	1.1	0.8	0.6
Precipitation [1]	7.6	6.2	5.3	6.6	4.0	4.5	5.9	5.3	5.9	4.7	6.5	6.0	5.7
Temperature > 69° F	23.9	17.0	27.2	38.6	65.6	96.4	99.7	99.8	99.8	97.0	81.6	49.5	64.5
Mean Temperature (°F)	67.7	66.8	68.1	69.4	72.5	76.9	79.3	80.2	79.7	76.7	73.8	70.4	73.2
Temperature < 33° F [1]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean RH (%)	77	77	79	79	80	80	80	80	78	78	78	78	79
Overcast or Obscured [1]	24.3	21.9	22.6	22.0	16.6	13.3	7.4	9.4	13.2	12.8	17.3	21.2	17.1
Mean Cloud Cover (8^{ths})	5.3	5.0	5.0	5.1	4.9	4.5	4.3	4.5	4.5	4.6	4.8	5.0	4.8
Mean SLP (mbs)	1015	1016	1019	1021	1019	1019	1020	1019	1017	1018	1017	1017	1018
Ext. Max. SLP (mbs)	1030	1033	1032	1044	1030	1029	1032	1033	1035	1029	1030	1035	1044
Ext. Min. SLP (mbs)	987	998	993	1001	998	1002	1008	1002	1002	1002	1001	983	983
Prevailing Wind Direction	W	W	E	E	E	E	E	E	E	E	E	SW	E
Thunder and Lightning [1]	0.9	0.2	0.4	0.3	0.0	0.0	1.3	0.4	0.7	0.3	0.5	0.1	0.4

[1] Percentage Frequency

These data are based upon observations made by ships in transit. These ships tend to avoid bad weather when possible thus biasing the data toward good weather samples.

Atmospheric Pressure Conversion Table

Inches	Millibars	Inches	Millibars	Inches	Millibars
28.44	963	29.32	993	30.21	1023
28.53	966	29.41	996	30.30	1026
28.62	969	29.50	999	30.39	1029
28.70	972	29.59	1002	30.48	1032
28.79	975	29.68	1005	30.56	1035
28.88	978	29.77	1008	30.65	1038
28.97	981	29.86	1011	30.74	1041
29.06	984	29.94	1014	30.83	1044
29.15	987	30.03	1017	30.92	1047
29.24	990	30.12	1020	31.01	1050

Mean Surface Water Temperatures and Densities

		La Jolla, CA	Newport Bay, CA	Los Angeles (Outer Harbor), CA	Santa Monica, CA	Avila Beach, CA	Pacific Grove, CA	San Francisco (Fort Point), CA	Alameda, CA	Crescent City, CA	Astoria (Tongue Point), OR	Neah Bay, WA	Seattle (Elliot Bay), WA	Hilo, HI	Honolulu, HI	Kaneohe Bay, HI	Midway Island
Years of Record		56	17	49	27	27	51	51	33	37	48	37	50	26	28	16	28
Jan	Temp (°C)	13.9	14.0	13.9	13.5	12.4	11.8	10.4	10.3	9.6	4.7	7.3	8.6	22.3	24.4	22.7	19.7
	Density	24.9	24.4	24.7	24.9	24.5	24.7	21.1	17.3	20.8	0.1	22.4	20.4	19.6	25.4	25.3	26.4
Feb	Temp (°C)	13.9	14.5	14.2	13.7	12.5	12.0	10.9	11.9	9.9	5.4	7.4	8.2	22.2	24.3	22.7	19.5
	Density	24.8	24.4	24.6	24.9	24.4	24.6	20.0	15.6	20.7	-0.2	22.2	20.0	19.2	25.6	25.4	26.4
Mar	Temp (°C)	14.4	15.4	14.7	13.9	12.3	12.2	11.6	13.9	10.2	7.4	7.9	8.2	22.1	24.3	23.3	20.1
	Density	24.8	24.5	24.8	25.0	24.7	24.6	19.9	15.7	21.1	-0.5	22.5	19.9	19.0	25.6	25.1	26.5
Apr	Temp (°C)	15.4	16.6	15.4	14.7	12.5	12.4	12.4	16.1	10.7	10.5	9.1	8.9	22.2	24.7	23.8	21.0
	Density	24.9	24.5	24.9	25.0	24.9	24.7	20.0	16.5	21.8	-0.7	22.7	19.5	17.6	25.8	25.3	26.5
May	Temp (°C)	16.9	17.7	16.2	15.7	13.1	12.8	13.1	17.8	11.5	13.4	10.6	10.3	22.7	25.4	25.1	22.7
	Density	25.0	24.9	25.1	25.2	25.2	24.9	20.7	17.6	22.6	-0.7	23.2	19.5	18.2	25.8	25.4	26.6
Jun	Temp (°C)	18.4	19.0	17.7	17.5	14.1	13.4	13.9	19.4	12.5	15.8	11.6	11.9	23.3	26.0	26.2	25.1
	Density	25.0	25.0	25.1	25.2	25.4	25.0	21.5	18.7	23.3	-0.6	23.2	19.9	18.9	25.8	25.9	26.7
Jul	Temp (°C)	19.9	20.3	18.9	19.2	15.4	13.8	14.7	20.5	13.6	18.6	11.8	13.1	23.7	26.4	26.3	26.4
	Density	25.0	25.0	25.1	25.2	25.4	25.0	22.9	20.5	24.0	-0.5	23.7	20.7	18.5	25.9	25.9	26.7
Aug	Temp (°C)	20.8	21.2	19.7	19.9	15.9	13.9	15.2	20.5	14.3	19.3	11.6	13.4	23.9	26.8	26.6	26.9
	Density	25.0	25.0	25.1	25.2	25.3	25.0	23.7	21.8	24.1	-0.2	23.9	21.4	18.6	25.9	26.0	26.6
Sep	Temp (°C)	19.3	19.9	19.0	19.0	15.7	14.2	15.5	20.2	13.5	17.5	11.3	13.0	24.2	26.9	26.7	26.9
	Density	24.9	25.0	25.1	25.1	25.2	25.0	23.8	22.4	24.2	0.4	23.8	21.8	19.2	25.9	26.0	26.6
Oct	Temp (°C)	18.0	18.7	18.1	17.6	15.0	13.7	14.8	17.7	12.1	14.0	10.6	12.2	24.1	26.9	26.2	25.1
	Density	24.9	24.9	25.0	25.0	25.1	24.9	23.8	21.9	24.0	1.0	23.4	21.8	19.5	25.9	25.9	26.5
Nov	Temp (°C)	16.3	16.4	16.5	15.7	13.9	12.9	13.0	14.4	11.2	9.4	9.4	10.8	23.5	26.1	24.7	23.2
	Density	24.9	24.6	24.9	25.0	24.9	24.8	23.2	21.1	22.8	0.9	22.9	21.5	19.3	25.8	25.6	26.5
Dec	Temp (°C)	14.9	14.7	14.8	14.3	12.8	12.4	11.2	11.4	10.2	6.2	8.2	9.6	22.7	25.0	23.1	21.3
	Density	24.9	24.5	24.8	24.9	24.8	24.8	22.4	19.5	21.8	0.5	22.5	20.9	18.9	25.7	25.4	26.4
Mean	Temp (°C)	16.8	17.4	16.6	16.2	13.8	13.0	13.1	16.2	11.7	11.8	9.7	10.7	23.1	25.6	24.8	23.2
	Density	24.9	24.7	24.9	25.0	25.0	24.8	21.9	19.0	22.6	0.0	23.0	20.6	18.9	25.8	25.6	26.5

F (Fahrenheit) = 1.8C (Celsius) + 32

Density as used in this table is the specific gravity of the sea water or the ratio between the weight of a sea-water sample and the weight of an equal volume of distilled water at 15°C (59°F).

Table for Estimating Time of Transit

	Speed (knots)																		
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	30
	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours	days/ hours
Distance (nautical miles)																			
10	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	-	-	-	-	-	-
20	0/3	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
30	0/4	0/3	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1	0/1	0/1	0/1	0/1	0/1
40	0/5	0/4	0/4	0/4	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/1
50	0/6	0/6	0/5	0/5	0/4	0/4	0/4	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2	0/2	0/2	0/2	0/2
60	0/8	0/7	0/6	0/5	0/5	0/5	0/4	0/4	0/4	0/4	0/3	0/3	0/3	0/3	0/3	0/3	0/3	0/2	0/2
70	0/9	0/8	0/7	0/6	0/6	0/5	0/5	0/5	0/4	0/4	0/4	0/4	0/4	0/3	0/3	0/3	0/3	0/3	0/2
80	0/10	0/9	0/8	0/7	0/7	0/6	0/6	0/5	0/5	0/5	0/4	0/4	0/4	0/4	0/4	0/3	0/3	0/3	0/3
90	0/11	0/10	0/9	0/8	0/8	0/7	0/6	0/6	0/6	0/5	0/5	0/5	0/5	0/4	0/4	0/4	0/4	0/4	0/3
100	0/13	0/11	0/10	0/9	0/8	0/8	0/7	0/7	0/6	0/6	0/6	0/5	0/5	0/5	0/5	0/4	0/4	0/4	0/3
200	1/1	0/22	0/20	0/18	0/17	0/15	0/14	0/13	0/13	0/12	0/11	0/11	0/10	0/10	0/9	0/9	0/8	0/8	0/7
300	1/14	1/9	1/6	1/3	1/1	0/23	0/21	0/20	0/19	0/18	0/17	0/16	0/15	0/14	0/14	0/13	0/13	0/12	0/10
400	2/2	1/20	1/16	1/12	1/9	1/7	1/5	1/3	1/1	1/0	0/22	0/21	0/20	0/19	0/18	0/17	0/17	0/16	0/13
500	2/15	2/8	2/2	1/21	1/18	1/14	1/12	1/9	1/7	1/5	1/4	1/2	1/1	1/0	0/23	0/22	0/21	0/20	0/17
600	3/3	2/19	2/12	2/7	2/2	1/22	1/19	1/16	1/14	1/11	1/9	1/8	1/6	1/5	1/3	1/2	1/1	1/0	0/20
700	3/16	3/6	2/22	2/16	2/10	2/6	2/2	1/23	1/20	1/17	1/15	1/13	1/11	1/9	1/8	1/6	1/5	1/4	0/23
800	4/4	3/17	3/8	3/1	2/19	2/14	2/9	2/5	2/2	1/23	1/20	1/18	1/16	1/14	1/12	1/11	1/9	1/8	1/3
900	4/17	4/4	3/18	3/10	3/3	2/21	2/16	2/12	2/8	2/5	2/2	1/23	1/21	1/19	1/17	1/15	1/14	1/12	1/6
1000	5/5	4/15	4/4	3/19	3/11	3/5	2/23	2/19	2/15	2/11	2/8	2/5	2/2	2/0	1/21	1/19	1/18	1/16	1/9
2000	10/10	9/6	8/8	7/14	6/23	6/10	5/23	5/13	5/5	4/22	4/15	4/9	4/4	3/23	3/19	3/15	3/11	3/8	2/19
3000	15/15	13/21	12/12	11/9	10/10	9/15	8/22	8/8	7/20	7/8	6/23	6/14	6/6	5/23	5/16	5/10	5/5	5/0	4/4
4000	20/20	18/21	16/16	15/4	13/21	12/20	11/22	11/3	10/10	9/19	9/6	8/19	8/8	7/22	7/14	7/6	6/23	6/16	5/13
5000	26/1	23/4	20/20	18/23	17/9	16/1	14/21	13/21	13/1	12/6	11/14	10/23	10/10	9/22	9/11	9/1	8/16	8/8	6/23
6000	31/6	27/19	25/0	22/17	20/20	19/6	17/21	16/16	15/15	14/17	13/21	13/4	12/12	11/22	11/9	10/21	10/10	10/0	8/8

Determination of Wind Speed by Sea Condition

Miles per hour	Knots	Descriptive	Sea Conditions	Wind Force (Beaufort)	Probable Wave Height (feet)
0-1	0-1	Calm	Sea smooth and mirror like	0	-
1-3	1-3	Light Air	Scale-like ripples without foam crests	1	¼
4-7	4-6	Light Breeze	Small, short wavelets; crests have a glassy appearance and do not break.	2	½
8-12	7-10	Gentle Breeze	Large wavelets; some crests begin to break; foam has glassy appearance. Occasional white foam crests.	3	2
13-18	11-16	Moderate Breeze	Small waves, become longer; fairly frequent white foam crests.	4	4
19-24	17-21	Fresh Breeze	Moderate waves, taking a more pronounced long form; many white foam crests; there may be some spray.	5	6
25-31	22-27	Strong Breeze	Large waves begin to form; white foam crests are more extensive everywhere; there may be some spray.	6	10
32-38	28-33	Near Gale	Sea heaps up and white foam from breaking waves begin to be blown in streaks along the direction of the wind; spindrift begins.	7	14
39-46	34-40	Gale	Moderately high waves of greater length; edges of crests break into spindrift; foam is blown in well-marked streaks along the direction of the wind.	8	18
47-54	41-47	Strong Gale	High waves; dense streaks of foam along the direction of the wind; crests of waves begin to topple, tumble and roll over; spray may reduce visibility.	9	23
55-63	48-55	Storm	Very high waves with long overhanging crests. The resulting foam in great patches is blown in dense white streaks along the direction of the wind. On the whole, the surface of the sea is white in appearance. The tumbling of the sea becomes heavy and shock-like. Visibility is reduced.	10	29
64-72	56-63	Violent Storm	Exceptionally high waves that may obscure small and medium-sized ships. The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere the edges of the wave crests are blown into froth. Visibility is reduced.	11	37
73+	64+	Hurricane	The air is filled with foam and spray. Sea completely white with driving spray; visibility is very much reduced.	12	45

Pacific Ocean Distances
(nautical miles)

	Midway Island	Port Allen, HI	Nawiliwili, HI	Pearl Harbor, HI	Honolulu, HI	Kahalui, HI	Kawaihae, HI	Hilo, HI	Kuluk Bay, AK	Unimak Pass, AK	Kodiak, AK	Anchorage, AK	Seward, AK	Port Valdez, AK	Cape Spencer, AK	Sitka, AK	Ketchikan, AK	Seattle, WA	Swiftsure Bank, WA	Cape Flattery, WA	Portland, OR	Astoria, OR	San Francisco, CA	Los Angeles, CA	Long Beach, CA	San Diego, CA
Panama Canal 8°53.0'N., 79°31.0'W.	5707	4777	4767	4690	4685	4609	4594	4527	5604	5228	4924	5117	4940	4984	4603	4538	4387	4044	-	3920	3888	3803	3270	2939	2939	2867
San Diego, CA 32°43.0'N., 117°10.5'W.	3097	2347	2330	2283	2278	2212	2219	2175	2806	2412	2115	2303	2124	2174	1787	1723	1575	1228	-	1104	1074	989	455	95	94	-
Long Beach, CA 33°46.2'N., 118°13.3'W.	3034	2302	2284	2241	2236	2173	2183	2143	2725	2331	2034	2223	2043	2092	1707	1643	1497	1148	-	1024	992	908	374	3	-	
Los Angeles, CA 33°45.0'N., 118°16.2'W.	3031	2299	2281	2238	2233	2170	2180	2140	2722	2328	2031	2220	2040	2089	1703	1639	1493	1144	-	1020	989	904	371	-		
San Francisco, CA 37°48.5'N., 122°24.0'W.	2792	2146	2128	2096	2091	2036	2051	2019	2403	1990	1693	1882	1702	1745	1366	1302	1156	807	-	683	652	567	-			
Astoria, OR 46°11.7'N., 123°50.0'W.	2724	2281	2262	2251	2246	2207	2235	2214	2071	1626	1261	1435	1242	1239	883	815	660	278	-	153	85	-				
Portland, OR 45°33.0'N., 122°41.7'W.	2809	2366	2347	2336	2331	2292	2320	2299	2156	1711	1346	1520	1327	1324	968	900	745	362	-	238	-					
Cape Flattery, WA 48°26.0'N., 124°47.0'W.	2694	2308	2289	2290	2285	2245	2276	2260	-	-	-	-	-	-	-	-	-	124	10	-						
Swiftsure Bank, WA 48°31.0'N., 125°00.0'W.	-	-	-	-	-	-	-	-	1973	1510	1124	1294	1100	1100	739	681	518	134	-							
Seattle, WA 47°36.2'N., 122°20.3'W.	2818	2432	2413	2414	2409	2369	2400	2384	2107	1644	1258	1428	1234	1234	976*	815	659*	-								
Ketchikan, AK 55°20.5'N., 131°38.7'W.	2570	2387	2368	2388	2383	2361	2405	2398	1656	1193	742	892	682	713	307	224	-									
Sitka, AK 57°03.1'N., 135°20.5'W.	2481	2380	2361	2390	2385	2365	2412	2410	1490	1027	564	708	464	479	85	-										
Cape Spencer, AK 58°10.0'N., 136°38.3'W.	2472	2407	2388	2416	2411	2398	2445	2447	1450	987	505	641	422	400	-											
Port Valdez 61°06.0'N., 146°24.0'W.	2386	2445	2429	2473	2468	2463	2513	2524	1224	761	280	385	144	-												
Seward, AK 60°06.0'N., 149°26.0'W.	2250	2351	2332	2378	2373	2377	2432	2439	1115	652	175	274	-													
Anchorage, AK 61°14.2'N., 149°53.3'W.	2305	2459	2440	2482	2477	2479	2535	2542	1151	688	242	-														
Kodiak, AK 57°47.1'N., 152°25.1'W.	2088	2203	2184	2235	2230	2233	2289	2296	968	505	-															
Unimak Pass, AK 54°20.0'N., 164°45.0'W.	1680	1972	1963	2024	2028	2044	2110	2126	463	-																
Kuluk Bay, AK 51°51.6'N., 176°37.6'W.	1460	1990	1989	2057	2061	2099	2164	2198	-																	
Hilo, HI 19°44.1'N., 155°03.5'W.	1338	297	287	201	196	121	83	-																		
Kawaihae, HI 20°02.3'N., 155°49.9'W.	1278	240	230	145	140	85	-																			
Kahalui, HI 20°54.0'N., 156°28.2'W.	1232	193	181	94	89	-																				
Honolulu, HI 21°18.5'N., 157°52.3'W.	1150	106	96	9	-																					
Pearl Harbor, HI 21°20.0'N., 157°58.3'W.	1146	102	92	-																						
Nawiliwili, HI 21°57.4'N., 159°21.5'W.	1069	21	-																							
Port Allen, HI 24°51.1'N., 159°35.6'W.	1042	-																								
Midway Island 28°13.0'N., 177°22.0'W.	-																									

* via inside passage

Pacific Coast Distances – San Diego, California to Cape Flattery, Washington
(nautical miles)

	Cape Flattery, WA	Aberdeen, WA	South Bend, WA	Portland, OR	Vancouver, WA	Longview, WA	Astoria, OR	Garibaldi, OR	Depoe Bay, OR	Newport, OR	Florence, OR	Gardiner, OR	Coos Bay, OR	Crescent City, CA	Eureka, CA	Sacramento, CA	Stockton, CA	Oakland, CA	San Francisco, CA	Monterey, CA	Port San Luis, CA	Santa Barbara, CA	Port Hueneme, CA	Los Angeles, CA	Long Beach, CA	Newport Beach, CA
San Diego, CA 32°43.0'N., 117°10.5'W.	1104	1031	1019	1074	1070	1034	989	937	891	881	848	832	817	704	653	530	526	458	455	370	259	174	147	95	94	78
Newport Beach, CA 33°37.1'N., 117°55.5'W.	1038	965	953	1007	1003	967	922	871	825	815	782	766	751	638	587	464	460	392	389	304	193	108	81	27	25	-
Long Beach, CA 33°46.2'N., 118°13.3'W.	1024	951	939	992	988	953	908	857	810	800	768	751	736	624	572	449	445	377	374	290	179	94	66	3	-	
Los Angeles, CA 33°45.0'N., 118°16.2'W.	1020	947	935	989	985	949	904	853	807	797	764	748	733	620	569	446	442	374	371	286	175	90	62	-		
Port Hueneme, CA 34°09.0'N., 119°12.4'W.	961	888	876	930	925	890	845	794	748	737	706	689	674	561	510	387	383	315	312	228	116	29	-			
Santa Barbara, CA 34°24.5'N., 119°41.1'W.	937	864	852	905	901	866	821	770	723	713	681	664	649	537	485	362	358	290	287	203	91	-				
Port San Luis, CA 35°10.4'N., 120°44.8'W.	854	781	769	823	819	783	739	687	641	631	599	582	567	455	403	280	276	208	205	121	-					
Monterey, CA 36°36.5'N., 121°53.0'W.	746	673	661	714	710	675	630	579	532	522	490	474	459	346	294	171	167	100	96	-						
San Francisco, CA 37°48.5'N., 122°24.0'W.	683	610	598	652	647	612	567	516	469	459	427	411	396	283	232	79	75	3	-							
Oakland, CA 37°48.2'N., 122°19.5'W.	686	613	601	655	651	615	570	520	473	463	430	414	399	287	235	82	78	-								
Stockton, CA 37°57.2'N., 121°18.8'W.	755	682	670	723	719	684	639	588	541	531	498	482	467	354	303	75	-									
Sacramento, CA 38°33.8'N., 121°33.0'W.	758	685	673	727	722	687	642	591	544	534	502	486	471	358	307	-										
Eureka, CA 40°47.8'N., 124°11.2'W.	468	395	383	436	432	397	352	301	254	244	212	195	180	64	-											
Crescent City, CA 41°44.5'N., 124°11.4'W.	411	339	327	381	377	341	296	245	199	188	156	140	125	-												
Coos Bay, OR 43°22.4'N., 124°12.5'W.	321	244	232	285	281	246	201	150	101	92	59	42	-													
Gardiner, OR 43°43.9'N., 124°06.8'W.	298	221	209	262	258	223	178	127	78	69	36	-														
Florence, OR 43°58.0'N., 124°06.3'W.	273	196	184	238	234	198	153	102	54	43	-															
Newport, OR 44°37.8'N., 124°03.1'W.	235	158	146	200	196	160	115	63	16	-																
Depoe Bay, OR 44°48.6'N., 124°03.6'W.	222	144	133	186	182	146	101	50	-																	
Garibaldi, OR 45°33.3'N., 123°55.1'W.	179	102	90	142	138	103	58	-																		
Astoria, OR 46°11.7'N., 123°50.0'W.	153	75	63	85	80	45	-																			
Longview, WA 46°06.3'N., 122°57.7'W.	198	119	108	39	34	-																				
Vancouver, WA 45°37.6'N., 122°41.3'W.	234	155	143	13	-																					
Portland, OR 45°33.0'N., 122°41.7'W.	238	159	147	-																						
South Bend, WA 46°40.1'N., 123°47.5'W.	131	53	-																							
Aberdeen, WA 46°58.4'N., 123°48.5'W.	117	-																								
Cape Flattery, WA 48°26.0'N., 124°47.0'W.	-																									

San Francisco Bay Area Distances
(nautical miles)

		San Francisco	Hunters Point	Redwood City	Oakland	Richmond	Sausalito	San Rafael	Petaluma	Vallejo	Napa	Benicia	Pittsburg	Antioch	Stockton	Hills Ferry	Rio Vista	Sacramento	Knights Landing	Colusa	Chico Landing
Sacramento River	**Chico Landing** 39°42.6'N., 121°56.6'W.	197	203	219	200	194	196	192	204	178	193	171	159	163	174	246	146	119	89	42	-
	Colusa 39°13.0'N., 122°00.0'W.	155	161	177	158	152	154	150	162	136	151	129	117	121	132	204	104	77	47	-	
	Knights Landing 38°48.1'N., 121°43.1'W.	107	113	129	110	104	106	102	114	88	103	81	69	73	84	156	56	29	-		
	Sacramento 38°33.8'N., 121°33.0'W.	78	84	100	81	75	77	73	85	59	74	52	40	44	75	127	27	-			
	Rio Vista 38°09.3'N., 121°41.3'W.	52	58	73	55	49	51	47	58	33	48	26	14	17	48	100	-				
San Joaquin River	**Hills Ferry** 37°20.4'N., 120°58.5'W.	147	153	168	149	143	145	141	153	127	142	120	107	103	74	-					
	Stockton 37°57.2'N., 121°18.8'W.	75	81	96	78	71	73	69	81	55	70	48	35	31	-						
Suisun Bay	**Antioch** 38°01.1'N., 121°48.7'W.	44	50	65	47	40	42	38	50	24	39	17	3	-							
	Pittsburg 38°02.1'N., 121°52.6'W.	40	46	62	43	37	39	35	46	21	36	14	-								
	Benicia 38°02.4'N., 122°08.2'W.	27	33	49	30	24	25	21	33	8	22	-									
San Pablo Bay	**Napa** 38°17.7'N., 122°16.9'W.	37	43	58	40	34	36	32	43	15	-										
	Vallejo 38°05.3'N., 122°15.3'W.	23	29	44	26	19	21	17	28	-											
	Petaluma 38°14.1'N., 122°38.2'W.	33	39	54	36	29	31	27	-												
San Francisco Bay	**San Rafael** 37°58.1'N., 122°30.7'W.	13	19	35	16	9	11	-													
	Sausalito 37°51.6'N., 122°28.6'W.	5	11	27	8	7	-														
	Richmond 37°54.6'N., 122°21.7'W.	11	17	32	14	-															
	Oakland 37°54.6'N., 122°21.7'W.	3	7	22	-																
	Redwood City 37°30.8'N., 122°12.5'W.	22	16	-																	
	Hunters Point 37°43.5'N., 122°21.5'W.	6	-																		
	San Francisco 37°48.5'N., 122°24.0'W.	-																			

Distances on Columbia River System

(nautical and statute miles)

		Johnson Bar Landing, ID	Lewiston, ID	Central Ferry, WA	Ice Harbor Dam, WA	Harrisburg, OR	Corvalis, OR	Albany, OR	Salem, OR	Oregon City, OR	Portland, OR	Richland, WA	Pasco, WA	Port of Walla Walla, WA	McNary Lock & Dam	Umatilla, OR	Arlington, OR	John Day Lock & Dam	The Dalles Lock & Dam	Hood River (town), OR	Bonneville Lock & Dam	Vancouver, WA	St. Helens, OR	Longview, WA	Astoria, OR	Warrenton, OR	Ilwaco, WA	Columbia River (mouth)
Columbia River	Columbia River (mouth)	483	404	354	291	230	203	192	162	110	97	293	285	276	254	251	210	188	166	148	126	92	75	58	12	11	6	•
	Ilwaco, WA	484	404	355	292	230	203	193	163	111	98	294	286	276	254	252	211	189	167	149	127	93	76	59	13	12	•	7
	Warrenton, OR	475	396	346	283	222	195	184	154	103	89	285	277	268	246	244	202	180	159	140	118	84	67	50	4	•	14	13
	Astoria, OR	470	391	342	278	217	190	180	149	98	85	281	273	263	241	239	198	175	154	136	114	80	62	45	•	5	15	14
	Longview, WA	425	345	296	233	171	144	134	104	52	39	235	227	217	195	193	152	130	108	90	68	34	17	•	52	58	68	67
	St. Helens, OR	411	332	282	219	158	131	121	90	39	25	222	214	204	182	180	138	117	95	76	55	20	•	20	71	77	87	86
	Vancouver, WA	391	312	262	199	145	118	108	77	26	13	202	193	184	162	160	118	96	75	56	35	•	23	39	92	97	107	106
	Bonneville Lock & Dam	356	277	228	164	180	153	142	112	61	47	167	159	149	127	125	84	62	40	22	•	40	63	78	131	136	146	145
	Hood River (town), OR	335	256	206	143	201	174	164	134	82	69	145	137	128	106	103	62	40	18	•	5	64	87	104	157	161	171	170
	The Dalles Lock & Dam	316	237	188	124	220	193	183	152	101	87	127	119	109	87	85	44	22	•	21	46	86	109	124	177	183	192	191
	John Day Lock & Dam	294	215	166	102	242	215	204	174	123	109	105	97	87	65	63	22	•	25	46	71	110	135	150	203	207	217	216
	Arlington, OR	273	194	144	81	263	236	226	195	144	130	83	75	66	44	42	•	25	51	71	97	136	159	175	228	232	243	242
	Umatilla, OR	231	152	103	39	305	278	268	237	186	172	42	34	24	2	•	48	72	98	119	144	184	207	222	275	281	290	289
	McNary Lock & Dam	229	150	101	37	307	280	270	239	188	174	40	32	22	•	2	51	75	100	122	146	186	209	224	277	283	292	292
	Port of Walla Walla, WA	207	128	79	15	329	302	292	261	210	196	18	10	•	25	28	76	100	125	147	171	212	235	250	303	308	318	318
	Pasco, WA	204	125	75	12	339	312	301	271	220	206	8	•	12	37	39	86	112	137	158	183	222	246	261	314	319	329	328
Willamette River	Richland, WA	212	133	83	20	347	320	309	279	228	214	•	9	21	46	48	96	121	146	167	192	232	255	270	323	328	338	337
	Portland, OR	403	324	275	211	133	106	96	65	14	•	246	237	226	200	198	150	125	100	79	54	15	29	45	98	102	113	112
	Oregon City, OR	417	338	288	225	119	92	82	51	•	16	262	253	242	216	214	166	142	116	94	70	30	45	60	113	119	128	127
	Salem, OR	468	389	340	276	68	41	31	•	59	75	321	312	300	275	273	224	200	175	154	129	89	104	120	171	177	188	186
	Albany, OR	499	420	370	307	37	10	•	36	94	110	356	346	336	311	308	260	235	211	189	163	124	139	154	207	212	222	221
	Corvalis, OR	509	430	380	317	27	•	12	47	106	122	368	359	348	322	320	272	247	222	200	176	136	151	166	219	224	234	234
	Harrisburg, OR	536	457	407	344	•	31	43	78	137	153	399	390	379	353	351	303	278	253	231	207	167	182	197	250	255	265	265
Snake River	Ice Harbor Dam, WA	192	113	63	•	396	365	353	318	259	243	23	14	17	43	45	93	117	143	165	189	229	252	268	320	326	336	335
	Central Ferry, WA	129	50	•	72	468	437	426	391	331	316	96	86	91	116	119	166	191	216	237	262	302	325	341	394	398	409	407
	Lewiston, ID	79	•	58	130	526	495	483	448	389	373	153	144	147	173	175	223	247	273	295	319	359	382	397	450	456	465	465
	Johnson Bar Landing, ID	•	91	148	221	617	586	574	539	480	464	244	235	238	264	266	314	338	364	386	410	450	473	489	541	547	557	556

Distances in Strait of Juan de Fuca and Strait of Georgia
(nautical miles)

	Vancouver, BC, Canada	New Westminster, BC, Canada	Nanaimo, BC, Canada	Blaine, WA	Bellingham, WA	Anacortes, WA	Friday Harbor, WA	Roche Harbor, WA	Olympia, WA	Tacoma, WA	Bremerton, WA	Eagle Harbor, WA	Seattle, WA	Point Wells, WA	Everett, WA	Port Gamble, WA	Port Ludlow, WA	Port Townsend, WA	Victoria, BC, Canada	Port Angeles, WA	Neah Bay, WA	Swiftsure Bank, WA	Cape Flattery, WA
Cape Flattery, WA 48°26.0'N., 124°47.0'W.	141	139	145	112	108	93	87	83	168	143	131	123	124	111	117	104	100	86	62	61	10	10	-
Swiftsure Bank, WA 48°31.0'N., 125°00.0'W.	150	148	154	121	117	102	96	92	178	153	141	133	134	121	127	114	110	96	71	71	20	-	
Neah Bay, WA 48°22.4'N., 124°36.5'W.	133	132	138	105	101	86	80	76	160	136	124	115	116	103	110	97	93	79	55	54	-		
Port Angeles, WA 48°07.5'N., 123°26.4'W.	95	93	99	65	54	42	37	36	113	89	77	68	69	56	63	50	46	32	19	-			
Victoria, BC, Canada 48°25.0'N., 123°23.5'W.	83	82	89	55	50	36	30	25	115	91	80	71	72	59	66	53	48	34	-				
Port Townsend, WA 48°06.8'N., 122°45.2'W.	92	91	97	59	43	30	30	41	84	59	48	40	40	27	34	21	16	-					
Port Ludlow, WA 47°55.3'N., 122°41.0'W.	106	105	111	72	57	43	44	54	75	52	40	32	32	19	26	10	-						
Port Gamble, WA 47°51.3'N., 122°34.7'W.	110	109	115	76	61	47	48	58	78	53	42	34	34	21	28	-							
Everett, WA 47°59.3'N., 122°13.2'W.	115	114	118	80	63	49	62	71	73	49	38	29	30	16	-								
Point Wells, WA 47°47.1'N., 122°23.7'W.	117	116	121	83	68	54	54	64	59	34	23	14	14	-									
Seattle, WA 47°36.2'N., 122°20.3'W.	129	128	134	95	80	66	67	77	50	25	14	8	-										
Eagle Harbor, WA 47°34.2'N., 122°30.7'W.	129	128	134	95	80	66	67	76	50	25	13	-											
Bremerton, WA 47°33.5'N., 122°38.0'W.	138	137	142	104	88	74	76	85	50	29	-												
Tacoma, WA 47°16.0'N., 122°26.0'W.	149	148	154	115	100	86	86	96	34	-													
Olympia, WA 47°03.1'N., 122°54.3'W.	173	171	177	139	124	110	112	121	-														
Roche Harbor, WA 48°36.6'N., 123°09.1'W.	62	60	66	35	37	27	12	-															
Friday Harbor, WA 48°32.2'N., 123°00.9'W.	62	60	69	37	28	18	-																
Anacortes, WA 48°31.4'N., 122°36.7'W.	71	70	76	36	17	-																	
Bellingham, WA 48°45.1'N., 122°29.0'W.	72	71	75	38	-																		
Blaine, WA 48°59.5'N., 122°45.9'W.	48	48	55	-																			
Nanaimo, BC, Canada 49°10.1'N., 123°56.0'W.	36	48	-																				
New Westminster, BC, Canada 49°12.0'N., 122°54.5'W.	41	-																					
Vancouver, BC, Canada 49°17.4'N., 123°06.6'W.	-																						

Hawaii Distances
(nautical miles)

	Palmyra Island	Johnston Island	Midway Island	Nonopapa, Nihau	Hanalei, Kauai	Waimea, Kauai	Port Allen, Kauai	Nawiliwili, Kauai	Ahukini, Kauai	Pearl Harbor, Oahu	Honolulu, Oahu	Kalaupapa, Molokai	Haleolono, Molokai	Kaunakakai, Molokai	Kamalo, Molokai	Kaumalapau, Lanai	Kahalui, Maui	Lahaina (Mala), Maui	Hana, Maui	Mahukona, Hawai'i	Kawaihae, Hawai'i	Kailua, Hawai'i	Napoopoo, Hawai'i	Hilo, Hawai'i
Hilo, Hawai'i 19°44.1'N., 155°03.5'W.	959	905	1338	332	308	303	297	287	287	201	196	154	155	145	137	136	121	125	85	72	83	109	120	-
Napoopoo, Hawai'i 19°28.6'N., 155°55.3'W.	-	-	-	287	266	260	254	244	245	162	157	138	124	120	112	101	120	99	84	50	45	11	-	
Kailua, Hawai'i 19°38.6'N., 156°00.0'W.	-	-	-	278	257	251	245	235	236	152	147	127	114	109	102	91	110	88	73	39	34	-		
Kawaihae, Hawai'i 20°02.3'N., 155°49.9'W.	928	811	1278	277	251	246	240	230	230	145	140	110	103	93	86	82	85	72	48	12	-			
Mahukona, Hawai'i 20°11.2'N., 155°54.2'W.	-	-	-	272	244	239	233	223	223	138	133	102	95	85	77	76	74	63	36	-				
Hana, Maui 20°45.6'N., 155°59.1'W.	-	-	-	262	224	226	220	210	210	124	119	70	80	69	59	72	37	57	-					
Lahaina (Mala), Maui 20°53.5'N., 156°41.5'W.	-	-	-	214	186	182	177	165	165	78	73	39	34	23	15	25	27	-						
Kahalui, Maui 20°54.0'N., 156°28.2'W.	1010	798	1232	232	194	199	193	181	181	94	89	41	50	39	30	50	-							
Kaumalapau, Lanai 20°47.4'N., 156°59.7'W.	-	-	-	199	172	167	161	151	151	65	60	54	24	21	25	-								
Kamalo, Molokai 21°02.9'N., 156°52.7'W.	-	-	-	203	173	169	163	153	153	66	61	37	22	12	-									
Kaunakakai, Molokai 21°05.1'N., 157°02.0'W.	-	-	-	193	164	160	154	144	144	57	52	45	13	-										
Haleolono, Molokai 21°05.2'N., 157°15.2'W.	-	-	-	181	152	148	142	132	132	45	40	33	-											
Kalaupapa, Molokai 21°11.7'N., 156°59.3'W.	-	-	-	194	159	162	156	144	143	58	53	-												
Honolulu, Oahu 21°18.5'N., 157°52.3'W.	959	725	1150	147	116	112	106	96	96	9	-													
Pearl Harbor, Oahu 21°20.0'N., 157°58.3'W.	960	722	1146	143	112	108	102	92	92	-														
Ahukini, Kauai 21°59.7'N., 159°20.1'W.	-	-	-	65	29	29	23	5	-															
Nawiliwili, Kauai 21°57.4'N., 159°21.5'W.	986	668	1069	63	32	27	21	-																
Port Allen, Kauai 21°54.1'N., 159°35.6'W.	979	656	1042	45	42	8	-																	
Waimea, Kauai 21°57.4'N., 159°40.4'W.	-	-	-	40	35	-																		
Hanalei, Kauai 22°12.9'N., 159°30.1'W.	-	-	-	52	-																			
Nonopapa, Nihau 21°52.0'N., 160°14.1'W.	-	-	-	-																				
Midway Island 28°13.0'N., 177°22.0'W.	1606	825	-																					
Johnston Island 16°44.6'N., 169°31.2'W.	785	-																						
Palmyra Island 5°52.5'N., 162°08.0'W.	-																							

Distance of Visibility for Objects Having Various Elevations

Height (feet)	Distance (nautical miles)	Distance (statute miles)	Height (meters)
1	1.2	1.3	0.3
2	1.7	1.9	0.6
3	2.0	2.3	0.9
4	2.3	2.7	1.2
5	2.6	3.0	1.5
6	2.9	3.3	1.8
7	3.1	3.6	2.1
8	3.3	3.8	2.4
9	3.5	4.0	2.7
10	3.7	4.3	3.1
11	3.9	4.5	3.4
12	4.1	4.7	3.7
13	4.2	4.9	4.0
14	4.4	5.0	4.3
15	4.5	5.2	4.6
16	4.7	5.4	4.9
17	4.8	5.6	5.2
18	5.0	5.7	5.5
19	5.1	5.9	5.8
20	5.2	6.0	6.1
21	5.4	6.2	6.4
22	5.5	6.3	6.7
23	5.6	6.5	7.0
24	5.7	6.6	7.3
25	5.9	6.7	7.6
26	6.0	6.9	7.9
27	6.1	7.0	8.2
28	6.2	7.1	8.5
29	6.3	7.3	8.8
30	6.4	7.4	9.1
31	6.5	7.5	9.5
32	6.6	7.6	9.8
33	6.7	7.7	10.1
34	6.8	7.9	10.4
35	6.9	8.0	10.7
36	7.0	8.1	11.0
37	7.1	8.2	11.3
38	7.2	8.3	11.6
39	7.3	8.4	11.9
40	7.4	8.5	12.2
41	7.5	8.6	12.5
42	7.6	8.7	12.8
43	7.7	8.8	13.1
44	7.8	8.9	13.4
45	7.8	9.0	13.7
46	7.9	9.1	14.0
47	8.0	9.2	14.3
48	8.1	9.3	14.6
49	8.2	9.4	14.9
50	8.3	9.5	15.2
55	8.7	10.0	16.8
60	9.1	10.4	18.3
65	9.4	10.9	19.8
70	9.8	11.3	21.3
75	10.1	11.7	22.9
80	10.5	12.0	24.4
85	10.8	12.4	25.9
90	11.1	12.8	27.4
95	11.4	13.1	29.0
100	11.7	13.5	30.5
105	12.0	13.8	32.0
110	12.3	14.1	33.5
115	12.5	14.4	33.1

Height (feet)	Distance (nautical miles)	Distance (statute miles)	Height (meters)
120	12.8	14.7	36.6
125	13.1	15.1	38.1
130	13.3	15.4	39.6
135	13.6	15.6	41.2
140	13.8	15.9	42.7
145	14.1	16.2	44.2
150	14.3	16.5	45.7
160	14.8	17.0	48.8
170	15.3	17.6	51.8
180	15.7	18.1	54.9
190	16.1	18.6	57.9
200	16.5	19.0	61.0
210	17.0	19.5	64.0
220	17.4	20.0	67.1
230	17.7	20.4	70.1
240	18.1	20.9	73.2
250	18.5	21.3	76.2
260	18.9	21.7	79.3
270	19.2	22.1	82.3
280	19.6	22.5	85.3
290	19.9	22.9	88.4
300	20.3	23.3	91.4
310	20.6	23.7	94.5
320	20.9	24.1	97.5
330	21.3	24.5	100.6
340	21.6	24.8	103.6
350	21.9	25.2	106.7
360	22.2	25.5	109.7
370	22.5	25.9	112.8
380	22.8	26.2	115.8
390	23.1	26.6	118.9
400	23.4	26.9	121.9
410	23.7	27.3	125.0
420	24.0	27.6	128.0
430	24.3	27.9	131.1
440	24.5	28.2	134.1
450	24.8	28.6	137.2
460	25.1	28.9	140.2
470	25.4	29.2	143.3
480	25.6	29.5	146.3
490	25.9	29.8	149.4
500	26.2	30.1	152.4
510	26.4	30.4	155.5
520	26.7	30.7	158.5
530	26.9	31.0	161.5
540	27.2	31.3	164.6
550	27.4	31.6	167.6
560	27.7	31.9	170.7
570	27.9	32.1	173.7
580	28.2	32.4	176.8
590	28.4	32.7	179.8
600	28.7	33.0	182.9
620	29.1	33.5	189.0
640	29.5	34.1	195.1
660	30.1	34.6	201.2
680	30.5	35.1	207.3
700	31.0	35.6	213.4
720	31.4	36.1	219.5
740	31.8	36.6	225.6
760	32.3	37.1	231.7
780	32.7	37.6	237.7
800	33.1	38.1	243.8
820	33.5	38.6	249.9

This table gives the approximate geographic range of visibility for an object which may be seen by an observer. It is necessary to add to the distance for the height of any object the distance corresponding to the height of the observer's eye above sea level.

Example – determine the geographic visibility of an object 65 feet above the water, for an observer whose eye is 35 feet above the water:

9.4 nautical miles = **Height of object** (65 feet)
6.9 nautical miles = **Height of observer** (35 feet)
16.3 nautical miles = **Computed geographic visibility**

Conversion of Degrees to Points and Points to Degrees

Deg °	Min '	Points
000	00	N
002	49	
005	38	N ½ E
008	26	
011	15	N x E
014	04	
016	53	N x E ½ E
019	41	
022	30	NNE
025	19	
028	08	NNE ½ E
030	56	
033	45	NE x N
036	34	
039	23	NE ½ N
042	11	
045	00	NE
047	49	
050	38	NE ½ E
053	26	
056	15	NE x E
059	04	
061	53	NE x E ½ E
064	41	
067	30	ENE
070	19	
073	08	ENE ½ E
075	56	
078	45	E x N
081	34	
084	23	E ½ N
087	11	
090	00	E
092	49	
095	38	E ½ S
098	26	
101	15	E x S
104	04	
106	53	ESE ½ E
109	41	
112	30	ESE
115	19	
118	08	SE x E ½ E
120	56	
123	45	SE x E
126	34	
129	23	SE ½ E
132	11	
135	00	SE
137	49	
140	38	SE ½ S
143	26	
146	15	SE x S
149	04	
151	53	SSE ½ E
154	41	
157	30	SSE
160	19	
163	08	S x E ½ E
165	56	
168	45	S x E
171	34	
174	23	S ½ E
177	11	

Deg °	Min '	Points
180	00	S
182	49	
185	38	S ½ W
188	26	
191	15	S x W
194	04	
196	53	S x W ½ W
199	41	
202	30	SSW
205	19	
208	08	SSW ½ W
210	56	
213	45	SW x W
216	34	
219	23	SW ½ S
222	11	
225	00	SW
227	49	
230	38	SW ½ W
233	26	
236	15	SW x W
239	04	
241	53	SW x W ½ W
244	41	
247	30	WSW
250	19	
253	08	WSW ½ W
255	56	
258	45	W x S
261	34	
264	23	W ½ S
267	11	
270	00	W
272	49	
275	38	W ½ S
278	26	
281	15	W x N
284	04	
286	53	WNW ½ W
289	41	
292	30	WNW
295	19	
298	08	NW x W ½ W
300	56	
303	45	NW x W
306	34	
309	23	NW ½ W
312	11	
315	00	NW
317	49	
320	38	NW ½ N
323	26	
326	15	NW x N
329	04	
331	53	NNW ½ W
334	41	
337	30	NNW
340	19	
343	08	N x W ½ W
345	56	
348	45	N x W
351	34	
354	23	N ½ W
357	11	

Standard Abbreviations Used In Broadcasts

Aids to Navigation	
Aeronautical Radiobeacon	AERO RBN
Articulated Daybeacon	ART DBN
Articulated Light	ART LT
Destroyed	DESTR
Discontinued	DISCONTD
Established	ESTAB
Exposed Location Buoy	ELB
Fog Signal Station	FOG SIG
Large Navigation Buoy	LNB
Light	LT
Light List Number	LLNR
Lighted Bell Buoy	LBB
Lighted Buoy	LB
Lighted Gong Buoy	LGB
Lighted Horn Buoy	LHB
Lighted Whistle Buoy	LWB
Ocean Data Acquisition System	ODAS
Privately Maintained	PRIV MAINTD
Radar Beacon	RACON
Radar Reflector	RA REF
Temporarily Replaced by Unlighted Buoy	TRUB
Temporarily Replaced by Lighted Buoy	TRLB
Whistle	WHIS
Light Characteristics	
Alternating	AL
Characteristic	CHAR
Composite Group-Flashing	FL(2+1)
Composite Group-Occulting	OC(2+1)
Continuous Quick-Flashing	Q
Fixed and Flashing	FFL
Fixed	F
Group-Flashing	FL(3)
Group-Occulting	OC(2)
Interrupted Quick-Flashing	IQ
Isophase	ISO
Morse Code	MO(A)
Occulting	OC
Single-Flashing	FL
Colors[1]	
Black	B
Blue	BU
Green	G
Orange	OR
Red	R
White	W
Yellow	Y

Organizations	
Commander, Coast Guard District (#)	CCGD(#)
Coast Guard	CG
Corps of Engineers	COE
National Geospatial-Intelligence Agency	NGA
National Ocean Service	NOS
National Weather Service	NWS
Vessels	
Aircraft	A/C
Fishing Vessel	F/V
Liquefied Natural Gas Carrier	LNG
Motor Vessel[2]	M/V
Pleasure Craft	P/C
Research Vessel	R/V
Sailing Vessel	S/V
Compass Directions	
North	N
South	S
East	E
West	W
Northeast	NE
Northwest	NW
Southeast	SE
Southwest	SW
Months	
January	JAN
February	FEB
March	MAR
April	APR
May	MAY
June	JUN
July	JUL
August	AUG
September	SEP
October	OCT
November	NOV
December	DEC
Days of the Week	
Monday	MON
Tuesday	TUE
Wednesday	WED
Thursday	THU
Friday	FRI
Saturday	SAT
Sunday	SUN

[1] Color refers to light characteristics of Aids to Navigation only
[2] M/V includes: Steam Ship, Container Vessel, Cargo Vessel, etc.

Standard Abbreviations Used In Broadcasts (continued)

Countries and States	
Alabama	AL
Alaska	AK
American Samoa	AS
Arizona	AZ
Arkansas	AR
California	CA
Canada	CN
Colorado	CO
Connecticut	CT
Delaware	DE
District of Columbia	DC
Florida	FL
Georgia	GA
Guam	GU
Hawaii	HI
Idaho	ID
Illinois	IL
Indiana	IN
Iowa	IA
Kansas	KS
Kentucky	KY
Louisiana	LA
Maine	ME
Maryland	MD
Marshall Islands	MH
Massachusetts	MA
Mexico	MX
Michigan	MI
Minnesota	MN
Mississippi	MS
Missouri	MO
Montana	MT
Nebraska	NE
Nevada	NV
New Hampshire	NH
New Jersey	NJ
New Mexico	NM
New York	NY
North Carolina	NC
North Dakota	ND
Northern Mariana Islands	MP
Ohio	OH
Oklahoma	OK
Oregon	OR
Pennsylvania	PA
Puerto Rico	PR
Rhode Island	RI
South Carolina	SC
South Dakota	SD
Tennessee	TN
Texas	TX
United States	US
Utah	UT
Vermont	VT
Virgin Islands	VI
Virginia	VA
Washington	WA
West Virginia	WV
Wisconsin	WI
Wyoming	WY
Various	
Anchorage	ANCH
Anchorage Prohibited	ANCH PROHIB
Approximate	APPROX
Atlantic	ATLC
Authorized	AUTH
Average	AVG
Bearing	BRG
Breakwater	BKW
Broadcast Notice to Mariners	BNM
Channel	CHAN
Code of Federal Regulations	CFR
Continue	CONT
Degrees (temp; geo pos)	DEG
Diameter	DIA
Edition	ED
Effect/Effective	EFF
Entrance	ENTR
Explosive Anchorage	EXPLOS ANCH
Fathom(s)	FM(S)
Foot/Feet	FT
Harbor	HBR
Height	HT
Hertz	HZ
Horizontal Clearance	HOR CL
Hour	HR
International Regulations for Preventing Collisions at Sea	COLREGS
Kilohertz	KHZ
Kilometer	KM
Knot(s)	KT(S)
Latitude	LAT
Local Notice to Mariners	LNM
Longitude	LONG
Maintained	MAINTD
Maximum	MAX
Megahertz	MHZ
Millibar	MB

Standard Abbreviations Used In Broadcasts (continued)

Various (continued)	
Millimeter	MM
Minute (time; geographic position)	MIN
Moderate	MOD
Mountain, Mount	MT
Nautical Mile(s)	NM
Notice to Mariners	NM
Obstruction	OBSTR
Occasion/Occasionally	OCCASION
Operating Area	OPAREA
Pacific	PAC
Point(s)	PT(S)
Position	POS
Position Approximate	PA
Pressure	PRES
Private/Privately	PRIV
Prohibited	PROHIB
Publication	PUB
Range	RGE
Reported	REP
Restricted	RESTR

Rock	RK
Saint	ST
Second (time; geographic position)	SEC
Signal Station	SIG STA
Station	STA
Statute Mile(s)	SM
Storm Signal Station	S SIG STA
Temporary	TEMP
Thunderstorm	TSTORM
Through	THRU
True	T
Uncovers; Dries	UNCOV
Universal Coordinate Time	UTC
Urgent Marine Information Broadcast	UMIB
Velocity	VEL
Vertical Clearance	VERT CL
Visibility	VIS
Yard(s)	YD
Warning	WARN
Weather	WX
Wreck	WK

Conversion Factors

	Known Value	Multiply By	Unknown Value
Linear	inches	25.40	millimeters
		2.540	centimeters
	centimeters	0.032808	feet
	feet	30.48	centimeters
		0.3048	meters
		0.00016458	nautical miles
	yard	0.9144	meters
	meters	3.2808	feet
		1.094	yards
		0.0005399	nautical miles
	statute miles	0.86897	nautical miles
		1.6093	kilometers
		1,609.3	meters
	nautical miles	1.151	statute miles
Area	square feet	0.0929	square meters
		0.00002296	acres
	square meters	10.764	square feet
		0.0002471	acres
	acres	4,046.9	square meters
		43,560	square feet
		0.404685	hectare
	hectare	2.471054	acres
		10,000	square meters
		1.07639×10^5	square feet
Depths	fathoms	1.8288	meters
	meters	0.54681	fathoms
		3.2808	feet
	feet	0.3048	meters
Rate	feet per second	0.5925	knots
		0.6818	miles per hour
		30.48	centimeters per second
	statute miles per hour	0.8689	knots
		1.467	feet per second
		0.447	meters per second
	knots	1.151	miles per hour
		0.5144	meters per second
		1.6878	feet per second
	centimeters per second	0.01944	knots
		0.02237	miles per hour
		0.032808	feet per second
Mass	grams	0.035275	ounces
		0.002205	pounds
	ounces	28.349	grams
	pounds	0.45359	kilograms
	short tons	2,000	pounds
		0.89286	long tons
		0.9072	metric tons
Mass	long tons	2,240	pounds
		1.12	short tons
		1.016	metric tons
	metric tons	1,000	kilograms
		0.9842	long tons
		1.1023	short tons
		2,204.6	pounds
Volume	barrels (petroleum)	42	gallons (US)
		158.99	liters
	barrels (liquid, US)	31.5	gallons (US)
		26.229	gallons (British)
		119.24	liters
	gallons (US)	0.02381	barrels (petroleum)
		3.7854	liters
	liters	0.26417	gallons (US)

Measurements and Equivalencies

Unit	Equivalency
nautical mile	1,852 meters 6,076.12 feet
statute mile	5,280 feet 1,609.3 meters 1.6093 kilometers
cable	0.1 nautical mile (CN) 720 feet (US)
fathom	6 feet 1.8288 meters
foot	0.3048 meter
inch	2.54 centimeters
meter	39.37 inches 3.281 feet 1.0936 yards
kilometer	1,000 meters
knot	1.6877 feet per second 0.5144 meters per second
miles per hour (statute)	1.466 feet per second 0.44704 meters per second
acre	43,560 square feet 4,046.82 square meters
pound (avoirdupois)	453.59 gram
gram	0.0022046 pound (avoirdupois) 0.035274 ounce
short ton	2,000 pounds
long ton	2,240 pounds
metric ton	2,204.6 pounds
kilogram	2.2 pounds
liter	1.0567 quarts
barrel (petroleum)	42 gallons (US)

Index

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OMF Approval number 0648-0007 Expires 12/31/10

NOAA Form 77-6

U.S DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

COAST PILOT REPORT

SUBMIT TO:

NATIONAL OCEAN SERVICE, NOAA (N/CS51)
1315 EAST-WEST HIGHWAY, STATION 6230
SILVER SPRING, MD 20910-3282
FAX: 301-713-9312
INTERNET: Coast.Pilot@noaa.gov

This record of your experience and observations when traversing the coast, entering port, and/or navigating inside waters will be used to update the Coast Pilot.

OBSERVER: NAME AND ADDRESS

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TEL. (Daytime) _____

DATE OF OBSERVATION _____

DATE OF SUBMISSION _____

VESSEL NAME AND ADDRESS _____

_____

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GEOGRAPHIC LOCATION

(Refer to charted objects by distance and bearing and/or include latitude/longitude, as applicable)

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CHART NUMBER

COAST PILOT NUMBER and EDITION NUMBER

CHANGES TO EXISTING COAST PILOT TEXT

Give recommended revised language for the book. Identify affected text by page, paragraph(s), and line number(s). State the source of the information if other than personal observation.

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(Continue on plain paper)

REQUEST FOR SURVEYS OR CHART CHANGE

List area for which surveys and/or changes in chart format, scale, or layout are needed. Include the name and geographic position of the area, the chart number of the largest scale chart that covers the area, and the reason for the request.

(Continue on plain paper)

ADDITIONAL INFORMATION FOR THE COAST PILOT

We are particularly interested in information about unusually strong current; prominent landmarks; objects which provide particularly good radar return; sheltered anchorages (be explicit on direction of weather and type of bottom observed); drawbridge operation changes (e.g, drawbridge remains permanently in open position); changes in pilot pick-up points; changes in radio frequencies monitored by pilots, marine exchanges, harbor masters, or drawbridges.

This information is required as part of NOAA's function to maintain marine nautical charts. The information obtained will be used to update the Coast Pilot. Your response is voluntary and will be a matter of public record. Public reporting burden for this collection is estimated to average thirty minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the National Ocean Service (N/CS51), 1315 East-West Highway, Silver Spring, MD 20910-3282; and to the Office of Management and Budget, Paperwork Reduction Project (0648-0007) Washington, DC 20503.

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