

*Cover Page*

## *Abbreviations and Acronyms*

°C	degrees Celcius	MSFCMA	Magnusson-Stevens Fishery Conservation and Management Act
°F	degrees Fahrenheit	MSST	Marine Safety and Security Team
AQCR	Air Quality Control Region	MTS	Marine Transportation System
AQMD	Air Quality Management District	MTSA	Maritime Transportation Security Act
BCDC	San Francisco Bay Conservation and Development Commission	NAAQS	National Ambient Air Quality Standards
CAA	Clean Air Act	NEPA	National Environmental Policy Act
Cal-EPA	California Environmental Protection Agency	NMS	National Marine Sanctuary
CARB	California Air Resources Board	NMSA	National Marine Sanctuaries Act
CEQ	Council on Environmental Quality	NO <sub>2</sub>	nitrogen dioxide
CFR	Code of Federal Regulations	NOAA	National Oceanic and Atmospheric Administration
CO	carbon monoxide	NOAA Fisheries	NOAA National Marine Fisheries Service
COMDTINST	Coast Guard Commandant Instruction	NO <sub>x</sub>	nitrogen oxide
CWA	Clean Water Act	NRA	National Recreation Area
dB	decibel	NSR	New Source Review
dba	A-weighted decibel	NWR	National Wildlife Refuge
dBC	C-weighted decibel	NWRSAA	National Wildlife Refuge System Administration Act
DHS	Department of Homeland Security	O <sub>3</sub>	ozone
DNL	Day-night average sound level	P.L.	Public Law
DOD	Department of Defense	Pb	lead
USDOT	U.S. Department of Transportation	PFMC	Pacific Fishery Management Council
EA	Environmental Assessment	PM <sub>10</sub>	Particulate Matter ≤ 10 microns in diameter
EEZ	Exclusive Economic Zone	ppm	parts per million
EFH	Essential Fish Habitat	PSD	Prevention of Significant Deterioration
EIS	Environmental Impact Statement	ROI	Region of Influence
EO	Executive Order	SAAQS	State Ambient Air Quality Standards
ESA	Endangered Species Act	SAE	Society of Automobile Engineers
ESU	Evolutionarily Significant Unit	SIP	State Implementation Plan
FEMA	Federal Emergency Management Agency	SO <sub>2</sub>	sulfur dioxide
FMP	Fishery Management Plan	TEU	Twenty-foot equivalent tons
FONSI	Finding of No Significant Impact	tpy	tons per year
ft	Feet	U.S.C.	United States Code
FY	Fiscal Year	USACE	United States Army Corps of Engineers
hp	horsepower	USCG	United States Coast Guard
Hz	Hertz	USEPA	U.S. Environmental Protection Agency
ISC	Integrated Support Command	USFWS	United States Fish and Wildlife Service
km	kilometer	VOC	Volatile Organic Compound
Leq (24)	24-hour equivalent sound level	μPa	microPascal
m/s	meter per second	μg/m <sup>3</sup>	micrograms per cubic meter
MARAD	Maritime Administration		
mg/m <sup>3</sup>	milligram per cubic meter		
MHLS	Maritime Homeland Security		
mi	mile		
MMPA	Marine Mammal Protection Act		



*DRAFT*

**ENVIRONMENTAL ASSESSMENT OF THE  
STAND-UP AND OPERATIONS  
OF THE  
MARITIME SAFETY AND SECURITY TEAM  
SAN FRANCISCO, CA**

**Contract No.: DTCG23-02-D-EXB001**

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# 1. Purpose of and Need for the Action

## 1.1 Introduction

The United States Coast Guard (USCG) is proposing to stand up (establish and operate) a Maritime Safety and Security Team (MSST) in the San Francisco Bay region. MSSTs provide waterborne (and a modest level of shoreside) antiterrorism force protection for strategic shipping facilities, high interest vessels, and critical infrastructure. MSSTs are a quick response force capable of rapid, nationwide deployment via air, ground or sea transportation in response to changing threat conditions and evolving Maritime Homeland Security (MHLS)<sup>1</sup> mission requirements. The MSST's primary missions are port safety and security, and maritime law enforcement. Secondary missions are search and rescue, and naval coastal warfare. The MSST would consist of 75 active-duty personnel, interior modifications to existing support buildings, six Defender Class boats, and other support equipment (see Section 2.1 for a detailed description of the Proposed Action).

The USCG, one of the country's five armed services, is this Nation's oldest maritime agency, and is a unique agency of the Federal government. The USCG was formed on August 4, 1790, when the first Congress authorized the construction of ten vessels to enforce tariff and trade laws, prevent smuggling, and protect the collection of the Federal revenue. Known previously as the Revenue Marine and the Revenue Cutter Service, the USCG expanded in size and responsibilities as the Nation grew. These added responsibilities included humanitarian duties such as aiding mariners in distress, enforcing laws against slavery and piracy, protecting the marine environment, exploring and policing Alaska, and charting the growing Nation's coastlines, all well before the turn of the 20th century.

The service received its present name in 1915 when the Revenue Cutter Service merged with the Life-Saving Service. The Nation then had a single maritime service dedicated to saving lives at sea and enforcing the Nation's maritime laws. The USCG has continued to protect the Nation throughout its long history and has served proudly in every one of the Nation's conflicts. National defense responsibilities remain one of the USCG's most important functions.

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<sup>1</sup> MHLS is the concerted national effort lead by the USCG to secure the homeland associated with or in the U.S. Maritime Domain from terrorist attacks.

1 Today, the USCG operates in all maritime regions:

- 2 • Approximately 95,000 miles (mi) of U.S. coastlines, including inland waterways and harbors.
- 3 • More than 3.36 million square mi of Exclusive Economic Zone (EEZ) and U.S. territorial  
4 seas.
- 5 • International waters and other maritime regions of importance to the United States.

6

7 The events of September 11, 2001, significantly changed the Nation’s homeland security posture.  
8 Terrorism is a clear and present danger to the United States. On March 1, 2003, in response to  
9 growing national security demands, the newly formed U.S. Department of Homeland Security (DHS)  
10 assumed control of the USCG from the U.S. Department of Transportation (USDOT) in the largest  
11 reorganization of the Federal government since the 1940s (Public Law [P.L.] 107-296). The USCG is  
12 the lead Federal agency for MHLS and has dramatically shifted its mission activity to reflect this role.  
13 The USCG’s heightened maritime security posture will remain in place indefinitely.

## 14 **1.2 Coast Guard Missions**

15 The USCG is unique in that it is the only maritime service with regulatory and law enforcement  
16 authority, military capabilities, and humanitarian operations. USCG activities in warfare encompass  
17 critical elements of naval operations in littoral regions, including port security and safety, military  
18 environmental response, maritime interception, coastal control, and force protection. More than two  
19 centuries of littoral warfare operations at home and overseas have honed the USCG’s skills most  
20 needed in support of the Nation’s military and naval strategies for the 21st century. The USCG’s  
21 missions include maritime law enforcement, maritime safety, national defense, and marine  
22 environmental protection.

23 Under the newly formed DHS, one of the USCG’s primary missions is to protect the U.S. Maritime  
24 Domain<sup>2</sup> and the U.S. Marine Transportation System<sup>3</sup> (MTS) and deny their use and exploitation by  
25 terrorists as a means for attacks on U.S. territory, population, and critical infrastructure. The  
26 Maritime Transportation Security Act (MTSA) of 2002 contains several provisions relating to the  
27 USCG’s role in maritime homeland security. It creates a U.S. maritime security system and requires

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<sup>2</sup> The U.S. Maritime Domain encompasses all U.S. ports, inland waterways, harbors, navigable waters, Great Lakes, territorial seas, contiguous waters, custom waters, coastal seas, littoral areas, the U.S. EEZ, and oceanic regions of U.S. national interest, as well as the sealanes to the United States, U.S. maritime approaches, and high seas surrounding the Nation.

<sup>3</sup> The U.S. MTS consists of waterways, ports, and their intermodal connections, vessels, vehicles, and system users, as well as Federal maritime navigation systems.

1 Federal agencies, ports, and vessel owners to take numerous steps to upgrade security. The MTSA  
2 required the USCG to develop national and regional area maritime transportation security plans; it  
3 also required ports, waterfront terminals, and certain types of vessels to submit security and incident  
4 response plans to the USCG for approval.

5 The USCG has several additional roles:

- 6 • Protect ports, the flow of commerce, and the marine transportation system from terrorism.
- 7 • Maintain maritime border security against illegal drugs, illegal aliens, firearms, and weapons  
8 of mass destruction.
- 9 • Ensure that U.S. military assets can be rapidly deployed and re-supplied, by keeping USCG  
10 units at a high state of readiness, and by keeping marine transportation open for the transit of  
11 assets and personnel from other branches of the armed forces.
- 12 • Protect against illegal fishing and indiscriminate destruction of living marine resources.
- 13 • Prevent and respond to oil and hazardous material spills—both accidental and intentional.
- 14 • Coordinate efforts and intelligence with Federal, state, and local agencies.

15  
16 In response to the increased homeland security threat level, the USCG is engaged in Operations  
17 Liberty Shield and Iraqi Freedom. Operation Liberty Shield is a multi-department, multi-agency,  
18 national team effort to protect American citizens and infrastructure while minimizing disruption to  
19 our economy and way of life. The USCG is integrating its efforts within DHS and closely  
20 coordinating its efforts with those of the Department of Defense (DOD), USDOT, the Federal Bureau  
21 of Investigation, and other Federal, state, and local security and law enforcement agencies to ensure  
22 the security of national ports, waterways, and facilities. Hundreds of USCG cutters, aircraft, and  
23 small boats manned by thousands of USCG active-duty and reserve members are guarding coasts,  
24 ports, and waterways around the clock during this heightened state of alert.

25 Overseas, the USCG is playing a crucial role supporting the other military services in the  
26 implementation of Operation Iraqi Freedom. Several USCG cutters, aircraft, reserve, and active-duty  
27 personnel are currently deployed in the Persian Gulf region and in the Mediterranean to perform  
28 waterside security, maritime force protection, and environmental response duties.

29 In addition, the USCG and DOD are currently partners in two major actions: Operation Enduring  
30 Freedom and Operation Noble Eagle. Operation Enduring Freedom generally refers to U.S. military  
31 operations associated with the war on terrorism outside the U.S. Operation Noble Eagle generally  
32 refers to U.S. military operations associated with homeland defense and civil support to Federal, state,

1 and local agencies in the U.S., including the increased security measures taken after the terrorist  
2 attacks on September 11, 2001. The operation involves joint agency coordination and cooperation to  
3 ensure our Nation and its borders are protected from future attacks. The increased USCG maritime  
4 security presence prevents and deters those who would cause harm to innocent Americans.

### 5 **1.3 Purpose of and Need for the Action**

#### 6 **1.3.1 Purpose of the Action**

7 The USCG is at a heightened state of alert, protecting more than 361 ports and 95,000 mi of coastline,  
8 the Nation's longest border. The USCG continues to play an integral role in maintaining the  
9 operations of our ports and waterways by providing a secure environment in which mariners and the  
10 American people can safely live and work (USCG 2002a).

11 The establishment of additional MSSTs is needed to improve existing domestic port security  
12 capabilities. While the MSSTs would be used to augment existing USCG forces in the United States,  
13 the MSSTs would not duplicate existing protective measures. They would provide complementary,  
14 non-redundant capabilities that would be able to close significant readiness gaps in the Nation's  
15 strategic ports (USCG 2002b, USCG 2002c). USCG forces must accomplish this mission without  
16 adversely impacting the environment or unduly interfering with legitimate trade and commerce.

17 To determine which ports require additional protection, the USCG and other agencies developed a  
18 matrix to assess and "grade" each U.S. port to aid in the selection of the most critical ports. Elements  
19 that were assessed included (USCG 2002b):

- 20 • Cargo Value
- 21 • Cargo Volume
- 22 • Domestic Cargo
- 23 • Hazardous Cargo
- 24 • Military Presence
- 25 • Population

26 The first eight MSSTs are in Seattle, Washington; Chesapeake, Virginia; San Pedro, California;  
27 Galveston, Texas; Staten Island, New York; Boston, Massachusetts; St. Mary's, Georgia; and San  
28 Francisco, California. The next round of ports to be assigned MSSTs includes New Orleans,  
29 Louisiana; San Diego, California; Honolulu, Hawaii; Miami, Florida; and Anchorage, Alaska. In  
30 addition to these ports, the USCG is planning to stand up MSSTs in other critical ports around the

1 country. If additional MSSTs are established around the country, additional National Environmental  
2 Policy Act (NEPA) analysis will be prepared, as necessary.

### 3 **1.3.2 Need for the Action**

4 The USCG has a broad range of environmental and geographic responsibilities throughout the EEZ.  
5 In the wake of the events of September 11, 2001, the USCG assumed homeland security duties in  
6 addition to their current missions. Unfortunately, manpower and vessels to perform all missions,  
7 including these additional operations, remained the same. Currently, USCG resources are at  
8 maximum capacity and all missions (e.g., maritime border security, fisheries enforcement, and living  
9 marine resources protection) suffer, despite the USCG's attempt to maintain the previous level of  
10 effectiveness and efficiency. In some cases, current detachments of MSSTs have been temporarily  
11 assigned to other ports, leaving a detachment at the homeport to perform "double duty." When the  
12 away detachment returns, neither detachment has had the ability to rotate through a rest period,  
13 resulting in an increased demand on manpower resources. If implemented, the Proposed Action  
14 would increase port security within the San Francisco Bay region and allow other USCG assets to  
15 focus on their intended missions more effectively and efficiently, since the MSST's primary  
16 responsibility would be port security and maritime law enforcement. The Proposed Action would  
17 also allow more MSSTs to remain in their homeports and maintain a regular work and rest cycle.

18 In 2002, under P.L. 107-87, an emergency response supplemental enacted by Congress, funds were  
19 appropriated to support USCG anti-terrorist activities, including the mandated establishment and  
20 operation of four MSSTs to be completed in Fiscal Year (FY) 2002. The establishment of MSSTs in  
21 Seattle, Washington; San Pedro, California; Galveston, Texas; and Chesapeake, Virginia, helped  
22 relieve some of the demand on USCG units. However, a number of ports require further protection.  
23 Congress has strongly indicated its desire that the USCG establish MSSTs on a priority basis. P.L.  
24 107-117 provided money for the express purpose of having the USCG (in consultation with other  
25 agencies) establish four MSSTs before FY 2003. The Senate Appropriations Committee approved a  
26 \$76 million budget for seven MSSTs in FY 2004 (Senate Report 108-086).

27 As previously mentioned, the first eight MSSTs are in Seattle, Washington; Chesapeake, Virginia;  
28 San Pedro, California; Galveston, Texas; Staten Island, New York; Boston, Massachusetts; St.  
29 Mary's, Georgia; and San Francisco, California. In addition to these eight ports, the USCG is  
30 planning to stand up MSSTs in other critical ports around the country. If additional MSSTs are  
31 established around the country, additional NEPA analysis will be prepared for future stand ups, as  
32 necessary.

## 1.4 Project Scope and Area

The MSST would be homeported at Integrated Support Center (ISC) Alameda on Coast Guard Island in San Francisco Bay (see Figure 1-1). The Defender Class boats would be launched from an existing pier (#378) at ISC Alameda into Brooklyn Basin or Alameda Harbor. The Region of Influence (ROI) for the Proposed Action and the No Action Alternative is geographically defined as the San Francisco Bay region, which includes San Francisco Bay, San Pablo Bay, and the Sacramento River Delta (see Figure 1-2). The ROI includes the California counties of Contra Costa, Alameda, Marin, San Francisco, Sonoma, Napa, Santa Clara, Solano, Yolo, Sacramento, and San Mateo. The MSST would routinely patrol and spend the majority of its operating time in the ports of San Francisco, Oakland, Stockton, and Richmond. There are too many variables to adequately assess all potential ports at which the MSST would operate. It is expected that the MSST would operate a majority of the time in its homeport. Therefore, this Environmental Assessment (EA) focuses on the potential environmental impacts within the ROI.

## 1.5 Public Involvement Process

An advertisement published in the *San Francisco Independent*, November 25, 2003, announced the USCG's intent to prepare an EA, giving information on the proposal and seeking comments. Letters to interested parties were also mailed to appropriate Federal, state, and local agencies (See Appendix A [interested party letter with attachments, distribution list, and newspaper ad]; Appendix B [Responses to the Interested Party Letter], and Appendix C [Government Coordination]). However, the USCG will accept comments on this Proposed Action throughout the NEPA process. An announcement on the availability of the EA and Draft Finding of No Significant Impact (FONSI) was placed in the *San Francisco Independent* on April 29, 2005.

1

**Figure 1-1. Location Map of San Francisco MSST Homeport**

1                    **Figure 1-2. Location Map of the San Francisco MSST Region of Influence**

1 **1.6 Summary of Key Environmental Compliance Requirements**

2 **1.6.1 National Environmental Policy Act of 1969**

3 The National Environmental Policy Act of 1969, commonly known as NEPA, is a Federal statute  
4 requiring the identification and analysis of potential environmental impacts of proposed Federal  
5 actions before those actions are taken. NEPA also established the Council on Environmental Quality  
6 (CEQ) that is charged with the development of implementing regulations and ensuring agency  
7 compliance with NEPA. CEQ regulations mandate that all Federal agencies use a systematic  
8 interdisciplinary approach to environmental planning and the evaluation of actions that might affect  
9 the environment. This process evaluates potential environmental consequences associated with a  
10 proposed action and considers alternative courses of action. The intent of NEPA is to protect, restore,  
11 or enhance the environment through well-informed Federal decisions.

12 The process for implementing NEPA is codified in Title 40 of the Code of Federal Regulations (CFR)  
13 Parts 1500-1508, *Regulations for Implementing the Procedural Provisions of the National*  
14 *Environmental Policy Act*. The CEQ was established under NEPA to implement and oversee Federal  
15 policy in this process. CEQ regulations specify that the following must be accomplished when  
16 preparing an EA:

- 17 • Briefly provide evidence and analysis for determining whether to prepare an Environmental  
18 Impact Statement (EIS) or a FONSI.
- 19 • Aid in an agency’s compliance with NEPA when an EIS is unnecessary.
- 20 • Facilitate preparation of an EIS when one is necessary.

21  
22 This document has been prepared to comply with NEPA requirements, the CEQ regulations for  
23 implementing NEPA, USDOT Order 5610.1C (*Procedures for Considering Environmental Impacts*),  
24 and USCG policy (Commandant’s Instruction [COMDTINST] M16475.1D).

25 **1.6.2 Integration of Other Environmental Statutes and Regulations**

26 To comply with NEPA, the planning and decision making process for actions proposed by Federal  
27 agencies involves a study of other relevant environmental statutes and regulations. The NEPA  
28 process, however, does not replace procedural or substantive requirements of other environmental  
29 statutes and regulations. It addresses them collectively in the form of an EA or EIS, which enables  
30 the decision maker to have a comprehensive view of major environmental issues and requirements

1 associated with the Proposed Action. According to CEQ regulations, the requirements of NEPA must  
2 be integrated “with other planning and environmental review procedures required by law or by  
3 agency so that all such procedures run concurrently rather than consecutively.” Resources that will be  
4 analyzed in the EA were those identified as being potentially affected by the Proposed Action, and  
5 include applicable critical elements of the human environment whose review is mandated by  
6 Executive Order (EO), regulation, or policy (see Appendix D).

## 7 **1.7 Organization of the EA**

8 Acronyms and abbreviations are used throughout the document to avoid unnecessary length. A list of  
9 acronyms and abbreviations can be found on the inside front covers of this EA.

10 **Chapter 1:** Purpose of and Need for the Action. As a NEPA-required discussion, this chapter  
11 provides an overview of the action and the purpose and need of the action, describes the area in which  
12 the Proposed Action would occur, and explains the public involvement process.

13 **Chapter 2:** Proposed Action and Alternatives. This chapter describes the Proposed Action,  
14 alternatives considered, and the No Action Alternative.

15 **Chapter 3:** Affected Environment. This chapter describes the existing environmental conditions in  
16 the area in which the Proposed Action would occur.

17 **Chapter 4:** Environmental Consequences. Using the information in Chapter 3, this chapter  
18 identifies potential direct and indirect environmental impacts on each resource area under the  
19 Proposed Action and the No Action Alternative. Direct and indirect impacts that could result from  
20 the Proposed Action are identified on a broad scale as appropriate in an EA.

21 **Chapter 5:** Cumulative Impacts. This chapter discusses the potential cumulative impacts that might  
22 result from the impacts of the Proposed Action, combined with foreseeable future actions.

23 **Chapters 6 and 7:** These chapters provide references and a list of this document’s preparers.

24 **Appendices:** This EA includes seven appendices that provide additional information. Appendix A  
25 contains a copy of the Interested Party letter with attachments, and Appendix B contains the  
26 distribution list to which the Interested Party letter was sent. Appendix C contains a copy of the  
27 newspaper announcement that served as public notification for the Proposed Action. Appendix D  
28 includes agency responses to the Interested Party letter and correspondence pertaining to Endangered

1 Species Act (ESA) consultation, Essential Fish Habitat (EFH) consultation, National Historic  
2 Preservation Act, and Federal Coastal Zone Management Consistency determination. Appendix E is  
3 a list of those regulations, laws, and executive orders that may reasonably be expected to apply to the  
4 Proposed Action. Appendix F contains a description of the USCG's Ocean Steward Program, as well  
5 as COMDTINSTs regarding Protected Living Marine Resources and USCG Participation in the  
6 Marine Sanctuary Program. Appendix G includes the calculations used for the air quality analysis.

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## 2. Proposed Action and Alternatives

### 2.1 Proposed Action

#### 2.1.1 Overview of the Proposed Action

The USCG proposes to stand up and operate a MSST, to be located at ISC Alameda on Coast Guard Island in San Francisco. The term “stand up” is defined as establishing a new activity. The MSST would improve existing ISC Alameda and the San Francisco Bay Region security capabilities on an ongoing basis. The MSST would not duplicate existing protective measures, but would provide complementary capabilities that would be able to close significant readiness gaps in our Nation’s strategic ports.

- Assignment of 75 active-duty and 33 reserve personnel to operate the MSST within the Port of San Francisco and the ROI.
- Standard MSST equipment to include six Defender Class boats and trailers, eight pickup trucks, four passenger vans, and other minor support equipment.
- Installation of a modular building in the parking lot of Building 42, interior renovations on Building 42, and renovation of an existing boat ramp.

#### 2.1.2 MSST Personnel and Operations

The MSST personnel would consist of mostly reassigned personnel, although there might be some newly recruited personnel. MSST personnel would possess the specialized skills, capabilities, and expertise to perform a broad range of port security and harbor defense missions that might be required. The MSST would be interoperable with, and supported by, military and civilian government organizations, and commercial and nongovernmental entities. MSST personnel would be located in a new modular building, to be installed on a parking lot near Building 42.

The MSST would spend the majority of its operating time in the ROI, which is defined as the San Francisco Bay region, and includes San Francisco Bay, San Pablo Bay, and the Sacramento River Delta. The MSST would be capable of operating 24 hours per day, 7 days per week. The MSST can be deployed temporarily in emergencies to other ports as needed, should an increased presence be required at another port. The MSST would be interoperable with, and supported by, military and civilian government organizations, and commercial and non-governmental entities.

USCG personnel would follow procedures already familiar to them, including establishing port security/port safety zones, moving security zones, and escorting vessels. The USCG performs these

1 traditional port security operations on a daily basis. The MSST would have additional  
2 responsibilities:

- 3 • Enhance port security and security law enforcement capabilities at economic or military  
4 significant ports where they are based.
- 5 • Deploy for specific episodic events that require an increased security posture of a limited  
6 duration.
- 7 • Exercise security contingency plans in major ports.
- 8 • Augment the Captain of the Port capabilities.

9

10 The MSST would be prepared to conduct operations through all maritime security levels, and would  
11 be capable of operating under the threat of chemical, biological, or radiological attack. The MSST  
12 would have a limited ability to detect chemical, biological, or radiological attack, and must be able to  
13 evacuate a contaminated environment. They would have the ability to conduct emergency gross  
14 decontamination of personnel and equipment. In the U.S., the local emergency response agency is  
15 responsible for mitigating incidents involving chemical, biological, and radiological hazardous  
16 materials. Overseas support is provided through a Memorandum of Understanding with other service  
17 branches.

18 The MSST would be capable of operating 24 hours per day, 7 days per week. Depending on  
19 operational requirements, there may be two to six boats operating at any one time. However, it is  
20 anticipated that the Defender Class boats would operate 12 hours a day, 7 days per week, and that  
21 there would be two to three boats operating at any given period.

### 22 **2.1.3 Standard MSST Boats and Equipment**

23 The MSST would be equipped with six Defender Class boats and standard support vehicles and  
24 equipment. Each Defender Class boat is 25-feet (ft) long with an 8-foot beam and a 4-foot  
25 navigational draft and would be equipped with two 225 horsepower (hp) Honda outboard motors,  
26 radar, depth sounder, differential global positioning system, and two mounted M60 machine guns  
27 (Figure 2-1). The Defender Class boats are highly maneuverable, capable of quickly reaching and  
28 sustaining high speeds (in excess of 40 knots), and can carry three crewmembers, and seven  
29 passengers. MSST equipment would also include boat trailers, four Ford F-350 pickup trucks, four F-  
30 550 stake-bed trucks with trailers, and four 15-passenger vans. When not in use, Defender Class boats  
31 would be located on trailers at their on-shore support facility.



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**Figure 2-1. Photographs of Typical Defender Class Boat**

1 **2.1.4 Onshore Facilities**

2 The stationing of the MSST would include the installation of a modular building in the parking lot of  
3 Building 42, interior renovations on Building 42, and renovation of an existing boat ramp. The  
4 proposed location for onshore construction and boat ramp renovation would be in previously  
5 disturbed areas, which would not be suitable habitat for species of concern. Impacts that would result  
6 would be short-term and localized and therefore, adverse and minor. The proposed renovated boat  
7 ramp would be 16 ft wide and from 25 to 30 ft long. As such, the boat ramp will increase total area of  
8 0.009 acres to 0.011 acres. This proposed renovation would be in previously disturbed habitat in the  
9 Port of Oakland.

10 **2.2 No Action Alternative**

11 NEPA implementing regulations require that a No Action Alternative be analyzed to provide a  
12 baseline for comparison with the action alternatives. The No Action Alternative identifies and  
13 describes the potential environmental impacts if the proponent agency does not implement the  
14 Proposed Action or one of the other action alternatives, if applicable. The continuation of the existing  
15 conditions without implementation of the Proposed Action is referred to as the No Action Alternative.

16 For the purposes of this project, the No Action Alternative is defined as not establishing an MSST in  
17 the San Francisco Bay region. The No Action Alternative serves as the benchmark against which  
18 Federal actions can be evaluated. Inclusion of the No Action Alternative is prescribed by the CEQ  
19 regulations and, therefore, will be carried forward for further analysis in this EA.

20 Selection of the No Action Alternative would not meet Congressional intent for increased homeland  
21 defense. Congress strongly indicated its desire that the USCG establish MSSTs on a priority basis.  
22 As stated previously, P.L. 107-117 provided money for the express purpose of having the USCG (in  
23 consultation with other agencies) establish four MSSTs before FY 2003. The Senate Appropriations  
24 Committee approved a \$76 million budget for seven MSSTs in FY 2004 (Senate Report 108-086).

25 **2.3 Comparison of Alternatives**

26 The Proposed Action to stand up and operate an MSST in the San Francisco Bay region has the  
27 potential for beneficial impacts to security and safety. First, the MSST would provide added security  
28 from terrorist attacks for ships entering or leaving the ports of San Francisco, Oakland, Stockton, and  
29 Richmond, numerous commercial interests, and the general population who work and live in and near  
30 the port. Second, the Proposed Action would provide additional protection from potentially

1 significant environmental damage resulting from infrastructure damaged or destroyed in a terrorist  
2 attack. While the addition of six boats in the ROI might appear to be a large increase, this is actually  
3 a small number when compared to the number and size of vessels and the number of ferry trips that  
4 occur in the ports of San Francisco, Oakland, Stockton, and Richmond. It is unlikely that all six boats  
5 would be in use at any one time. The boats would normally cruise at 10 to 12 knots, resulting in a  
6 small wake that should not negatively impact the surrounding shores. Furthermore, the USCG has  
7 existing measures in place, such as the Ocean Steward Program to guard against adverse vessel  
8 impacts on marine protected species (see Appendix F). The purpose of Ocean Steward, the USCG's  
9 national strategic plan, is to help the recovery and maintenance of marine protected species to achieve  
10 healthy, sustainable populations. The MSST would improve existing USCG security capabilities  
11 throughout the ROI. The MSST would not duplicate existing protective measures, but would provide  
12 complementary capabilities that would be able to close significant readiness gaps in our Nation's  
13 strategic ports.

14 Under the No Action Alternative, the added safety and security provided by the MSST would not be  
15 available. While the USCG would continue with their current level of protection, this level has  
16 already been determined to be inadequate for the San Francisco Bay region. The potential  
17 environmental damage from a terrorist attack might be adverse.

18 If the No Action Alternative was selected, as described above, it would not fulfill the USCG's  
19 purpose and need to provide additional port security. Under current operations, vessels and  
20 manpower are being diverted from other missions to provide additional security for the Nation's  
21 ports. Under the No Action Alternative, this disruption of other missions would continue. The result  
22 would be further demand on manpower and current assets. This scenario of vessels and manpower at  
23 maximum capacity could facilitate an attack at one of the "critical" ports. The result might be a  
24 potential for significant adverse environmental impacts. Terrorists could strike at military or  
25 commercial facilities in these ports, creating health and safety hazards for the surrounding populace  
26 and impacting appropriate emergency responses, employment and trade, and marine life. The  
27 impacts could be immediate (loss of life) or long-lasting (disruption of commerce activities) and  
28 could impact the long-term economy. Recovery time would depend on the severity and extent of the  
29 loss.

30 Other consequences would result from the USCG being unable to fully perform enforcement  
31 missions. For example, the USCG is also responsible for drug and alien interdiction and protection of  
32 the nation's EEZ. Without adequate vessels and manpower, the USCG would not be able to maintain

1 its high level of effectiveness in stopping illegal aliens and drugs from reaching the nation's shores.  
2 The environmental resources in the EEZ, such as fishing, could also suffer from the USCG's  
3 diminished ability to protect those fishing areas from illegal catches, as discussed in Ocean Guardian.  
4 The Ocean Guardian is a long-range fisheries law enforcement strategy that supports national goals  
5 for fisheries resource management and conservation. In addition, adverse impacts on threatened and  
6 endangered species could occur if the USCG is unable to maintain its current level of effectiveness in  
7 enforcing the ESA and associated regulation in U.S. waters as discussed in Ocean Steward. The  
8 Ocean Steward is the USCG's national strategy to help the recovery and maintenance of healthy  
9 populations of marine protected species (see Appendix F).

## 10 **2.4 Comparison of Environmental Effects of All Alternatives**

11 Table 2-1 summarizes the impacts of the Proposed Action and No Action Alternative.

## 12 **2.5 Alternatives Considered but Eliminated**

13 Other agencies besides the USCG could have been considered for the Proposed Action. However,  
14 domestic port security has been a core mission of the USCG for more than 200 years. The  
15 Memorandum of Agreement, signed in October 1995 by the Secretaries of Transportation and  
16 Defense, the Chief of Naval Operations, and the Commandant of the USCG, identified those unique  
17 national defense capabilities of the USCG as a force provider. In addition, the USCG is the only U.S.  
18 maritime agency with regulatory and law enforcement authority that also has military capabilities.  
19 The USCG already uses the same tactics for harbor defense and port security that the MSSTs would  
20 be using. This recognition of the USCG's unique capabilities, coupled with the long-time advantage  
21 of providing security for U.S. ports, makes the USCG the natural choice to fulfill this mission.

22 This EA will assess the potential impacts of the USCG establishing and operating an MSST in the  
23 San Francisco Bay region.

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**Table 2-1. Impact Summary Matrix**

Resource Area	Proposed Action	No Action Alternative
Biological Resources	<p>Implementation of the Proposed Action would have minor adverse impacts on biological resources in the San Francisco ROI. Current USCG environmental policies, regulations, and programs designed to protect living marine species (e.g., Ocean Steward in Appendix F and speed guidance designed to avoid collisions with marine mammals) would continue to be followed. Additionally, Defender Class boats are designed to be highly maneuverable.</p> <p>Therefore, the stand up and operations of the MSST would not have significant adverse impacts on biological protected marine resources or habitats.</p>	<p>Under the No Action Alternative, it would be easier for a successful terrorist attack to occur. Significant adverse impacts would be expected should this alternative be selected due to the increased risk of a terrorist attack and the potential for significant adverse effects on marine mammals. Recovery time would depend on the extent of loss.</p>
Water Quality	<p>The Proposed Action would have a minor adverse impact on water quality due to emissions from Defender Class boat engines during normal operations.</p>	<p>Under the No Action Alternative, ambient water quality conditions would not be impacted. Significant adverse impacts would be expected should this alternative be selected due to the increased risk of a successful terrorist attack and the potential for significant adverse effects on the water quality. Recovery time would depend on the severity and extent of the impact.</p>
Air Quality	<p>Under the Proposed Action, minor adverse impacts on air quality would occur. Calculations of air pollutant emissions from the proposed MSST operations were performed based on from: 1) watercraft operations, 2) personnel commuter travel, 3) maintenance and support activities; and 4) fuel storage and handling emissions. The net change in nitrogen oxide (NO<sub>x</sub>) and volatile organic compounds (VOC) emissions would be well below the <i>de minimis</i> threshold requirements and the regional significance requirements of the General Conformity Rule.</p>	<p>Under the No Action Alternative, existing conditions would remain as is and the MSST would not be stood up. Significant adverse impacts would be expected should this alternative be selected due to the increased risk of a successful terrorist attack and the potential for significant adverse effects on air quality. Recovery time would depend on the severity and extent of the impact.</p>

1

Resource Area	Proposed Action	No Action Alternative
Noise	Implementation of the Proposed Action would result in minor adverse impacts. However, due to low speed approach, docking at USCG facilities and the fact that most operations would be conducted at 10 to 12 knots, the potential noise from the addition of six Defender Class boats would have minor adverse impacts on humans or marine wildlife. Sound levels created by the Defender Class boats would be well below sound intensities associated with disturbance to marine animals.	Under the No Action Alternative, existing conditions would remain as is and the MSST would not be stood up. Adverse impacts would be expected should this alternative be selected due to the increased risk of a successful terrorist attack and the potential for short-term but significant adverse effects on ambient noise levels.
Public Safety	Beneficial impacts might be expected from the Proposed Action. The Proposed Action would increase the USCG's ability to protect critical domestic ports and the U.S. MTS from warfare and terrorist attacks. While the MSST's operations would closely parallel USCG traditional port security operations, they would also provide complementary, non-redundant capabilities that would be able to close significant readiness gaps in our Nation's strategic ports. The MSST would escort a variety of vessels and maintain specific security zones.	Under the No Action Alternative, existing conditions would remain as is, and the MSST would not be stood up. The USCG would maintain the current level of protection, which has been determined to be insufficient. Increased demand on vessels and manpower and disruption to other missions would continue. Significant adverse impacts would be expected should this alternative be selected due to the increased risk of a successful terrorist attack and the potential for significant adverse effects on public safety. Terrorists could strike at military or commercial facilities in the ROI creating health and safety hazards for the surrounding populace. The impacts could be immediate or long lasting. Recovery time would depend on the severity and extent of the impact.

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## 3. Affected Environment

### 3.1 Introduction

#### 3.1.1 Resources for Analysis

This chapter describes the environmental and socioeconomic conditions most likely to be affected by the Proposed Action and serves as a baseline from which to identify and evaluate potential impacts from implementation of the Proposed Action. In compliance with NEPA and CEQ guidelines, the description of the affected environment focuses on those conditions and resource areas that are potentially subject to impacts. These resources include water resources, soils and land use, socioeconomics, environmental justice, cultural resources, hazardous materials and waste management, biological resources, air quality and climate, noise, and public safety. Some environmental resources and conditions that are often analyzed in an EA have been omitted from this analysis. The following paragraphs identify the omitted resource areas and the basis for such exclusions:

- **Water Resources.** The Proposed Action does not involve any activities that would significantly increase the demand for water resources or affect surface water and groundwater. No physical disturbances, earth moving, or major construction activities would occur; therefore, the Proposed Action would not affect surface water flow quantity or quality. Though the Proposed Action could impact water quality in the ROI as a result of the emissions of outboard engines, the overall condition of west coast estuaries is fair, as defined in the U.S. Environmental Protection Agency's (USEPA) Condition of the Coast (USEPA 2001). Because of the high volume of boat traffic in the San Francisco Bay region, the Proposed Action would not significantly impact water quality in the San Francisco Bay region. Accordingly, the USCG has omitted detailed analysis of water resources. A detailed discussion of wetlands and floodplains is included in Sections 3.2 and 4.2, Biological Resources.
- **Soils and Land Use.** The Proposed Action would not involve any physical disturbances, earth moving, or major construction activities. The Proposed Action would include three minor construction projects. The first project would be minor renovations to an existing warehouse, Building 42. The second project would be the erection of a modular building in a parking lot near Building 42. The third project would be the construction of a new boat ramp over the current boat ramp. There would be no ground-disturbing activities. Implementation of the Proposed Action would not alter the existing land use at these locations. Accordingly, USCG has omitted detailed examination of soils and land use.
- **Socioeconomics.** The Proposed Action does not involve any activities that would contribute to significant changes in socioeconomic resources. The 33 reservists are currently in the San Francisco Bay Region. The majority of the 75 active-duty personnel would be reassigned personnel and, therefore, are already in the San Francisco Bay region. Personnel would reside in one of five California counties: Alameda, Contra Costa, Marin, San Francisco, and San Mateo. It is unlikely that the addition of 75 personnel would have a significant adverse

1 impact on the region, due to the relative size of the population affected and the low  
2 unemployment rate of the region. Accordingly, USCG has omitted detailed examination of  
3 socioeconomics.

- 4 • **Environmental Justice.** Implementation of the Proposed Action would not result in adverse  
5 impacts in any environmental resource area that would in turn, be expected to affect  
6 disproportionately minority and low-income populations. Therefore, there are no significant  
7 impacts. Accordingly, USCG has omitted detailed examination of environmental justice.
- 8 • **Cultural Resources.** The Proposed Action does not involve any activities that would impact  
9 cultural resources. MSST personnel would be located at ISC Alameda on Coast Guard  
10 Island. A modular building would be erected in a parking lot near Building 42 to house  
11 MSST personnel. Boat storage and maintenance would occur in Building 42. A new boat  
12 ramp would be constructed over the current boat ramp. There would be no ground-disturbing  
13 activities; therefore, there would be no impact to archaeological sites. The introduction of six  
14 Defender Class boats would not adversely affect setting, qualities of integrity, or jeopardize a  
15 property's eligibility on the National Register of Historic Places. Accordingly, USCG has  
16 omitted detailed examination of cultural resources. The USCG sent a letter to this California  
17 State Historic Preservation Office on **<Insert Date>** regarding no effect on historical  
18 properties (see Appendix D). **[Preparer's Note: Dates will be inserted for the Public Draft**  
19 **EA after the letters have been reviewed and signed by the USCG.]**
- 20 • **Hazardous Materials and Hazardous Wastes.** The Proposed Action would occur at ISC  
21 Alameda. This facility has existing hazardous materials and hazardous waste management  
22 programs. Minor maintenance and repair work would be performed by MSST personnel at  
23 Building 42. The engines are under a three-year maintenance agreement, therefore, all major  
24 maintenance will be done at a Honda authorized facility. A dedicated storage locker would  
25 be added to Building 42 to house weapons and ammunition. The Proposed Action would not  
26 require or add a significant amount of hazardous materials or wastes to those already  
27 generated by these facilities. The MSST would follow the USCG's procedures as described  
28 in the Hazardous Waste Management Manual (COMDTINST M16478.1B), internally known  
29 as the "Red Book." This manual is a compilation of standard operating procedures for  
30 employees handling hazardous materials and waste, asbestos, polychlorinated biphenyls, fuel  
31 tanks, lead, and biohazardous waste (USCG 1992). Accordingly, USCG has omitted detailed  
32 examination of hazardous materials and hazardous wastes.
- 33 • **Coastal Zone Management Act.** The Federal *Coastal Zone Management Act of 1972*  
34 requires Federal agency activities to be consistent with the state's federally approved Coastal  
35 Management Program. In the case of the Proposed Action, the erection of a modular building  
36 would occur on a parking lot near Building 42. The location of the proposed building would  
37 not create an erosion hazard, nor result in any impacts for commercial or recreational use of  
38 the area. The USCG sent its Federal Consistency Determination letter to the San Francisco  
39 Bay Conservation and Development Council (BCDC) on **<Insert Date>** (see Appendix D).  
40 **[Preparer's Note: Dates will be inserted for the Public Draft EA after the letters have been**  
41 **reviewed and signed by the USCG.]** Since the Proposed Action is consistent with the state's  
42 Coastal Management Program, USCG has omitted further detailed examination.

### 43 3.1.2 Region of Influence

44 The MSST would be home ported at ISC Alameda on Coast Guard Island. The Defender Class boats  
45 would be launched from an existing boat ramp at ISC Alameda into Brooklyn Basin or Alameda  
46 Harbor. The ROI for the Proposed Action and the No Action Alternative is geographically defined as

1 San Francisco Bay Region, which is defined as the San Francisco Bay, the San Pablo Bay, the ports  
2 of San Francisco, Oakland, Stockton, and Richmond, and the Sacramento River Delta (Figure 1-2).  
3 The ROI includes the California counties of Contra Costa, Alameda, Marin, San Francisco, Sonoma,  
4 Napa, Santa Clara, Solano, Yolo, Sacramento, and San Mateo. The MSST would routinely patrol the  
5 ports of San Francisco, Oakland, Stockton and Richmond, which are within the area that the MSST is  
6 expected to spend the majority of its operating time. The MSST can be deployed temporarily in  
7 emergencies to other ports as needed.

8 Established in 1927 on the mainland side of the San Francisco Bay, the Port of Oakland became one  
9 of the first ports to specialize in container operations for the global economy. “It loads and  
10 discharges more than 99 percent of the containerized goods moving through Northern California” (PO  
11 2004a). In 2002, 1,730 vessels arrived at the Port of Oakland carrying approximately 550,000 loaded  
12 twenty-foot equivalent units (TEUs). There are year-round ferries available and sport and  
13 commercial fishing boats that regularly use this port (SF Port 2000).

14 ISC Alameda is located in the Oakland Estuary, between Oakland and Alameda, on Coast Guard  
15 Island. It is home to four High Endurance Coast Guard cutters and a variety of tenant commands.  
16 This 68-acre island supports many government facilities, such as a training center for USCG  
17 personnel, living quarters and public works facilities for the island and is home to the Pacific  
18 Commander Station (U.S. Coast Guard District Eleven) (GS 2003).

### 19 **3.1.3 Environmental Regulations, Laws, and Executive Orders**

20 A table containing examples of regulations, laws, and EOs that may reasonably be expected to apply  
21 to the Proposed Action is included in Appendix E. It is not intended to be a complete description of  
22 the entire legal framework under which the USCG conducts its missions.

## 23 **3.2 Biological Resources**

### 24 **3.2.1 Definition of the Resource**

25 Biological resources include native or naturalized plants and animals, and the habitats (e.g., wetlands,  
26 forests, and grasslands) in which they exist. Sensitive and protected biological resources include  
27 plant and animal species listed as threatened or endangered by the U.S. Fish and Wildlife Service  
28 (USFWS), National Oceanic and Atmospheric Administration National Marine Fisheries Service  
29 (NOAA Fisheries), a state regulatory agency, or otherwise protected under Federal or state laws.  
30 Determining which species or habitats occur in an area affected by a proposed action can be

1 accomplished through literature reviews and coordination with appropriate Federal and state  
2 regulatory agency representatives, resource managers, and other knowledgeable experts.

3 The USCG has a number of long-standing initiatives and programs relating to Living Marine  
4 Resource Protection, a primary mission of the USCG:

- 5 • **National Marine Sanctuary Law Enforcement Program.** Among other activities, this  
6 provides routine surveillance of marine sanctuaries concurrently with other USCG operations  
7 and provides specific, targeted, or dedicated law enforcement, as appropriate.
- 8 • **Ocean Guardian.** This long-range fisheries law enforcement strategy supports national goals  
9 for fisheries resource management and conservation.
- 10 • **Ocean Steward.** This is the USCG’s national strategy to help the recovery and maintenance  
11 of healthy populations of marine protected species (See Appendix F).
- 12 • **Sea Partners.** This environmental and outreach program is designed to develop community  
13 awareness of maritime pollution issues and to improve compliance with marine  
14 environmental protection laws and regulations (USCG 2002d).
- 15 • **Commandant Instructions.** This is the USCG’s implementation and guidance document for  
16 policy and procedures.
- 17 • **Conservation Program.** This program promotes USCG involvement with other Federal and  
18 state agencies, and public and non-governmental organizations to conserve and protect living  
19 marine resources (USCG 1996).

20

## 21 **Protected and Sensitive Habitats**

22 Protected and sensitive habitats are usually defined as those regions that are identified as marine  
23 sanctuaries, critical habitats, fisheries management areas, national parks, wildlife refuges, and  
24 estuarine research reserve sites. These regions and areas can be under Federal, state, and in some  
25 cases, local jurisdictions.

## 26 **Wetlands and Floodplains**

27 Biological resources also include wetlands. Wetlands are an important natural system and habitat  
28 because of the diverse biologic and hydrologic functions they perform. These functions include water  
29 quality improvement, groundwater recharge and discharge, pollution mitigation, nutrient cycling,  
30 wildlife habitat provision, unique flora and fauna niche provision, storm water attenuation and  
31 storage, sediment detention, and erosion protection. Wetlands are protected as a subset of the “waters  
32 of the United States” under the Clean Water Act (CWA). The term “waters of the United States” has  
33 a broad meaning under the CWA and incorporates deepwater aquatic habitats and special aquatic  
34 habitats (including wetlands). The USACE defines wetlands as “those areas that are inundated or  
35 saturated with ground or surface water at a frequency and duration sufficient to support, and that

1 under normal circumstances do support, a prevalence of vegetation typically adapted to life in  
2 saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (33  
3 CFR 328).

4 Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers,  
5 to issue permits for the discharge of dredged or fill materials into the waters of the United States,  
6 including wetlands. In addition, Section 404 of the CWA also grants states with sufficient resources  
7 the right to assume these responsibilities. Section 401 of the CWA authorizes states to use their water  
8 quality standards to protect wetlands. The permit provided by the state under Section 401 is generally  
9 referred to as a 401 Water Quality Certification. The Hawaii State Department of Health, Clean  
10 Water Branch issues 401 Water Quality Certifications for the state of Hawaii.

11 As mentioned previously, the ISC is not within a 100-year floodplain; therefore, no further action is  
12 required under EO 11988, *Floodplain Management*.

### 13 **Marine Mammals and Sea Turtles**

14 Protection of marine protected species, such as mammals, sea turtles, or other threatened or  
15 endangered marine species, is an important USCG mission. Biotic and environmental factors, as well  
16 as human impacts, influence the distribution of marine mammals and sea turtles. Environmental  
17 factors include chemical, climate, or physical (those related to the characteristics of a location)  
18 factors. Biotic factors include the distribution and abundance of prey, competition for prey,  
19 reproduction, natural mortality, catastrophic events (e.g., die-offs), and predation. Human impacts  
20 include noise, hunting pressure, pollution, oil spills, habitat loss and degradation, shipping traffic,  
21 recreational and commercial fishing, oil and gas development and production, and seismic  
22 exploration. It is the interrelationships of environmental and biotic factors and human impacts that  
23 can affect the location and temporary distribution of prey species. This, in turn, influences diversity,  
24 abundance, and distribution of marine mammals and sea turtles.

25 The USCG plays an important role in protecting marine mammals and sea turtles because it enforces  
26 all U.S. laws within the EEZ. Several of these laws protect marine species, including the ESA, the  
27 Marine Mammal Protection Act (MMPA), the National Marine Sanctuaries Act (NMSA), a number  
28 of maritime EOs, and various Federal and international laws. The USCG’s Protected Living Marine  
29 Resources Program (COMDTINST 16475.7) includes a number of USCG policies, directions, and  
30 procedures that establish specific rules to ensure that impacts to marine mammals and sea turtles are  
31 avoided whenever possible. The USCG’s Ocean Steward and Ocean Guardian initiatives, the USCG

1 Participation in the Marine Sanctuaries Program (COMDTINST 16004.3A), and guidance regarding  
2 vessel speed also support these goals (USCG 2002a). Additionally, the Ocean Steward initiative  
3 protects marine mammals from being harassed by nearby or repetitively approaching vessels.  
4 Information about the USCG’s Ocean Steward, Protected Living Marine Resources Program, are  
5 Marine Sanctuaries Program are presented in Appendix F.

6 The ESA of 1973 (16 United States Code [U.S.C.] 1531-1534) establishes protection and  
7 conservation of threatened and endangered species and the ecosystems upon which they depend. The  
8 ESA is administered by USFWS and NOAA Fisheries. Under the ESA, an “endangered species” is  
9 defined as any species in danger of extinction throughout all or a significant portion of its range. A  
10 “threatened species” is defined as any species likely to become an endangered species in the  
11 foreseeable future. Section 7 of the ESA requires that all Federal agencies consult with USFWS or  
12 NOAA Fisheries, as applicable, before initiating any action that could affect a listed species.  
13 “Critical habitat” includes geographic areas “on which are found those physical or biological features  
14 essential to the conservation of the species and which require special management consideration or  
15 protection.” Section 7 of the ESA states that any project authorized, funded, or conducted by any  
16 Federal agency should not “... jeopardize the continued existence of any endangered species or  
17 threatened species or result in the destruction or adverse modification of habitat of such species which  
18 is determined to be critical.”

19 Under the MMPA of 1972 (16 U.S.C. 1361 et seq.), the Secretary of Commerce is responsible for the  
20 protection of all cetaceans (whales, porpoises, and dolphins) and pinnipeds (seals and sea lions)  
21 except walruses, and has delegated authority for implementing the MMPA to NOAA Fisheries. The  
22 Secretary of the Interior is responsible for walruses, polar bears, sea otters, manatees, and dugongs  
23 and has delegated the responsibility of conservation and protection of these marine mammals to  
24 USFWS. These responsibilities include providing overview and advice to regulatory agencies on all  
25 Federal actions that might affect these species.

26 The MMPA prohibits the “take” of marine mammals, with certain exceptions, in waters under U.S.  
27 jurisdiction and by U.S. citizens on the high seas. Under Section 3 of the MMPA, “take” of marine  
28 mammals is defined as “harass, hunt, capture, or kill or attempt to harass, hunt, capture, or kill any  
29 marine mammal” and “harassment” is defined as any act of pursuit, torment, or annoyance that has  
30 the potential to injure marine mammal stock in the wild; or has the potential to disturb a marine  
31 mammal or marine mammal stock in the wild by disrupting behavioral patterns, including migration,  
32 breathing, nursing, breeding, feeding, and sheltering. In cases where U.S. citizens are engaged in

1 activities, other than fishing, that result in “unavoidable,” incidental take of marine mammals, the  
2 Secretary of Commerce can issue a “small take authorization.” The authorization can be issued, after  
3 notice and opportunity for public comment, if the Secretary of Commerce finds negligible impacts.

#### 4 **Fish**

5 Under their Living Marine Resource Protection mission, the USCG undertakes activities such as  
6 enforcing domestic fisheries laws, and ensuring the development of practical enforcement plans to  
7 protect, conserve, and manage these resources. Examples of laws that the USCG enforces pertaining  
8 to fish and fisheries management include:

- 9 • Eastern Pacific Tuna Licensing Act of 1984 (16 U.S.C. 972 et seq.)
- 10 • Fur Seal Act of 1966 (16 U.S.C. 1151 et seq.)
- 11 • North Pacific Anadromous Stocks Convention Act of 1992 (16 U.S.C. 5001 et seq.)
- 12 • North Pacific Halibut Act of 1982 (16 U.S.C. 773 et seq.)
- 13 • Northwest Atlantic Fisheries Compliance Act of 1995 (16 U.S.C. 5601 et seq.)
- 14 • Pacific Salmon Treaty Act of 1985 (16 U.S.C. 3631 et seq.)
- 15 • Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)
- 16 • Sponge Act (16 U.S.C. 781 et seq.)
- 17 • Lacey Act Amendments of 1981 (16 U.S.C. 1531 et seq.)
- 18 • Magnuson-Stevens Fishery Conservation and Management Act (MSFCNA) (16 U.S.C. 1801,  
19 et seq.)
- 20 • Tuna Conventions Act (16 U.S.C. 973 et seq.)

21  
22 Additionally, the Ocean Guardian initiative includes the Fisheries Enforcement Strategic Plan to  
23 support national goals for fisheries resource management and conservation.

#### 24 **Coastal and Other Birds**

25 There are four groups of coastal and marine birds that inhabit the ROIs: seabirds, shorebirds, marsh  
26 and wading birds, and waterfowl (MMS 2001). Discussion of these birds is limited to those species  
27 that might occur within coastal margins and nearshore areas of each ROI.

28 In enforcing the ESA, the USCG also protects endangered and threatened bird species. The USCG  
29 must also comply with the Migratory Bird Treaty Act and EO 13186, *Responsibilities of Federal*  
30 *Agencies to Protect Migratory Birds*.

1 **3.2.2 Affected Environment**

2 The ROI for the Proposed Action and the No Action Alternative is defined as the San Francisco Bay  
3 region (San Francisco Bay, San Pablo Bay, and the Sacramento River Delta) (Figure 1-2). The ROI  
4 includes the California counties of Contra Costa, Alameda, Marin, San Francisco, Sonoma, Napa,  
5 Santa Clara, Solano, Yolo, Sacramento, and San Mateo.

6 **Protected and Sensitive Habitats**

7 Fifteen protected and sensitive habitats occur near or within the ROI. These include three national  
8 marine sanctuaries (NMSs), which are near the ROI:

- 9 • Cordell Bank NMS
- 10 • Gulf of Farallones NMS
- 11 • Monterey Bay NMS

12  
13 There are seven national wildlife refuges (NWRs) near or within the ROI:

- 14 • Farallon NWR
- 15 • Antioch Dunes NWR
- 16 • Marin Islands NWR
- 17 • San Pablo Bay NWR
- 18 • Don Edwards San Francisco Bay NWR
- 19 • Salinas River NWR
- 20 • Ellicott Slough NWR

21  
22 Other protected and sensitive habitats near or within the ROI include:

- 23 • Point Reyes National Seashore
- 24 • Golden Gate National Recreation Area (NRA)
- 25 • Elkhorn Slough National Estuarine Research Reserve
- 26 • Angel Island State Park
- 27 • Chinook Salmon Sacramento River Winter-run Evolutionarily Significant Unit (ESU) Critical  
28 Habitat
- 29 • Coho Salmon California Central Coast ESU

30

1 The Marin Islands NWR, San Pablo Bay NWR and Don Edwards San Francisco Bay NWR are three  
2 wildlife refuges that are within the ROI. These refuges are part of the San Francisco Bay National  
3 Wildlife Refuge Complex, which includes 38,000 acres across San Francisco, San Pablo and  
4 Monterey Bay areas (USFWS undated a).

5 The Marin Islands NWR, located in San Pablo Bay off the coast of St. Rafael, was established in  
6 1992, under authority of the National Wildlife Refuge System Administration Act (NWRSA) as  
7 amended (NOAA undated). The Marin Islands NWR is comprised of 340 acres of island and  
8 tidelands (USFWS undated b).

9 San Pablo Bay NWR was established in 1974, under authority of the NWRSA, as amended (NOAA  
10 undated). The San Pablo Bay NWR is comprised of 13,190 acres of open water, salt marsh, upland  
11 habitat, and agricultural land in San Pablo Bay (FSPBNWR undated). It is one of the largest  
12 expanses of open space in the San Francisco Bay region.

13 The Don Edwards San Francisco Bay NWR was established in 1972, under authority of the  
14 NWRSA, as amended (NOAA undated). This wildlife refuge is located along South San Francisco  
15 Bay (USFWS undated a). As of 2002, it comprised 23,000 acres of open bay, salt marshes, salt  
16 ponds, mud flats, uplands, and vernal pools.

17 Angel Island State Park is located between San Francisco and San Pablo Bays in the ROI. Mount  
18 Caroline Livermore, located on Angel Island State Park, has a 781-foot high summit. Native plants  
19 on the island include oak, bay, and mandrone trees, sagebrush, chamise, manzanita, toyon, elderberry,  
20 and coyote brush. Wildlife that lives on the island includes seals, sea lions, deer, raccoons, and a  
21 wide variety of bird species. Animal species that do not occur on the island include squirrels, rabbits,  
22 foxes, skunks, opossums, and coyotes (CASP 2003a).

23 The Golden Gate NRA is one of the largest urban national parks in the world. The total park area is  
24 75,398 acres of land and water. The park has approximately 28 miles of coastline and is nearly two  
25 and one-half times the size of San Francisco (NPS undated). Approximately, 69 rare or special status  
26 species have been identified to be permanent or seasonal residents of the Golden Gate NRA.

27 Critical habitat for Chinook and coho salmon occurs within the ROI. Chinook salmon critical habitat  
28 for the Sacramento River Winter-run ESU includes the Sacramento River from Keswick Dam, Shasta  
29 County (River Mile 302) to Chipps Island (River Mile 0) at the westward margin of the Sacramento-  
30 San Joaquin Delta; all waters from Chipps Island westward to Carquinez Bridge, including Honker

1 Bay, Suisun Bay, and Carquinez Strait; all waters of San Pablo Bay westward of the Carquinez  
2 Bridge; and all waters of San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from  
3 San Pablo Bay to the Golden Gate Bridge (NOAA Fisheries 2002a). Critical habitat for the coho  
4 salmon California Central Coast ESU includes all river reaches accessible to listed coho salmon from  
5 Punta Gorda in northern California south to the San Lorenzo River in central California, including  
6 Mill Valley (Arroyo Corte Madera Del Presidio) and Corte Madera Creeks, tributaries to San  
7 Francisco Bay. Excluded are areas above specific dams or above longstanding, naturally impassable  
8 barriers (i.e., natural waterfalls in existence for at least several hundred years) (NOAA Fisheries  
9 2002b).

## 10 **Wetlands and Floodplains**

11 California has lost approximately 90 percent of its wetlands since it was first settled. The San  
12 Francisco Bay contained approximately 581,762 acres of wetlands in 1990 (NOAA 1990). These  
13 wetlands include extensive tidal flats and salt ponds along the southern shores, tidal flats and salt  
14 marshes in San Pablo Bay and Suisun Bays, and vast areas of rice fields where the San Joaquin and  
15 Sacramento Rivers empty into the Suisun Bay (NOAA 1990). It is estimated that the tidal wetlands  
16 covered 545,371 acres in 1850 and declined to approximately 45,000 acres in 1985 (SFEP 1993).  
17 This decline is due to building dikes, filling, and development.

18 Tidal wetlands are dominated by a community of plants that are tolerant of wet, saline soils and are  
19 generally found in low-lying coastal habitats that are periodically wet and usually saline to  
20 hypersaline. In fact, no other feature defines a salt marsh better than the plant communities that live  
21 there. The location of plant species within a salt marsh is defined by zone.

22 Cordgrass (*Spartina foliosa*) forms the most seaward edge of the emergent marsh plant community.  
23 Of the thousands of plant species in North America, only cordgrass thrives in the lowest zone of a salt  
24 marsh.

25 The middle zone of a tidal marsh is characterized by the occurrence of pickleweed (*Salicornia sp.*).  
26 Pickleweed is less tolerant of tidal inundation than cordgrass, but is the most dominant plant of  
27 California tidal wetlands. The largest continuous patch of pickleweed-dominated tidal marsh in the  
28 San Francisco Bay is in the San Pablo Bay NWR (USFWS undated a). Jaumea (*Jaumea carnosa*)  
29 also occurs, but to a lesser extent within the middle zone of California's coastal marshes. The upper  
30 zone of a tidal marsh may only be inundated infrequently, in some locations as little as once or twice

1 annually. Such inundation usually occurs during the spring tide cycle (highest annual tides) and  
2 during severe storm events.

3 The upper zone of the tidal marsh is characterized by the dominance of salt grass (*Distichlis spicata*),  
4 which tolerates only occasional tidal inundation. This upper area of marshes contains the largest  
5 plant species diversity of the three zones. Species such as fat hen (*Atriplex patula*), sand spurrey  
6 (*Spergularia marina*), marsh rosemary (*Limonium californicum*), and brass buttons (*Cotula*  
7 *cornopifolia*) can be found within the upper zone of salt marshes throughout California. In the  
8 southern portion of the state, species such as Australian salt bush (*Atriplex semibaccata*), sea-bite  
9 (*Suaeda californica* and *Suaeda fruticosa*), shoregrass (*Monanthochloe littoralis*), and salt marsh  
10 bird's beak (*Cordylanthus sp.*) can be found within the upper salt marsh zone.

11 Eelgrass beds are generally regarded as highly productive habitats that support a rich assemblage of  
12 species and provide a refuge area for larval and juvenile fishes. Eelgrass habitat is also a very  
13 important resource for a variety of birds. It is associated with rich bottom fauna important to  
14 waterbirds, especially diving birds and mollusk eaters. In California's bays and estuaries north of  
15 Monterey Bay (including in the ROI), eelgrass provides spawning habitat for Pacific herring. Large  
16 numbers of waterbirds such as scoters, bufflehead, scaup, goldeneyes, and American coots eat eggs  
17 deposited onto eelgrass by Pacific herring during the mid-winter spawn. In addition, many birds such  
18 as surface-feeding ducks and other waterfowl, including the black brant, feed directly on eelgrass.

19 Coast Guard Island flood zones are not included on the FEMA flood zone survey map (FEMA 1991).  
20 However, the elevations on Coast Guard Island are similar to the elevations of the 500-year  
21 floodplain in the City of Alameda.

## 22 **Marine Mammals**

23 Several species of federally listed threatened and endangered marine mammals occur in the waters off  
24 the California coast. Federally threatened and endangered marine mammals that have the potential to  
25 occur within the ROI are presented in Table 3-1. Under the authority of the ESA, USFWS and  
26 NOAA Fisheries are responsible for the protection and recovery of threatened and endangered marine  
27 mammals. Additionally, NOAA Fisheries is responsible for protecting all marine mammals (whether  
28 threatened or endangered or not) under the MMPA.

**Table 3-1. Threatened and Endangered Marine Mammal Species  
That Occur In the San Francisco Bay**

Species Name		Federally Listed	State Listed
Common Name	Scientific Name		
<b>Cetaceans</b>			
Right whale	<i>Eubalaena glacialis</i>	Endangered	NA
Sei whale	<i>Balaenoptera borealis</i>	Endangered	NA
Blue whale	<i>Balaenoptera musculus</i>	Endangered	NA
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	NA
Fin whale	<i>Balaenoptera physalus</i>	Endangered	NA
Sperm whale	<i>Physeter catodon (macrocephalus)</i>	Endangered	NA
<b>Pinnipeds</b>			
Guadalupe fur seal	<i>Arctocephalus townsendi</i>	Threatened	Threatened
Steller sea lion	<i>Eumetopias jubatus</i>	Threatened	Threatened
<b>Fissipeds</b>			
Southern sea otters	<i>Enhydra lutris</i>	Threatened	NA

NA=Not Applicable

The North Pacific right whale is the rarest mammal in the world (NOAA 2001). Right whales migrate to central Baja California in the winter and to the Gulf of Alaska and the Bering Sea in the summer. They usually migrate in small groups (less than 12 individuals), pairs, or as individuals. Typically, right whales favor inshore waters and shallow bays and feed on plankton at the water surface (IAFW 2002). The three most recent sightings of the Northern Pacific Right Whale south of Alaska have occurred in the Monterey Bay NMS, which is offshore from the ROI. Right whales occur within the Monterey Bay NMS from October through March (NOAA 2001).

In the summer, Sei whales are distributed from California to the Gulf of Alaska and further offshore in a broad arc into the Pacific Ocean. They migrate to wintering grounds in southern California and Mexico where they remain in the deep offshore waters (IAFW 2002). Sei whales migrate in small groups of two to five individuals, but can be found in larger groups at feeding grounds. Generally, Sei whales are opportunistic feeders, feeding on readily available plankton, small schooling fish, and squid.

The blue whale is the largest animal on earth, ranging in length approximately 23 to 27 meters long (IAFW 2002). Typically, blue whales migrate in pairs, but occasionally are seen in large loose groups of 50 to 60 individuals on feeding grounds with high concentrations of krill and other plankton species (IAFW 2002, ACS 1996). In the summer, blue whales are found near central California north

1 through the Gulf of Alaska and Aleutian Islands and migrate to southern California, Baja California,  
2 or the coastal waters of Asia in the winter (IAFW 2002). Hundreds of blue whales feed annually  
3 between the Monterey Bay region and other feeding grounds near Cordell Bank and the Channel  
4 Islands (offshore from the ROI) from May through December (NOAA 2001).

5 The humpback whales that occur in California are part of one of three genetically distinct stocks in  
6 the North Pacific (NOAA 2002). This stock is referred to as the California/Oregon/Washington-  
7 Mexico stock. This stock includes winter/spring populations in coastal Central America and the  
8 Pacific coast of Mexico (calving and mating areas) that migrate to the coast of California and north to  
9 southern British Columbia in the summer/fall (feeding areas). The U.S./Canadian border is estimated  
10 to be the northern boundary of the California/ Oregon/ Washington-Mexico stock. Humpback whales  
11 have a varied diet, preying on krill (euphausiids), copepods, juvenile salmonids (*Oncorhynchus spp.*),  
12 Arctic cod (*Boreogadus saida*), walleye pollock (*Theragra virens*), pteropods, and some copepods  
13 (NOAA 2002). Humpback whales observed in the Gulf of the Farallones and adjacent waters off  
14 California from 1988–1990 fed primarily on euphausiids, and only occasionally fed on small schooling  
15 fish (NOAA 2002). Humpback whales occur within the Monterey Bay NMS (offshore from the ROI)  
16 from May through October (NOAA 2001).

17 Fin whales are widely distributed throughout the world's oceans. Fin whales have a complex  
18 migratory behavior, which appears to be dependent on their age or reproductive state, as well as their  
19 "stock" affinity (NOAA 2002). Their movements can be either inshore-offshore or north-south. Fin  
20 whales have been observed year-round off central and southern California, with peak numbers in the  
21 summer and fall (NOAA 2002). Fin whale abundance is lower in winter/spring off California and  
22 higher in the Gulf of California. Further research is required to determine whether fin whales found  
23 off southern and central California migrate to the Gulf of California for the winter (NOAA 2002).  
24 Tag-recapture data suggests that fin whales may winter in southern California and summer in areas  
25 further north. Fin whales occur in the Monterey Bay NMS (offshore from the ROI) from April  
26 through September, where they feed on krill and are associated with areas of upwelling (NOAA  
27 2001).

28 Sperm whales are typically found close to the coast of California from November to April in large  
29 pods, or groups of up to 50 individuals (MMC 2002a). These large pods are usually female sperm  
30 whales and their calves and the males form separate pods. Male sperm whales migrate from  
31 temperate waters in winter to northern water in the summer, while females remain in temperate and  
32 tropical waters throughout the year. Sperm whales feed on deep-water squid, fish, octopus, and skate

1 (ACS 1996). Sperm whales are found off the coast of California year-round, with peak abundances  
2 from April through mid-June and from the end of August through mid-November. This suggests a  
3 northward migration in the spring and a southward migration in the fall (NOAA 2002). Sperm  
4 whales occur in the Monterey Bay NMS (offshore from the ROI) throughout the year (NOAA 2001).

5 Guadalupe fur seals once lived as far north as Point Conception, California. The only remaining  
6 breeding ground is Guadalupe Island, approximately 200 kilometers (km) west of Baja California.  
7 Individuals have been sighted in the southern California Channel Islands, including two males with  
8 established territories on San Nicolas Island (NOAA Fisheries undated a). The Guadalupe fur seal  
9 does not migrate but females have been reported to make long round trips, average of 2,375 km, in  
10 the California Current in search of squid and fish, such as mackerel and lantern fish (SCS undated).  
11 Guadalupe fur seals were hunted to near extinction in the 1800s and are now under protection in the  
12 U.S. and Mexico (MMC 2002b). Specific actions necessary for the recovery of the species have not  
13 been identified in the U.S., nor have direct recovery actions been implemented (NOAA Fisheries  
14 undated a). However, Guadalupe fur seals are protected from Federal actions that could jeopardize  
15 the species, through the Section 7(a)(2) ESA consultation process (NOAA Fisheries undated a).

16 Stellar sea lions are listed as threatened on the federal level and in the State of California. Their  
17 current population in California is about 500, an 80 percent drop since the 1970s (MMC 2002b). One  
18 theory for their decline is the lack of fish they eat (MMC 2002b). Stellar sea lions usually remain  
19 offshore in unpopulated areas such as Año Nuevo Island, California, located 55 miles south of San  
20 Francisco (MMC 2002b, CASP 2003b).

21 Historically, southern sea otters ranged from Baja California north to the Aleutian Islands, Alaska, in  
22 the eastern North Pacific (Goals Project 2000). Currently, there are two populations of sea otters, one  
23 in the Aleutian Islands and south to Vancouver, and one in California near Point Sur. It is estimated  
24 that there are approximately 2,200 sea otters in the California population (Goals Project 2000). Sea  
25 otters were once abundant in the central San Francisco Bay area and as far inland as the mouth of  
26 Sonoma Creek, Sonoma/Marin County. While sea otters do not breed in the San Francisco area and  
27 were only sighted in the San Francisco Bay as recently as the 1990s, sea otters are now regularly seen  
28 in the San Francisco Bay area north to Point Reyes, Marin County (Goals Project 2000). Sea otters  
29 migrate very little, and are year round residents where they occur, exhibiting very little movement.  
30 They feed primarily on benthic invertebrates such as bivalves, abalone, urchins, cephalopods, and  
31 crustaceans, and fish (Goals Project 2000).

1 Marine mammals not designated as threatened or endangered by the USFWS or NOAA Fisheries  
2 have been observed in California coastal waters. Pinnipeds include harbor seals (*Phoca vitulina*  
3 *richardsi*), Northern elephant seals (*Mirounga angustirostris*), California sea lions (*Zalophus*  
4 *californianus*), and fur seals (*Callorhinus ursinus*). Cetaceans include minke whale (*Balaenoptera*  
5 *acutorostrata*), California gray whale (*Eschrichtus robustus*), pygmy sperm whale (*Kogia breviceps*),  
6 dwarf sperm whale (*Kogia simus*), and Baird's beaked whale (*Berardius bairdi*).

7 Harbor seals inhabit coastal and estuarine waters off Baja California, north along the western coasts  
8 of the continental U.S., British Columbia, and Southeast Alaska, west through the Gulf of Alaska and  
9 Aleutian Islands, and in the Bering Sea north to Cape Newenham and the Pribilof Islands.

10 Harbor seals are known for lying on rocks, reefs, beaches, and drifting glacial ice. They feed in  
11 marine, estuarine, and occasionally fresh waters. Harbor seals generally are non-migratory, with local  
12 movements associated with such factors as tides, weather, season, food availability, and reproduction  
13 (NOAA 2002). Pups are born in the spring. Unlike many other seal pups, harbor seals are able to  
14 swim from birth, although they are dependent on the mother for milk and nurturing for three to six  
15 weeks before they venture out on their own. While tending their young, harbor seal mothers are very  
16 protective and will sometimes push the pup beneath the surface or carry it on her shoulders to avoid  
17 danger (NOAA 2002).

18 Northern elephant seals are "earless" or "true" seals. Once hunted to near extinction, elephant seals  
19 now populate the coast from the Gulf of Alaska south to Baja California. Elephant seals dive to an  
20 average depth of 450 ft; however, they have been recorded as deep as 5,000 ft. They can easily  
21 remain submerged for 20 minutes, with a maximum of 119 minutes. The usual diet of a northern  
22 elephant seal in the wild consists of squid, small sharks, rays, and other deep-water species. Because  
23 of their bottom-feeding nature, it is common to see elephant seals come to the Marine Mammal Care  
24 Center at Fort Mac Arthur with stingray barbs, Ratfish spines, or cookie-cutter shark bites.

25 California sea lions are eared seals. They have external ear flaps, small tails, and smooth whiskers.  
26 They have the ability to walk on all fours, which makes them highly mobile on land, and when they  
27 swim, they do so primarily with their large front flippers, using their rear flippers for steering. Their  
28 large front flippers and the ability to turn their rear flippers under their bodies allow them to pull  
29 themselves up onto buoys or docks. Their diet in the wild includes squid, octopus, herring, and  
30 anchovies. California sea lions exhibit many behavior traits (excellent sense of balance, mobility, and  
31 coordination) that often cause them to be viewed as cute and "cuddly," but it should be noted that they

1 are wild animals. They possess sharp teeth and strong jaws, they grow to be extremely large, and  
2 they can move quicker than one might expect on land (NOAA 2002).

3 California sea lion habitat consists of sandy or rocky island beaches, mainland shorelines, coastal  
4 islands, or caves protected by steep cliffs ranging from Vancouver to Baja California and the Gulf of  
5 California. California sea lions first appeared on San Francisco Pier 39 in 1989 and ever since have  
6 been an attraction for many visitors. Originally 10 to 50 sea lions were at the pier but due to the  
7 abundant supply of herring in San Francisco Bay their numbers are now as high as 900 in the winter  
8 (Pier 39 2003). In the summer, they migrate from the pier to the Channel Islands, off the coast of Los  
9 Angeles, but some sea lions remain in the San Francisco Bay throughout the year.

10 Fur seals are eared seals, named for their dense, insulating under-fur. They spend most of their time  
11 in deep waters offshore. They are not commonly seen along the coast in the southern California area  
12 due to their pelagic lifestyle. Their range extends from the Arctic Ocean to southern California in  
13 winter, with summers spent on the Pribilof Islands in the Bering Sea and San Miguel Island off the  
14 California coast. Fur seals are similar to California sea lions in appearance, with external ear flaps  
15 and large front flippers, however the fur seals have longer fur, which stops at the top of the flipper,  
16 and their noses are slightly shorter. Fur seals also have teeth that "interlock" or mesh together,  
17 leaving little or no space between them when their jaws are closed.

## 18 **Sea Turtles**

19 Four species of sea turtles inhabit the California coast and may occur in the ROI. All four are listed  
20 as threatened or endangered. These include the green sea turtle (*Chelonia mydas*) (threatened and  
21 endangered), leatherback sea turtle (*Dermochelys coriacea*) (endangered), loggerhead sea turtle  
22 (*Caretta caretta*) (threatened), and olive ridley sea turtle (*Lepidochelys olivacea*) (threatened). The  
23 USFWS and NOAA Fisheries share the responsibility for sea turtle protection and recovery under the  
24 authority of the ESA.

25 Green turtles are listed as threatened, except for breeding populations found in Florida and the Pacific  
26 coast of Mexico, which are listed as endangered. The primary green turtle nesting grounds in the  
27 eastern Pacific are located in Michoacán, Mexico and the Galapagos Islands, Ecuador (NMFS and  
28 USFWS 1998a). They are a highly migratory species found throughout the world's oceans, nesting  
29 mainly in tropical and subtropical regions.

30 Two distinct subspecies of green turtles occur in the eastern Pacific, the black turtle (*C. m. agassizii*),  
31 which ranges from Baja California south to Peru and west to the Galapagos Islands; and the dominant

1 green sea turtle (*C. m. mydas*) in the rest of the range (NMFS 2000). Since both subspecies can be  
2 found in the ROI, they will be treated as one species and referred to as green turtles for the purposes  
3 of this EA. As a result of historical combination of overexploitation and habitat loss, green turtles are  
4 declining virtually everywhere throughout the Pacific Ocean, with the possible exception of Hawaii  
5 (NMFS 2000).

6 Most green turtles appear to have a nearly exclusive herbivorous diet, consisting primarily of sea  
7 grass and algae, although those along the East Pacific coast seem to have a more carnivorous diet  
8 (NMFS 2000). Stomach content analyses of sea turtles found off the coast of Peru revealed a large  
9 percentage of mollusks and polychaetes, while fish and fish eggs, and jellyfish and commensal  
10 amphipods comprised a lesser percentage (NMFS 2000).

11 Leatherbacks have the most extensive range of any living reptile and have been reported throughout  
12 the world's oceans (NMFS and USFWS 1998b). Studies of their abundance, life history and ecology,  
13 and pelagic distribution are difficult because they lead a completely pelagic existence. Leatherbacks  
14 are highly migratory, exploiting convergence zones and upwelling areas in the open ocean, along  
15 continental margins, and in archipelagic waters. They forage in temperate waters except during the  
16 nesting season, when gravid females return to tropical beaches to lay eggs.

17 Loggerhead sea turtles are listed as threatened under the ESA throughout their range, primarily due to  
18 exploitation, incidental capture by various fisheries, and the alteration and destruction of their habitat.  
19 Loggerheads are found in temperate and subtropical waters and inhabiting pelagic waters, continental  
20 shelves, bays, estuaries and lagoons (NMFS and USFWS 1998c).

21 In the Pacific Ocean, major nesting grounds are generally located in temperate and subtropical  
22 regions, with scattered nesting in the tropics, and are restricted to the western and southern region  
23 (Japan and Australia, primarily). To date there have been no reported loggerhead nesting sites in the  
24 eastern or central Pacific (NMFS 2000). Upon reaching maturity, adult females migrate long  
25 distances from resident foraging grounds to their preferred nesting beaches.

26 Evidence indicates that the loggerhead transition from hatchling to juvenile might involve trans-  
27 Pacific movement. Juvenile Pacific loggerheads might follow a migration similar to loggerheads in  
28 the Atlantic, passively transported by currents in flotsam in drift lines, before taking up residence in  
29 developmental habitats in coastal waters (NMFS 2000).

1 The olive ridley sea turtle populations on the Pacific coast of Mexico are listed as endangered under  
2 the ESA; all other populations are listed as threatened. However, olive ridleys are the most abundant  
3 sea turtle in the Pacific basin. Olive ridley sea turtles lead a primarily pelagic existence, migrating  
4 throughout the Pacific, from their nesting grounds in Mexico and Central America to the north Pacific  
5 (NMFS 2000). Little is known of their oceanic distribution and critical foraging areas. The species  
6 appears to forage throughout the eastern tropical Pacific Ocean, often in large groups. Evidence  
7 indicates that young turtles move off shore and occupy flotsam in areas of current convergence for  
8 food and shelter. When large enough, they recruit to the benthic feeding grounds of adults. Olive  
9 ridleys feed on tunicates, salps, crustaceans, other invertebrates, and small fish (NMFS 2000).

## 10 **Fish**

11 Over 130 fish species live in the San Francisco Bay region, including marine, estuarine, freshwater,  
12 and anadromous fish (fish that migrate from the ocean to freshwater) (SFEP 1993). Planktivorous  
13 fish that occur in the San Francisco Bay include the Northern anchovy (*Engraulis mordax*), Pacific  
14 sardine (*Sardinops sagax*), delta smelt (*Hypomesus transpacificus*), longfin smelt (*Spirinchus*  
15 *thaleichthys*), and threadfin shad (*Dorsoma patenense*), among others. The most common  
16 planktivorous species in the Bay is the Northern anchovy (SFEP 1993). Predatory fish that occur in  
17 the Bay include white croaker (*Genyonemus lineatus*), English sole (*Parophrys vetulus*), starry  
18 flounder (*Platichthys stellatus*), white catfish (*Ameiurus catus*), and Sacramento splittail  
19 (*Pogonichthys macrolepidotus*). The chameleon goby (*Tridentiger trigonocephalus*) is a predatory,  
20 introduced species that occurs in the ROI. Anadromous species that occur in the ROI include  
21 Chinook salmon (*Oncorhynchus tshawytscha*) and coho salmon (*Oncorhynchus kisutch*).

22 Commercial and recreational fishery resources off the California coast are managed by the Pacific  
23 Fishery Management Council (PFMC), NOAA Fisheries, and Pacific States Marine Fisheries  
24 Commission (PSMFC). Pursuant to the EFH requirements of the MSFCMA, the PFMC has  
25 described EFH for 103 species in four fishery management plans (FMPs) – groundfish, coastal  
26 pelagic species, salmon, and highly migratory species (still in draft form).

27 The proposed project is located within an area designated as EFH for species in the groundfish,  
28 salmon, and coastal pelagic species FMPs and proposed as EFH in the highly migratory species FMP.  
29 Of the species that are federally managed under these plans, 29 have EFH in the ROI, 21 species of  
30 groundfish, two species of salmon, four fish species and market squid coastal pelagic species, and  
31 one highly migratory species (proposed EFH) (see Table 3-2).

1 Four species of threatened and endangered fish occur in the ROI, Chinook salmon (*Oncorhynchus*  
2 *tshawytscha*), coho salmon (*Oncorhynchus kisutch*), steelhead (*Oncorhynchus mykiss*), and the  
3 tidewater goby (*Eucyclogobius newberryi*) (SFEP 1993, NOAA Fisheries 2002a, NOAA Fisheries  
4 2002b). These species are also state-listed as “Species of Special Concern.” Additionally, the  
5 summer steelhead trout is state-listed as a California “Species of Special Concern,” is listed as a  
6 sensitive species by the Federal Bureau of Land Management, and is under review by NOAA  
7 Fisheries (SFEP 1993, NOAA Fisheries 2002c).

8 The ESA allows listing of "distinct population segments" of vertebrates as well as named species and  
9 subspecies. NOAA Fisheries policy stipulates that a salmon population will be considered "distinct"  
10 for purposes of the Act if it represents an ESU of the biological species. To qualify as an ESU, a  
11 population (or group of populations) must be a) reproductively isolated from conspecific populations  
12 and b) represent an important component in the evolutionary legacy of the species.

13 Along the U.S. West Coast, there are 17 distinct groups, or ESUs, of chinook salmon (NOAA  
14 Fisheries undated a). Three ESUs occur in the ROI, the Sacramento Winter-run ESU, the Central  
15 Valley Fall and Late Fall-run ESU, and the Central Valley Spring-run ESU.

16 The Sacramento River Winter-run ESU was listed as endangered on January 4, 1994. Critical habitat  
17 was designated to include the Sacramento River from Keswick Dam, Shasta County (River Mile 302)  
18 to Chipps Island (River Mile 0) at the westward margin of the Sacramento-San Joaquin Delta, all  
19 waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Suisun Bay, and  
20 Carquinez Strait, all waters of San Pablo Bay westward of the Carquinez Bridge, and all waters of  
21

22 San Francisco Bay (north of the San Francisco/Oakland Bay Bridge) from San Pablo Bay to the  
23 Golden Gate Bridge (55 FR 12191-12193). Areas above specific dams or longstanding, naturally  
24 impassable barriers are excluded. Major river basins containing spawning and rearing habitat for this  
25 ESU comprise approximately 9,329 square miles in California (NOAA Fisheries 2002a). Contra  
26 Costa, Sacramento, Solano, and Yolo counties, which are included in the ROI, are either partially or  
27 wholly within these basins.

28

1

Table 3-2. Species that have EFH within the ROI

Common Name	Scientific Name	Life History Stage				
		Adult	Spawning/ Mating	Juvenile	Larvae	Eggs/ Parturition <sup>a</sup>
<b>Groundfish</b>						
Leopard shark	<i>Triakis semifasciata</i>	X	X	X	NA	X <sup>a</sup>
Southern shark	<i>Galeorhinus zyopterus</i>	X	X	X	NA	X <sup>a</sup>
Spiny dogfish	<i>Squalus acanthias</i>	X	-	X	NA	X <sup>a</sup>
California skate	<i>Raja inornata</i>	X	X	X	NA	X
Ratfish	<i>Hydrolagus colliei</i>	X	X	X	NA	-
Lingcod	<i>Ophiodon elongates</i>	X	X	X	X	X
Cabezon	<i>Scorpaenichthys marmoratus</i>	X	X	X	X	X
Kelp greenling	<i>Hexagrammos decagrammus</i>	X	X	X	X	X
Pacific cod	<i>Gadus macrocephalus</i>	X	X	X	X	X
Pacific whiting	<i>Merluccius productus</i>	X	X	X	X	X
Sablefish	<i>Anoplopoma fimbria</i>	-	-	X	-	-
Bocaccio	<i>Sebastes paucispinis</i>	X	NI	X	X	NI
Brown rockfish	<i>S. auriculatus</i>	X	X	X	NI	X
Calico rockfish	<i>S. dallii</i>	X	NI	X	NI	NI
California scorpionfish	<i>Scorpaena gutatta</i>	-	-	NI	NI	X
Copper rockfish	<i>Sebastes caurinus</i>	X	NI	X	NI	X
Quillback rockfish	<i>S. maliger</i>	X	NI	X	X	X
English sole	<i>Parophrys vetulus</i>	X	X	X	X	X
Flathead sole	<i>Hippoglossoides elassodon</i>	X	X	X	X	X
Pacific sanddab	<i>Citharichthys sordidus</i>	-	-	X	X	X
Starry flounder	<i>Platichthys stellatus</i>	X	X	X	X	X
<b>Salmon</b>						
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	-	-	X	-	-
Coho salmon	<i>Oncorhynchus kisutch</i>	-	-	X	-	-
<b>Coastal Pelagics</b>						
Pacific sardine	<i>Sardinops sagax</i>	X	X	X	X	X
Pacific mackerel (chub)	<i>Scomber japonicus</i>	X	X	X	X	X
Northern anchovy	<i>Engraulis mordax</i>	X	X	X	X	X
Jack mackerel	<i>Triachurus symmetricus</i>	X	X	X	X	X
Market squid	Various species	X	X	X	X	X
<b>Highly Migratory Species</b>						
Thresher shark	<i>Alopius volpinus</i>	X	X	X	X	X <sup>a</sup>

Notes: <sup>a</sup> Parturition relates to the giving birth of live offspring. Many shark species are live-bearers.

X = EFH is designated in the ROI

NA = this life stage is not applicable to this species (i.e., sharks which are live-bearers).

NI = not enough information available to designate EFH

- = EFH is not designated in the ROI

1 The Central Valley Fall and Late Fall-run ESU, which occurs in the ROI, is a candidate for listing  
2 (NOAA Fisheries 2002a). The ESU includes all naturally spawned populations of fall-run chinook  
3 salmon in the Sacramento and San Joaquin River Basins and their tributaries, east of Carquinez Strait,  
4 California. Major river basins containing spawning and rearing habitat for this ESU comprise  
5 approximately 13,760 square miles in California (NOAA Fisheries 2002a). Alameda, Contra Costa,  
6 Napa, Sacramento, San Joaquin, Santa Clara, Solano, and Yolo counties, which are included in the  
7 ROI, are either partially or wholly within these basins.

8 The Central Valley Spring-run ESU was listed as threatened on September 16, 1999 (NOAA  
9 Fisheries 2002a). Critical habitat for this ESU is currently under development. The ESU includes all  
10 naturally spawned populations of spring-run chinook salmon in the Sacramento River and its  
11 tributaries in California (NOAA Fisheries 2002a).

12 Along the U.S. West Coast, there are six distinct groups, or ESUs, of coho salmon (NOAA Fisheries  
13 undated a). The only ESU of coho salmon that occurs in the ROI is the Central California Coast  
14 ESU, which was listed as threatened on October 31, 1996. The ESU includes all naturally spawned  
15 populations of coho salmon from Punta Gorda in northern California south to and including the San  
16 Lorenzo River in central California, as well as populations in tributaries of San Francisco Bay,  
17 excluding the Sacramento-San Joaquin River system (NOAA Fisheries 2002b). Critical habitat is  
18 designated to include all river reaches accessible to listed coho salmon from Punta Gorda in northern  
19 California south to the San Lorenzo River in central California, including Mill Valley (Arroyo Corte  
20 Madera Del Presidio) and Corte Madera Creeks, tributaries of San Francisco Bay. Major river basins  
21 containing spawning and rearing habitat for this ESU comprise approximately 4,152 square miles in  
22 California. Marin, San Mateo, and Santa Clara counties, which are included in the ROI, are either  
23 partially or wholly within these basins (NOAA Fisheries 2002b).

24 There are 15 distinct groups, or ESUs, of steelhead, from southern California to the Canadian border  
25 and east to the Rocky Mountains. The Central Valley, California ESU occurs in the ROI (NOAA  
26 Fisheries 1999). This ESU was listed as threatened on March 19, 1998. The ESU includes all  
27 naturally spawned populations of steelhead (and their progeny) in the Sacramento and San Joaquin  
28 Rivers and their tributaries. Excluded are steelhead from San Francisco and San Pablo Bays and their  
29 tributaries (NOAA Fisheries 2002c).

30 The decline of pacific coast salmonids is largely due to habitat alteration (NOAA Fisheries undated  
31 b). Direct or indirect threats to salmon habitat include water storage, withdrawal, conveyance, and

1 diversions for agriculture, flood control, domestic, and hydropower purposes; land use modifications  
2 associated with logging, road construction, urban development, mining, agriculture, and recreation;  
3 among others. These threats have reduced, eliminated, or degraded historical habitat and/or resulted  
4 in direct entrainment mortality of juvenile salmonids. Modification of natural flow regimes have  
5 resulted in increased water temperatures, changes in community structures, depleted flows necessary  
6 for migration, spawning and rearing, flushing of sediments from spawning gravel, and transport of  
7 large woody debris (NOAA Fisheries undated b).

8 The tidewater goby was federally listed as an endangered species by USFWS on February 4, 1994  
9 (USFWS 1999). On June 24, 1999, USFWS proposed to de-list the northern populations of the  
10 tidewater goby and to retain their endangered status in Orange and San Diego Counties. This  
11 proposal is based on the conclusion that the Southern California populations are genetically distinct  
12 and represent a distinct population segment. On November 20, 2000, USFWS designated 10 coastal  
13 stream segments, totaling approximately nine linear miles of rivers, streams, and estuaries in Orange  
14 and San Diego Counties, as critical habitat for the tidewater goby.

15 Tidewater gobies are a California endemic species and are unique in that they are restricted to coastal  
16 brackish water habitats. At the time of listing, it was believed that this species historically occurred in  
17 at least 87 of California's coastal lagoons, ranging from Agua Hedionda Lagoon (northern San Diego  
18 County) to Tillas Slough (mouth of the Smith River), Del Norte County, California. Only 46 goby  
19 populations were believed to exist at the time of listing, representing an approximate 50 percent  
20 decline of known populations (USFWS 1999). In 1999, an estimated 85 tidewater goby populations  
21 were believed to be in existence and the number of historical populations was estimated to be about  
22 110 (USFWS 1999).

### 23 **Coastal and Other Birds**

24 As part of the Pacific Flyway, San Francisco Bay is home to thousands of migratory birds each  
25 winter, as well as to other various species throughout the year (SFEP 1993). The expansive mudflats,  
26 marshlands, and open water provide food and habitat for wading, open water, and shore birds (MSI  
27 2003). Approximately 34 species of shorebirds inhabit the Bay including plovers, stilts, avocets, and  
28 sandpipers. Waterfowl that inhabit the Bay include diving and dabbling ducks, geese, swans, and  
29 cranes. Colonial waterbirds and seabirds, which feed in the open waters of the Bay and ocean and  
30 nest in colonies, include gulls, terns, herons, egrets, ibises, and cormorants. Approximately 10,000  
31 raptors inhabit the Bay area including species of hawks, kestrels, harriers, and vultures. Songbirds

1 that live around the bay include warblers, sparrows, larks, and thrushes. Their habitats include oak,  
2 savanna, grassland, and riparian forest.

3 The San Francisco Bay National Wildlife Refuge Complex is a complex of seven NWRs in or near  
4 the ROI, which has a mission to protect migratory birds (USFWS undated a). Over 400 species of  
5 birds have been sighted at the Farallon NWR, which is 28 miles west of the San Francisco Bay  
6 (USFWS undated a). It is estimated that over half the world's population of Ashy storm-petrels  
7 breeds at the refuge. This refuge also supports the largest seabird-nesting colony south of Alaska.  
8 The Marin Island NWR supports one of the largest egret and heron rookeries in northern California  
9 and provides breeding habitat for other migratory birds. Shorebirds occupy mudflats and waters  
10 surrounding the refuge. The San Pablo NWR provides a habitat for waterfowl during their migration,  
11 including some endangered and threatened species that live in tidal marshes (Wildernet 2003). The  
12 refuge protects the endangered clapper rail and provides wintering habitat for millions of shorebirds  
13 and waterfowl, including the largest wintering population of canvasbacks on the west coast (USFWS  
14 undated a). There are over 280 species of birds found at the Don Edwards San Francisco Bay NWR  
15 each year and millions of other shorebirds and waterfowl that use the refuge as a stop during fall and  
16 spring migration (USFWS undated c).

17 Cordell Bank NMS is a major foraging area for thousands of seabirds. This includes resident species  
18 that nest on the nearby Farallon Islands as well as highly migratory and vagabond seabirds. The  
19 Cordell Bank NMS known as the "albatross capital of the northern hemisphere," as five of the  
20 fourteen albatross species have been documented in the Sanctuary (NOAA 2003). Blue herons and  
21 brown and white pelicans, can be seen at Angel Island State Park either feeding offshore or flying  
22 over the island on their way to other parts of the bay (CADPR 2003). Other birds that inhabit Angel  
23 Island State Park include robins, scrub jays, sparrows, juncos, hummingbirds, flickers, hawks, owls,  
24 sea gulls, ducks, egrets, grebes, scoters, and kingfishers.

25 Seven threatened and/or endangered birds occur in San Francisco Bay and may occur in the ROI.  
26 These include the marbled murrelet (*Brachyramphus marmoratus*) (threatened), western snowy  
27 plover plover (*Charadrius alexandrinus nivosus*) (threatened), bald eagle (*Haliaeetus leucephalus*)  
28 (threatened), short tailed albatross (*Diomedea albatrus*) (endangered), California brown pelican  
29 (*Pelecanus occidentalis californicus*) (endangered), California clapper rail (*Rallus longirostris*  
30 *obsoletus*) (endangered), and the California least tern (*Sterna antillarum (=albifrons) browni*)  
31 (endangered) (USFWS 2003a). A list of bird species that have been identified within the ROI is  
32 presented in Table 3-3.

1 In California, marbled murrelets nest in old growth coniferous forests near the coast. They nest in  
2 mid-April and return to the ocean to forage for food daily. Once the hatchlings are able to leave the  
3 nest, the adults and hatchlings join the other adults floating on the sea. Adult marbled murrelets  
4 spend the majority of their lives at sea. While marbled murrelet habitat is not found within the ROI,  
5 they might be seen within the San Francisco Bay area because they travel to coastal waters for food  
6 (CADFG 1994). The marbled murrelet has been reported at the Golden Gate NRA and Point Reyes  
7 National Seashore (NOAA Fisheries undated b, NPS 2001).

8 Favorable nesting habitat for the Western snowy plover is on the ground of open beaches or salt/dry  
9 mud flats, with scarce vegetation. Western snowy plovers breed in abundance in the San Francisco  
10 Bay area and further south. The California coast is typically a wintering place for interior populations  
11 of plovers (NatureServe 2003). The western snowy plover has been reported to be in the San Pablo  
12 Bay NWR, Don Edwards San Francisco Bay NWR, Golden Gate NRA, Point Reyes National  
13 Seashore, and Salinas River NWR (USFWS 2003b, NOAA Fisheries undated b, NPS 2001, USFWS  
14 undated a).

15 Bald eagle breeding habitat includes areas close to coastal waterways, lakes, rivers, and bays. They  
16 usually nest in tall trees or on cliffs near the coast where a food supply is abundant (NatureServe  
17 2003). The bald eagle has been reported at the Golden Gate NRA and Point Reyes National Seashore  
18 (NOAA Fisheries undated b, NPS 2001).

19 The short-tailed albatross is a highly migratory species that has been observed within 5 km (3 mi) to  
20 10 km (6 mi) of the coast, typically in areas of high productivity along the United State's west coast  
21 (45 FR 4663). This species has been identified at Point Reyes National Seashore, Monterey Bay  
22 NMS, and Cordell Bank NMS (which is known as the "albatross capital of the northern hemisphere")  
23 (NPS 2001, NOAA 2002, NOAA 2003).

24 The California brown pelican is essentially restricted to California and western Mexico. This species  
25 lives near bays, lagoons, rivers, and wetlands. In California, brown pelican nests are typically found  
26 on the middle to upper sections of rocky slopes of small islands. Egg laying occurs in late winter to  
27 early spring; most California brown pelicans will remain close to their nesting area during the winter  
28 (NatureServe 2003). The California brown pelican has been reported at the San Pablo Bay NWR,  
29 Don Edwards San Francisco Bay NWR, Golden Gate NRA, Point Reyes National Seashore, and  
30 Salinas River NWR (USFWS 2003a, NOAA Fisheries undated b, NPS 2001, USFWS undated a).

1  
2**Table 3-3. Special Status Bird Species That Have Been Identified Within the San Francisco Bay Area**

Common Name	Scientific Name	Federal	State
California brown pelican	<i>Pelecanus occidentalis californicus</i>	FE	SE
American white pelican	<i>Pelecanus erythrorhynchos</i>	-	CSC
Bald eagle	<i>Haliaeetus leucocephalus</i>	FPD	SE
American peregrine falcon*	<i>Falco peregrinus anatum</i>	FPD	SE
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT	CSC
Mountain plover	<i>Charadrius montanus</i>	FSC	
California least tern	<i>Sterna antillarum browni</i>	FE	SE
Great blue heron	<i>Ardea herodias</i> (rookery)	-	-
White faced ibis	<i>Plegadis chihi</i> (rookery)	Cat 2	CSC
Snowy egret	<i>Egretta thula</i> (rookery)		
Greater sandhill crane	<i>Grus Canadensis tabida</i>	-	ST
Wood stork	<i>Mycteria americanaAmericana</i>	FE	-
Marbled murrelet*	<i>Brachyramphus marmoratus</i>	FT	SE
Northern spotted owl*	<i>Strix occidentalis caurina</i>	FT	-
Double-crested cormorant	<i>Phalaxacrocorax auritus</i> (rookery)	-	CSC
Common loon	<i>Gavia immer</i> (breeding)	-	CSC
California gull	<i>Larus californicus</i> (nesting colony)	-	CSC
Short-tailed albatross	<i>Diomedea albatrus</i>	FE	-
Ashy storm petrel	<i>Oceanodroma homochroa</i>	FSC	-
Swainson's hawk	<i>Buteo swainsoni</i>		ST
California clapper rail	<i>Rallus longiorstris obsoletus</i>	FE	SE
California black rail*	<i>Laterallus jamaicensis coturniculus</i>	FSC	ST
Willow flycatcher	<i>Empidonax traillii</i>	-	SE
Bank swallow*	<i>Riparia riparia</i>	-	ST
Harlequin duck	<i>Histrionicus histrionicus</i>	FSC	CSC
Tule white-fronted goose	<i>Anser albifrons elgasi</i>	FSC	-
Aleutian Canada goose	<i>Branta conadensis</i>	FE	-
Ferruginous hawk	<i>Buteo regalis</i>	FSC	CSC
Elegant tern	<i>Sterna elegans</i>	FSC	CSC
Western burrowing owl	<i>Athene cunicularia hypugea</i>	FSC	CSC
Loggerhead shrike*	<i>Lanius ludovicianus</i>	FSC	CSC
Tricolored blackbird	<i>Agelaius tricolor</i>	FSC	CSC
Bell's sage sparrow*	<i>Amphispiza belli belli</i>	FSC	CSC
Saltmarsh common yellowthroat*	<i>Geothlypis trichas sinuosa</i>	FSC	CSC
Great egret (rookery)*	<i>Ardea alba</i>	-	-
American bittern*	<i>Botaurus lentiginosus</i>	-	-
White-tailed kite (nesting)*	<i>Elanus leucurus</i>	-	-
Cooper's hawk*	<i>Accipiter cooperi</i>	-	CSC
Sharp-shinned hawk*	<i>Accipiter striatus</i>	-	CSC

1  
2**Table 3-3. Special Status Bird Species That Have Been Identified Within the San Francisco Bay Area (continued)**

Common Name	Scientific Name	Federal	State
Golden eagle*	<i>Aquila chrysaetos</i>	-	CSC
Northern harrier*	<i>Circus cyaneus</i>	-	CSC
Osprey*	<i>Pandion halaetus</i>	-	CSC
Merlin	<i>Falco columbarius</i>	-	CSC
Vaux's swift	<i>Chaetura vauxi</i>	-	CSC
California horned lark*	<i>Eremophila alpestris actia</i>	-	CSC
Purple martin*	<i>Progne subis</i>	-	CSC
Yellow warbler*	<i>Dendroica petechia brewsteri</i>	-	CSC
Brandt's cormorant*	<i>Phalacrocorax penicillatus</i>	-	-
Black oystercatcher*	<i>Haematopus bachmani</i>	-	-
Long-billed curlew	<i>Numenius americanus</i>	-	-
Western gull*	<i>Larus occidentalis</i>	-	-
California quail*	<i>Callipepla californica</i>	-	-
Band-tailed pigeon*	<i>Columba fasciata</i>	-	-
Rufous hummingbird	<i>Selasphorus rufus</i>	-	-
Allen's hummingbird*	<i>Selasphorus sasin</i>	-	-
Nuttall's woodpecker*	<i>Picoides nuttallii</i>	-	-
Olive-sided flycatcher*	<i>Contopus borealis</i>	-	-
Pacific-slope flycatcher*	<i>Empidonax difficilis</i>	-	-
Warbling vireo*	<i>Vireo gilvus</i>	-	-
Chestnut-backed chickadee*	<i>Poecile rufescens</i>	-	-
Swainson's thrush*	<i>Catharus ustulatus</i>	-	-
California thrasher*	<i>Toxostoma redivivum</i>	-	-
Black-throated gray warbler*	<i>Dendroica nigrescens</i>	-	-
Hermit warbler*	<i>Dendroica occidentalis</i>	-	-
MacGillivray's warbler*	<i>Oporornis tolmiei</i>	-	-
Beldings savannah sparrow	<i>Passerclus sandwichensis beldingi</i>	Cat 2	SE
Lark sparrow*	<i>Chondestes grammacus</i>	-	-
Song sparrow*	<i>Melospiza melodia</i>	-	-
Black swift (coastal bluffs)	<i>Cypseloides niger</i> (nesting)	-	CSC
Black-headed grosbeak*	<i>Pheucticus melanocephalus</i>	-	-
Western screech owl*	<i>Otus kennicottii</i>	-	-
Wrentit*	<i>Chamaea fasciata</i>	-	-

Source: NPS 2001, NOAA Fisheries undated b, NOAA 2002, CADFG 1998

Notes:

\* denotes breeding within the Golden Gate National Recreation Area

FE=Federally Endangered

FPD=Federally Proposed for Delisting

FT=Federally Threatened

FSC=Federal Species of Concern

Cat2= Candidate for listing by the USFWS(existing information indicates taxa may warrant listing, but substantial biological information necessary to support a proposed rulemaking is lacking)

SE=State Endangered

ST=State Threatened

CSC=California Species of Special Concern

- = no Federal status

1 There is a small population of California clapper rails in the San Francisco Bay area, but it has been  
2 extirpated from other areas in northern and central California. Nesting takes place from mid-March  
3 to July, with peaks in early May and early July (NatureServe 2003). The California clapper rail has  
4 been reported at San Pablo Bay National Wildlife Refuge, Don Edwards San Francisco Bay NWR,  
5 and Point Reyes National Seashore (Wildernet 2003, NPS 2001).

6 California least tern populations are restricted to California and Baja California. They arrive in the  
7 northern breeding area of the west coast in April and depart by November. California least terns nest  
8 on open, flat beaches along lagoons or estuaries and usually return to this area to nest in successive  
9 years (NatureServe 2003). It is likely that California least terns winter in Mexico. The California  
10 least tern has been reported at the Golden Gate NRA and Point Reyes National Seashore (NOAA  
11 Fisheries undated b, NPS 2001).

### 12 **3.3 Air Quality and Climate**

#### 13 **3.3.1 Definition of the Resource**

14 The air quality in a given region is measured by the concentration of various pollutants in the  
15 atmosphere. The Clean Air Act (CAA) National Ambient Air Quality Standards (NAAQS) have been  
16 established by USEPA for six criteria pollutants including: ozone (O<sub>3</sub>), carbon monoxide (CO),  
17 nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter less than ten microns (PM<sub>10</sub>), and lead  
18 (Pb). The measurements of these “criteria pollutants” are expressed in units of parts per million  
19 (ppm) or in units of micrograms per cubic meter (µg/m<sup>3</sup>). The CAA directed USEPA to develop,  
20 implement, and enforce strong environmental regulations that would ensure cleaner and healthier  
21 ambient air quality. In order to protect public health and welfare, USEPA developed numerical  
22 concentration-based primary and secondary standards for these criteria pollutants. NAAQS represent  
23 maximum levels of background pollution that are considered safe, with an adequate margin of safety  
24 to protect public health and welfare. O<sub>3</sub> is not emitted directly from stationary, mobile, or area  
25 pollution sources. Rather, it is a product of photochemically reactive compounds such as NO<sub>x</sub> and  
26 VOCs. These compounds are inventoried and quantified as precursors of O<sub>3</sub>. Air quality in a region  
27 is a result of not only the types and quantities of atmospheric pollutants and pollutant sources in an  
28 area, but also the surface topography, the size of the air basin, and the prevailing meteorological  
29 conditions.

30 Federal regulations (40 CFR 81) have defined Air Quality Control Regions (AQCRs), or airsheds, for  
31 the entire U.S. AQCRs are based on population and topographic criteria for groups of counties within

1 a state, or counties from multiple states that share a common geographical or pollutant concentration  
2 characteristic.

3 In 1993, USEPA developed the General Conformity Rule, which specifies how Federal agencies must  
4 determine CAA conformity for sources of non-attainment pollutants in designated nonattainment and  
5 maintenance areas. The CAA Section 176 I (1) prohibits Federal agencies from undertaking projects  
6 that do not conform to an USEPA-approved State Implementation Plan (SIP) in nonattainment areas.  
7 A maintenance area is one that has met Federal air quality standards, thus removing it from  
8 nonattainment status. This rule and all subsequent amendments can be found in 40 CFR 51 Subpart  
9 W and 40 CFR 93 Subpart B. Through the Conformity Determination process specified in the final  
10 rule, any Federal agency must analyze increases in pollutant emissions directly or indirectly  
11 attributable to a proposed action. In addition, they may need to complete a formal evaluation that  
12 may include modeling for NAAQS impacts, obtaining a commitment from the state regulatory agency  
13 to modify the SIP to account for emissions from a proposed action, and/or provision for mitigation for  
14 any significant increases in nonattainment pollutants. SIPs are the regulations and other materials for  
15 meeting clean air standards and associated CAA requirements. The Proposed Action at ISC Alameda  
16 occurs within Alameda County, which has been designated as a *serious* nonattainment area for O<sub>3</sub>.  
17 Therefore, the General Conformity Rule applies and a conformity analysis is required.

### 18 **3.3.2 Affected Environment**

19 The ROI for the Proposed Action and the No Action Alternative is defined as the San Francisco Bay  
20 region (San Francisco Bay, San Pablo Bay, and the Sacramento River Delta). The ROI includes the  
21 California counties of Contra Costa, Alameda, Marin, San Francisco, Sonoma, Napa, Santa Clara,  
22 Solano, Yolo, Sacramento, and San Mateo.

#### 23 **Air Quality**

24 The California Environmental Protection Agency (Cal-EPA) and California Air Resources Board  
25 (CARB) have delegated responsibility for implementation of the Federal CAA and California CAA to  
26 local air pollution control agencies. The Proposed Action is located in the Bay Area Air Quality  
27 Management District (AQMD) and is subject to rules and regulations developed by the Bay Area  
28 AQMD. The air quality in this region is federally designated as a *moderate* nonattainment area for O<sub>3</sub>  
29 and is in attainment for all other criteria pollutants.

30 The State of California adopted the NAAQS and promulgated additional State Ambient Air Quality  
31 Standards (SAAQS) for criteria pollutants. The California standards are more stringent than the

1 Federal primary standards. The air quality in the Bay Area AQMD has been characterized by the  
2 CARB as a *serious* nonattainment area for O<sub>3</sub>, nonattainment for PM<sub>10</sub>, and attainment area for all  
3 other criteria pollutants. Table 3-4 presents the primary and secondary NAAQS and SAAQS that  
4 apply to air quality in California. Table 3-5 presents the current air emissions inventory data for Bay  
5 Area AQMD.

6 **Climate**

7 The San Francisco Bay area is located in a cool, humid climate and experiences moderately cool  
8 summers and moderate winters due to the proximity of the moderating marine air. In this area,  
9 marine air intrusion through the Golden Gate, across San Francisco, and through the San Bruno gap is  
10 a dominant weather factor throughout the year. The San Francisco Bay area climate experiences  
11 moderately wet winters and dry summers. Winter rains account for about 75 percent of the average  
12 rainfall. Maximum temperatures in summer average in the upper 60s to low 70s. Winter highs are in  
13 the mid to high 50s and lows are in the low to mid-40s (BAAQMD 2003). Table 3-6 presents the  
14 monthly temperature and precipitation data for the State of California.

1

**Table 3-4. National and State Ambient Air Quality Standards**

Pollutant	Standard Value		Standard Type
<b>Carbon Monoxide (CO)</b>			
8-hour Average	9 ppm	(10 mg/m <sup>3</sup> ) <sup>a</sup>	Primary and Secondary
1-hour Average	35 ppm	(40 mg/m <sup>3</sup> ) <sup>a</sup>	Primary
8-hour Average	9 ppm <sup>a</sup>	(10 mg/m <sup>3</sup> ) <sup>a</sup>	Primary and Secondary
1-hour Average	20 ppm	(23 mg/m <sup>3</sup> ) <sup>a</sup>	State Only Primary
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>			
Annual Arithmetic Mean	0.053 ppm	(100 µg/m <sup>3</sup> ) <sup>a</sup>	Primary and Secondary
1-hour Average	0.25 ppm	(472 µg/m <sup>3</sup> ) <sup>a</sup>	State Only Primary
<b>Ozone (O<sub>3</sub>)</b>			
1-hour Average	0.12 ppm	(235 µg/m <sup>3</sup> ) <sup>b</sup>	Primary and Secondary
8-hour Average	0.08 ppm	(157 µg/m <sup>3</sup> ) <sup>b</sup>	Primary and Secondary
1-hour Average	0.09 ppm	(180 µg/m <sup>3</sup> )	State Only Primary
<b>Lead (Pb)</b>			
Quarterly Average		(1.5 µg/m <sup>3</sup> )	Primary and Secondary
Monthly Average		(1.5 µg/m <sup>3</sup> )	State Only Primary
<b>Particulate ≤ 10 microns (PM<sub>10</sub>)</b>			
Annual Arithmetic Mean		(50 µg/m <sup>3</sup> )	Primary and Secondary
24-hour Average		(150 µg/m <sup>3</sup> )	Primary and Secondary
Annual Arithmetic Mean		(20 µg/m <sup>3</sup> )	State Only Primary
24-hour Average		(50 µg/m <sup>3</sup> )	State Only Primary
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>			
Annual Arithmetic Mean	0.030 ppm	(80 µg/m <sup>3</sup> ) <sup>b</sup>	Primary
24-hour Average	0.14 ppm	(365 µg/m <sup>3</sup> ) <sup>b</sup>	Primary
3-hour Average	0.50 ppm	(1300 µg/m <sup>3</sup> ) <sup>b</sup>	Secondary
1-hour Average	0.25 ppm	(655 µg/m <sup>3</sup> ) <sup>b</sup>	State Only Primary

Notes:

<sup>a</sup> Parenthetical value is an approximately equivalent concentration.<sup>b</sup> In July of 1997, the 8-hour ozone standard was promulgated and the 1-hour ozone standard was remanded for all areas, excepting areas that were designated non-attainment with the 1-hour standard when the ozone 8-hour standard was adopted. In July of 2000, the ozone 1-hour standard was reinstated as a result of the Federal lawsuits that were preventing the implementation of the new 8-hour ozone standard. As of December of 2001, the USEPA estimated that the revised 8-hour ozone standard rules would be promulgated in 2003-2004. In the interim, no areas can be deemed to be definitively non-attainment with the new 8-hour standard.

2

1 **Table 3-5. Current Annual Emissions Inventory Data for Bay Area AQMD**

	<b>NO<sub>x</sub></b> <b>(tpy)</b>	<b>VOC</b> <b>(tpy)</b>	<b>CO</b> <b>(tpy)</b>	<b>SO<sub>2</sub></b> <b>(tpy)</b>	<b>PM<sub>10</sub></b> <b>(tpy)</b>
<b>Area Sources</b>	176,529	203,067	1,360,051	9,551	86,592
<b>Point Sources</b>	19,450	15,087	9,632	12,000	5,167
<b>Total Emissions Inventory (tpy)</b>	195,979	218,154	1,369,683	21,551	91,759

Source: USEPA 1999

Note: tpy - tons per year

2

3

**Table 3-6. Local Climate Summary for the State of California**

<b>Month</b>	<b>Mean Temperature (°F)</b>	<b>Median Precipitation (Inches)</b>
January	50.7	1.78
February	47.4	2.49
March	53.5	2.52
April	52.2	3.76
May	63.7	0.99
June	71.8	0.03
July	78.6	0.19
August	75.3	0.62
September	73.0	0.26
October	66.1	0.15
November	49.7	2.03
December	46.7	5.77

Source: NOAA 2004

Note: Mean temperature and precipitation data obtained from average of 1895 to 2002.

4 **3.4 Noise**5 **3.4.1 Definition of the Resource**

6 Webster's dictionary defines noise as "sound or a sound that is loud, disagreeable, or unwanted."  
7 However, the definition of noise is highly subjective. To some people, the roar of an engine is  
8 satisfying or thrilling; to others, it is an annoyance. Loud music might be enjoyable, depending on  
9 the listener and the circumstances. While no absolute standards define the threshold of "significant  
10 adverse impact," there are common precepts about what constitutes adverse noise in certain settings,  
11 based on empirical studies. Noise is "adverse" in the degree to which it interferes with activities  
12 (such as speech, sleep, and listening to the radio and television) and the degree to which human health  
13 might be impaired. Noise can also cause "adverse impacts" to marine mammals, depending on the

1 type of noise and duration. Noise can result in stressful situations that disrupt sleep, reproduction,  
2 feeding habits, and communication in marine mammals.

3 This section defines noise standards and methodology, the properties of noise in air and water, and  
4 describes the existing noise in the ROI (ambient noise level). The ROI for the Proposed Action and  
5 the No Action Alternative is defined as the San Francisco Bay Region (San Francisco Bay, San Pablo  
6 Bay, and the Sacramento River Delta). The ROI includes the California counties of Alameda, Contra  
7 Costa, Marin, San Francisco, Sonoma, Napa, Santa Clara, Solano, Yolo, Sacramento, and San Mateo.  
8 To understand the impact of noise on humans and marine animals it is necessary to understand the  
9 properties of noise in air and water and the existing ambient noise levels in the ROI.

10 A primary component of noise is wave amplitude or loudness, which is typically measured in decibels  
11 (dB). A dB is the ratio between a measured pressure (with sound) and a reference pressure (without  
12 sound). It is a logarithmic unit that accounts for large variations in amplitude; therefore, relatively  
13 small changes in dB ratings correspond to significant changes in sound. The ambient sound level of a  
14 region is defined by the total noise generated, including sounds from both natural and artificial  
15 sources. The magnitude and frequency of environmental noise might vary considerably over the  
16 course of the day and throughout the week, due in part to changing weather conditions.

### 17 **Airborne Noise**

18 To evaluate the total community noise environment (above-water noise), two measurements are used  
19 by some Federal agencies to relate the time-varying quality of environmental noise to its known effect  
20 on people, the 24-hour equivalent sound level (Leq(24)) and the day-night average sound level  
21 (DNL). The Leq(24) is the level of steady sound with the same total (equivalent) energy as the time-  
22 varying sound of interest, averaged over a 24-hour period. DNL is the average acoustical energy  
23 during a 24-hour period with a 10-dB penalty added to nighttime levels (i.e., hours between 10 p.m.  
24 and 7 a.m.) to account for people's greater sensitivity to sound during nighttime hours. When  
25 measuring sound to determine its effects on the human population, A-weighted sound levels (dBA)  
26 are typically used to account for the response of the human ear. A-weighted sound levels represent  
27 adjusted sound levels. The adjustments are made according to the frequency content of the sound.  
28 Another sound scale is the C-weighted scale (dBC). In contrast to the A-weighted scale, the C-  
29 weighted scale provides no adjustment to the noise signal over most of the audible frequency range.  
30 The C-weighted scale is generally used to measure impulsive noise such as airblasts from explosions,  
31 sonic booms, and gunfire.

1 **Waterborne Noise**

2 Waterborne (underwater) sound measurements are different from airborne sound measurements.  
3 Because of the differences in reference standards, noise levels cited for air do not equal underwater  
4 levels. The reference pressure used for underwater noise measurements is 1 micro-Pascal ( $\mu\text{Pa}$ ) at 1  
5 meter ( $1\mu\text{Pa}\cdot\text{m}$ ), which is lower than that used for airborne sound measurements. In addition,  
6 underwater noise measurements typically do not have any frequency weighting applied (i.e., A-  
7 weighted or C-weighted), while airborne noise is often measured using one of several frequency  
8 weighting scales. In many cases, underwater noise levels are reported only for limited frequency  
9 bands, while airborne noise is usually reported as an integrated value over a very wide range of  
10 frequencies. To compare noise levels in water to noise levels in air, one must subtract 61.5 dB from  
11 the noise level referenced in water to account for the difference in reference pressure (USN undated).

12 Because the mechanical properties of water differ from those of air, sound travels faster through  
13 water (1,500 meters per second [m/s]) than air (about 340 m/s) (USCG and MARAD 2003).  
14 Temperature also affects the speed of sound, which travels faster in warm water than in cold water.  
15 Since the wavelength of a sound equals the speed of sound divided by the frequency of the wave  
16 (measured in Hertz [Hz]), lower frequency sounds have longer wavelengths than higher frequency  
17 sounds. For example, a 20-Hz sound wave is 75 meters long in the water, but only 17 meters long in  
18 the air (USCG and MARAD 2003). In seawater, the rate at which sound is absorbed is proportional  
19 to the square of sound frequency; therefore, high frequency sounds are absorbed quickly and don't  
20 travel as far through the water as low frequency sounds.

21 **Regulatory Framework for Noise and Standard Operating Procedures**

22 USCG NEPA Implementing Procedures (COMDTINST M16475.1-D) require a discussion of the  
23 existing conditions in the surrounding communities, including noise regulations. USEPA, DOD, and  
24 other Federal agencies having non-occupational noise regulations, use the DNL as their principal  
25 noise descriptor for community assessments (Cowan 1994).

26 The USCG Safety and Environmental Health Manual (COMDTINST M5100.47) establishes  
27 requirements for noise, which include compliance with local noise ordinances and the identification  
28 and assessment of hazardous noise sources. USCG defines a hazardous noise as continuous sound  
29 levels exceeding 84 dBA or impact noises exceeding 140 dBA. Noise produced by USCG watercraft  
30 or by other USCG facility activities should comply with USCG, state, and local noise guidelines.

1 Using Society of Automotive Engineers (SAE) J34 method, USCG recommends 86 dBA as the  
2 maximum noise-level that watercraft may generate at 50 feet at full speed (PWIA 2002).

3 Most states and territories have developed land use plans and regulations that incorporate noise  
4 thresholds and standards in accordance with the Federal Noise Control Act of 1972 (42 U.S.C. 4901,  
5 4918). According to the National Association of State Boating Law Administrator's *Reference Guide*  
6 *to State Boating Laws, 6th edition, 2000*, the State of California has established a maximum  
7 operational noise level for watercraft. The maximum noise levels for motorboats are 86 dB for  
8 engines built prior to January 1976; 84 dB for engines built prior to January 1978; and 82 dB for  
9 engines built prior to January 1978. In addition, the State of California has a maximum noise level of  
10 74 dB for personal watercraft and limits the use of personal watercraft to 1/2 hour after sunset to 1/2  
11 hour before sunrise. The State of California, like most states, incorporates the Society of Automotive  
12 Engineers tests: SAE J-2005 (stationary test) and SAE J-1970 (shoreline test). USEPA has  
13 determined DNL 75 dB at 50 feet as an acceptable noise level to protect public health and welfare  
14 (PWIA 2002). For analysis purposes of this EA, the USEPA standard will be used.

15 The USCG also cooperates with local governments or host agencies to ensure that the facilities  
16 comply with local noise standards and land use regulations. The City of San Francisco, California  
17 has a general noise ordinance that prohibits any noise disturbance or noise in excess of approved  
18 levels (within residential areas). Another consideration for these sensitive areas is the density and  
19 zoning of the areas and the time of day the event occurs.

## 20 **Human Response to Noise**

21 Human response to noise varies according to the type and characteristics of the noise, the distance  
22 between the source and the receptor, receptor sensitivity, and time of day. Human hearing varies in  
23 sensitivity for different sound frequencies. The ear is most sensitive to sound frequencies between  
24 800 and 8,000 Hz and is least sensitive to sound frequencies below 400 Hz or above 12,500 Hz.  
25 Several different frequency-weighting metrics have been developed using different dB adjustment  
26 values. The most commonly used decibel-weighting schemes are the A-weighted and C-weighted  
27 scales, as described above.

28 Most people are exposed to sound levels of DNL 50 to 55 dB or higher on a daily basis. Studies  
29 specifically conducted to determine noise impacts on various human activities show that about 90  
30 percent of the population is not significantly bothered by outdoor sound levels below DNL 65 dB  
31 (USDOT 1980). Studies of community annoyance in response to numerous types of environmental

1 noise show that DNL correlates well with impact assessments and that there is a consistent  
2 relationship between DNL and the level of annoyance. The methodology employing DNL and  
3 annoyance level has been successfully used throughout the United States in a variety of settings,  
4 ranging from urban to rural.

### 5 **Marine Animals' Response to Noise**

6 Increasing attention is being paid to the impacts of anthropogenic (human-generated) noise sources on  
7 marine animals, especially those associated with the military, as these sources tend to be much louder  
8 and can be widespread (ONR 2000, Richardson et al. 1995). Both above-water (e.g., helicopters) and  
9 underwater (e.g., vessels) noise is recognized as a disturbance to marine animals. Information on  
10 species response to noise is presented in Section 4.2.2 of this EA.

### 11 **3.4.2 Affected Environment**

12 Currently, the USCG is located adjacent to compatible areas. The MSST is expected to operate in the  
13 waters defined as the San Francisco Bay Region. The ROI for the noise environment is defined as the  
14 San Francisco Bay Region (San Francisco Bay, San Pablo Bay, and the Sacramento River Delta).  
15 The ROI includes the California counties of Alameda, Contra Costa, Marin, San Francisco, Sonoma,  
16 Napa, Santa Clara, Solano, Yolo, Sacramento, and San Mateo. Above-water ambient sound levels are  
17 not available for the ROI. Above-water ambient sound levels vary based upon the setting in which  
18 they are measured. For example, in a wilderness setting, ambient sound levels range from DNL 20 to  
19 30 dB; in residential areas, they range between DNL 30 to 50 dB; and in urban residential areas, they  
20 range between DNL 60 to 70 dB (FICON 1992). When sound levels are DNL 55 dB or less in  
21 outdoor areas, where the absence of noise is important for functional land use, there is no reason to  
22 suspect that the general population would be at risk from any of the identified effects of noise (i.e.,  
23 activity interference or annoyance) (USEPA 1978).

### 24 **Waterborne Noise**

25 Underwater ambient sound levels are not available for the ROI. Underwater noise in the ocean is a  
26 result of natural and human-generated sound sources. Natural sound sources include earthquakes,  
27 lightning strikes, sea ice activity, precipitation, and waves. Human-generated sound comes from a  
28 variety of sources, including vessel traffic, geologic exploration, military projects, and aircraft.  
29 Sound radiated by the many large ships throughout the world's oceans is the single largest contributor  
30 to increased sound levels (ONR 2000). The effects of these vessels are both local, affecting specific  
31 limited areas, and global, contributing to an overall increase in ambient noise. Noise levels

1 throughout the world's ocean at frequencies below 500 Hz have increased over the last three decades  
2 (Richardson et al. 1995).

3 Vessel size, hull construction, speed, maintenance, and other factors all affect the noise a vessel  
4 produces underwater. Vessel noises, caused by the turning of the screws, engine noise, and noises of  
5 operating machinery on board, generally fall within the range of 5 to 2000 Hz (USCG 1996). Sound  
6 intensity, particularly at higher frequencies, tends to increase with the size of the vessel. Supertankers  
7 and large container ships may have a maximum broadband sound source level of 190 to 200 dB-  
8 referenced 1  $\mu$ Pa at 1 meter ( $\mu$ Pa-m). Small outboard motor vessels produce broadband sounds of  
9 150 dB-referenced 1  $\mu$ Pa-m; these sounds are attenuated to the range of 85 to 140 dB-referenced 1  
10  $\mu$ Pa at a distance of 50 meters from the source (USCG 1996). Most USCG vessels are generally less  
11 than 100 feet in length and, therefore, generate sound pressure source levels of 160 dB-referenced 1  
12  $\mu$ Pa at 1 meter or less (USCG 1996). Table 3-7 lists sound pressure source levels for various vessels  
13 (Richardson et al. 1995, USCG 1996).

14 **Table 3-7. Underwater Sound Pressure Levels for Various Vessels**

Vessel (length) and Description	Frequency	Source Level (dB referenced 1 $\mu$ Pa-m)
Outboard drive – 23 feet (2 engines, 80 hp each)	630, 1/3 octave	156
Twin Diesel – 112 feet	630, 1/3 octave	159
Small Supply Ships – 180 to 279 feet	1000, 1/3 octave	125-135 (at 50 meters)
Freighter – 443 feet	41, 1/3 octave	172

Source: Richardson et al. 1995

Note: These underwater sound pressure levels cannot be directly compared to airborne decibel levels.

## 15 **3.5 Public Safety**

### 16 **3.5.1 Definition of the Resource**

17 A safe environment is one in which there is no, or an optimally reduced, potential for death, serious  
18 bodily injury or illness, or property damage. Public safety is one of the USCG's primary missions, as  
19 the USCG is the prominent overseer of the safety of the MTS. Major members of the U.S. maritime  
20 transportation system include Federal agencies, commercial groups, state and local groups, and public  
21 and community groups (USCG 2002a). The MTS contains physical elements, including the  
22 waterways, ports, and the network of railroads, roadways, and pipelines that connect the waterborne  
23 portions of the system to the rest of the Nation (USDOT 1999). The physical elements also include  
24 the vessels and vehicles that move goods and people within the system. The physical network is

1 supported by a series of systems that facilitate the movement of goods and people, and provide access  
2 for recreation and to natural resources. Aspects such as geography, environmental conditions, and the  
3 number and types of vessels make the MTS diverse.

4 U.S. ports must provide safe and efficient rapid turnaround capabilities to accommodate expanding  
5 trade and the increasing size and speed of oceangoing ships, many of which are foreign. U.S. ports  
6 also handle a large volume of coastal and inland traffic. Since the events of September 11, 2001, the  
7 safety of the country's ports and its maritime system has received increased scrutiny and concern.

### 8 **3.5.2 Affected Environment**

9 The MSST would be co-located at ISC Alameda on Coast Guard Island. The ROI for the Proposed  
10 Action and the No Action Alternative is the San Francisco Bay Region defined geographically as San  
11 Francisco Bay, San Pablo Bay, and the Sacramento River Delta and includes the Ports of San  
12 Francisco, Oakland, Stockton, and Richmond. Between all facilities, these ports service cargo  
13 from/to the west and south coast of South America, Mexico, Asia, Hawaii and the South Seas islands,  
14 Canada and Alaska (PO 2004a).

15 **Port of San Francisco.** Famous as the gateway for the California Gold Rush, today, the Port of San  
16 Francisco is both a commercial and vacation destination. The Port of San Francisco is a public  
17 agency responsible for managing the seven and a half miles of shoreline (more than 1,000 acres) that  
18 make up the Port. Port San Francisco became a military logistics center for World War II. Troops,  
19 equipment, and supplies left the Port in support of the Pacific theater. In the 1950's, San Francisco  
20 continued to be the West Coast's premier cargo Port (SF Port 2000). The Port of San Francisco is  
21 both a world-cruise port and a world-renown destination. More than 20 ships make an average of 45  
22 calls annually, bringing over 80,000 visitors (SF Port 2000).

23 Five ferry services carry both commuters and visitors between San Francisco and Alameda, Oakland,  
24 Vallejo, Sausalito, Tiburon, and Larkspur. In 2000, the combined ferry systems carried 7.0 million  
25 people. (WTA 2002)

26 **Port of Oakland.** The Port of Oakland, established in 1927, is a world-class international cargo  
27 transportation and distribution hub. Located on the mainland shore of Oakland and extending 19  
28 miles, it was among the first ports globally to specialize in the intermodal container operations which  
29 have revolutionized international trade creating the global economy (PO 2004a). The Port facilities

1 include eleven marine terminals, two intermodal rail facilities, and container storage areas. In 2002,  
2 1,730 vessels arrived at the Port of Oakland carrying approximately 550,000 loaded TEUs.

3 **Port of Stockton.** The Stockton Deepwater Ship Channel is 75 nautical miles (120 km) east of the  
4 Golden Gate Bridge along the San Joaquin River. The Port of Stockton owns and operates a  
5 diversified and major transportation center that encompasses a 2000-acre operating area. The Port  
6 has 7.7 million square feet of warehouses that are connected to railways and the interstate  
7 transportation system (PS undated).

8 **Port of Richmond.** The Port of Richmond along with the Port of San Francisco, functions as the  
9 major center of trade with East Asia, Hawaii, and Alaska (encyclopedia.com 2004). The Port of  
10 Richmond is northern California's most diversified cargo handler. With its roots in petroleum and  
11 liquid bulk cargos, Richmond has expanded its dry bulk, break-bulk, and containerized cargo  
12 handling capabilities: At the same time, has increased its automobile processing facilities. Today,  
13 the Port of Richmond is capable of handling almost any type of cargo, and ranks and handles the most  
14 liquid bulk and automobile tonnage of all the ports on San Francisco Bay (PR undated).

## 4. Environmental Consequences

### 4.1 Introduction

This chapter presents the potential environmental impacts of the Proposed Action and the No Action Alternative.

As described in Section 2.1, the Proposed Action is the stand up and operation of the San Francisco MSST. Currently, vessels and manpower are being diverted from other missions in order to provide the additional security for the Nation's ports, including the San Francisco, Oakland Stockton, and Richmond ports. The No Action Alternative fails to meet the purpose and need of the USCG mission. Under the No Action Alternative, current conditions would prevail. These include disruption to other missions and increased demand on manpower and assets. Currently, vessels and manpower are being diverted from other missions in order to provide the additional security for the Nation's ports, including the Ports of San Francisco, Oakland, Stockton, and Richmond. The No Action Alternative fails to meet the purpose and need of the USCG mission. This scenario of vessels and manpower at maximum capacity would possibly make it easier for a terrorist attack to occur. The result might be a potential for adverse environmental impacts. Terrorists could strike at military or commercial facilities in these ports, creating health and safety hazards for the surrounding populace, impacting appropriate emergency responses, employment and trade, and marine life. The impacts could be immediate (loss of life) or long lasting (disruption of commerce activities that could impact the long-term economy). Recovery time would depend on the severity and extent of the loss.

The ROI for the Proposed Action and the No Action Alternative is defined as the San Francisco Bay Region (San Francisco Bay, San Pablo Bay, and the Sacramento River Delta). The ROI includes the California counties of Alameda, Contra Costa, Marin, San Francisco, Sonoma, Napa, Santa Clara, Solano, Yolo, Sacramento, and San Mateo. This region encompasses the area where the MSST is expected to spend the majority of its operating time. The MSST can be deployed temporarily in emergencies to other ports as needed.

Potential impacts are addressed in the context of the scope of the Proposed Action as described in Section 2.1, and in consideration of the potentially affected environment as characterized in Section 3.0.

1 **4.2 Biological Resources**

2 **4.2.1 Significance Criteria**

3 This section evaluates the potential impacts on biological resources under the Proposed Action and  
4 the No Action Alternative. The significance of impact on biological resources is based on the  
5 following four factors:

- 6 • Importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource
- 7 • Proportion of the resource that would be affected relative to its occurrence in the region
- 8 • Sensitivity of the resource to proposed activities
- 9 • Duration of ecological ramifications

10

11 Impacts on biological resources are significant if species or habitats of high concern are adversely  
12 affected over relatively large areas. Impacts are also considered significant if disturbances cause  
13 reductions in population size or distribution of a species of importance. Threatened or endangered  
14 species, if present, will be discussed under each biological resource area.

15 **Protected and Sensitive Habitats**

16 Impacts to protected and sensitive habitats would be significant if MSST activities resulted in any of  
17 the following outcomes:

- 18 • Temporary or permanent loss of any sensitive, protected, or reporting area habitat
- 19 • Direct loss or damage of any sensitive resource within a protected or sensitive habitat
- 20 • Excessive noise or presence from normal USCG activities that lessens the habitat value

21

22 **Wetlands and Floodplains**

23 The significance of impacts on wetland resources is proportional to the functions and values of the  
24 wetland complex. Wetlands function as habitat for plant and wildlife populations, including  
25 threatened and endangered species that depend on wetlands for their survival. Wetlands are valuable  
26 to the public for flood mitigation, stormwater runoff abatement, aquifer recharge, water quality  
27 improvement, and aesthetics. Quantification of wetlands functions and values, therefore, is based on  
28 the ecological quality of the site as compared with similar sites, and the comparison of the economic  
29 value of the habitat with the economic value of the proposed activity that would modify it. A  
30 significant adverse impact on wetlands would occur should either the major function or value of the  
31 wetland be significantly altered.

1 Significance criteria for impacts on floodplains is based on EO 11988. Impacts on floodplains would  
2 be significant if the Proposed Action was located in or adjacent to a floodplain and it stimulated use  
3 of floodplain resources that was inconsistent with EO 11988 and associated Water Resources Council  
4 and FEMA implementation guidance.

## 5 **Marine Mammals and Sea Turtles**

6 Impacts to marine mammals and sea turtles would be significant if MSST activities resulted in any of  
7 the following outcomes:

- 8 • Temporary or permanent loss of any habitat
- 9 • Direct loss (take) of a substantial number of a specific species
- 10 • Harassment, either Level A MMPA defined as pursuit, torment, or annoyance that has the  
11 potential to injure
- 12 • Permanent loss of breeding areas and habitat
- 13 • Substantial interference with movement of any resident species

14

15 There is no scientific consensus regarding absolute thresholds for significance regarding noise.  
16 Assessment of potential risk to a particular species must often begin with an estimate of frequency  
17 ranges to which the animal's hearing is most sensitive, and the associated thresholds. The range of  
18 sounds produced by a species is generally associated with ranges of good hearing sensitivity, but  
19 many species exhibit good hearing sensitivity well outside the frequency range of sounds they  
20 produce (USN 2001). Scientific research indicates that best hearing thresholds for marine vertebrates  
21 range from about 60 dB re at 0.1 kHz to about 40 dB re 1  $\mu$ Pa at 10 kHz. The U.S. Navy concluded  
22 that a sound in the 0.1 to 0.5 kHz frequency band could cause serious problems in marine mammal's  
23 hearing capability from the following exposures:

- 24 • 1 second at 204 dB
- 25 • 1 minute at 186 dB
- 26 • 20 minutes at 172 dB
- 27 • 8 continuous hours at 160 dB

28

29 Generally, marine mammals' functional hearing ranges from 0.01 kHz to 200 kHz, depending on the  
30 species (NRC 2003). For sea turtles, their hearing ranges from 0.08 to 2 kHz.

1 **Fish**

2 Fisheries impacts could result primarily from impacts to fish habitat, direct contact between USCG  
3 vessels, and USCG's ability to enforce fishing laws. Additional impacts may result from accidental  
4 pollution emissions.

5 Impacts to fisheries would be significant if MSST activities resulted in any of the following  
6 outcomes:

- 7 • Overfishing resulting in the population's inability to survive
- 8 • Permanent loss of breeding areas, EFH or habitat areas of particular concern
- 9 • Substantial interference with movement of any resident species or migration of anadromous  
10 species (i.e., species that migrate from saltwater to freshwater)

11

12 Generally, fish hearing ranges from 0.5 to 1 kHz, although some fish can hear frequencies as high as  
13 200 kHz.

14 **Coastal and Other Birds**

15 Impacts to coastal and other birds would be significant if MSST activities resulted in any of the  
16 following outcomes:

- 17 • Harassment of nesting and foraging areas
- 18 • Permanent loss of breeding areas and habitat
- 19 • Substantial interference with migration

20 **4.2.2 Potential Impacts**

21 Under the Proposed Action, no significant adverse impacts on protected and sensitive habitats,  
22 wetlands and floodplains, marine mammals, sea turtles, EFH, fisheries, and threatened and  
23 endangered species and their critical habitat would be expected as a result of the Proposed Action.  
24 This assessment is based on the proposed stationing and operation of an MSST in the San Francisco  
25 Bay Region.

26 The stationing of the MSST would include the installation of a modular building in the parking lot of  
27 Building 42, interior renovations on Building 42, and renovation of an existing boat ramp. The  
28 proposed location for onshore construction and boat ramp renovation would be in previously  
29 disturbed areas, which would not be suitable habitat for species of concern. Impacts that would result  
30 would be short-term and localized and therefore, adverse and minor. The proposed renovated boat

1 ramp would be 16 ft wide and from 25 to 30 ft long. As such, the boat ramp will increase total area of  
2 0.009 acres to 0.011 acres. This proposed renovation would be in previously disturbed habitat in the  
3 Port of Oakland. The Port of Oakland which is the fourth busiest container port in the United States  
4 and has over 1,210 acres of marine terminals. All applicable permits would be obtained prior to the  
5 boat ramp renovation. A USACE permit, letter of concurrence from NOAA Fisheries Habitat  
6 Conservation, and a letter of concurrence from the San Francisco BCDC have already been obtained  
7 regarding the boat ramp renovation (Hoflick pers. com.).

8 The operation of the MSST consists of the operation of up to six Defender Class boats. The Defender  
9 Class boats are similar to other boats in the highly trafficked areas that they patrol and are 25-foot  
10 long boats with two 225 Hp Honda outboard engines, and a four-foot navigational draft. The MSST  
11 vessels are only a small percentage of a much larger number of commercial and recreational vessels  
12 that enter the San Francisco Bay region on a daily basis. It is likely that only two to four Defender  
13 Class boats would be utilized under normal operations. Even though the Defender Class boats are  
14 capable of 40 knots, this speed would not be used on a continuous basis and would usually be  
15 reserved for emergency security operations that necessitate high speed. Normal transmit speeds  
16 would be in the range of 10-15 knots. Additionally, the Defender Class boats would be highly  
17 maneuverable. This maneuverability is a necessity for carrying out the MSST homeland security  
18 mission. It is the highly maneuverable nature of these vessels that would assist in avoiding collisions  
19 with protected species.

## 20 **Protected and Sensitive Habitats**

21 **Proposed Action.** Under the Proposed Action, no significant adverse impacts to protected and  
22 sensitive habitats would be expected.

23 Although there are a number of protected and sensitive habitats within the ROI, the renovation of the  
24 boat ramp is in a previously disturbed area and would not be located in salmon critical habitat or in  
25 any other protected habitat. Proposed construction would be short-term localized and would not  
26 significantly impact protected and sensitive habitats.

27 While the purpose of the MSST is not to provide marine resource protection, laws relating to  
28 protected and sensitive habitats, including the NMSA, MSFCMA, Oil Pollution Act; ESA, and USCG  
29 programs such as Ocean Steward and Ocean Guardian, would continue to be enforced. Based on the  
30 purpose and projected operations of the MSST, normal patrol operations would not disturb these  
31 areas. An exception to normal operations would be in the case of an unusual occurrence (e.g.,

1 pursuit). Under a normal operational scenario, there would be no loss of sensitive habitats.  
2 Therefore, no significant adverse impacts on sensitive or protected habitats would be expected as a  
3 result of the Proposed Action.

4 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
5 the MSST would not be stood-up. The USCG would maintain the current level of protection, which  
6 has been determined to be insufficient. Increased demand on vessels and manpower and disruption to  
7 other missions would continue. Under this scenario, it would possibly be easier for a terrorist attack  
8 on military and commercial assets to occur. Significant adverse impacts would be expected should  
9 this alternative be selected due to the increased risk of a terrorist attack and the potential for  
10 significant adverse effects to protected and sensitive habitats. Recovery would depend on the extent  
11 and type of damage.

## 12 **Wetlands and Floodplains**

13 **Proposed Action.** Under the Proposed Action, no significant adverse impacts on wetlands and  
14 floodplains would be expected.

15 There are no wetlands on or adjacent to the area proposed for onshore construction or renovation of  
16 the boat ramp. Modifications to the floodplain area are not proposed. All applicable permits would  
17 be obtained prior to the boat ramp renovation. A USACE permit, letter of concurrence from NOAA  
18 Fisheries Habitat Conservation, and a letter of concurrence from the San Francisco BCDC have  
19 already been obtained regarding the boat ramp renovation (Hoflick pers. com.).

20 Estuarine wetlands would not be used during MSST operations. Due to the shallow water depth in  
21 these areas, MSST boats would not be able to operate in the area. Operations in proximity to  
22 estuarine wetland areas would be conducted at low speeds due to the shallow nature of the water and  
23 the high likelihood of submerged obstacles. Therefore, minor adverse impacts on wetlands or  
24 floodplains would be expected as a result of the Proposed Action.

25 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
26 the MSST would not be stood up. The USCG would maintain the current level of protection, which  
27 has been determined to be insufficient. Increased demand on vessels and manpower and disruption to  
28 other missions would continue. Under this scenario, it would possibly make it easier for a terrorist  
29 attack on the port to occur or an attack that might impact wetlands and floodplains. Significant  
30 adverse impacts would be expected should this alternative be selected due to the increased risk of a  
31 terrorist attack and the potential for significant adverse effects due to the potential for loss of wetlands

1 and floodplains and their unique ecosystems. Recovery would depend on the extent and type of  
2 damage.

### 3 **Marine Mammals**

4 **Proposed Action.** Under the Proposed Action, no significant adverse impacts on the marine  
5 mammals in the San Francisco Bay Region would be expected under normal operations. An  
6 exception to normal operations would be in the case of an unusual occurrence (e.g., pursuit).

7 The USCG has protocols in place for protecting the right whale, other marine mammals, and sea  
8 turtles and avoiding ship strikes. These strategies allow for generally protecting and conserving  
9 marine animals and their habitats, including protocols and collaborations with various Federal and  
10 state agencies to implement major actions, including the Federal Right Whale Recovery Plan (USCG  
11 2003). The USCG's current COMDTINSTs, regulations, and procedures to avoid marine mammals  
12 would continue under the Proposed Action. While the purpose of the MSST is not to provide marine  
13 resource protection and law enforcement, the MSST would continue to comply with USCG living  
14 marine resources protection programs, initiatives, and guidance.

15 To guard against any adverse impacts of the Defender Class boat operation on marine mammals, the  
16 USCG would continue to adhere to the protective measures in place including the policies and goals  
17 stated in the Ocean Steward (see Appendix F). Therefore, there would be no significant adverse  
18 impacts on marine mammals as a result of the operation of the six Defender Class boats.

19 For all MSST operations other than emergency operations, the USCG would continue to abide by its  
20 speed guidance published October 22, 1997 for vessels operating along the Pacific coast, "Coast  
21 Guard Vessel and Speed Approach Guidance" for whales. This guidance states:

22 *Reduction in vessel speed should be considered when a whale is sighted, known to be in the immediate*  
23 *area, or known to have been sighted within five nautical miles. Speeds as appropriate, yet*  
24 *navigationally prudent, to avoid collision with a whale, and if necessary, reduce speed to a minimum*  
25 *at which the vessel can be kept on course or come to all stop. Do not approach whales head-on, nor*  
26 *approach within 100 yards. Approach distances may vary if the Coast Guard vessel is assisting in the*  
27 *rescue of an endangered whale or performing duties to enforce the Endangered Species Act or Marine*  
28 *Mammal Protection Act.*

29 It is likely that only two to four Defender Class boats would be utilized under normal operations.  
30 Even though the Defender Class boats are capable of 40 knots, this speed would not be used on a  
31 continuous basis and would usually be reserved for emergency security operations that necessitate

1 high speed. Normal transit speeds would be in the range of 10-15 knots. Additionally, the Defender  
2 Class boats would be highly maneuverable. This maneuverability is a necessity for carrying out the  
3 MSST homeland security mission. It is the highly maneuverable nature of these vessels that would  
4 assist in avoiding collisions with protected species.

5 Proposed onshore construction and proposed boat ramp renovations are not expected to result in  
6 impacts on marine mammals. The proposed renovation of an existing boat ramp would occur in a  
7 highly trafficked, previously disturbed area. The renovation would occur in the Port of Oakland,  
8 which is the fourth busiest container port in the United States. Marine mammals are not expected to  
9 be encountered. However, in the event that a marine mammal is encountered, work would cease until  
10 the marine mammals depart. Therefore, adverse impacts on marine mammals are not expected due to  
11 the renovation of the existing boat ramp.

12 Agency correspondence regarding threatened and endangered species, ESA Section 7(a)(2)  
13 consultation, and other sensitive species protected under the MMPA will be provided in Appendix D.  
14 No significant adverse effects on marine organisms would be expected from the release of zinc into  
15 the water column (see discussion above).

16 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
17 the MSST would not be established. The USCG would maintain the current level of protection,  
18 which has been determined to be insufficient. Increased demand on vessels and manpower and  
19 disruption to other missions would continue. Under this scenario, it would possibly make it easier for  
20 a terrorist attack on the port to occur or an attack that could spread from the port to areas frequented  
21 by marine mammals. Significant adverse impacts would be expected should this alternative be  
22 selected due to the increased risk of a terrorist attack and the potential for significant adverse effects  
23 on marine mammals. Recovery would depend on the extent of loss.

#### 24 **Sea Turtles**

25 **Proposed Action.** Under the Proposed Action, minor adverse impacts on sea turtles in the San  
26 Francisco Bay region are expected during normal operations. An exception to these normal  
27 operations would be in the case of an unusual occurrence (e.g., pursuit). The USCG's current  
28 COMDTINSTs, regulations, and procedures to avoid protected species would continue under the  
29 Proposed Action. While the purpose of the MSST is not to provide marine resource protection and  
30 law enforcement, the MSST would continue to comply with these regulations.

1 To guard against any adverse impacts of the Defender Class boats operation on protected species, the  
2 USCG would continue to adhere to the protective measures in place, including the policies and goals  
3 stated in the Ocean Steward (see Appendix F). Because of the policies, the small number and size of  
4 vessels, the boats' high level of maneuverability, and their low level of speed during normal  
5 operations, the addition of the Defender Class boats and their operations would result in minor  
6 adverse impacts on sea turtles.

7 Proposed onshore construction and proposed boat ramp renovations are not expected to result in  
8 significant adverse impacts on sea turtles. Construction and renovation would not alter sea turtle  
9 nesting habitat or impact nesting sea turtles. The renovation of an existing boat ramp would occur in  
10 a previously disturbed, highly trafficked area. Sea turtles are not expected to be encountered.  
11 However, in the event that a sea turtle is encountered, work would cease until the sea turtle departs.

12 Agency correspondence regarding threatened and endangered species and ESA Section 7(a)(2)  
13 consultation will be provided in Appendix D.

14 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
15 the MSST would not be stood up. The USCG would maintain the current level of protection, which  
16 has been determined to be insufficient. Increased demand on vessels and manpower and disruption to  
17 other missions would continue. Under this scenario, it would possibly make it easier for a terrorist  
18 attack on the port to occur or an attack that could spread from the port to areas frequented by sea  
19 turtles. Significant adverse impacts would be expected should this alternative be selected due to the  
20 increased risk of a terrorist attack and the potential for significant adverse effects on sea turtles.  
21 Recovery would depend on the extent of loss.

## 22 **Fish**

23 **Proposed Action.** Under the Proposed Action, the stationing and operations conducted by the MSST,  
24 no significant adverse impacts on EFH, fisheries, and threatened and endangered species of fish and  
25 their critical habitat would be expected.

26 The stationing of the MSST would include the installation of a modular building in the parking lot of  
27 Building 42, interior renovations on Building 42, and renovation of an existing boat ramp. The  
28 proposed onshore construction would not impact EFH, fisheries, threatened and endangered species,  
29 or critical habitat.

1 The renovation of an existing boat ramp could result in short-term and long-term minor adverse  
2 impacts on EFH and fisheries. Short-term minor impacts would be indirect and result an increase in  
3 noise and turbidity from the construction. Long-term minor impacts on habitat would result from  
4 extending the boat ramp 25-30 ft into the water. However, the proposed renovation would occur in a  
5 highly trafficked and previously disturbed area. Therefore, no significant adverse impacts are  
6 expected.

7 The Port of Oakland is not included in the critical habitat for the Chinook salmon Sacramento River  
8 Winter-run ESU's or Coho Salmon California Central Coast ESU. Therefore, impacts on Chinook or  
9 coho salmon critical habitat are not expected.

10 All applicable permits would be obtained prior to the boat ramp renovation. An Army Corps of  
11 Engineers permit, letter of concurrence from NOAA Fisheries Habitat Conservation, and a letter of  
12 concurrence from the San Francisco BCDC have already been obtained regarding the boat ramp  
13 renovation (Hoflick pers. com.).

14 The Defender Class boats are similar to other boats in the highly trafficked areas which they patrol.  
15 While the purpose of the MSST is not to provide marine resources protection and law enforcement,  
16 the USCG would continue to enforce a number of fishing and fisheries laws. The USCG has  
17 developed its own initiatives to protect fisheries and their habitat. Therefore, the Proposed Action  
18 would not result in significant adverse impact to EFH, threatened and endangered fish species, or  
19 critical habitat.

20 Pursuant to Section 7 of the ESA, USCG initiated informal consultation with NOAA Fisheries  
21 Protected Resources Division and the USFWS. Pursuant to section 305(b) of the MSFCMA, USCG  
22 initiated EFH consultation with the NOAA Fisheries and Habitat Conservation Division. All  
23 correspondence related consultation is presented in Appendix D.

24 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
25 the MSST would not be stood up. The USCG would maintain the current level of protection, which  
26 has been determined to be insufficient. Increased demand on vessels and manpower and disruption to  
27 other missions would continue. Under this scenario, it would possibly make it easier for a terrorist  
28 attack on the port to occur. Significant adverse impacts would be expected should this alternative be  
29 selected due to the increased risk of a terrorist attack or an attack that might result in a loss or  
30 degradation of fishing areas. The potential for loss of EFH and fish species would also indirectly

1 impact the Nation's economy by impacting commercial fisheries. Recovery would depend on the  
2 amount and extent of loss.

### 3 **Coastal and Other Birds**

4 **Proposed Action.** Under the Proposed Action, impacts on species of threatened, endangered, coastal,  
5 and migratory birds would not be expected. While several species of threatened, endangered, coastal,  
6 and migratory birds are known to occur and nest within the ROI, neither the stationing site nor the  
7 launch sites provide suitable habitat for these bird species. The MSST normal operations would not  
8 be within nesting and foraging habitat for threatened, endangered, coastal, or migratory birds. It is  
9 anticipated that only temporary, minor adverse impacts, such as an increase in noise might occur.

10 Waterborne noise would not result in significant adverse impacts on coastal and pelagic diving birds.  
11 There are few data on hearing in seabirds and even less on underwater hearing (USN 2001). Studies  
12 with other species indicate that birds are sensitive to low frequency sounds in air. However, there is  
13 no evidence that seabirds use underwater sound.

14 Agency correspondence regarding endangered or threatened species and Section 7(a)(2) ESA  
15 consultation will be provided in Appendix D.

16 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
17 the MSST would not be stood up. The USCG would maintain the current level of protection, which  
18 has been determined to be insufficient. Increased demand on vessels and manpower and disruption to  
19 other missions would continue. Under this scenario, it would possibly make it easier for a terrorist  
20 attack on the port to occur or an attack that might impact birds' habitats. Significant adverse impacts  
21 would be expected should this alternative be selected due to the increased risk of a terrorist attack,  
22 with the potential for significant adverse impacts to threatened, endangered, coastal, and migratory  
23 birds. Recovery would depend on the amount and extent of loss.

## 24 **4.3 Air Quality and Climate**

### 25 **4.3.1 Significance Criteria**

26 The potential impacts to local and regional air quality conditions near a proposed Federal action are  
27 determined based upon the increases in regulated pollutant emissions relative to existing conditions  
28 and ambient air quality.

1 Impacts to air quality in NAAQS “attainment” areas are considered significant if the net changes  
2 project-related emissions result in one of the following situations:

- 3 • Violation of any national or state ambient air quality standards.
- 4 • Exposure of sensitive receptors to substantially increased pollutant concentrations.
- 5 • An increase of 10 percent or more in an affected AQCR.

6 Emissions inventory impacts to air quality in NAAQS “non-attainment” areas are considered  
7 significant if the net changes in project-related emissions result in one of the following situations:

- 8 • Violating any national or state ambient air quality standards.
- 9 • Increasing the frequency or severity of a violation of any ambient air quality standard.
- 10 • Exceeding any significance criteria established in a SIP.
- 11 • Delaying the attainment of any standard or other milestone contained in the SIP.

12

13 With respect to the General Conformity Rule, impacts to air quality would be considered significant if  
14 the Proposed Action would result in an increase of a non-attainment or maintenance area’s emission  
15 inventory by ten percent or more for one or more non-attainment pollutants, or if such emissions  
16 exceed *de minimis* threshold levels established in 40 CFR 93.153(b) for individual non-attainment  
17 pollutants or for pollutants for which the area has been designated as a non-attainment or maintenance  
18 area. The General Conformity Rule applies, since the Proposed Action occurs in a *moderate* non-  
19 attainment area for O<sub>3</sub>.

20 Federal Prevention of Significant Deterioration (PSD) regulations also define air pollutant emissions  
21 to be “significant” if: 1) a proposed project is within 10 km of any Class I area; and 2) regulated  
22 pollutant emissions would cause an increase in the 24-hour average concentration of 1 µg/m<sub>3</sub> or more  
23 of any regulated pollutant in the Class I area (40 CFR 52.21(b)(23)(iii)). PSD regulations also define  
24 ambient air increments – limiting the allowable increases to any area’s baseline air contaminant  
25 concentrations, based on the area’s designation as Class I, II, or III (40 CFR 52.21(c)). Local and  
26 regional pollutant impacts of direct and indirect emissions from stationary emission sources from the  
27 Proposed Action are addressed through Federal and state permitting program requirements under the  
28 New Source Review (NSR) and PSD regulations (40 CFR Parts 51 and 52).

### 4.3.2 Potential Impacts

The potential sources of increased criteria pollutant emissions under the Proposed Action would be from: 1) watercraft operations, 2) personnel commuter travel, 3) maintenance and support activities; and 4) fuel storage and handling emissions.

Based on the analysis completed for this EA, minor adverse impacts to air quality would be expected. However, the net change in NO<sub>x</sub> and VOC emissions would be minimal and well below the 10 percent regional significance requirements of the General Conformity Rule. A detailed explanation of the analyses is below.

#### Watercraft Operations

**Proposed Action.** The vessels and engines to be used for the Defender Class boats must meet specific requirements of the MSST, including the capability of sustaining speeds of 40+ knots in calm seas. The proposed engines would be Honda 225-hp engines. These four-stroke engines would meet the speed requirements of the USCG and would fulfill USEPA's 2006 emission requirements. The Proposed Action was assessed based on impacts to the AQCR current emissions inventory.

Under the Proposed Action, a minor impact to air quality would be realized. Calculations of air pollutant emissions from the proposed MSST operations were performed based on two boats operating 24 hours a day, 365 days a year, at approximately 20 hours power (see Appendix I).

**No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is, and the MSST would not be stood up. The USCG would maintain the current level of protection, which has been determined to be insufficient. Under this alternative, disruption to other missions would continue. This scenario of vessels and man power at maximum capacity would possibly be easier for a terrorist attack to occur. Significant adverse impacts would be expected should this alternative be selected due to the increased risk of a terrorist attack. Terrorists could strike at military or commercial facilities in these ports creating the potential for impacts to the environment. The impacts could be immediate or long lasting. Recovery time would depend on the severity and extent of the impact.

#### Personnel Commuter Travel

**Proposed Action.** The number of additional personnel is comparatively small (75 active-duty and 33 reservists) and would result in minor adverse impacts to air quality. Calculations of air pollutant emissions from the proposed personnel commuter travel operations were performed based on an

1 average fleet model from 1995, commuting an average of 20 miles each way to the San Francisco  
2 MSST facility 365 days a year (see Appendix J).

3 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
4 the MSST would not be stood up. The USCG would maintain the current level of protection, which  
5 has been determined to be insufficient. Under this alternative, disruption to other missions would  
6 continue. This scenario of vessels and manpower at maximum capacity would possibly be easier for  
7 a terrorist attack to occur. Significant adverse impacts would be expected should this alternative be  
8 selected due to the increased risk of a terrorist attack. Terrorists could strike at military or  
9 commercial facilities in the ROI creating the potential for impacts to the environment. The impacts  
10 could be immediate or long lasting. Recovery time would depend on the severity and extent of the  
11 impact.

## 12 **Maintenance and Support Activities**

13 **Proposed Action.** Under the Proposed Action, only minor maintenance would be performed at ISC  
14 Alameda. Because the engines are under a three-year warrantee, all major maintenance and repair  
15 would occur at an authorized Honda dealer. Since the maintenance schedule is not known, it is  
16 anticipated that there would be minor adverse impacts on air quality in the region. No additional  
17 support facilities (beyond the minor modifications to the administration building) would be required  
18 to support the MSST.

19 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
20 the MSST would not be stood up. The USCG would maintain the current level of protection, which  
21 has been determined to be insufficient. Under this alternative, disruption to other missions would  
22 continue.

23 This scenario of vessels and manpower at maximum capacity would possibly be easier for a terrorist  
24 attack to occur. Significant adverse impacts would be expected should this alternative be selected due  
25 to the increased risk of a terrorist attack. Terrorists could strike at military or commercial facilities in  
26 the ROI creating the potential for impacts to the environment. The impacts could be immediate or  
27 long lasting. Recovery time would depend on the severity and extent of the impact.

## 28 **Fuel Storage and Handling Emissions**

29 **Proposed Action.** No new fuel storage or dispensing facilities would be required under the Proposed  
30 Action. Response boats would be refueled at existing marina facilities or gas stations. All dispensing

1 facilities would have regulated vapor controls to reduce evaporative emissions. It is anticipated that  
2 there would be minor adverse impacts on air quality in the region.

3 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
4 the MSST would not be stood up. The USCG would maintain the current level of protection, which  
5 has been determined to be insufficient. Under this alternative, disruption to other missions would  
6 continue. This scenario of vessels and manpower at maximum capacity would possibly be easier for  
7 a terrorist attack to occur. Significant adverse impacts would be expected should this alternative be  
8 selected due to the increased risk of a terrorist attack. Terrorists could strike at military or  
9 commercial facilities in the ROI creating the potential for impacts to the environment. The impacts  
10 could be immediate or long lasting. Recovery time would depend on the severity and extent of the  
11 impact.

## 12 **Conformity**

13 Since an USEPA-designated non-attainment area is affected by the Proposed Action, the USCG must  
14 comply with the Federal General Conformity Rule (40 CFR 93). To do so, an analysis has been  
15 completed to ensure that, given the changes in direct and indirect emissions of the O<sub>3</sub> precursors (NO<sub>x</sub>  
16 and VOCs), PM<sub>10</sub>, and CO, the Proposed Action would be in conformity with applicable CAA  
17 requirements. The Conformity Determination requirements specified in this rule can be avoided if the  
18 project-related non-attainment pollutant emission rate increases are below *de minimis* thresholds  
19 levels for each pollutant and are not considered regionally significant. For purposes of determining  
20 conformity in this non-attainment area, projected regulated pollutant emissions associated with the  
21 Proposed Action were estimated using available construction emissions and other non-permitted  
22 emission source information. The emission calculations and *de minimis* threshold comparisons are  
23 collectively presented in Appendix J.

24 With respect to the General Conformity Rule, impacts to air quality would be considered significant if  
25 the proposed Federal action would result in an increase of a non-attainment or maintenance area's  
26 emission inventory by ten percent or more for one or more non-attainment pollutants, or if such  
27 emissions exceed *de minimis* threshold levels established in 40 CFR 93.153(b) for individual non-  
28 attainment pollutants or for pollutants for which the area has been designated as a non-attainment or  
29 maintenance area.

30 The *de minimis* threshold emission rates were established by the USEPA in the General Conformity  
31 Rule in order to focus analysis requirements on Federal actions with the potential to have

1 “significant” air quality impacts. Table 4-1 presents these thresholds, by regulated pollutant. These  
2 *de minimis* thresholds are similar, in most cases, to the definitions for major stationary sources of  
3 criteria and precursors to criteria pollutants under the CAA’s NSR Program (CAA Title I). As shown  
4 in Table 4-1, *de minimis* thresholds vary depending upon the severity of the non-attainment area  
5 designation by USEPA.

1

**Table 4-1. General Conformity Rule *de minimis* Emission Thresholds**

<b>Pollutant</b>	<b>Status</b>	<b>Non-Attainment Classification</b>	<b>de minimis Threshold (tpy)</b>
Ozone (measured as – “precursors”: Nitrogen Oxides (NO <sub>x</sub> ) or Volatile Organic Compounds (VOCs))	Non-attainment	Extreme Severe Serious Moderate/marginal (inside ozone transport region) All others	10 25 50 50 (VOCs)/100 (NO <sub>x</sub> ) 100
	Maintenance	Inside ozone transport region Outside ozone transport region	50 (VOCs)/100 (NO <sub>x</sub> ) 100
Carbon Monoxide (CO)	Non-attainment/ Maintenance	All	100
Particulate Matter <10 microns (PM <sub>10</sub> )	Non-attainment	Serious	70
	Maintenance	Moderate	100
		Not Applicable	100
Sulfur Dioxide (SO <sub>2</sub> )	Non-attainment/ maintenance	Not Applicable	100
Nitrogen Dioxide (NO <sub>2</sub> )	Non-attainment/ maintenance	Not Applicable	100

Source: 40 CFR 93.153(b)

2 Based on the emission calculations and analyses completed for the Proposed Action, it is clear that  
3 the net change in NO<sub>x</sub>, and VOC, emissions would be well below the *de minimis* threshold  
4 requirements and the regional significance requirements of the General Conformity Rule. As such,  
5 this Federal action is exempt from a Conformity Determination and all other requirements that are  
6 specified under the General Conformity Rule and applicable regulations (40 CFR 93).

7 Table 4-2 presents total air quality emissions from the Proposed Action. Table 4-3 compares the  
8 Proposed Action emissions to the total Bay Area AQMD emissions inventory.

**Table 4-2. Coast Guard MSST – San Francisco MSST Emissions from Proposed Action**

<b>Vehicle Category</b>	<b>VOC Emissions (tpy)</b>	<b>NO<sub>x</sub> Emissions (tpy)</b>	<b>CO Emissions (tpy)</b>	<b>SO<sub>2</sub> Emissions (tpy)</b>	<b>PM<sub>10</sub> Emissions (tpy)</b>
Watercraft Operations	6.33	2.77	27.68	0.25	0.26
Commuter and Tow Vehicles	1.84	1.66	22.73	0.12	2.05
Total Emissions:	8.17	4.43	50.41	0.37	2.31

Notes: tpy – tons per year

1 **Table 4-3. Net Emissions for Bay Area AQMD under the Proposed Action**

	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>
Bay Area AQMD Inventory (tpy):	218,154	195,979	1,369,683	21,551	91,759
Proposed Action Net Change (tpy):	7.63	3.90	43.52	0.33	1.35
Percent of Bay Area AQMD Inventory:	0.0035%	0.0020%	0.0032%	0.0015%	0.0015%

Source: USEPA 1999

2 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
 3 the MSST would not be stood up. The USCG would maintain the current level of protection, which  
 4 has been determined to be insufficient. Under this alternative, disruption to other missions would  
 5 continue. This scenario of vessels and manpower at maximum capacity would possibly be easier for  
 6 a terrorist attack to occur. Significant adverse impacts would be expected should this alternative be  
 7 selected due to the increased risk of a terrorist attack. Terrorists could strike at military or  
 8 commercial facilities in the ROI creating the potential for impacts to the environment. The impacts  
 9 could be immediate or long lasting. Recovery time would depend on the severity and extent of the  
 10 impact.

## 11 **4.4 Noise**

### 12 **4.4.1 Significance Criteria**

13 This section addresses the noise impacts from the Proposed Action and the No Action Alternative.  
 14 Examples of noise impacts from the Proposed Action include noise from vessels, construction  
 15 equipment (temporary), and traffic. Noise produced by water vessels and supporting facilities while  
 16 home ported or in transit can combine with other noise sources to affect nearby communities and  
 17 natural resources. Noise impacts were only considered within the ROI. The impacts of noise on  
 18 marine animals are discussed in section 4.2.2.

19 The USCG establishes guidelines and develops cooperative agreements to mitigate impacts on  
 20 neighboring communities. Federal and state laws and local ordinances establish standards and  
 21 limitations for noise output from ports, airfields, heliports, helipads, power-generating plants, and  
 22 motor vehicles. USCG activities are operated in accordance with all Federal and state laws and local  
 23 ordinances.

1 Noise impact criteria normally are based on a combination of land use compatibility guidelines and  
2 factors related to duration and magnitude of the noise level, including the time of day and the conduct  
3 of operations.

4 **Airborne Noise**

5 The significance of above-water noise impact criteria normally is based on a combination of land use  
6 compatibility guidelines and factors related to duration and magnitude of the noise level, including  
7 the time of day and the conduct of operations. USEPA has determined DNL 75 dB at 50 ft as an  
8 acceptable noise level to protect public health and welfare (PWIA 2002).

9 **Waterborne Noise**

10 The significance of waterborne (underwater) noise is based on the duration and magnitude of the  
11 noise level and is relative to the existing ambient noise level. The significance criteria of impacts of  
12 waterborne noise on marine organisms and other biological resources are discussed in Section 4.2.1.

13 **4.4.2 Potential Impacts**

14 The Proposed Action would result in minor adverse noise impacts to human health and welfare under  
15 normal operating conditions. A detailed description of the analysis is presented below.

16 **Airborne Noise**

17 **Proposed Action.** The Proposed Action would result in minor adverse noise impacts to human health  
18 and welfare under normal operating conditions. It is anticipated that the MSST would operate 12  
19 hours a day, seven days per week and that there would be two to three boats operating at any given  
20 period. All operations of the MSST would be in accordance with all Federal and state laws and local  
21 noise ordinances.

22 There are no identified noise sensitive areas in the ROI, therefore sound exposure levels were not  
23 calculated. The ROI is a large geographic area comprising the San Francisco Bay region. Airborne  
24 noise impacts from marine vessel operations is rarely an issue of concern because the majority of the  
25 population lives near waterways and have become familiar with the sound of passing boats and ships.  
26 Speeds in the waterways would be expected to continue to be generally low (10 to 12 knots) except  
27 during an unusual event (i.e., pursuit). It is anticipated that the proposed USCG operation within the  
28 ROI would be indistinguishable from existing vessel activity and the ambient noise environment.  
29 Noise impacts during unusual events would be minor adverse within the port dependent upon the  
30 specific location of the unusual event to a sensitive noise receptor.

1 Additionally, the Defender Class boats would be equipped with the quieter four-stroke engine  
2 (compared to the two-stroke engine). This is likely because of the incorporation of muffling devices  
3 into design and the reduced number of combustion cycles (Evinrude 2002).

4 Minor noise impacts may result from the installation of the modular building, the interior renovations  
5 of Building 42, and the installation of a new boat ramp at ISC Alameda. These impacts would only  
6 persist during construction of the facility and thus would be short-term in nature.

7 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
8 the MSST would not be stood-up. The USCG would maintain the current level of protection, which  
9 has been determined to be insufficient. Under this alternative, disruption to other missions would  
10 continue. This scenario of vessels and manpower at maximum capacity would possibly make it easier  
11 for an attack to occur. Significant adverse impacts would be expected should this alternative be  
12 selected due to the increased risk of a terrorist attack. Terrorists could strike at military or  
13 commercial facilities in these ports creating the potential for impacts to the environment. The  
14 impacts could be immediate or long lasting. Recovery time would be dependent on the severity and  
15 extent of the impact.

## 16 **Waterborne Noise**

17 **Proposed Action.** Although the Proposed Action would produce an increase in the overall level of  
18 boat operations, the size of the vessels proposed are smaller than the existing commercial vessels  
19 operating in the San Francisco Bay Region and the Defender Class boats would be equipped with the  
20 quieter four-stroke engine (compared to the two stroke engine). It is anticipated that the proposed  
21 USCG operation within the ROI would be indistinguishable from existing vessel activity and the  
22 ambient noise environment.

23 **No Action Alternative.** Under the No Action Alternative, existing conditions would remain as is and  
24 the MSST would not be stood-up. The USCG would maintain the current level of protection, which  
25 has been determined to be insufficient. Under this alternative, disruption to other missions would  
26 continue. This scenario of vessels and manpower at maximum capacity would possibly make it easier  
27 for an attack to occur. Significant adverse impacts would be expected should this alternative be  
28 selected due to the increased risk of a terrorist attack. Terrorists could strike at military or  
29 commercial facilities in these ports creating the potential for impacts to the environment. The  
30 impacts could be immediate or long lasting. Recovery time would be dependent on the severity and  
31 extent of the impact.

## 1 **4.5 Public Safety**

### 2 **4.5.1 Significance Criteria**

3 If implementation of the Proposed Action were to substantially increase risks associated with the  
4 safety of USCG personnel (including MSST personnel), workers and visitors, or the local community,  
5 or substantially hinder the ability to respond to an emergency, it would represent a significant impact.  
6 Furthermore, if implementation of the Proposed Action would result in incompatible land use with  
7 regard to safety criteria, impacts to safety would be significant.

8 This document assumes loss of one or more ships or the loss of life would be significant.

### 9 **4.5.2 Potential Impacts**

10 Based on the analysis completed for this EA, beneficial impacts on public safety would be expected.  
11 The establishment of the MSST would provide additional security to the military and commercial  
12 assets in the ROI. A detailed explanation of the analyses are below.

13 **Proposed Action.** The Proposed Action would increase the USCG's ability to protect the critical  
14 domestic ports of San Francisco, Oakland, Stockton and Richmond, San Francisco and San Pablo  
15 Bays, the Sacramento River Delta, and the U.S. Maritime Transportation System from warfare and  
16 terrorist attacks. The MSST's operations would closely parallel USCG traditional port security  
17 operations, and would provide complementary, non-redundant capabilities that would be able to close  
18 significant readiness gaps in our Nation's strategic ports. The MSST would escort a variety of vessels  
19 and maintain specific security zones in each port. It is capable of operating 7 days a week, 24 hours a  
20 day, in all weather conditions. It would operate with and be supported by both military and civilian  
21 government organizations and commercial and non-governmental entities. Beneficial impacts may be  
22 reasonably expected from the Proposed Action.

23 **No Action Alternative.** Under the No Action Alternative, the USCG would continue to provide  
24 security at the current level. Under the No Action Alternative, existing conditions would remain as is  
25 and the MSST would not be stood up. The USCG would maintain the current level of protection,  
26 which has been determined to be insufficient. Additional boats and personnel would only be assigned  
27 to the San Francisco Bay region under unusual circumstances. Under this alternative, disruption to  
28 other missions would continue. This scenario of vessels and manpower at maximum capacity would  
29 possibly make it easier for an attack to occur. Significant adverse impacts would be expected should  
30 this alternative be selected due to the increased risk of a terrorist attack. Terrorists could strike at

1 military or commercial facilities in the ROI creating health and safety hazards for the surrounding  
2 populace, impacting appropriate emergency responses, and the potential for impacts to the  
3 environment. The impacts could be immediate or long lasting. Recovery time would be dependent  
4 on the severity and extent of the impact.

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## 5. Cumulative Impacts

### 5.1 Cumulative Impacts Methods

Cumulative impacts are defined as the impacts that result from the incremental impact of the action, when added to other past, present, and foreseeable future action (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant impacts occurring over time.

This cumulative impact analysis considers reasonably foreseeable programs, projects, or policies that may impact MSST operations and would add to the MSST operations, or create a significant impact in the ROI. Table 5-1 lists the projects considered in the Cumulative Impacts discussion. Information about ongoing and future projects and programs has been identified from web searches, other NEPA documents, and local newspaper articles.

Projects that are currently in the planning stages, or have been delayed until further studies have been completed and have no target dates, have been dismissed from further consideration. These projects, if completed, will be concluded at some future unknown date, long after the MSST has become operational. Based on professional judgment, potential impacts are identified as minor, moderate, or high and beneficial and adverse whenever possible.

### 5.2 Cumulative Impacts Analysis

It should be noted that several different channels were used to attempt to obtain environmental analyses for the following projects; however, as of the date of the publication of this EA, very little if any, objective data was available. In most cases, while a specific project has been identified, funded, and has a target date for completion, the environmental data has yet to be produced. In other cases, internal studies have concluded that potential impacts are short-lived and outweigh the long-term benefits of the project. Therefore, based on previous experience with these types of projects, reasonable potential impacts have been identified, and when possible, identified as minor, moderate, or adverse. In all cases, and in comparison to these large projects, the potential impacts from the stand up and operations of the MSST must be considered minor. Table 5-1 lists the programs and projects evaluated for potential cumulative impacts.

1

**Table 5-1. Programs and Projects Evaluated for Potential Cumulative Impacts**

<b>Proposed (or Existing) Action</b>	<b>Potential Cumulative Impacts</b>
Security upgrade of cruise terminals-Port of San Francisco	Short-term minor adverse impacts to air quality and noise during construction. Long-term minor-to-moderate adverse impacts to air quality and noise, due to increased number of ships using Ports. Long-term major beneficial impacts to safety and security of personnel and visitors.
Rehabilitation of historic piers (1 1/2, 3, 5) - Port of San Francisco	Short-term minor adverse impacts to water quality, air quality, and noise during construction. Long-term beneficial impacts due historic structures and employment.
Cruise Terminal and Mixed-Use Development Project-Port of San Francisco	Short-term minor adverse impacts to air and water quality and noise during construction. Long-term minor-to-moderate adverse air quality and noise impacts as a result of increase usage of Ports.
Expanded Ferry Services/Ferry Replacement (San Francisco, Oakland, Redwood City)-Water Transit Authority	Long-term major beneficial impacts to air and water, due to decreased traffic congestion, more environmentally friendly ferries.
West Complex Development Plan and Rough and Ready Island Development Plan (Dredging and Bridge Projects)-Port of Stockton	Short and long-term moderate adverse impacts to traffic, air quality, noise, cultural resources, biological resources, and loss of agricultural land, and light and glare impacts. Long-term moderate beneficial impacts include improved ship accessibility and improved traffic access over new/replacement bridges.
Oakland Harbor Navigation Improvement Projects (Dredging and Expansion of Inner Harbor Turning Basin)-Port of Oakland	Short-term minor adverse impacts to air and water quality and noise due to construction. Long-term minor-to-moderate adverse impacts to air quality due to increased use of port. Long-term moderate beneficial impacts due to increased ballast water system, more 'environmentally friendly' programs to protect native wildlife species.

## 2 5.2.1 Projects Deleted from Further Consideration

- 3       • ***Rehabilitation of historic piers (1 1/2, 3, 5)-Port of San Francisco.*** In addition to the  
4       rehabilitation of these historic piers, mixed-use development (restaurants, office space, boat  
5       docks and water taxi landing) is also part of this project. The physical construction at the  
6       piers is at (or near) completion. Therefore, the stand up and operation of the MSST would  
7       not result in cumulative impacts with this project (SF Port 2000).
- 8       • ***Cruise Terminal and Mixed-Use Development Project-Port of San Francisco.*** In addition  
9       to a new terminal, the project will include a 22-story condominium complex, 360,00 square  
10      feet of office space, and 180,00 square feet of retail and 215, 000 square feet of open space.  
11      Completion of the entire project is anticipated in 2008. Environmental documents are not  
12      available. (SF Port 2000).
- 13     • ***Expanded Ferry Services/Ferry Replacement-San Francisco, Oakland, and Redwood City.***  
14      This plan by the Water Transit Authority is not anticipated to begin initial service until 2006.  
15      This start date is dependent upon availability of funds, environmental impacts, and local

1 support and commitment. No environmental information has been developed at this time (SF  
2 WTA 2002).

- 3 • ***West Complex Development Plan and Rough and Ready Island Development Plan***  
4 ***(Dredging and Bridge Projects)-Port of Stockton.*** The EIR states “significant unmitigable  
5 environmental impacts include impacts to traffic, air quality, noise, cultural resources,  
6 biological resources, loss of agricultural land, and light and glare impacts.” The comment  
7 period for written comments has been extended from January 5, 2004 to January 20, 2004.  
8 The MSST would be stood-up and operational before the commencement of these projects  
9 (PS NOA 2003).
- 10 • ***Oakland Harbor Navigation Improvement Projects (Dredging and Expansion of Inner***  
11 ***Harbor Turning Basin)-Port of Oakland.*** These projects will be completed in several  
12 phases; completion is delayed due to inadequate Federal funding. The final completion date  
13 is unknown. During dredging activities, short-term minor adverse impacts to air and water  
14 quality are expected due to use of electronic dredges. Long-term moderate benefits to water  
15 quality include an improved ballast water management system, major beneficial impacts to  
16 wetlands (95 percent of dredged materials will be used for wetlands restoration projects),  
17 public access to Oakland middle harbor (previously restricted for military use only), moderate  
18 beneficial impacts to native wildlife species through formal management programs, and  
19 increased employment in the area. It is anticipated that the MSST would be stood up and  
20 operational prior to re-start of dredging activities (PO 2004b).

## 21 **5.2.2 Pertinent Projects**

- 22 • ***Security upgrade of cruise terminals-Port of San Francisco.*** U.S. Department of Homeland  
23 Security has awarded \$3.4 million for security enhancement at its cruise and ferry terminals  
24 to finance security planning and projects to improve dockside and perimeter security. These  
25 improvements will include luggage processing, and security improvements around the cruise  
26 terminals and ferry terminals. Projects have begun, although no completion date has been  
27 announced. Minor adverse impacts to air and noise during construction and installation of  
28 improvements. Long-term minor-to-moderate adverse impacts to air quality and noise, due to  
29 increased number of ships using Ports. Long-term beneficial impacts to safety and security of  
30 personnel and visitors.

31  
32 As of this time, neither current projects nor future projects would be simultaneous with the  
33 establishment of the MSST. When compared to other on-going activities within the San Francisco  
34 Bay region, the Proposed Action is a relatively small initiative that would constitute a negligible  
35 increase in boating traffic in the area. The Proposed Action would not stimulate additional growth  
36 within the region.

37 Impacts of the Proposed Action on the ambient underwater noise level would be negligible because  
38 the MSST boats use a quieter four-stroke engine and would maintain normal speeds at 10-15 knots.  
39 The MSST would not contribute significantly to the cumulative impacts of shipping noise on the  
40 existing underwater ambient noise level.

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## **APPENDIX A**

### **INTERESTED PARTY LETTER**

## **APPENDIX B**

### **INTERESTED PARTY LETTER DISTRIBUTION LIST**

## **APPENDIX C**

### **NEWSPAPER ANNOUNCEMENT**

## **APPENDIX D**

**RESPONSES TO INTERESTED PARTY LETTER AND AGENCY CORRESPONDENCE**

## **APPENDIX E**

**ENVIRONMENTAL REGULATES, LAWS, AND EXECUTIVE ORDERS**

## **APPENDIX F**

**U.S. COAST GUARD OCEAN STEWARD,  
PROTECTED LIVING MARINE RESOURCES PROGRAM, AND  
PARTICIPATION IN THE MARINE SANCTUARY PROGRAM**

## **APPENDIX G**

### **AIR QUALITY ANALYSIS**