



At 0918 on Sept 3rd, 1995, an 845 foot long container ship collided with a 35' pleasure craft. The owners of the 35' vessel were unaware of the existence of Vessel Traffic Service (VTS) and the Traffic Separation Scheme (TSS) and ignorant of applicable collision regulations and other laws. The collision occurred in the shipping lanes and in foggy conditions.

This information and photo were provided by the Puget Sound Marine Safety Office



National Oceanic Atmospheric Administration
National Ocean Service



United States Coast Guard and
Puget Sound Vessel Traffic Service



This brochure is paid for in part by Washington State Parks and Recreation Commission Boating Programs with funds from marine fuel taxes paid by boaters and distributed through the U.S. Coast Guard



Safe Marine Transportation (SMART) Forum
University of Washington School of Marine Affairs
for more information call (206) 543-7004

Before You Leave the Dock

- Carry Enough Life Jackets**
- Bring the Proper NOAA Charts**
- Consult Your Tide and Current Tables**
- Check Your Fuel Level**
- Check Your Marine Radio for Batteries**
- Listen to NOAA Weather Radio**

Advice from the Puget Sound Pilots

Before Getting underway:

1. Consult a proper scale navigational chart of the area and the local tide and current tables.
2. Listen to the NOAA Weather Radio broadcast. If the forecast is bad, don't go out.
3. If it is foggy, do not leave your dock or your anchorage. Even if you have radar and a GPS, navigation in the fog can be hazardous.
4. Be mindful of local traffic patterns, vessel traffic lanes and the VHF channels which commercial traffic uses. Many commercial vessels DO NOT monitor Channel 16 while participating with VTS.
5. Improve your chances of being seen on a ship's radar by installing a radar reflector as high as possible above the deck of your boat.

While underway:

6. Know and follow the "Rules of the Road". Be aware that specific rules apply in the vicinity of large ships when operating in narrow channels and vessel traffic separation lanes.
7. Stay clear of tankers and freighters. They have limited ability to maneuver. When a small vessel forces a tanker or freighter to maneuver, it may place it in danger of grounding or colliding with other vessels.
8. Take early positive action to avoid close quarters situations with large commercial vessels. Avoid crossing ahead of, or operating your vessel close alongside a deep draft ship.
9. Develop a situational awareness of all the vessels in your vicinity. Be aware that strict adherence to the Rules of the Road is not practical in crowded situations.
10. Maintain a proper lookout. The autopilot does not free you from the responsibility of keeping a good lookout.
11. Take early and substantial action to indicate your intention to change course and speed.
12. Turn on your navigation lights between sunset and sunrise and in restricted visibility. They help to ensure that other vessels can see you.

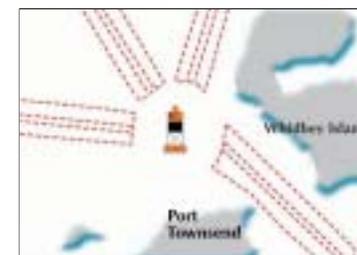
For More Information Contact:

Boating classes and USCG information hot line 1-800-368-5647
on line boating safety courses = www.boatus.com
1-800-982-8813 USCG Auxiliary 13th District
1-800-336-2628 Boats US course line
1-888-367-8777 Power Squadron

Puget Sound Marine Highway

The Coast Guard manages the Puget Sound Vessel Traffic Service (VTS)

- Vessels greater than 20 meters (65 feet) in length are required to participate in VTS and should contact Puget Sound VTS to obtain a copy of their User Manual.
- There are charted shipping lanes and convergence zones.
- Sailboats operating a motor are considered power driven vessels whether or not the sails are rigged.



North of Port Townsend 4 shipping lanes converge and 2-7kts currents combine to make this a challenging area to navigate.

Rules 9 and 10 of the International Collision Regulations establish the following requirements:

Avoid traffic lanes by as wide a margin as possible, if you must cross the lanes, cross them at 90 degrees. Clear the lanes as quickly as possible. Any vessel less than 20 meters (65 feet) shall not impede the passage of a vessel which can safely navigate only within a narrow channel or a vessel which is using a designated shipping lane. Don't cause a grounding or put your life at risk by thinking a ship can get out of your way. It is more prudent to avoid large ships and go astern whenever possible.

Each year, VTS Puget Sound monitors the movement of over 230,000 vessels including

13,700 Deep Draft Ships 2,300 Oil Tankers 31,000 Tug and Tows 176,000 crossing by Washington State Ferries

Radio Communications.

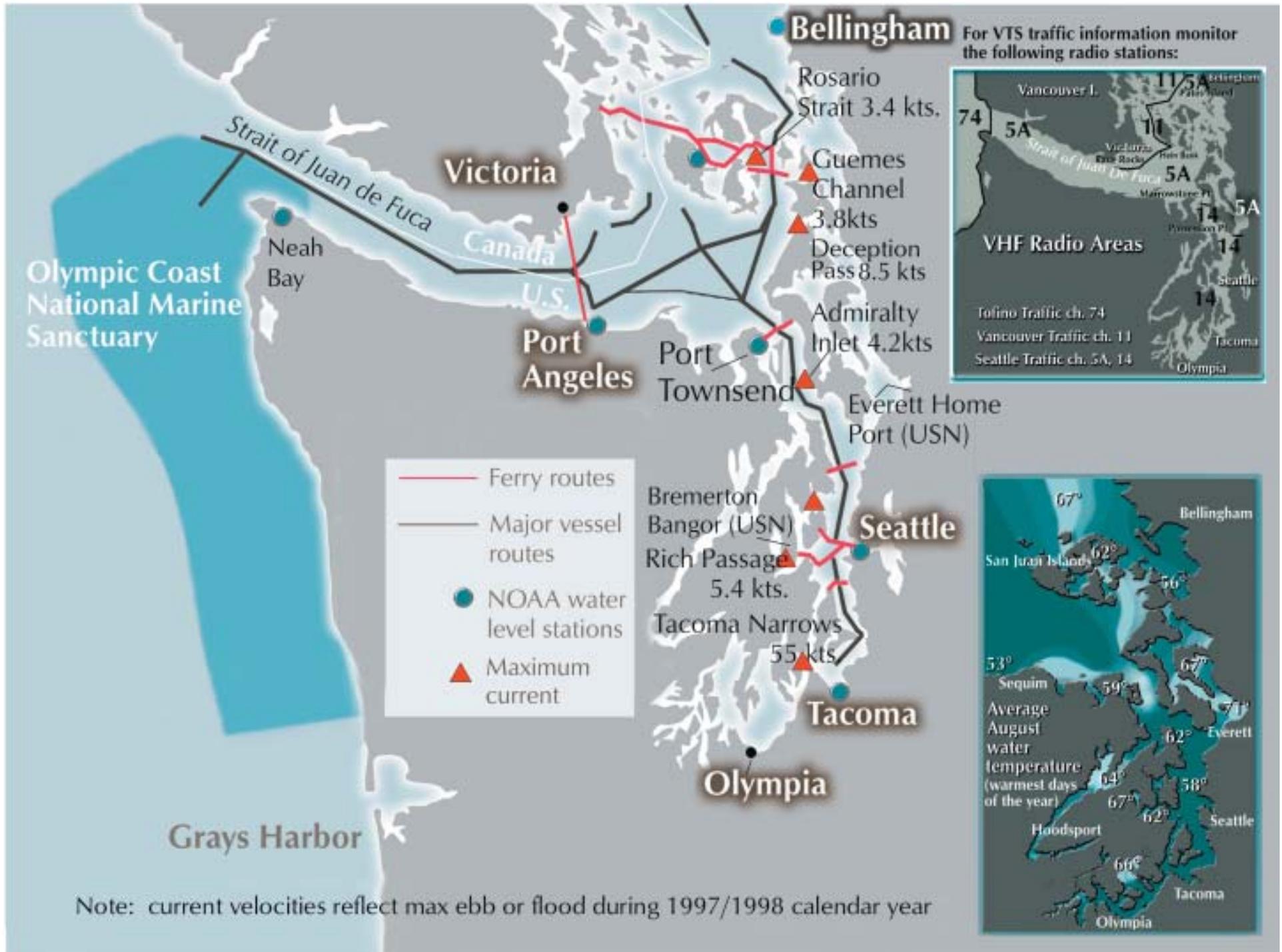
- Cellular phones cannot replace the VHF-FM marine radio's ability to communicate marine safety information with multiple marine users at one time.
- **If you only have a cellphone and need assistance call either *CG or #CG**
- To reduce interference, always use low power when calling on your VHF-FM radio.
- Never use your radio for Ballard Locks or bridge openings except at night or in an emergency.
- Small recreational and fishing vessels are encouraged to maintain a listening watch on VTS's multi-channel communications system, and to contact VTS if essential to navigational safety.
- Small boaters are encouraged to contact Coast Guard Search and Rescue on Channel 16 or VTS in an emergency.
- Maintain a passive listening watch and monitor the following radio channels

Channel Location

- 5A Strait of Juan de Fuca and San Juan Islands (Primary VTS frequency)
- 11 Vancouver, Strait of Georgia, Boundary Pass, Haro Strait, and approaches to Victoria (Primary VTS frequency)
- 13 Vessel BRIDGE to Vessel BRIDGE (Secondary VTS frequency)
- 14 Southern Puget Sound (Primary VTS frequency)
- 16 International Distress and Calling (not monitored by VTS participants)
- 74 West of Vancouver Island (Primary VTS frequency)

For More Information Contact:

North Pacific Marine Radio Council 206-526-0200
Puget Sound VTS 206-217-6050
<http://www.uscg.mil/d13/units/VTS/boaters.html>
Canadian CG Pacific Region Marine Comms and Traffic Services
<http://www.island.net/~comoxcg/main.htm>
USCG Navigation information service 1-703-313-5900



Ship Characteristics



Today a typical cargo ship is over 300 feet longer than the space needle is high.



A large ship's lee wind shadow can extend up to seven times the height of the ship.

Tips that could Keep You Afloat.....

- A 650' ship traveling at 11kts requires 12 ship lengths to come to an emergency stop (over a mile and over eight minutes)
- For a typical large ship a 90 degree turn will cover 1/3 of a mile and take two minutes
- No amount of speed will overcome the suction of a large ship's prop wash. Jet skis and small boats should always pass well astern of a ship, passenger ferry or tug and tow.
- If you hear **five or more short blasts** you are standing into danger and you should take action.
- If you hear a very long blast (7-10 seconds) it is likely a vessel attempting to attract your attention.
- Stay clear of tanker traffic in Rosario Strait and Guemes Channel. These channels are very narrow.
- NEVER go between TUG and TOW.
- Stay clear of the ferry docks. The ferry could depart at any time!

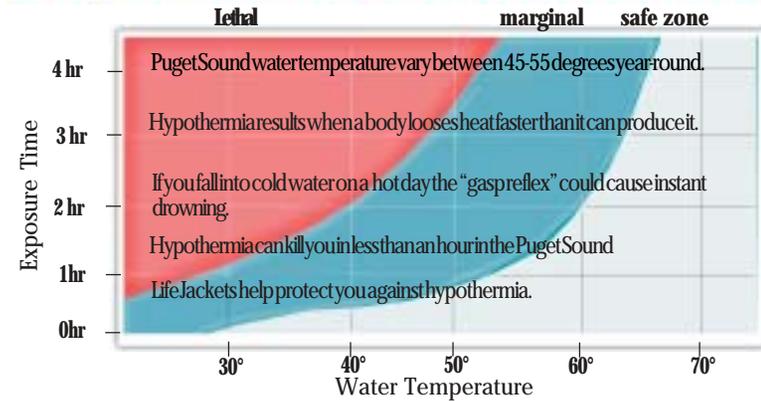


Often visibility from the bridge of a large ship is limited (due to cargo).

For More Information Contact:

Canadian Coast Guard Pacific Region <http://199.60.85.201>
<http://www.uscg.mil/d13/units/vts/psvts.html>
 Washington State Ferry = 1-800-843-3779 = <http://www.wsdot.wa.gov/ferries/>

Puget Sound Characteristics



Tides and Currents

- Always check the tide and current tables before you leave. They can affect your Boats handling, fuel consumption, and Estimated time and arrival
 - Extreme tides and currents occur during the Full Moon and New Moon. ○ ●
 - Tide rips occur off prominent points and in narrow straits. Currents are particularly heavy off Deception Pass, Cape Flattery, Race Rocks, Dungeness Spit and Point Wilson.
 - High tide or low tide times change by 50 minutes each day.
- See center Chart for maximum current values in critical areas.

Wind Speed /Sea Height Relationships

Wind	Sea Conditions	Warning
7-10 kts	1-2' Waves	Small Craft
11-16 kts	2'-4' Waves	
17-21 kts	4'-8' Waves	Gale Force
22-27 kts	8'-13' Waves	
28-33 kts	13'-20' Waves	
34-47 kts	13'-20' Waves	Storm Warning
48-55 kts		
56-63 kts	20'-30 Waves	

Marine Weather

Monitor your NOAA weather radio or check the web for the most up to date marine weather information.

Fog is a common occurrence in the Greater Puget Sound area.

In fog, a ship's radar may not pick up a radar reflector.

Web Sources of Marine Safety Information:

Marine weather links & more: <http://WWW.seattleboating.com/weather.html>
 Current Weather Forecasts for Washington = 206-526-6987 = <http://www.seawfo.noaa.gov/>
 Current Weather Forecasts for Alaska = <http://www.alaska.net/~nwsar>
 USN Global Wave and Water Temperature Information = <http://www.fnoc.navy.mil/>
 Real Time NOAA Data Buoy Information = <http://www.ndbc.noaa.gov/index.html>
 Current Weather Forecasts for Canada = <http://www.island.net/~comoxcg/main.htm>
 Predicted Tides and Currents= <http://www.opsd.nos.noaa.gov>
 Port Operations Info = http://www.uscg.mil/hq/g-m/safeports/west_coast/puget_sound/