

HUMBOLDT BAY HARBOR SAFETY PLAN

**Mandated by the Lempert-Keene-Seastrand Oil
Spill Prevention and Response Act of 1990**

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1 INTRODUCTION

INTRODUCTION

1.1 ABOUT HUMBOLDT BAY AND THE PORT AUTHORITY

The Humboldt Bay Area is located approximately 225 nautical miles north of San Francisco, California. Humboldt Bay is a protected harbor. The mouth of the bay is much smaller than the body of water held behind it and open water conditions do not prevail. Humboldt Bay is the only deep-water harbor between San Francisco, California and Coos Bay, Oregon.

The Humboldt Bay Harbor, Recreation and Conservation District was formed in 1973 by act of the state of California per the California Harbors & Navigation Code. The District was established for the acquisition, construction, maintenance, operation, development, and regulation of harbor works and improvements, including rail, water, and air terminal facilities, for the development, operation, maintenance, control, regulation, and management of Humboldt Bay upon the tidelands and lands lying under the inland navigable waters of Humboldt Bay, for the promotion of national and international commerce, navigation, fisheries, and recreation thereon, and for the development and protection of the natural resources of the area. The District has jurisdiction over All tide, submerged, and other lands granted to the District. Humboldt Bay is defined to include all rivers, sloughs, estuaries, and areas tributary to Humboldt Bay, subject to tidal action, provided that only those portions of Tuluwat, Woodley, and Daby Islands bay ward of the mean high tide line shall be under jurisdiction of the District. (CA Harbor & Navigation Code § Div. 6 Dept. of Boating and Waterways- Harbors and Ports, Appendix II, Ch 1, Ch 4, Ch 5, Ch 5.5).

The economy of the Humboldt Bay Area is based upon forest products production and tourism of the nearby Redwood Forests. A small fishing fleet is also supported by local offshore fisheries. The Humboldt Bay and Harbor exports raw and processed timber products. The North Bay supports the largest oyster beds in California, producing more than 50 percent of the State's domestic oyster harvest.

The main traffic corridors through Humboldt County are U.S. Highway 101, also known as the Redwood Highway and Highway 299. Highway 299 is a S. T. A. A. (Surface Transportation Assistance Act of 1982) (<https://dot.ca.gov/programs/traffic-operations/legal-truck-access/truck-network-map>) approved route connecting Humboldt Bay to the National Maritime Freight Highway System.

The population for Humboldt County is approximately 136,463 (2020 Decennial Census <https://www.census.gov>). The City of Eureka has a population of approximately 48,119 (2020 Decennial Census <https://www.census.gov>) and is the largest city in Humboldt County. The county seat is in Eureka, and as such, the city of Eureka is a hub to outlying areas.

1.2 HISTORY AND PURPOSE OF THE HUMBOLDT BAY HARBOR SAFETY COMMITTEE AND PLAN

The Humboldt Bay Area Harbor Safety Committee (HSC) was mandated by the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 (ACT). On November 20, 1991, the California Department of Fish and Wildlife's (CDFW) Office of Oil Spill Prevention and Response (OSPR) officially appointed the Committee.

The California Code of Regulations Title 14, Division 1, Subdivision 4, Chapter 2, Subchapter 1 addresses establishment of Harbor Safety Committees and requirements for Harbor Safety Plans as mandated by the ACT. Specifically, Section 800 includes definitions for terms found within the ACT. Regulations and Section 802 (plan Content Requirements) require the committee to review and evaluate the following:

- Tug Escorts
- Geographical Boundaries
- Harbor Conditions
- Vessel Traffic Patterns
- Aids to Navigations
- Communications
- Bridge Management
- Enforcement
- Vessel Traffic Service (VTS)

On or before July 1 of each year, the ACT also requires that the Harbor Safety Committee report its findings and recommendations to the OSPR Administrator concerning the safety of its harbor and any recommendations for improving tanker and barge safety in the harbor and region of responsibility by amending the provisions of the Harbor Safety Plan, or through other means.
The ACT further requires that the Harbor Safety Plan (HSP) be submitted to the OSPR Administrator subject to an annual review on or before July 1st of each year.

On or before July 1 of each year, the ACT also requires that the Harbor Safety Committee report its findings and recommendations to the Administrator concerning the safety of its harbor and any recommendations for improving tanker and barge safety in the harbor by amending the provisions of the Harbor Safety Plan, or through other means.

In developing the Harbor Safety Plan, the committee reviewed all aspects of vessel operations and safety procedures in Humboldt Bay area and the Port of Humboldt Bay. The primary effort was to improve both harbor safety and the protection of the environment.

1.3 CONTACT INFORMATION

See Appendix 21.4 for current contact information for the Humboldt Bay Harbor Safety Committee.

1.4 PRESENT MEMBERSHIP OF THE HUMBOLDT BAY HARBOR SAFETY COMMITTEE

See Appendix 21.5 for present membership information for the Humboldt Bay Harbor Safety Committee.

2 GEOGRAPHIC BOUNDARIES

The plan boundaries for the Humboldt Bay Area Harbor Safety Plan include all submerged lands between Shelter Cove, California and Trinidad Head, California, from a shoreline elevation of mean higher high water, seaward for three (3) miles including all submerged lands of Humboldt Bay (Inner Harbor). The open water boundary of the “Harbor” shall be defined as the area centered on the Humboldt Bay Sea Buoy and extending radially outward for one mile then landward to the perpendicular intersection with the north and south spits.

See Appendix 22.1 for a boundary map of the areas under the jurisdiction of the Humboldt Bay Area Harbor Safety Committee.

2.1 HARBOR DESCRIPTION

2.1.1 HUMBOLDT BAY

Humboldt Bay is a landlocked harbor on the coast of Northern California, about 225 nautical miles north of San Francisco and about 156 nautical miles south of Coos Bay, Oregon.

The greater Humboldt Bay consists of two large bays connected by a long, narrow channel and separated from the ocean by two long, narrow spits. From the entrance, Humboldt Bay extends north and south a distance of approximately 14 miles, varying in width from 0.5 to 4 miles, and covering an area of over 17,000 acres. Humboldt Bay is surrounded by rolling terraces, steep mountains, and narrow valleys typical of the coastal ranges of the region. Dense forests of redwood and Douglas fir cover much of the area. Humboldt Bay is the only harbor between San Francisco and Coos Bay with channels deep enough to permit passage of large, commercial, ocean-going vessels. Humboldt Bay has a 48-foot Bar and Entrance Channel and 38-foot Samoa Channel. Both the South Bay and Eureka channels are 26 feet deep. The water surface of Humboldt Bay covers over 26 square miles at high tide and about 8 square miles at low tide.

The entrance to Humboldt Bay is bordered by two stone mound jetties approximately one-half mile apart and extending perpendicularly from the ends of two long, narrow sand spits that separate the shallow bay from the ocean. Humboldt Bay has a 48-foot-deep Bar and Entrance channel, and 38-foot-deep Samoa Channel. Both the South Bay and Eureka channels are 26-feet-deep.

The topography of the Humboldt Bay area is relatively flat and characterized by bay waters, tidal flats, and slightly elevated flat to gently rolling terraces. Humboldt Bay is bordered on the south by Table Bluff ridge and on the north and east by rugged mountains. Freshwater and Jacoby Creeks discharge into Arcata Bay on the north and Elk River and Salmon Creek discharge into the central portion of Humboldt Bay and into South Bay, respectively. These streams and their corresponding sloughs are tidal, extending from one to two miles inland from their mouths. The flood plains are uniformly level grasslands, marshlands, and mud flats. There are many smaller tidal sloughs at the north end of Humboldt Bay near Arcata. The Mad River Slough is an abandoned mouth of the Mad River extending inland for about three miles. The present mouth of the Mad River is located approximately five miles north of Humboldt Bay.

Because of its general geomorphology, Humboldt Bay is usually divided into three distinct areas: North or Arcata Bay, Middle or Entrance Bay, and South Bay. The southwest ends of Woodley and Tuluwat Islands may be considered the south end of North Bay. South Bay extends south of the South Spit Jetty and King Salmon.

North Bay covers about 13 square miles and is 5.8 miles at its longest and 11 miles at its widest points. It is bounded by North Spit to the west, Arcata Bottoms to the north, Bayside Bottoms and Fickle Hill to the east and Eureka to the south. Tuluwat Island, Woodley Island, and Daby Islands are all located in the southern portion of North Bay. McDaniel Slough, Jacoby Creek, and Freshwater Creek all discharge fresh water into the North Bay. Mad River Slough, located in the northwest portion of North Bay, does not normally discharge fresh water. During flood conditions on the Mad River, floodwaters may overflow into the slough, and thus into the Bay.

GEOGRAPHIC BOUNDARIES

North Bay is extremely shallow, with over one-half the area (approximately 7 square miles) exposed at low tide. These tidal flats are dissected by several deep channels and numerous shallow channels. Samoa Channel (38-foot-deep Navigation Channel) and Eureka Channel (26-foot-deep Navigation Channel) are the principal commercial waterways of North Bay. The Arcata Channel located in the extreme North Bay (18 feet deep and 150 feet wide) is no longer used for commercial navigation and has not been maintained since 1931.

Entrance Bay (48 feet deep Navigation Channel) is approximately 5 miles long and a maximum of one mile wide. It is bounded by North Spit to the west, and Eureka and the Elk River floodplain to the east. Unlike North and South Bay, it consists of a single deep channel, with generally steep sides. Elk River, the largest freshwater source in Humboldt Bay, empties into Entrance Bay.

South Bay (26 feet deep Navigation Channel) covers approximately 7 square miles, with a maximum length of 4 miles and maximum width of about 2.5 miles. It is bounded by South Spit to the west, Humboldt Hill and Beatrice Flats to the east and Table Bluff to the south. Salmon Creek is the only freshwater source which discharges into South Humboldt Bay.

South Bay is like North Bay with respect to the broad expanses of tidal flats. These flats are also incised by tidal channels. Only one, the Fields Landing Channel, is used commercially and is maintained by the United States Army Corps of Engineers (USACE).

Separating the Bay from the ocean are two long sand spits with a narrow inlet between them. North Spit is about 10 miles long and 0.5 to 0.9 miles wide. Much of this spit consists of large dunes, up to 50 feet high and heavily forested in places. South Spit is about 4 miles long and varies from 0.1 to 0.7 miles in width; it consists of sparsely vegetated dunes much smaller than those on North Spit.

Humboldt Bay contains California's second largest estuary, home to the largest remaining eelgrass beds in the state. Native fish species include Kelp Greenling, Lingcod, California Halibut, Black Rockfish. Humboldt Bay is a breeding habitat for other species such as Longfin Smelt and

The entire Humboldt Bay watershed encompasses approximately 223 square miles. The Mad River (to the north) occasionally overflows into the Bay under flood conditions. The Eel River (to the south) is separated from Humboldt Bay by Table Bluff.

Lowlands to the north and east consist of creek and river flood plains, and former tidal marshes that were diked and drained for agricultural purposes. These lowlands are bordered by low foothills of the Coastal Range. Farther to the east the terrain becomes more mountainous, with elevations of 3,000- 5,000 feet and narrow steep canyons.

Eureka is the principal city adjacent to Humboldt Bay. It serves as the County seat and commercial center of the region. Arcata is the only other incorporated city adjacent to Humboldt Bay and is the location of Humboldt State University. Other communities in the Humboldt Bay area include Bayside, Fairhaven, Fields Landing, King Salmon, Manila, and Samoa.

The commercial/industrial portion of Humboldt Bay is generally located in mid-Humboldt Bay between the southern end of the Fields Landing Channel and the Samoa Bridge to the north. Within this area, coastal dependent industrial uses exist on the east side of the Samoa Spit, along a one-mile stretch of Eureka's shoreline and along a similar length of the Fields Landing Channel in the community of Fields Landing.

There is only one bulk fuel terminal, handling both diesel and gasoline fuel, located in Humboldt Bay. Shipments of petroleum products (gasoline and diesel) range in frequency from every four days to every ten days. Englund Marine, located along the south side of the Eureka Inner Reach, is the primary source of fuel, supplying gasoline and diesel to recreational and commercial vessels. Englund Marine's fueling dock is located at 2 Commercial Street, Eureka, California, North of the City of Eureka Public Marina (Coordinates: 40° 48' 16" N, 124°10'28" W). Vessels dock at the bay side and climb a ladder to access the fuel pumps. There are 2 docks, one for small vessels, and the main dock is for large vessels. Fueling is only available from the above ground, over-water, bayside fuel pumps and cannot be accessed from land.

GEOGRAPHIC BOUNDARIES

For additional information on the port area and services, please consult www.humboldtby.org.

2.1.2 SHELTER COVE

Shelter Cove is about 60 ocean miles south of Humboldt Bay. It lies under the south face of Point Delgada and affords fair shelter in northwest weather but is exposed and dangerous with south or southeast winds. Occasionally a swell may run in the cove. There are no wharves in the cove. Shelter Cove Beach is a long, dark sand beach on the south side of the town of Shelter Cove. The beach is protected from the west by Point Delgada and a rock jetty that was built in 1980. The breakwater / jetty was later improved in 2010.

The rocks, covering 1 to 5 fathoms south of Point Delgada, can be avoided in approaching Shelter Cove by staying over 200 yards south of the lighted whistle buoy and east of the bell buoy.

From Point Delgada the coast extends northwest for 19 miles to Punta Gorda and is backed by steep mountains covered with chaparral and trees. A black sand beach, 0.8 miles north of Point Delgada, extends north for 4 miles. Kaluna Cliff overlooks the south end of the sand beach, and its steep face, scarred by frequent slides, is a noticeable landmark.

Shelter Cove Fishing Preservation, Inc. is a non-profit group formed in 2018 to preserve the fishing heritage of Shelter Cove by providing permanent access to fishing and other recreational and commercial maritime activities through the port of Shelter Cove. They currently operate the public boat launch facility and tractor pull boat launch and retrieval services.

More information and the history of Shelter Cove may be found at:

www.sheltercovefishingpreservationinc.org

2.1.3 TRINIDAD HEAD

Trinidad Head is nearly 39 miles north-northeast of Cape Mendocino and 17.5 miles north of the entrance to Humboldt Bay. It rises to a height of 380 feet. The sides are steep and covered with chaparral. From north or south the head is generally seen as a dark round-topped island. Near the north end it is joined to the mainland by a narrow neck, from the south side of which Little Head, a rocky knoll 125 feet high, projects into Trinidad Harbor. The white cross 200 yards north of the south point of Trinidad Head is prominent. Trinidad Head Light, 196 feet above the water, is shown from a 25-foot white square tower near the southwest side of the head. A lighted whistle buoy is 1 mile west of the head. A fog signal is at the light.

Trinidad Harbor, a small cove east of Trinidad Head, offers shelter in northwest weather, but is dangerous in west or south weather. The cove is small and is further constricted by several rocks, and as a rule, there is always a swell even in the north weather. The harbor is used by fishing boats. The pier has been reconstructed and is actively utilized by commercial fishermen and recreational anglers to a considerable extent during the summer, even though the holding ground is only fair. A pier with a fish house and restaurant is in the bight west of Little Head. Fish are unloaded at the pier and are trucked to Eureka and San Francisco. A small marine railway near the foot of the pier is used for launching and retrieving small crafts up to 26 feet long and 9 feet wide.

More information on Trinidad Harbor is available on their website: <http://www.seascape-pier.com/home>

2.2 FINDINGS AND RECOMMENDATIONS

Recommendation

There are no recommendations or action required by the OSPR at this time.

Review by the Harbor Safety Committee prior to July 1 each year.

3 GENERAL WEATHER AND TIDAL CONDITIONS

GENERAL WEATHER AND TIDAL CONDITIONS

3.1 OVERVIEW OF WEATHER AND TIDES

Humboldt Bay has a year-round maritime influenced climate. The rainy season is from October to April, during which 90% of the precipitation falls. The strongest storm systems typically impact the region from December through February with very strong southerly winds, heavy rain, and large seas. Additionally, large westerly swells can cause dangerous surf along the coast and shoaling impacts in the harbor channel.

3.2 WEATHER

Humboldt Bay has a year-round maritime influenced climate. The rainy season is from October to April, during which 90% of the precipitation falls. The annual average rainfall is 40.40 inches. The dry season is from May to September and is marked by considerable fog and low clouds. The fog usually clears by late morning. The prevailing wind is from the north-northwest during the spring and summer and south in the winter. Most storms in the winter approach from the west-southwest. Typical yearly temperatures range from lows in the mid-30s to highs in the low 70s (degrees Fahrenheit). Record highs have reached the 80s and lows have approached 20 degrees.

3.3 WINDS

The winds in Humboldt Bay are driven primarily by storm systems in the winter and the interactions of a thermal trough and high pressure over the eastern Pacific Ocean during the spring, summer, and early fall. The prevailing winds during the stormy winter months are from the south ahead of cold fronts and turn northwest behind the fronts. Winds can become very strong ahead of and with winter storm systems with gusts of 40-50 mph out of the south-southeast. The strongest storms can bring damaging wind gusts in excess of 70 mph. These strong gusts are often brief and only last a few hours. During the summer, the thermal trough over interior California and high pressure over the eastern Atlantic result in persistent north winds along the entire Northwest California coastline. Typical winds speeds are in the 15-25 mph range but can have gusts on occasion to 40 mph.

3.4 FOG

Fog can happen at any time of the year in Humboldt Bay but is most common in the spring, summer, and fall months when the air temperature and dewpoint temperature warm above the temperature of the coastal ocean waters. Typically, low clouds and fog form in the evening hours or overnight and dissipate or retreat to the coast in the late morning or early afternoon during the foggy months. However, during rather persistent patterns, fog can remain in place for days at a time resulting in significantly reduced visibilities. In the winter fog is more diurnally driven with cooling temperatures and clear skies overnight needed for fog to form. This fog disperses early in the morning.

3.5 TIDES AND CURRENTS

There are two tide cycles every twenty-five hours. Each cycle occurs 50 minutes later each day.

The tidal range between mean lower low water (MLLW) and mean higher high water (MHHW). MHHW is 6.4 feet at the Bay Entrance, 6.7 feet at Eureka and Fields Landing, and 7.0 feet at Samoa. Extremes may vary from 11 feet or more between tide cycles.

Tidal currents generally parallel the federally maintained channels. Maximum tidal current velocities during flood and ebb cycles are approximately 2 to 3 knots in the North Bay Channel and 2 to 4 knots in the entrance channel.

Making the turn from the approach to the entrance range is abrupt and difficult to make under certain conditions of wind, sea, and current. Strong and variable tidal and non-tidal currents, rough seas, breaking waves, wind, and fog often adversely affect navigation in the entrance channel.

3.6 SEA CONDITIONS

Sea conditions are influenced by two primary mechanisms; 1) local winter storms in the winter and local northerly winds in the summer and 2) distant storms producing long-period waves that impact the coast primarily from the west-northwest. Local storms and summer northerlies bring very strong winds and steep seas to the coastal waters. Seas can exceed 10 feet regularly in the winter and sometimes exceed 15 feet. The strongest local winds over the coastal waters occur ahead of cold fronts in the winter with storm force 50 kt or greater wind gusts occurring once or twice each winter. Additionally, long period swells from the west bring additional hazards with dangerous shoaling on sandbars and huge breaking waves along the coast. Long period swells between 20 and 30 feet occur several times each winter. These can result in breaking waves in the surf zone during large westerly swell events that can easily exceed 20 feet and sometimes exceed 30 feet on the open coastline. In the harbor channel the waves have been recorded at nearly 40 feet. This is a major hazard to navigation and several times each year requires complete closure of the harbor entrance by the Coast Guard.

3.7 TSUNAMI

A Tsunami generated by an earthquake along the Cascadia Subduction Zone could arrive just minutes after the initial shock. The lack of warning time from such a nearby event will result in higher casualties than if it were a distant tsunami source.

For tsunamis originating at distant sources, the National Tsunami Warning Center will provide initial warning notification to local emergency response agencies in time to warn and evacuate threatened coastal areas. The 1964 Alaskan earthquake produced a 6-foot tsunami and a 14-knot current in the Samoa Channel.

On March 11, 2011, the M9.0 Tohoku (Tohoku-Chiho Taiheiyo-Oki) Earthquake occurred near Sendai, Japan and sent a series of tsunami waves to the west coast of the United States within 8 to 10 hours. Widespread damage occurred along the coast including the sinking of 35 vessels and complete destruction of the Crescent City harbor.

For the Port of Humboldt Bay, weather conditions would not allow vessels to cross the bar safely to get to deep water and the only two vessels able to depart Humboldt Bay were the US Coast Guard 47-foot motor lifeboats. Prior to the earthquake and tsunami, local sea conditions were predicted to rise to 18 to 20 feet with Gale winds forecast for the entire week. Crescent City vessels that had gone to sea in advance of the tsunami were able to make it into Humboldt Bay prior to the advancement of the storm.

The California Department of Conservation has prepared interactive tsunami maps for every coastal county in California. Their website also reviews the history of tsunamis in the Pacific Ocean and California, provides technical reports, education, and preparedness information. More information may be found at:
<https://www.conservation.ca.gov/cgs/tsunami>.

Cal Poly Humboldt (formerly Humboldt State University) actively participates in the Redwood Coast Tsunami Work Group with support from the California Office of Emergency Services. They have published regional brochures for Humboldt County including maps of tsunami hazard areas and preparedness checklists entitled Living on Shaky Ground. See Appendix 22.10 for the County of Humboldt Tsunami Hazard Area Map.
More information may be found at: <https://rctwg.humboldt.edu>.

Warning sirens will be used as part of the early warning system for numerous communities along the North Coast as part of the implementation of the County plan. The sirens and evacuation drills are performed each year as part of California Tsunami Preparedness Week. More information may be found at:
<https://www.tsunamizone.org/california/> and <https://www.tsunami.noaa.gov/>.

3.8 MARINE WEATHER SERVICES

NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) provides tide, water levels and current information to support maritime users. CO-OPS information can be found here: <https://tidesandcurrents.noaa.gov/>.

NOAA's National Weather Service has a Weather Forecast Office on Woodley Island that provides marine observations, forecasts, and warnings for the waters adjacent to Humboldt Bay and out 60 nautical miles. The National Weather Service's Ocean Prediction Center provides similar information beyond 60 nautical miles. The National Weather Service information for the region can be obtained via NOAA Weather Radio on marine VHF bands and online at www.weather.gov/eureka.

In addition to standard weather forecasts, the National Weather Service office on Woodley Island developed a specialized bar forecast model that predicts when the Humboldt Bay Harbor entrance is dangerous. The forecast model provides wave height and direction, and current speed and direction. It also predicts when waves become steep enough to become dangerous. This bar forecast can be found on the web site above.

3.9 PHYSICAL OCEANOGRAPHIC REAL TIME SYSTEM (PORTS)

NOAA has assisted various ports throughout California with a Physical Oceanographic Real-Time System (PORTS) in providing weather, wave, currents, and other physical oceanographic conditions to local mariners on a real time basis. NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) provides tide, water levels and current information to support maritime users. CO-OPS information can be found here: <https://tidesandcurrents.noaa.gov/>.

The CO-OPS Physical Oceanographic Real Time System (PORTS) is a public/private partnership that provides real time meteorological, water level and current information. The data from the Humboldt Bay PORTS can be found here: <https://tidesandcurrents.noaa.gov/ports/index.html?port=hb>.

PORTS data, when combined with up-to-date nautical charts and precise positioning information, can provide the mariner with a clearer picture of the potential dangers that may threaten navigation safety. Humboldt Bay is known to have some of the strongest currents of any major seaport in the United States. The PORTS program was designed and developed to provide real time data to the mariners and port operators throughout the country to help them avoid maritime accidents. The Humboldt Bay Harbor District, along with Cal Poly Humboldt, Chevron, and NOAA, have partnered since 2012 to install instruments at sites in Humboldt Bay to measure currents. The instruments are called Acoustic Doppler Current Profilers (ADCPs) and they determine current velocities by measuring the travel times of sound as it interacts with objects in the water.

Scripps Institution of Oceanography Coastal Data Information Program (CDIP) operates and maintains Waverider buoys off the coast of Humboldt. Major funding for these buoys comes from the U.S. Army Corps of Engineers and the California Department of Boating and Waterways. There are currently two Waverider buoys located off Humboldt. Buoy 46213 near Cape Mendocino and buoy 46244 off Humboldt Bay's north spit. Observations from buoy 46244 off Humboldt Bay is available via the NOAA PORTS website here: <https://tidesandcurrents.noaa.gov/ports/ports.html?id=ww46244>.

3.10 FINDINGS AND RECOMMENDATIONS

Recommendation 1

The Harbor Safety Committee supports the efforts of the Humboldt Bay Harbor District, Cal Poly Humboldt, and the PORTS program. The Humboldt Bay Harbor, Recreation and Conservation District and Cal Poly Humboldt currently hold a contract to support ongoing PORTS activities through September 2025. Chevron and Cal Poly Humboldt hold a contract for funding through December 2026. The Harbor Safety Committee recommends continual, ongoing support of the PORTS program and the partnership of Cal Poly Humboldt, Humboldt Bay Harbor, Recreation and Conservation District, and NOAA. Per the 2021 Humboldt Bay PORTS Annual Report, the CO-OPS goal is to attain 95 percent sensor reliability. Current data for 2025 reports 72.35% reliability. System Maintenance is ongoing and the current responsibility of the HBHRCD under the PORTS contract.

No action is required of OSPR at this time. Should funding become necessary to replace or install additional equipment, the Harbor Safety Committee shall request funding from OSPR and identify other possible funding sources.

Review by the Harbor Safety Committee prior to July 1 each year.

Recommendation 2

If a major earthquake or tsunami occurs within the Humboldt Bay region, the Port Authority will make every effort to contact the U.S. Army Corps of Engineers to survey the channels and entrance if adverse conditions are noted.

If a surveyor cannot respond to the request within a reasonable length of time, the Port Authority may contact NOAA for assistance in this matter. The Point of Contact is the California Navigation Manager for the Office of Coast Survey at 301-351-7798 or Chief of the Navigation Response Branch at 202-641-1801.

No action is required by the OSPR at this time.

Review by the Harbor Safety Committee prior to July 1 each year.

4 ANCHORAGE AND AIDS TO NAVIGATION

ANCHORAGE AND AIDS TO NAVIGATION

4.1 AIDS TO NAVIGATION

Types of Aids to Navigation

The aids to navigation within Humboldt Bay Harbor and adjacent to it are as follows:

1. Fixed Aids: Steady, flashing, rotating, and radar reflecting.
2. Buoyed Aids: Flashing, and radar reflecting.
3. Channel Markers: Fixed and buoyed.
4. Audible Markers: Horn, bell, and whistle.

The Aids to Navigation Team Humboldt Bay presently provides quick response to reports (usually by harbor pilots) of any damaged or “off-station” navigational aids. Contact the Aids to Navigation Team Humboldt Bay at (707) 269-2550 for any repairs or replacement of damaged navigational aids, as well as missing or off-station buoys. Additionally, a USCG ship comes from San Francisco 2 to 3 times per year for maintenance and repairs on large scale Buoys.

For positions and descriptions of Aids to Navigation in the area, refer to the Light List available via the internet at: <https://www.navcen.uscg.gov/weekly-light-lists>.

NOAA has many products and services to promote safe navigation for the maritime community. Several of these programs are described on the National Ocean Services (NOS) website here: <https://oceanservice.noaa.gov/navigation/>. NOAA's Office of Coast Survey (OCS) produces a suite of official nautical charts that cover the coastal regions of the United States. OCS also produces and maintains the Coast Pilot, which provides textual information that is difficult to portray on the nautical charts. These and other products are available from the OCS web site here: <https://nauticalcharts.noaa.gov/>

For positions and specific descriptions see Appendix 21.11 Aids to Navigation for a copy of the USCG light list for the area. Users can also refer to an up-to-date nautical chart of the area. Raster charts in the area, including Humboldt Bay (18622), Point Arena to Trinidad Head Chart (18620), Trinidad Head to Cape Blanco Chart (18600), are no longer produced. Therefore, users should use the appropriate scale Electronic Navigational Chart (ENC) available on NOAA's Office of Coast Survey website: <https://www.nauticalcharts.noaa.gov/>.

Humboldt Bay Entrance Small Boat Warning Light (LLNR 8136) is located at U.S. Coast Guard Station Humboldt Bay on the boat house jetty.

4.2 HAZARDS

Humboldt Bay is a shallow bay that has been improved for navigation by the regular maintenance of dredged channels. These channels are marked by lighted buoys and fixed lights, which constitute most of the Aids to Navigation.

Vessels currently experience sailing delays due to waiting for favorable tides. The Harbor Entrance has been stabilized by the addition of stone jetties, which are marked by lights and foghorns. Some wharves or piers, which are parallel to or extend into the channels, are lighted by the U.S. Coast Guard or private entity. There are no natural rock hazards within Humboldt Bay.

The Humboldt Bay Harbor, Recreation and Conservation District through a Port Security Grant was able to obtain a camera system to monitor the Bar and Entrance channels. In cooperation with the U.S. Coast Guard and the National Weather Service, this camera system was installed in 2011. The Bar and Entrance camera is currently not in service and unable to be repaired. Funding is needed to replace the camera; the U.S. Coast Guard will apply funds when available.

4.3 SHOALING

Shoaling conditions can exist in the bar and entrance channels. The conditions are unpredictable but occur more often in the winter months or upon the onset of inclement weather. Historically, moderate winter storms have created dangerous shoaling spots as streams of sand flow upward from the entrance of the ship channel. This shoaling not only creates shipping hazards but has forced the Humboldt Bay Bar Pilots to impose restrictions on vessel drafts. Emergency dredging has been necessary in the past to restore the safety of the Bar and Entrance Channel and portions of the Federal Navigation Channel. Some of the more prominent shoaling areas include the Bar Channel in the vicinity of Buoy 2 and the tip of the south jetty; the Entrance Channel; the 110-degree turn in the vicinity of Buoy 7 and Buoy 9; the area around Buoy 10, and the area around Lighted Beacon No. 16. Poor visibility because of surf haze and fog may also hamper vessel operations.

The most recent Hydro Survey Conditions for the Federal Navigation Channel of Humboldt Bay is available at: <https://www.spn.usace.army.mil/Missions/Surveys-Studies-Strategy/Hydro-Survey/Humboldt-Bay-Channel/>

4.4 ANCHORAGE

Present Conditions

Per Humboldt Bay Harbor, Recreation and Conservation District Ordinance No. 17, Under the authority of section 4 of Appendix II of the California Harbors and Navigation Code:

No vessel may anchor within the Exclusion Zone of Humboldt Bay (Federal Navigation Channel).

No vessel may anchor or moor within Humboldt Bay for a period in excess of seventy-two (72) consecutive hours without the owner, operator, or captain of the vessel first obtaining a Temporary Anchoring Permit from the District, the owner, operator, or captain of the vessel shall present proper personal identification and license, if applicable, and evidence of title or ownership of the vessel. A Temporary Anchoring Permit authorizes the holder to anchor or moor only and grants no further rights, privileges, or uses. A Temporary Anchoring Permit is valid only for fourteen (14) continuous days from date of issuance or extension. A Temporary Anchoring Permit may be extended for only one additional fourteen (14)-day period at the discretion of the Harbor Master.

A Temporary Anchoring Permit may be issued only with respect to a named individual or government entity and a single vessel and shall be valid only in respect to that individual or government entity and vessel. It shall be the responsibility of the vessel owner, operator, or captain to contact the Humboldt Bay Harbor District and apply for a Temporary Anchoring Permit within seventy-two (72) hours of anchoring in Humboldt Bay.

Humboldt Bay Harbor District can be contacted at telephone number: (707) 443-0801, by fax at (707) 443-0800, by E-mail at woodleyisland@humboldtbay.org, or by VHF on channel 14.

In Humboldt Bay the area between Lighted Buoy #17 and the southern end of Fairhaven Terminal's dock, west of the main North Bay Channel, has been used as a temporary holding area. Large vessels may only hold for a single tide period, because there is not enough room in the channel for them to swing with the change in tide.

Small craft anchorages are seasonally available in Shelter Cove and Trinidad Bay. Humboldt Bay Harbor, Recreation and Conservation District regulates Shelter Cove and oversees management of Shelter Cove by Shelter Cove Fishing Preservation, Inc. Trinidad Bay is managed by the Trinidad Rancheria Tribal Harbor District (Tribal Government).

It is not the intent of the Harbor Safety Committee to officially designate any anchorages within the defined Harbor boundaries currently because of physical limitations (narrow channel width). It is the HSC's position that current procedures

ANCHORAGE AND AIDS TO NAVIGATION

be maintained, i.e., the pilot that guides the vessel be allowed to determine the most suitable holding area for that vessel at that time.

Unloaded vessels calling in Humboldt Bay shall be sufficiently ballasted to navigate the harbor entrance channel and the bar without significant difficulties. Vessels shall arrive with clean ballast or segregated ballast aboard so that it can be discharged into the harbor without pollution. Vessels arriving from foreign ports where they have loaded ballast aboard before departing that port shall change their ballast completely with clean sea water in accordance with California PRC Section 71200-71215.

Vessels' agents shall be advised to instruct masters by email, facsimile, or telex to change ballast prior to arrival in Humboldt Bay.

There are no shoreside ballast reception facilities available for vessels calling in Humboldt Bay.

4.5 FINDINGS AND RECOMMENDATIONS

The Harbor Safety Committee has evaluated the Aids to Navigation and recommends the following:

Recommendation 1

- a. All vessels calling at marine terminals in Humboldt Bay shall have sufficient mooring ropes or wires of proper strength to hold the ship fast to the marine terminal during all weather conditions which may be expected in Humboldt Bay.
- b. It is the responsibility of the owner/operator of the terminal to ensure that the bollards and hooks on the docks and mooring dolphins to which the ship attaches its mooring ropes and wires shall be of sufficient holding strength to hold the ship alongside during all conditions which may be expected in Humboldt Bay.
- c. Each terminal shall provide mooring facilities that can be used by ships for safe mooring. Terminals shall have a bearing surface of sufficient strength to lie against and support the ship properly.
- d. The Humboldt Bay Harbor District, in consultation with the HSC, developed an anchoring Ordinance No. 17- An Ordinance Establishing Rules, Regulations and Enforcement Procedures for the Anchoring, Security, and Disposition of Vessels and Property in Humboldt Bay adopted June 2004. See Appendix 19.12 for Ordinance No. 17.
- e. The Humboldt Bay Harbor District recommends to the HSC and OSPR that anchorage areas will need to be reviewed and possibly updated to reflect a projected increase in vessel traffic and anchorage needs associated with the proposed Offshore Wind Energy developments and potential new heavy lift, multipurpose terminal.

The HSC has determined that due to physical limitations (narrow channel width), anchorages will not be officially designated within the defined Harbor boundaries and that current procedures will be maintained (i.e., the pilot that guides the vessel will be allowed to determine the most suitable "holding" area for that vessel at that time). It should be clarified in the plan's annual update that there are no anchorages within the bay, and that there is a one-way traffic channel which shall be adhered to make harbor travel safe.

The HSC has made Recommendation 1 a-d regarding safe mooring. However, upon further discussion with the HSC members, no further action will be required by the OSPR, as these recommendations are already being practiced by vessel and terminal owners/operators, and sufficient mooring ropes or wires during transfer operations are already required under federal regulation (33 CFR 156.120 (a))(<https://www.ecfr.gov/current/title-33/chapter-I/subchapter-O/part-156/subpart-A/section-156.120>).

The HSC will review Recommendation 1e. in a future revision of the Harbor Safety Plan. No action from OSPR is required currently.

5 SURVEYS, CHARTS, AND DREDGING

5.1 SURVEYS AND CHARTS

The US Army Corps of Engineers (ACOE) conducts condition surveys for Humboldt Bay at least twice per year. To view the most recent survey, visit: <https://www.spn.usace.army.mil/Missions/Surveys-Studies-Strategy/Hydro-Survey/Humboldt-Bay-Channel/>

5.2 CHANNEL DEPTHS

The Federally authorized and maintained navigation channels in Humboldt Bay, from south to north (as noted in Appendix 22.3, Humboldt Bay Area Facilities Map) are as follows:

Fields Landing Channel - 26 feet deep (MLLW) and 300 feet wide.

Fields Landing Turning Basin - 26 feet deep (MLLW) at mile 3.16 (lower end of Fields Landing Channel) - 300 to 800 feet wide, and 600 feet long.

Bar and Entrance - 48 feet deep (MLLW) and 2100 feet wide at seaward mile 1.0 NM tapered to 750 feet wide at seaward mile 0.18, and 500 feet wide from seaward mile 0.18 to mile 0.75.

Turn – (110-degree turn) - 48 feet deep (MLLW).

North Bay Channel - 38 feet deep (MLLW), and 500 feet wide from mile 0.75 to mile 4.29.

Outer Eureka Channel - 38 feet deep (MLLW), and 400 feet wide between mile 4.29 and mile 5.0.

Inner Eureka Channel - 26 feet deep (MLLW), and 400 feet wide between mile 5.0 and mile 6.30.

Samoa Channel - 38 feet deep (MLLW), and 400 feet wide between mile 4.29 and mile 5.84.

Samoa Turning Basin beyond mile 5.84 (upper end of Samoa Channel) - 38 feet deep (MLLW), and 400 to 1000 feet wide, and 1800 feet long.

Arcata Channel - 18 feet deep and 150 feet wide. Abandoned since 1931, it is no longer maintained.

5.3 CHANNEL DESIGN PLANS

The Humboldt harbor channels were designed to conform to the historic tidal drainage patterns of Humboldt Bay. In design of the channels and other navigational features, adequate clearance between the vessel keel and the channel bottom must be considered. Clearance factors must allow for vessel squat, trim, maneuverability, and wave action. The Humboldt Bay Harbor District has established rules requiring a two-foot under keel clearance on all vessels over 300 gross tons while transiting navigation channels.

The U.S. Army Corps of Engineers monitors channel depth, width, and alignment at least annually, and consults with the Harbor District and others concerning any changes. The Corps of Engineers completed a long-term shoal management study of the bar/entrance channel to Humboldt Bay authorized by Section 216 of the 1970 Flood Control Act. The basis of the study was to investigate changed physical conditions that are the causes of unanticipated shoaling in the Humboldt Channels. Funding for the reconnaissance phase of the study was appropriated in the Energy and Water Development Appropriations Act of 2004. The purpose of the analysis was to determine if there was a Federal interest in participating in a cost-shared feasibility study to provide navigation improvements to Humboldt Harbor and Bay, specifically to address the changed conditions (i.e., shoaling) in the Bar and Harbor Entrance and North Bay Channels. The analysis resulted in the finding that there is a Federal interest in continuing the study into the feasibility phase. The analysis reviewed numerous reports

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concerning Humboldt Bay and Harbor, including an April 1995 Final Feasibility Report and Environmental Impact Statement/Report for Navigation Improvements, Humboldt County, California by the Army Corps. The analysis identified existing shoaling conditions worsened yearly by weather storm patterns as the main cause of necessary depth restrictions placed on the bar and entrance channel. These restrictions can last up to 6 months of the year depending on federal funding availability for bi-annual dredging.

Dredging of the North Bay, Eureka, Samoa, and Field’s Landing Channels are secondary to the Bar and Entrance channels dredging. Not only are shoaling conditions dangerous but carry economic impacts. Public concern has been expressed regarding how safe entrance for all ocean-going vessels is essential to the local economy.

Humboldt Harbor was known as a treacherous entrance before the shoaling issues started. The two main factors that make the entrance dangerous are the semi-permanent sand bar in and near the entrance, and large ocean waves. Shoaling between November and April impedes navigation by reducing channel depth. This prevents large draft vessels (primarily vessels with a draft greater than 30 feet) from entering the harbor. To reduce their draft, some vessels reduce their tonnage resulting in loss of production and greater transportation costs. Shoaling can also result in ship groundings. Ship groundings not only damage vessels but can carry potential risk to human life and safety and risk of catastrophic environmental pollution.

Eleven alternatives to reduce shoaling were developed based on a 2004 multi-agency meeting that included bar pilots, tug captains, coastal engineers, and stevedores. The eleven alternatives are believed to be inclusive of all technically realistic alternatives to reduce shoaling. These alternatives were categorized into three groups based on how they reduce shoaling. The three alternative groups are: (a) sediment removal alternatives (dredging); (b) sediment blocking alternatives (coastal structures); or (c) any combination of (a) and (b). All alternatives still include annual dredging maintenance and would supplement and hopefully stabilize or reduce the amount of maintenance dredging needed at Humboldt.

There is a strong Federal interest in conducting the feasibility study based on the alternatives proposed. There are several alternative plans that appear likely to produce navigation benefits in excess of project costs. The feasibility study requires a 50 percent match of funds from the Humboldt Bay Harbor District as the local sponsor. The study was terminated due to a lack of funds produced. Without alternatives provided for reducing shoaling conditions in Humboldt Bay, it is assumed that the Bar Pilots and Harbor District would continue to address the shoaling problem by imposing draft restrictions ranging from 18 to 33 feet depending on the severity of the shoaling.
(U.S. Army Corp of Engineers. (Aug 2005). HBH 905(b) Analysis Final Aug 05 (002) Section 905 (b) (WRDA 86). Philip T. Feir, LTC, EN Commanding.)

5.4 BERTHS

In 2007, the Harbor Safety Committee of the Humboldt Bay Area adopted a dock address system listing 60 docks and structures within Humboldt Bay. The dock addresses are listed by port area, Universal Location Code, channel, common name, AIS destination code and latitude/longitude.

See Appendix 22.8 for Humboldt Bay Berth Codes.

5.5 FINDINGS AND RECOMMENDATIONS

MONITORING THE IMPROVED CHANNELS

The Harbor Safety Committee has evaluated the current dredging program to determine accurate depth information and found that improvements were necessary.

- a. Because of adverse weather conditions some channel areas of Humboldt Bay can shoal very quickly. The U.S. Army Corps of Engineers needs to continue to monitor the channels to assure that sufficient depths are maintained for safe vessel passage. The Entrance Channel and North Bay Channel shall be maintained at the project depth to minimize the risk of grounding. This recommendation is to be conducted and funded by the U.S. Army Corps of Engineers.
- b. Soundings associated with existing annual harbor dredging operations by the U.S. Army Corps of Engineers are conducted between April and October, and include the Bar Channel, Entrance Channel, North Bay Channel, and the Samoa Channel. These dredge related soundings are considered adequate for traffic safety during the summer season providing that such dredging project-related soundings do commence with the "conditional" sounding in April, which is deemed necessary to indicate post-storm season conditions. Should the U.S. Army Corps of Engineers change existing dredging schedules; these areas will require sounding in April for traffic safety. This recommendation is to be conducted and funded by the U.S. Army Corps of Engineers.
- c. Monthly soundings from December to March from the Bar to Beacon No. 11. This recommendation to be conducted and funded by the U.S. Army Corps of Engineers.
- d. The above sounding information is to be provided in a timely manner to the Humboldt Bay Harbor District and to shipping agents who request it from the Corps of Engineers.
- e. In 2004 the Humboldt Bay Harbor, Recreation and Conservation District partnered with the U.S. Army Corps of Engineers (USACE) to develop a long-term sediment management program aimed at a permanent solution to minimizing shoaling at Humboldt Bay's entrance between buoy 2 and the south jetty. In 2005 the USACE completed the reconnaissance phase of this project. The next phase of the project is to complete a feasibility study of the nine potential remedies to the shoaling issue. To initiate the feasibility study, the USACE requires a 50/50 match of the approximately three-million-dollar project. The Harbor Safety Committee recommends the State of California, through proposition 1B, funds the State's share of the match. The OSPR sent a letter, in 2008, to California Transportation Commission asking that Proposition 1B funds be used to cover the 50% local cost share necessary to conduct the long-term sediment management feasibility study as described in item "e" above.
The OSPR sent a letter, in 2009, to U.S. Army Corps of Engineers to perform items "a-d" above as part of a program to determine and portray accurate depths for Humboldt Bay. No funding was initiated for the feasibility study to improve the design of the Bar and Entrance channel.
- f. In August of 2017, a Coastal Regional Sediment Management Plan was completed for the Eureka Littoral Cell. An environmental impact report has also been completed. The CRSMP identified the Eureka Littoral Cell as having significant issues associated with fine sediments which affects local dredging as well as numerous other environmental issues including sea level rise.

SURVEYS, CHARTS, AND DREDGING

Recommendations

Recommendation 1

Each public facility shall maintain the channel project depth of the berth. Industrial and other private docks shall maintain a depth sufficient for intended use. Soundings shall be performed on a periodic basis, at least annually, to verify the depth of water in and to each berth. This recommendation to be conducted and funded by the Owner of the respective Berth.

Recommendation 1 is currently practiced by facilities within the Harbor. No action is required by OSPR currently.

Recommendation 2

The Harbor Safety Committee recommends that the U.S. Army Corps of Engineers implement the recommendation to finalize the evaluations that were identified in the Humboldt Bay Long-Term Sediment Management Study (CWIS # 081540; P2 Project # 105098) to reduce and prevent shoaling in the Bar and Entrance Channels.

6 VESSEL SPEED AND TRAFFIC PATTERNS

ACCIDENTS AND NEAR ACCIDENTS

6.1 SHIP TRAFFIC

Vessel Traffic Patterns Present Use

Commodity traffic at Humboldt Harbor is composed of deep draft shipping, barge traffic and commercial fishing. Foreign flagged deep draft ships, log barges and commercial fishing vessels, domestic petroleum barges, and foreign flagged cruise ships frequent Humboldt Bay.

Visiting barges, tankers and freighters are at the upper size end of the vessels that visit and operate in the Humboldt Bay region. Canoes, rowing skiffs, small recreational boats, boats from the local and visiting fishing fleet, and small yachts, also use the harbor.

Recreational sailing and fishing activities occasionally disrupt vessel traffic patterns and create hazards to safety of navigation of large commercial vessels. Sailing vessels participating in organized sailing races occasionally have impeded large vessels which can only maneuver in narrow channels.

Recreational fishing in the Harbor Entrance Channel occurs during the salmon fishing season and may impede the passage of a vessel that can safely navigate only within the narrow channel.

To reduce conflict between small and large vessels, the HSC requested and received approval of Rule 9 to regulate vessel movement and reduce this hazard. The US Coast Guard Captain of the Port issued Public Notice 2-92 (COTP NOTE 2-92, April 15, 1992), which identifies the narrow channels for the purpose of application of Rule 9 in Humboldt Bay. This notice is included in Coast Pilot 7 (https://nauticalcharts.noaa.gov/publications/coast-pilot/files/cp7/CPB7_WEB.pdf). See Appendix 19.9.4 for COTP Notice 2-92).

There are several safe boating education programs available through the appropriate schools, Community Colleges, U.S. Coast Guard Auxiliary and the California Department of Boating and Waterways. However, incidents still occur occasionally.

Vessel Routing Present Conditions

Vessel traffic is restricted to existing channels. Vessels do not frequently pass each other in the channel. When this does occur the vessel with the shallower draft will move to the outer edge of the channel and allow the deeper draft vessel to use the center of the channel.

Vessel routing is conducted by pilots using VHF communication, such that vessels pass at appropriate locations in the channel and in a safe manner.

Navigation in reduced or restricted visibility proceeds based on the judgment of the ship's master or the pilot advising him.

All large vessels carry surface search radar, which allows safer navigation in reduced visibility.

Vessel traffic during dredging operations is rerouted using normal vessel-to-vessel passing procedure.

6.2 SPEED OF VESSELS

Speed within the port should be at a minimum safe speed to maneuver and control the vessel, with regards to weather, conditions of draft, and the maneuvering characteristics of the vessel.

On approaches, speed should be at a level to accommodate safe transit (minimum for existing conditions). It should be noted that the approach to the Port of Humboldt Bay generally involves cross currents which are mostly unpredictable for direction and strength.

ACCIDENTS AND NEAR ACCIDENTS

Extreme caution (no wake) should be used in the vicinity of the Fuel Barge and a No Wake Zone exists between the Samoa Bridge and the south end of the City of Eureka's Public Marina. (City of Eureka Municipal Code §100.14) Speed within the Eureka Channel Inner Reach, Woodley Island Marina, Eureka Public Marina, and other marinas shall be limited to five (5) miles per hour. (HBHRCD Ord. No. 17 Sec. 7.10) See Appendix 20.5 for reference.

Existing law established within the California Harbors and Navigation code provides that, where not otherwise regulated by local rules and regulations, every owner, operator, or person in command of any vessel propelled by machinery is guilty of an infraction if that vessel travels at a speed in excess of five miles per hour in any portion of the following areas:

- Within 100 feet of any person who is engaged in the act of bathing. A person engaged in the sport of water skiing shall not be considered as engaged in bathing for the purposes of this provision.
- Within 200 feet of: a beach frequented by bathers; a swimming float, diving platform, or lifeline; a way or landing float to which boats are made fast of which is being used for the embarkation or discharge of passengers. (HNC §655.2(a).)

The U.S. Coast Guard has established protection zones for 500 yards around all U.S. naval vessels in navigable waters of the United States. Vessels are to proceed at a no-wake speed when within a protection zone. Non-military vessels are not allowed to enter within 100 yards of a U.S. naval vessel, whether underway or moored, unless authorized by an official patrol.

6.3 FINDINGS AND RECOMMENDATIONS

Existing and proposed federal, state, and local laws, regulations, and ordinances affecting the harbor area were reviewed and considered in the HSC's recommendations.

Recommendation

With the emergence of modern technologies associated with electric vessels and hydrofoil, the speed of vessels in Humboldt Bay and along the coast will need to be reevaluated in the future. Electric vessels with hydrofoil technology have the ability and potential to travel at high rates of speed while creating little to no wake. There are numerous reasons to evaluate speed such as safety of passengers aboard vessel, safety of other persons and vessels on the water, sea life, air quality, energy conservation, and wake.

The Harbor Safety Committee will continue to monitor vessel traffic within Humboldt Bay and will recommend solutions as issues arise.

No action required at this time.

Review by the Harbor Safety Committee prior to July 1 each year.

7 SMALL VESSELS

SMALL VESSELS

7.1 BACKGROUND

Humboldt Bay is a wonderful place to explore in small boats. Fishing, hunting, kayaking, and sightseeing opportunities are many.

7.2 FISHING BOATS

Standards of Care:

- Ensure vessel is safe before getting underway
- Ensure vessel is seaworthy
- Keep flares and distress calling equipment readily accessible
- Be extra careful in fog – DO NOT LOITER near the jetties or in the navigational channels
- Comply with Rule 9 – small vessels remain clear of large vessels that must navigate within a narrow channel
- Avoid passing larger vessels close aboard
- Do not pass large vessels, tugs, etc. without first notifying the vessel of your intention
- Know how and when to monitor VHF Channels
- Know vessel's position – navigation equipment i.e.: nautical charts, GPS, handheld GPS, etc.
- Be an informed mariner:
 - 5 or more short blasts of a vessel's whistle/horn = DANGER SIGNAL
 - Know the Rules of the Road
 - Read Coast Guard Notice to Mariners
 - Monitor the weather
 - Listen to VHF Channel 16 for Coast Guard information broadcasts
 - Be aware of current weather conditions, tidal times, currents, and changing conditions
 - Ensure everyone on board is aware of all emergency procedures

The Coast Guard offers free, non-punitive, commercial fishing vessel safety dockside exams. Upon successful completion of a dockside exam, a decal is issued and any future Coast Guard boarding at sea may be greatly abbreviated. Contact Coast Guard Sector Humboldt Bay at (707) 839-6123 to schedule an exam.

To schedule a FREE COMMERCIAL Fishing Vessel Safety Exam contact:

Melinda 'Mindy' Bacon USCG Humboldt Bay
Office: 707.269.2577 Cell (text): 707.481.0048

Manny Ramirez USCG Sector San Francisco
Tel: 510.437.5788

To register for the next available Commercial Fishermen's Safety Course contact:

Alaska Marine Safety Education Association
2924 Halibut Point Road
Sitka, AK 99835
Tel: 907.747.3287
<http://amsea.org>

SMALL VESSELS

ALERT!

Report ALL spills of oil and chemicals immediately to the National Response Center (800) 424-8802, California Office of Emergency Services (800) OILS911, and to the marina office.

WHAT TO DO IN CASE OF A SPILL?

By law any spill that creates a sheen on the water must be reported.

Identify and stop the source of the spill.

Notify the marina for assistance.

Call BOTH the National Response Center (1-800-424-8802) and the California Office of Emergency Services (800) OILS911. If you spill you are required by law to notify the authorities.

If the fuel is oil or diesel fuel, contain the spill.

DO NOT CONTAIN GASOLINE SPILLS because of its volatility and flammability.

Properly dispose of used or saturated absorbents. In California, used oil absorbents are presumed to be hazardous waste.

Dispose of the used oil absorbent at a marina collecting them or at your County Household Hazardous Waste Collection Center.

Do not use soaps or detergents on a spill. It is illegal and bad for the environment.

Federal law requires that oily waste discharge placards (available at marine supply stores) must be displayed on boats 26+ feet in the engine compartment or near fueling pumping station.

For more information: https://dbw.parks.ca.gov/?page_id=29196

7.3 TOUR BOATS

All tour boats must follow USCG Rule 9 regarding inland navigation.

7.4 SAIL AND MOTORBOATS

Recreational vessels approaching the Port of Humboldt Bay should be aware that large commercial vessels transiting to and from the port will be maneuvering either to embark or disembark a pilot, and that during these times they will be highly limited in their ability to maneuver other than for the pilot boat, or other authorized personnel.

Recreational vessels should follow the below Standards of Care to ensure the safe operation of their craft while in and around the port. Recreational vessel operators should be sensitive to the fact that large commercial vessels are severely limited in their ability to stop or alter course and many times are limited in their ability to sight small vessels due to "blind spots" that extend more than ½ mile ahead, and therefore cannot easily avoid a collision with a smaller, more maneuverable recreational vessel.

Be aware of Security and Safety Zones around fuel barges and cruise ships. Small vessels, according to U. S. Coast Guard International- Inland Navigation Rule No.9, shall remain clear of large commercial and naval vessels for navigational safety and the practice of prudent seamanship. Tugs with tows have limited maneuverability. Do not pass a large vessel, tugs, barges, etc. without first contacting the vessel. Be aware of ships and tugs coming up behind you in the main channel.

USCG-mandated Rule 9 applies to all vessels and is enforced in California by various local agencies such as Sheriff's patrols, as well as USCG. Rule 9 places the obligation on the small [under 20 meters] vessel operator to avoid impeding a large vessel while operating in a deep draft channel or fairway.

The Lookout Rule (Navigation Rule 5) states: "Every vessel shall at all times maintain a proper look-out by sight and bearing as well as by all available means appropriate to the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision."

On April 1, 2021, a new federal law went into effect that requires the operator of a boat with an installed Engine Cut-Off Switch (ECOS) to use the ECOS link. The link is usually a coiled bungee cord lanyard clipped onto the operator's person,

SMALL VESSELS

Personal Floatation Device (PFD) or clothing and the other end attached to the cut-off switch, but there are plenty of variations on the market, including electronic wireless devices. The law applies to all "Navigable Waters of the US".

When an operator is wearing a link while underway, the engine will cut-off if the operator is separated from the operating area, an occurrence that can happen if the operator is ejected from the vessel or falls within the vessel. The shutdown of the engine is essential for safety reasons. If the operator is ejected from the vessel, the shutdown may prevent the operator from impacting the vessel's spinning propeller and may aid the operator in safely returning to the drifting vessel.

The law applies to "Covered Recreational vessels" which means any motorized boat with 3 or more horsepower that is less than 26 feet in length and takes effect on April 1, 2021.

Operator Requirement: An individual operating a covered recreational vessel shall use an engine cut-off switch link while operating on plane or above displacement speed.

An earlier law, passed by congress in 2018, required manufactures to install an Emergency Engine Cut-Off Switch (ECOS). The law passed on December 4th, 2018, and went into effect 1 year later. Even though it is now a law, most U.S. boat manufacturers have voluntarily installed an ECOS on their boats for decades.

The terms Engine Cut-Off Switch (ECOS) and Engine/Propulsion Cut-Off Devices are used interchangeably to denote a system that disables the propulsion engine when the operator is unexpectedly displaced from the vessel.

Why should you wear your Engine Cut-off Switch link?

A typical three-blade propeller running at 3,200 rpm can inflict 160 impacts in one second, so it is critical that you are aware of what is going on around you. Be aware:

People in the water may not be visible from the helm.

Account for passengers before starting the engine.

Inform passengers about propeller hazard areas.

Alert in congested areas and near swimming zones.

Take extra precautions around towed watersports.

Never permit riding on the bow, gunwale, transom, seatbacks, or other locations where an occupant could fall overboard.

Children should be watched carefully at all times – it only takes a second to fall overboard.

You would childproof your home so think about childproofing your boat.

Establish rules for swim platform use, boarding ladders, and seating.

If someone falls overboard, STOP the boat, once clear begin recovery procedures.

Warning - Never put your boat in reverse to pick someone up out of the water, always circle around going forward while always keeping the person in the water visible to the boat operator.

On April 20, 2022, the U.S. Coast Guard amended regulation 88FR 58560. All recreational boats with permanently installed fuel tank(s), or spaces that are capable of trapping fumes, such as a closed compartment under thwarts and seats wherein portable fuel tanks may be stored, a double bottom not sealed to the hull or that is not completely filled with flotation material, a closed living space or a closed stowage compartment in which combustible or flammable materials is stowed are required to carry fire extinguishing equipment.

The following information is provided by the California State Parks, Division of Boating and Waterways:

Take a safe boating course and get your California Boater Card.

Even the most experienced boaters can learn from boating safety courses.

SMALL VESSELS

As of Jan. 1, 2021, all operators of motorized vessels on California waterways who are 40 years of age and younger are required to carry a lifetime boater card. By 2025, all operators of motorized vessels will be required to carry one regardless of age.

Conduct a Vessel Check:

Make sure you have the right safety equipment on board your boat such as life jackets, flares, navigation lights, a horn or whistle, and a first aid kit.

[Click here](#) to download the virtual safety check form or to schedule a vessel safety check.

File a Float Plan: Email/text a float plan to a loved one or friend with details of your trip in the event of an emergency.

Check the weather. Know the latest weather forecast prior to going out and check regularly for changing conditions.

Wear a Life Jacket:

Everyone should wear a properly fitted US. Coast Guard-approved life jacket when in or near the water. You never know when an accident may happen, and a life jacket can help save you until search and rescue help can arrive.

In swift water, even the strongest swimmers may be easily overwhelmed. By the time a person is struggling in the water, a rescue is extremely unlikely and places the rescuer at risk.

DBW works with water safety partners throughout the state to offer programs to help ensure boaters have access to life jackets. For example, life jackets can be borrowed for free at one of over 100 local life jacket loaner stations throughout the state.

Avoid Alcohol:

Do not drink and boat. Alcohol continues to be the leading known contributing factor in recreational boating deaths in the United States.

It is against the law in California to operate a boat or water ski with a blood concentration (BAC) of 0.08% or more. Officers may arrest boaters with a BAC of less than 0.08% if conditions are deemed unsafe.

BUI convictions can result in up to six months in jail and/or fines of up to \$1,000. Two convictions within seven years could add a jail term of up to one year. Boaters caught operating under the influence may also have their voyage terminated and their vessel impounded.

Actively Supervise Children:

Actively supervise children in and around open bodies of water, giving them your undivided attention. Do not assume that someone is watching them.

Appoint a designated “water watcher,” taking turns with other adults.

Teach children that swimming in open water is not the same as swimming in a pool: they need to be aware of uneven surfaces, river currents, ocean undertow and changing weather.

Stow it, don’t throw it!

Keep your trash on-board. Never throw garbage into waterways. Take advantage of shore-side facilities to recycle plastic, glass, metal, and paper.

Used fishing lines can be deposited at fishing-line recycling stations.

Download helpful boating applications on your phone. The Boat CA App is a free mobile app that shows you boating facilities, life jacket loan stations, laws, boat registration and more.

For more water safety information, including boating laws and a boating facility locator on over 1,450 marinas and waterbody managers, please visit dbw.parks.ca.gov/BoatingSafety.

7.5 KAYAKS, SAILBOARDS, AND PADDLE BOARDS

Paddle boats include kayaks, canoes, standup paddle boards, rowing shells, prams, row boats, and hunting scull boats. Safely paddling or rowing on Humboldt Bay is like taking a bicycle on the road. As bicycles must stay out of the way of cars and trucks

SMALL VESSELS

and follow rules of the road, paddle boats must stay out of the way of larger boats and ships. Paddlers should take advantage of the paddle crafts ability to navigate shallow water and stay near the edge close to shore. There is less current, and you can easily gauge your progress by the passing shore.

Know your craft - become familiar with your choice of paddle boat and how to operate it. Be sure your paddles or oars are securely attached to the boat. If you plan to leave your boat to explore the shore, be aware that a rising tide can float a beached boat away, leaving you stranded.

Dress for success - dress like you are going to end up in the water. Dress warm knowing you will be working by paddling or rowing. A US Coast Guard (USCG) approved personal flotation device (PFD) is required. Wear one even if you are in a wetsuit. If you capsize and are hit on the head and knocked unconscious, your PFD can keep your head out of the water, allowing you to breathe.

Plan ahead and follow your plan – Before you launch, check the weather and the tides and currents. Rain can be uncomfortable, but wind can be dangerous. Tides and currents are related. Extreme high tides with corresponding low tides will create faster currents. Low tides can make it difficult to return to shore without getting muddy. Incoming tides are much safer. Tide tables and related current information specific to Humboldt Bay can be found online at the PORTS website (see For more information on next page) Tell someone on shore what your float plan is and then stick to it. Be sure to say when you will be back and inform your shore partner when you return. Do this even if you are in a group.

Stay away from danger - Only cross the shipping lanes at right angles when clear. Stay near shore in shallow water where the current is less. You will see more wildlife there. Paddling in open water takes more energy because you cannot sense your progress, making you work harder. Do not paddle around the moored boats in the marinas. You could get caught in the prop wash of a large fishing boat and be run over as the boat backs out of its slip. Remember, you are very hard to see from large vessels. Do not paddle under docks or piers. Currents could trap you against the pilings and possibly capsize you. If you encounter large boat wakes it is better to take them head on than sideways risking capsize. If you hear a large boat honking at you, he is not telling you to get out of the way but telling you which side he is going to pass. One blast of the horn means he intends to pass on his right, two blasts on his left.

Be Equipped for Safety:

- Be visible by wearing bright colors and flying a flag on a tall fiberglass pole.
- Wear a headlamp or other light /strobe device during low light conditions.
- Carry a canned air horn or loud whistle; a flare gun with three flares.
- Carry bottled water and energy bars.
- A length of rope and anchor
- A working waterproof cell phone (with emergency numbers stored) or a handheld VHF radio to contact the USCG on channel 16.

Emergency Numbers:

Cellular phones: Dial 911

USCG on VHF Marine Channel 16

USCG Sector / Air Station Humboldt Bay - 707-839-6100

Non-emergency numbers:

USCG Sector / Air Station Humboldt Bay General Information - 707-839-6103

Humboldt County Sheriff Marine Dispatch -707-445-7251

Eureka Weather Forecast Recording - 707-443-7062

Eureka National Weather Service Office - 707-443-6484

USCG Bar and Entrance Report - 707-443-2213

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For more information:

USCG Navigation Rules website: <https://navcen.uscg.gov>

The Humboldt Harbor Safety Committee website: <https://humboldtharborsafety.org/>

Physical Oceanographic Real-Time System (PORTS®) website: <https://tidesandcurrents.noaa.gov/ports/>

California Division of Boating and Waterways website: <http://www.dbw.ca.gov/>

Humboldt Bay Aquatic Center - HSU Center Activities website: <https://centeractivities.humboldt.edu>

The above information was originally published as “Paddle Boat Safety Guide for Humboldt Bay”. The brochure was created by the Humboldt Bay Harbor Safety Committee and the Humboldt Area Saltwater Anglers.

7.6 FINDINGS AND RECOMMENDATIONS

The Humboldt Bay Harbor Safety Committee is committed to promoting safety for all recreational enthusiasts of Humboldt Bay. Safe boating and protection of the waters of Humboldt Bay remains a priority. The Humboldt Bay Harbor Safety Committee will continue to promote safe boating practices and educational opportunities.

The Harbor Safety Committee will publicize all information received on boating safety courses.

The HSC will work to assist all organizations offering safe boating classes.

The Humboldt Bay Harbor Recreation and Conservation District, with the assistance of the HSC and OSPR, has developed a Harbor Safety Guide for Humboldt Bay. The guide was completed and distributed in the summer of 2003.

No action required at this time.

Review by the Harbor Safety Committee prior to July 1 each year

8 ACCIDENTS AND NEAR ACCIDENTS

ACCIDENTS AND NEAR ACCIDENTS

8.1 MARINE CASUALTIES AND ACCIDENTS

46 CFR Cit. 1, Subpart 4.03 - Definitions

1.1- 1 Marine casualty or accident.

- (a) The term marine casualty or accident shall mean any casualty or accident involving any vessel other than public vessels if such casualty or accident occurs upon navigable waters of the United States, its territories or possessions or any casualty or accident wherever such casualty or accident may occur involving any United States’ vessel which is not a public vessel.
- (b) The term marine casualty or accident includes any accidental grounding, or any occurrence involving a vessel which results in damage by or to the vessel, its apparel, gear, or cargo, or injury or loss of life of any person; and includes among other things, allisions, collisions, strandings, groundings, foundering, heavy weather damage, fires, explosions, failure of gear and equipment and any other damage which might affect or impair the seaworthiness of the vessel.
- (c) The term marine casualty or accident also includes occurrences of loss of life or injury to any person while diving from a vessel and using underwater breathing apparatus.

See Appendix 19.10 for current Port Safety Statistics from the USCG.

8.2 FINDINGS AND RECOMMENDATIONS

Annual review of U.S. Coast Guard data and information solicited by the HSC from Humboldt County Sheriff’s Marina Patrol, pilots, masters, industry representatives, and other parties shall be performed to assess the effectiveness of tug escorts in the prevention of accidents.

No action required at this time.
Review by the Harbor Safety Committee prior to July 1 each year.

9 COMMUNICATIONS

ACCIDENTS AND NEAR ACCIDENTS

9.1 RADIO COMMUNICATIONS

Currently communication from vessel to vessel, and vessel to shore (commercial) is by VHF radio. Many smaller craft (pleasure boats and sailboats) rely on CB radio.

<u>New VHF Channel</u>	<u>Old VHF Channel</u>	<u>Frequency (kHz)</u>	<u>Use/User</u>
10	10	156.500	Port Operations Only
13	13	156.650	Bridge to Bridge Communication Intership Navigation Safety (Bridge-to-bridge). Ships >20m length maintain a listening watch on this channel in US waters
16	16	156.800	Emergency (Open Always) International Distress, Safety and Calling. Ships required to carry radio, USCG, and most coast stations maintain a listening watch on this channel.
1022	22A	156.100	Coast Guard Public Access
77	77	156.875	Pilot to Tug Communication

9.2 CURRENT USAGE

Currently there are not believed to be any "silent" or low propagation areas within the defined harbor boundaries.

Pilots and boaters have occasionally experienced "bleed over" of signal from the Eureka Police Department's communications system. Occasionally an emergency transmission will override the pilot's hand-held VHF radio set.

The U.S. Coast Guard shall announce daily on Channel 22A that Channel 13 is for bridge-to-bridge communication, Channel 77 is for pilot to tug communication, and neither channel shall be used for personal, non-business communication. It will be left to the Coast Guard's discretion as to when to make the announcement.

The VHF Channels and Users are included in US Coast Pilot 7, chapter 8, for Humboldt Bay.

The following types of vessels are subject to security calls:

- a. Tugs with barges
- b. Self-propelled vessels over 200 feet in length

Security calls shall be made on channels 13 and 16 when:

ACCIDENTS AND NEAR ACCIDENTS

- a. Inbound vessel reaches the sea buoy
- b. Vessel is about to move from dock to dock
- c. Vessel is leaving dock for sea.

Security calls will allow other vessels to be aware of ship or barge movements approaching and leaving the harbor.

"Sea" is beyond the end of the jetties.

9.3 RADIOTELEPHONE DISTRESS MESSAGE

Distress calls indicate a vessel or aircraft is threatened by grave and imminent danger and requests immediate assistance. They have absolute priority over all other transmissions. All stations which hear a distress call must immediately cease any transmission capable of interfering with the distress traffic and continue to listen on the frequency used for the emission of the distress call. This call should not be addressed to a particular station, and acknowledgment of receipt should not be given before the distress message which follows it is sent. Distress calls are made on VHF-FM channel 16 (MAYDAY). For less serious situations than warrant the distress procedure, the radiotelephone urgency signal consisting of three repetitions of the word PAN PAN (pronounced PAWN-PAWN), or the safety signal SECURITE (pronounced SECURITAY) spoken three times, are used as appropriate. For complete information on emergency radio procedures, see 47 CFR 80 or Radio Navigational Aids, Pub. 117 (<https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-80?toc=1>).

9.4 FINDINGS AND RECOMMENDATIONS

It is the opinion of the Harbor Safety Committee that current communications systems are adequate and that current procedures be maintained.

No action required at this time.

Review by the Harbor Safety Committee prior to July 1 each year.

10BRIDGES

BRIDGES

10.1 BRIDGES

Present Condition

Highway 255 crosses over Eureka, Woodley Island, Tuluwat Island, and Arcata Channel by way of a fixed highway bridge. Clearances of the three spans are 40 feet vertical, 150 ft. horizontal from Eureka to Woodley Island; 30 feet vertical, 100 feet horizontal from Woodley Island to Tuluwat Island; and 45 feet vertical, 200 feet horizontal from Indian Island to the Samoa Channel. Vertical clearances are referred to mean high water. No large commercial vessels pass under these spans. Small pleasure and sailing craft pass under these spans while on their way to use the boating, sailing opportunities, and commercial oyster harvesting activities that exist on Arcata Bay during high tide periods.

These bridges have undergone seismic retrofit (project completed spring 2006). The horizontal and vertical clearances were not altered.

There is not a bridge over the Humboldt Bay Bar and Entrance Channel.

10.2 FINDINGS AND RECOMMENDATIONS

Present procedures and regulations are believed to be adequate; there are no recommendations for change at this time.

No action required at this time.
Review by the Harbor Safety Committee prior to July 1 each year.

11 VESSEL TRAFFIC SERVICES

VESSEL TRAFFIC SERVICES

11.1 VESSEL TRAFFIC SERVICES

The Humboldt Bay HSC has examined the need for a Vessel Traffic Service (VTS) in Humboldt Bay and has determined that VTS is not needed. It would not significantly enhance the safe movements of vessels and barges in and about Humboldt Bay, nor would it reduce the risk of environmental harm resulting from grounding and collisions.

There are 7 terminals in Humboldt Bay which are currently being used by ships and barges.

The terminal located farthest from the sea buoy at the main channel entrance is 6.6 miles from that sea buoy. Humboldt Bay harbor is relatively small compared to other harbors on the U.S. West Coast that have planned for or are using VTS.

There is only one entrance channel into Humboldt Bay, and the North Bay has one main ship channel. This channel is 400 feet in width, and normally does not permit large ships to meet or pass in the channel. Therefore, normally only one-way traffic exists, and only one ship moves at a time in Humboldt Bay.

The Humboldt Bay Bar Pilots direct all ship movements in the bay. According to Federal Law, all U.S. registered ships and all foreign ships (all vessels 300 gross tons or more) must use a bar pilot when transiting the bay. From a practical standpoint, U.S. ships under enrollment (a type of registration issued by the United States Coast Guard), which are not required to take a bar pilot, do so, nevertheless. Therefore, all ship movements in the bay are directed or monitored by the bar pilots.

Tugs with barges under tow carrying "certain hazardous materials" must report to the U.S. Coast Guard Station at the entrance to Humboldt Bay prior to transiting the bay. These movements are in turn reported to the bar pilots who monitor these barge movements. In Section 8, Communications, the Humboldt Bay HSC has recommended that all tugs with barges and self-propelled vessels over 200 feet in length make security broadcasts at various locations in the bay and approaches, so that large vessel movements are known by all users.

There are two tugboat companies serving Humboldt Bay which aid vessels mooring, unmooring, and transiting the bay, and assist barge movements in the bay. The tug companies work in close liaison with the bar pilots, and any vessel or barge movements assisted by the tug companies are coordinated with the bar pilots.

The Humboldt Bay Harbor Safety Committee has determined that a Vessel Traffic Service is not needed in Humboldt Bay based on the above facts and circumstances.

11.2 FINDINGS AND RECOMMENDATIONS

The Committee has examined the need for a Vessel Traffic Service (VTS) in Humboldt Bay and has determined that conditions in the harbor currently do not warrant the need to install a VTS. The need for a Vessel Traffic System will be reevaluated periodically.

The Committee should examine the future needs for a VTS in Humboldt Bay associated with the proposed offshore wind energy project and potential construction of a new multipurpose heavy lift terminal.

No action required at this time.

Review by the Harbor Safety Committee prior to July 1 each year.

12TUG ESCORT / ASSIST FOR TANK VESSELS

12.1 CURRENT PRACTICE

The present use of tugs in Humboldt Bay is for escort of vessels and petroleum barges, and to assist with vessel docking and undocking.

Vessels 300 gross tons or greater, but less than 400 gross tons, which carry fuel or oil but not as cargo, and are not operated for commercial purposes, are “non tank” vessels.

Per Humboldt Bay Harbor, Recreation, and Conservation District Ordinance No. 15, Pilotage is required for all U.S. ships under enrollment and all foreign ships (all vessels 300 gross tons or more). It is recommended that any mariners unfamiliar with Humboldt Bay employ a local pilot. Pilots board vessels about 0.5 miles west of Humboldt Bay Entrance Lighted Whistle Buoy (HB). Bar Pilots also provide visibility and bar condition information for ships using the service. See Appendix 20.13 for a complete copy of Ordinance No. 15.

Tugboat assistance is advised by the Humboldt Bay Bar Pilots due to the lack of maneuvering room in Humboldt Bay, and increased vessel size. The assist tugs are presently used for the dual purpose of assist and escort.

At times strong and unpredictable cross currents can occur at the Harbor Entrance. These currents are predicted on past weather conditions.

Southerly weather accompanied by a southwesterly to westerly swell creates a strong current during low water periods at the 110-degree turn from the Lighted Buoy No. 5 to Light No. 11.

For approximately the first three miles of the transit the tug assist/escort boats are not made fast to the vessel employing them. This is due to the open sea conditions that exist.

It would be nearly impossible for a tug to approach a ship moving at full power and trying to negotiate the sometimes-treacherous swell and currents of the Humboldt Bay entrance if the larger vessel lost its power or steering. It would also be dangerous to slow the larger vessel to a speed at which the tug could come alongside because that would result in considerably less control of the larger vessel by the pilot. However, a ship negotiating the 110-degree turn at the Humboldt Bay entrance or moving at slower speeds inside the harbor would benefit from the presence of an escort tug if a loss of engine or steering control occurred. The escort tug would be able to provide some steering and/or stopping ability for the stricken vessel.

The pilot may send the escort tug ahead of the ship to make certain that the ship's path is clear. Tugs are also indispensable in thick fog for marking buoys and lights and checking tidal current conditions ahead of the ship while the pilot is navigating the narrow channels of Humboldt Bay.

Before a vessel arrives at the port, the ship's captain radios the port requesting tug and pilot service. The tug then transits the entrance, meets the vessel, and the bar pilot boards the vessel. It is at the pilot's discretion as to whether a tug escort is needed. If not, the escort tug returns to port and meets the assist tug. These two tugs are then used to berth the vessel. This procedure is reversed when the vessel is ready to leave the harbor.

Tugboats engaged in escorting or assisting vessels in Humboldt Bay shall continue their service until dismissed by either the pilot or the master of the vessel employing them. However, the master of the tugboat engaged in escorting or assisting another vessel may temporarily halt or discontinue service if he deems his crew or vessel is in immediate danger.

See Appendix 19.8 for current tugs in Humboldt Bay Bollard Pull Certificates.

12.2 FINDINGS AND RECOMMENDATIONS

Recommendation 1

The HSC shall annually review the performance and effectiveness of tug capabilities. This review shall rely, in part, on information solicited by the HSC from pilots, masters, industry representatives, and other parties.

Recommendation 2

The Humboldt Bay Area HSC recommends the following number of assist tugboats, which will also function as tug escorts, for vessels and barges in the Humboldt Bay Harbor.

- a. All barges carrying hazardous or liquefied compressed gases will be escorted according to escort procedures described by the current Captain of Port Public Advisory (See Appendix 19.9.6 for 33 CFR 160.203).
- b. All tank vessels must have a qualified Humboldt Bay Bar Pilot and escort tug. Additional tug(s) will be standing by and prepared to render assistance.
- c. Any vessel equipped with a working bow and/or stern thruster may substitute this equipment for the services of one tugboat provided that such substitution does not reduce the total number of tugs below one (1). It shall be understood that the minimums contained herein reflect ideal circumstances and conditions. The master/pilot shall arrange for additional tugboat assistance should adverse weather conditions, unusual port congestion, or other conditions or circumstances so require.

Recommendation 3

Tugs and barges transporting oil or oil derivative products, or "certain dangerous cargoes" as described in 33 CFR 160.203 shall comply with the following rules and regulations:

- a. All barges carrying hazardous or liquefied compressed gases will be escorted according to escort procedures described by the current Captain of Port Public Advisory (See Appendix 19.9.5).
- b. 46 CFR § 15.812 Pilots.
 - (a) Except as specified in paragraph (f) of this section, the following vessels, not sailing on register, when underway on the navigable waters of the United States, must be under the direction and control of an individual qualified to serve as pilot under paragraph (b) or (c) of this section, as appropriate:
 - (1) Coastwise seagoing vessels propelled by machinery and subject to inspection under 46 U.S.C. Chapter 33, and coastwise seagoing tank barges subject to inspection under 46 U.S.C. Chapter 37.

Recommendation 4

The HSC should review and monitor Tug Capability Requirements associated with the proposed offshore wind energy project and potential construction of a new multipurpose heavy lift terminal.

No action required at this time. Review by the Harbor Safety Committee prior to July 1 each year.

13 UNDER KEEL CLEARANCE

UNDER KEEL CLEARANCE

13.1 UNDER KEEL CLEARANCE

Under keel clearance is the distance between the deepest point on the vessel and the bottom of the channel in still water conditions.

The Humboldt Bay Harbor, Recreation and Conservation District has established rules requiring a two-foot under keel clearance on all vessels over 300 gross tons while transiting the navigation channels. See Appendix 19.13 for Ordinance No. 15.

13.2 FINDINGS AND RECOMMENDATIONS

The HSC should monitor Under keel Clearance guidelines regarding an anticipated increase in size of vessels associated with the proposed offshore wind energy project and potential construction of a new multipurpose heavy lift terminal.

No action required at this time.
Review by the Harbor Safety Committee prior to July 1 each year.

14PILOTAGE

PILOTAGE

14.1 REGULATIONS

The ports of Long Beach, Los Angeles, San Diego, Port Hueneme, and Humboldt Bay; the State of California; and the U. S. Coast Guard have executed a Memorandum of Agreement (MOA) to create an improved system of pilotage. The parties to this agreement intend to maintain the safety of vessel navigation and port and environmental safety by establishing local pilotage training and apprenticeship programs which ensure the use of pilots with local knowledge on vessels over 300 gross tons not in enrollment while navigating at the ports subject to this agreement. This agreement also created a Pilotage Advisory Committee in each port subject to this agreement, which will provide recommendations for the implementation and improvement of the pilotage system for the port. The Humboldt Bay Harbor, Recreation and Conservation District currently employs and licenses pilots for Humboldt Bay.

The Humboldt Bay Pilotage Advisory Committee completed its report on April 20, 1999. The Harbor District Board accepted the report and forwarded it to the OSPR Administrator on April 22, 1999, thereby fulfilling the requirements of the MOA. Training standards and pilot proficiency were then codified in the Harbor District's Ordinance No. 15: General Tariff No.1.

Pilotage standards are maintained by apprenticeship, professional growth, and oversight programs defined in Humboldt Bay Harbor, Recreation and Conservation District Ordinance No. 15. The State will review programs for consistency. The Ports will maintain control of pilots.

The Harbor Safety Committee asked for and received from U.S. Coast Guard verification that the Captain of the Port (COTP) will notify the Port Authority and Humboldt Bay Bar Pilots of any order altering the movement of any vessel arriving or departing Humboldt Bay.

14.2 TRAINING AND RECRUITMENT

The Humboldt Bay Harbor District established in December of 2021 a Bar Pilotage Subcommittee tasked with the recruitment of Bar Pilots for Humboldt Bay. The Humboldt Bay Harbor District has the authority to provide for, supervise, and license bar pilots operating out of Humboldt Bay per Ordinance No. 15. See Appendix 19.13 for Ordinance No. 15. Interviews were conducted and on August 4, 2022, the HBHD Board of Commissioners appointed two mariners into the pilot trainee program as "Observing Apprentices". On October 13, 2022, one additional "Observing Apprentice" was appointed, bringing the total number of apprentices to 3.

14.3 FINDINGS AND RECOMMENDATIONS

The HSC shall rely, in part, on information solicited by the HSC from pilots, masters, industry representatives, and other parties for recommendations.

The Humboldt Bay Harbor District currently has two Observing Apprentice pilots as of 2026.

No action is required currently.

Review by Harbor Safety Committee prior to July 1 each year.

15 ENVIRONMENTAL AND ECONOMIC IMPACTS OF THE PLAN

This chapter of the Harbor Safety Plan identifies and discusses the potential environmental and economic impacts of implementing the provisions and recommendations of the plan.

15.1 ENVIRONMENTAL IMPACTS

15.1.1 Environmental and Regulatory Background

Environmental Background

Humboldt Bay is the second largest estuary in California and represents a regionally significant ecological system characterized by extensive tidal marshes, mudflats, eelgrass beds, intertidal channels, and adjacent upland and diked wetland areas. The bay is a mixed semidiurnal, bar-built estuary with a narrow entrance channel, strong tidal exchange, and freshwater inflows primarily from surrounding sloughs and seasonal runoff. Physical and ecological conditions within the bay are shaped by tidal dynamics, sediment transport, seasonal precipitation, and coastal ocean processes, resulting in a highly productive estuarine environment that supports commercial fisheries, aquaculture, migratory birds, and sensitive aquatic species.

Recent baseline environmental conditions have been documented through a combination of scientific monitoring and regional planning efforts. The U.S. Geological Survey’s *Humboldt Bay Water-Quality and Salt marsh Monitoring Project* (2016-2019; published 2023) provides one of the most recent characterizations of bay conditions, including continuous measurements of water temperature, salinity, turbidity, suspended sediment concentrations, and salt marsh accretion and erosion rates across multiple locations in the bay. These data establish baseline conditions for water quality, sediment dynamics, and marsh stability, and document the importance of sediment supply and tidal processes in maintaining intertidal habitats.

Ecological baseline conditions are also described in habitat-specific studies, including vulnerability assessments of state wildlife areas surrounding Humboldt Bay and management plans for eelgrass resources. Scientific evaluations of tidal marshes and diked wetland systems document vegetation communities, habitat functions, and sensitivity to sea level rise and altered hydrodynamics. Eelgrass distribution and condition within Humboldt Bay have been mapped and assessed through the *Humboldt Bay Eelgrass Comprehensive Management Plan*, establishing baseline information on the extent and ecological role of this foundation habitat for fish, invertebrates, and migratory birds.

Collectively, these studies establish a robust and recent environmental baseline for Humboldt Bay, documenting existing water quality conditions, sediment and tidal processes, shoreline characteristics, and the distribution and function of sensitive estuarine habitats. This baseline provides the foundation for evaluating the potential environmental impacts, both beneficial and adverse, associated with implementation of the Humboldt Harbor Safety Plan provisions and recommendations.

Regulatory Background

Port and harbor activities in Humboldt Bay are regulated under a layered federal, state, and local framework that governs water quality, habitat protection and coastal resource management. Water quality is regulated under the Clean Water Act and the Porter-Cologne Water Quality Control Act, with beneficial uses and water quality objectives and implementation measures established in the North Coast Regional Water Quality Control Board Basin Plan. Portions of Humboldt Bay are listed as impaired for specific pollutants, and ongoing monitoring and management programs inform regulatory compliance and adaptive management.

Coastal and biological resources within and adjacent to Humboldt Bay are regulated under the California Coastal Act, the federal Coastal Zone Management Act, and state and federal endangered species statutes. Tidal marshes, mudflats, eelgrass beds, and estuarine waters are recognized as environmentally sensitive habitat areas, with development operational activities

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subject to avoidance, minimization, and mitigation requirements. In addition, lands managed by the Humboldt Bay National Wildlife Refuge and state wildlife areas are protected for their ecological value, contributing to the regulatory and environmental baseline conditions of the bay.

Oil spill prevention and response in Humboldt Bay are governed in part by the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act, which establishes California’s comprehensive framework for preventing, preparing for, and responding to oil spills in marine and inland waters. The Act is implemented by the California Office of Spill Prevention and Response (OSPR). Key provisions include spill prevention planning requirements, financial responsibility, response preparedness standards, and oversight of spill response activities to protect water quality, sensitive habitats, wildlife, and coastal resources.

Under Lempert-Keene, vessel and facility operators are required to maintain approved spill contingency plans and demonstrate the ability to respond promptly and effectively to oil spill incidents. These requirements operate in coordination with federal oil spill prevention and response programs under the Oil Pollution Act of 1990 and the USCG-led Area Contingency Plan for Humboldt Bay. Together these regulatory programs establish the baseline framework for oil spill risk management in Humboldt Bay and inform the context within which Harbor Safety Plan recommendations are implemented.

In addition, the harbors and marinas in and around Humboldt Bay are committed to environmental protection.

The environmental and regulatory background described above provides the context for evaluating the environmental implications of implementing the Humboldt Bay Harbor Safety Plan recommendations. Many safety improvements, such as enhanced vessel traffic management, improved spill prevention and response measures, upgraded navigational aids, and operational coordination, are intended to reduce the risk of accidents, groundings, and releases of hazardous materials within and around Humboldt Bay. As a result, these measures have the potential to provide environmental benefits by reducing the likelihood and severity of incidents that could adversely affect water quality, sensitive habitats and shoreline resources.

15.1.2 Oil and Fuel Spills

Oil spills represent one of the most significant potential environmental risks associated with harbor and port operations in Humboldt Bay due to the bay’s confined hydrodynamics, extensive intertidal habitats, and proximity of sensitive biological resources to navigation channels and berthing areas. Spills of petroleum products or other hazardous materials have the potential to adversely impact water quality, eelgrass beds, tidal marshes, mudflats, fish and invertebrate populations, migratory birds, and shoreline resources, with impacts that may persist beyond the immediate spill event. Environmental consequences may include smothering of intertidal habitats, degradation of water quality, bioaccumulation in aquatic organisms, and disruption of ecological functions that support commercial fisheries and wildlife.

Implementation of the Humboldt Harbor Safety Plan is expected to reduce the likelihood and potential severity of oil spills by addressing key risk factors associated with vessel traffic, navigation, mooring, fueling, and emergency response. Safety recommendations such as improved vessel traffic management, enhanced navigation aids, standardized operating procedures, improved coordination among harbor users, and strengthened spill prevention, preparedness and response collectively reduce the probability of vessel groundings, collisions, and operational failures that could result in releases of oil or hazardous materials. In the event of a spill, improved preparedness and response coordination would also be expected to reduce the spatial extent and duration of environmental impacts by enabling faster containment and cleanup actions. As a result, the Harbor Safety Plan has the potential to provide an environmental benefit by reducing spill-related risks to sensitive estuarine resources while supporting the continued safe operation of the harbor.

15.1.3 Dredging

Maintenance dredging is essential to maintain safe navigation within Humboldt Bay and its entrance channel by ensuring adequate water depths for commercial, recreational and emergency vessels. Shoaling within navigational channels, turning basins, and berthing areas can increase the risk of vessel groundings, collisions, and allisions, particularly during periods of

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strong tidal currents, limited visibility, or adverse weather conditions. Regular dredging supports the continued operation of harbor facilities, marina access, commercial fishing, aquaculture support services, and emergency response capabilities. From a harbor safety perspective, maintaining authorized depths reduces navigational hazards and contributes directly to spill prevention by minimizing the likelihood of vessel incidents that could result in releases of petroleum products or hazardous materials.

Dredging activities have the potential to result in short-term environmental effects, including temporary increases in turbidity and suspended sediments, localized disturbance of benthic habitats, and temporary displacement of aquatic organisms. Depending on the location and timing, dredging may also interact with sensitive resources such as eelgrass beds, tidal flats, and estuarine species. These effects are generally localized and temporary and are typically managed through established regulatory requirements, permit conditions, and best management practices, including seasonal work windows, sediment testing, and monitoring.

In Humboldt Bay, dredging is conducted under long-standing federal and state regulatory frameworks that require evaluation of sediment quality, avoidance or minimization of impacts to sensitive habitat, and implementation of appropriate mitigation measures. Maintenance dredging is generally designed to restore previously authorized channel depths rather than create new disturbance and therefore does not typically result in long-term degradation of environmental resources when conducted in compliance with applicable permits.

The Harbor Safety Plan recognizes the continued need for maintenance dredging as a critical component of safe harbor operations. By supporting navigational safety, dredging reduces the risk of vessel groundings and accidents that could lead to environmental harm, including oil spills. The Harbor Safety Plan acknowledges dredging as an ongoing operational requirement subject to separate environmental review and permitting. Continued coordination among the Harbor District, US Army Corps of Engineers, resource agencies, and harbor users will help ensure that dredging activities are conducted in a manner that balances navigational safety with environmental protection. Accordingly, implementation of the Harbor Safety Plan would not increase dredging-related environmental impacts beyond existing conditions and would support continued safe harbor operations consistent with applicable regulatory requirements.

15.1.4 Air Quality and Vessel Emissions

Harbor and port operations in Humboldt Bay contribute to air pollutants and greenhouse gas emissions primarily through the operation of marine vessels, including tugboats, fishing vessels, and other commercial and recreation craft. The emissions are regulated under a comprehensive state and federal framework, including requirements administered by the California Air Resources Board (CARB), which establishes emission standards, fuel requirements, as well as engine retrofit or replacement programs applicable to marine vessels operating in California waters. Compliance with CARB regulation has resulted, and is expected to continue to result, in the phased reduction of diesel particulate matter, nitrogen oxides, and other pollutants from vessel operations.

Port tugs and certain commercial vessels operating in Humboldt Bay have implemented, or are in the process of implementing, engine retrofits, cleaner engine replacements, and other emission-reduction measures in response to CARB requirements and incentive programs. These actions represent ongoing improvements relative to existing conditions and contribute to improved local and regional air quality while supporting continued safe harbor operations.

15.1.5 Other Ship Pollution

In addition to air emissions, vessel operations in Humboldt Bay have the potential to generate other forms of ship-related pollution, including discharges of oily bilge water, sewage, graywater, marine debris, antifouling coatings, and the introduction of invasive species through ballast water. These sources of pollution are regulated under existing federal and state programs and managed through established harbor facilities and vessel operator requirements. Harbor facilities such as sewage pump-

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out stations, bilge water collection systems, and designated waste disposal areas, along with vessel operator compliance obligations, serve as baseline pollution-prevention measures within the harbor.

15.1.6 Ballast Water, Biofouling, and Aquatic Invasive Species

Commercial vessel traffic can provide pathways for the introduction and spread of aquatic invasive species through the discharge of ballast water and the transport of organisms attached to the vessel hulls and other surfaces. Once established, invasive species can be difficult to control or eradicate and may alter habitat, compete with native species, and affect ecological communities and the commercial and recreational activities that depend on a healthy bay environment.

Aquatic invasive species are an established concern in Humboldt Bay. Surveys have identified nonindigenous marine species with the Bay, and the Humboldt Bay Harbor, Recreation, and Conservation District has a long history of addressing the issue. The District developed and implemented an early ballast water exchange program intended to reduce the introduction of organisms from other ports; that local program was subsequently replaced by California's statewide ballast water management program. More recent environmental studies associated with proposed port development continue to identify ballast water and vessel biofouling as potential pathways for the introduction and spread of aquatic invasive species in Humboldt Bay.

Ballast water and biofouling are currently addressed through state and federal regulatory programs. The California State Lands Commission's Marine Invasive Species Program establishes ballast water management, reporting, and biofouling requirements for vessels arriving at California ports, including Humboldt Bay. These requirements are intended to reduce the potential for vessels to introduce or transport nonindigenous organisms.

Preventing new introductions remains important to both the environmental and economic health of Humboldt Bay. The Bay supports extensive wetlands and eelgrass habitat as well as commercial and recreational fisheries, shellfish aquaculture, recreation, and other uses that depend upon a productive estuarine ecosystem. Changes in the volume, origin, or type of commercial vessel traffic may also change the pathways and potential for introductions. Continued implementation of applicable ballast water and biofouling requirements, together with coordination among vessel operators and responsible state federal and local agencies, can help reduce the potential for new introductions and their associated environmental and economic effects.

15.2 ECONOMIC IMPACTS

The Humboldt Bay Harbor Safety Plan identifies operational and procedural measures intended to improve navigational safety, reduce accident risk, and enhance coordination among harbor users and agencies. Where recommendations have potential cost implications, those implications are generally associated with existing programs, services, or regulatory requirements that are funded and implemented by a combination of federal agencies, state agencies, local harbor entities, and private industry. The Harbor Safety Plan itself does not establish new funding requirements; rather, it identifies existing systems best practices and responsibilities that support safe harbor operations.

15.2.1 Tides, Currents, and Ocean Conditions

Safe navigation in Humboldt Bay depends on accurate real-time information regarding tides, currents, waves, and weather conditions. Economic costs associated with these systems are borne through existing funding mechanisms and partnerships. The National Weather Service (NWS) Forecasting Office provides hazardous wave forecasts and related marine weather services that support harbor safety and vessel decision making. Offshore and nearshore wave and ocean condition data are collected through the CDIP and Waverider buoy network funded through partnerships involving the Scripps Institute of Oceanography and local harbor entities. In addition, the physical oceanographic real time system (PORTS) provides real time water level, current, and meteorological data through a public private partnership involving NOAA and Chevron.

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Forecasting and monitoring systems represent ongoing operational costs supported by participating agencies and partners and are not created by the Harbor Safety Plan. The Plan's recognition and continued use of these systems enhances navigational safety and operational efficiency without imposing new economic burdens.

15.2.2 Harbor Depths, Channel Design, and Dredging

Maintenance of navigational channel depths, turning basins, and channel alignment is essential to safe harbor operations and economic activity within Humboldt Bay. The U.S. Army Corps of Engineers funds and conducts periodic hydrographic surveys (soundings) of federal navigation channels and turning basins and is responsible for the installation, maintenance, and repair of federal navigational aids. Maintenance dredging of federally authorized channels is also conducted by the U.S. Army Corps of Engineers subject to appropriations and regulatory requirements.

Economic costs associated with channel maintenance and dredging are borne primarily by the federal government through the U.S. Army Corps of Engineers and are independent of Harbor Safety Plan implementation by recognizing the importance of adequate channel depths and navigational aids. The Plan supports continued safe operations without altering existing funding responsibilities.

15.2.3 Tug Escorts

Escort tug services represent a direct operational cost to vessel operators, particularly barge and deep-draft shipping companies that require tug assistance for safe transit through the harbor entrance and navigation channels. Costs associated with tug escorts are borne by private shipping companies and reflect standard maritime practice to reduce navigational risk and enhance safety. These economic effects are most directly experienced by commercial operators that require escort services under certain operating conditions.

The Harbor Safety Plans recommendations related to tug use emphasize risk reduction and safe operations and do not transfer escort costs to public agencies.

15.2.4 Pilotage

Pilotage services are critical component of navigational safety in Humboldt Bay. The cost of providing pilot services is borne by the Humboldt Bay Harbor Recreation and Conservation District and funded through established fee structures. These costs represent an ongoing operational expense associated with maintaining safe vessel navigation in the harbor.

The Harbor Safety Plan recognizes the importance of pilotage for safe operations but does not establish new pilotage requirements or funding obligations.

15.2.5 Marinas and Facility Operators

Marina and harbor facility operators may incur costs associated with maintaining or upgrading their facilities and operational practices to support safe harbor operations and align with Harbor Safety Plan recommendations. These costs may include routine maintenance, safety improvements, signage, equipment upkeep, and operational adjustments. Such investments are borne by individual marina and facility operators and reflect normal responsibilities associated with safe and compliant marina and harbor operations.

15.2.6 Air Quality and CARB Requirements

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Compliance with California Air Resources Board (CARB) air quality regulations, including engine retrofit and replacement requirements, results in economic costs to companies and other commercial industrial operators in Humboldt Bay. These costs are associated with engine upgrades, emission control technologies, and operational changes required under statewide air quality regulations. Such requirements apply independently of the Harbor Safety Plan and reflect broader state and regional air quality objectives.

Implementation of the Harbor Safety Plan does not impose additional air quality compliance costs however improved navigational safety and operational efficiency may reduce vessel idling and maneuvering time, which can provide indirect economic and operational benefits over time.

15.2.7 Small Vessels

Federal, State and/or local funding is necessary to maintain and enhance the publication and distribution of pamphlets, brochures, videos, signs and other materials to increase boater education on shipping lanes, rules of navigation and safety guidelines for recreational boaters operating smaller vessels.

15.3 Findings and Recommendations

15.3.1 Findings

Environmental Impacts

Implementation of the Humboldt Bay Harbor Safety Plan is expected to reduce environmental impacts associated with harbor and marina operations by improving navigational safety, operational coordination, and spill prevention practices. The plan emphasizes proactive measures such as vessel traffic management, improved operating procedures, best practices, and coordination with existing spill prevention and response frameworks, which collectively reduce the likelihood of a maritime incident, such as a major oil spill. Moreover, the Humboldt Harbor Safety Committee is made up of qualified representatives from the maritime community, harbor district, pilots, tug operators, petroleum and shipping industries, recreational boaters, and a multitude of federal, state and local agencies that meet regularly to develop additional strategies to further safe navigation, operations, and oil spill prevention. As such, implementing the provisions of the Harbor Safety Plan has a beneficial impact on the environment because it furthers navigational safety, operations, and oil spill prevention and response, thereby helping protect Humboldt Bay from adverse environmental impacts.

Economic Impacts

Implementation of the Humboldt Harbor Safety Plan is not expected to require new public funding commitments. Recommendations with potential economic implications primarily rely on existing programs, services, and regulatory requirements funded and implemented by federal agencies, state agencies, local harbor entities and private industry. Economic impacts associated with harbor safety, such as weather and ocean monitoring, channel maintenance, tug escorts, pilot services, air quality compliance, and facility maintenance, are distributed across both public agencies and private operators consistent with existing responsibilities. Accordingly, implementation of the Harbor Safety Plan would not result in significant adverse economic impacts and supports continued safe and efficient harbor operations.

15.3.2 Recommendations

To minimize potential environmental and economic impacts associated with harbor operations and enhance the environmental benefits of improved navigational safety, the following actions are recommended:

Environmental Impacts

1. Continued Integration of Environmental Considerations

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Environmental protection and spill prevention considerations should continue to be integrated into the implementation of Harbor Safety Plan recommendations, particularly those related to vessel traffic management, fueling, mooring, and emergency response.

2. Annual Review and Adaptive Management

The Harbor Safety Plan should continue to be reviewed on an annual basis to evaluate the effectiveness of implemented safety measures in reducing navigational incidents and spill risk. This review may consider incident reports, near-miss events, changes in vessel traffic patterns, and feedback from harbor users and response agencies.

3. Coordination and Monitoring

Where feasible, the Harbor Safety Committee should coordinate with relevant agencies and interested parties to track trends related to spills, near spills, or water quality concerns within the harbor. This coordination may inform adjustments to operational practices or emergency preparedness measures over time.

4. Documentation and Continuous Improvement

Results of annual reviews should be documented and used to inform updates to the Harbor Safety Plan, ensuring that safety recommendations remain effective, practicable, and aligned with environmental protection objectives.

Economic Impacts

1. Sustain Navigation Safety and Forecasting Partnerships

Continue coordination among federal state and local agencies and private partners to support existing navigation safety, weather forecasting, and ocean monitoring systems, including hazardous wave forecasting, buoy networks operations, and real time oceanographic data systems that inform safe harbor operations.

2. Periodic Review and Economic Feasibility

Periodically review Harbor Safety Plan recommendations to ensure that operational measures remain economically feasible and proportional for both public agencies and private harbor users, taking into account changes in vessel traffic, technology, regulatory requirements, and harbor conditions.

3. Promote Operational Efficiency and Cost Avoidance

Encourage information sharing, coordination, and best practices among harbor users to improve operational efficiency, reduce avoidable delays, and minimize costs associated with navigational incidents, emergency responses or operational disruptions.

4. Maintain Shared Public-Private Responsibility for Harbor Safety Costs

Recognize and maintain the shared responsibility for harbor safety related costs among public agencies and private industry, consistent with existing funding structures.

5. Support Facility-Level Safety and Maintenance Investments

Encourage marina operators, port tenants, and facility owners to continue maintaining and improving their facilities and operational practices to support safe navigation and compliance with Harbor Safety Plan recommendations.

16PLAN ENFORCEMENT

PLAN ENFORCEMENT

16.1 OVERVIEW

Each member of the HSC as they function within the meaning of the existing federal, state, and local laws, regulations, and ordinances as they affect the Humboldt Bay Area, is charged with the responsibility of bringing back to the Harbor Safety Committee any recommended changes to the foregoing.

16.2 COORDINATION

The U.S. Coast Guard is the principal regulator of vessel movements within the harbor boundaries. The Coast Guard performs these duties on air, sea, and land using helicopters, patrol boats, and shoreside surveillance.

Pursuant to 33 CFR 6, Protection and Security of Vessels, Harbors, and Waterfront Facilities (Espionage Act), the rules and regulations of the relevant legislative authorities shall be enforced by the Captain of the Port (COTP) under the supervision and general direction of the District Commander and the Commandant. The COTP may supervise and control the movement of any vessel. The Espionage Act has powers based on security, not safety, and has only criminal penalties.

The Ports and Waterways Safety Act (PWSA) of 1972, as amended by the Port and Tanker Safety Act of 1978, (33 USC 1221 et seq.) provides the strongest authority for the Coast Guard's port safety program and is intended to increase vessel safety and protect the marine environment in ports, harbors, waterfront areas, and navigable waters. It allows the establishment of a Vessel Traffic Service (VTS), control of vessel movement, establishment of requirements for vessel operation, and other related port safety controls. This Act allows civil and criminal penalties for violations.

In addition, several other laws call for Coast Guard enforcement. These include the Federal Water Pollution Control Act, which delegates enforcement authority and responsibility to the Coast Guard in cases where oil and hazardous substances are discharged into U.S. waters in quantities which may be harmful. In addition, the Act to Prevent Pollution from Ships (33 USC 1901 et seq.) limits the operational discharges of oil from ships and requires reception facilities to receive waste that cannot be discharged at sea. Finally, the Marine Protection, Research and Sanctuaries Act of 1972 (33 USC 1401 et seq.) requires Coast Guard surveillance of ocean dumping activities.

COTP Orders (33 CFR 160.111) are directed at individual vessels and address short- term hazards. Any long-term directive would require that federal rule making procedures be followed. COTP orders may involve establishing a vessel traffic routing scheme or vessel size, speed, and draft limitations; restricting traffic movement to one direction and to certain times and requiring vessels to be assisted by tugboats.

Enforcement of the Harbor and Navigation Code of the State of California is the responsibility of the Humboldt County Sheriff's Department and is funded by the State of California.

16.3 FINDINGS AND RECOMMENDATIONS

It is encouraged that Committee members and alternates, as well as the entire waterfront community, monitor compliance of provisions contained in the Harbor Safety Plan. Noncompliance should be reported to the committee for appropriate action.

No action is required at this time.

Review by Harbor Safety Committee prior to July 1 each year.

17 FUNDING AND COMPETITION

FUNDING AND COMPETITION

16.1 FUNDING

Present Condition Funding

Funding for most of the recommendations will be from government agencies. Periodic soundings shall be conducted under the direction of the U.S. Army Corps of Engineers. Installation, movement, and repair of navigational aids shall be conducted by the U.S. Coast Guard.

The cost of hiring tugs is borne by the shipping company. The cost of maintaining Bar Pilots is borne by the Humboldt Bay Harbor, Recreation and Conservation District.

Procedural recommendations will not require funds to implement.

It is the responsibility of the shipping company and its vessel masters to be knowledgeable of procedures and rules of operation in Humboldt Bay, as described in this document.

The hazardous wave forecasting model (SWAN) for Humboldt Bay has been funded by the National Weather Service Forecasting Office whereas the CDIP Waverider buoy is funded by the Scripps Institute of Oceanography. PORTS (Physical Oceanographic Real-Time System) is funded through a partnership with NOAA and Chevron.

17.1 COMPETITION

The preceding rules, recommendations, and procedures have been compiled to create a harbor that can operate safely and with economic and regulatory feasibility.

The economic effects of this document will be felt most on barge shipping companies, as they are required to obtain escort tugs when transiting Humboldt Bay.

Humboldt Bay is one port; therefore, there are no port-to-port restrictions in Humboldt Harbor.

Dock owners will be impacted financially by the cost of annual berth soundings. Maintenance of the berthing area and the dock itself are normal expenses incurred by the dock owner.

Changes/modifications of communications protocol shall not have a negative fiscal or negative competitive effect on the harbor or shipping companies.

17.2 FINDINGS AND RECOMMENDATIONS

Recommendation 1

The Committee recommends that Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 be amended to provide funding for all the recommendations put forth in this Plan.

Recommendation 2

Should funding not be available through the recommended entities the Committee requests that the recommendations be funded through OSPR revenues.

The OSPR will endorse the HSC's recommendations made in the Harbor Safety Plan; however, the OSPR cannot fund all the recommendations within the Plan, nor can Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 be amended to provide such funding. Should the HSC determine that more funding is required in the future, the HSC may prepare recommendations in the Plan, as part of the annual update for specific projects recommending a specific amount of funding for specific projects as described in the Plan that could not get funded. The OSPR will consider these recommendations as part of its review to determine the source and feasibility of funding.

No action required at this time.

Review by the Harbor Safety Committee prior to July 1 each year.

18BEST MARITIME PRACTICES

18.1 INTRODUCTION

Best Maritime Practices (BMPs) are accepted and agreed upon methods to conduct vessel transits or operations that are necessary for or enhance the safety of vessels, personnel, dockside facilities and marine resources. These BMPs are not to be considered regulations or laws, but guidelines to assist the mariner with local knowledge while operating in the vicinity of the Port of Humboldt Bay.

This BMP section has been designed as a reference guide for safe and environmentally sound vessel movements and operations in and around the port area.

18.2 IMPORTANT GENERAL INFORMATION

In the past Humboldt Bay was considered treacherous and dangerous, and many disasters have occurred there. Even with present improvements, mariners are still advised to use extreme caution on the bar. The strong currents that may be encountered, and the abrupt turn at the outer end of the South Jetty, are apt to be dangerous for strangers. The bar is the smoothest during the last of the flood current, and it is often passable at this time and impassable 2 hours later, when the ebb current has set in. Mariners are advised to contact Coast Guard Station Humboldt Bay on VHF channel 16 or 22A prior to transiting the bar. Caution should also be exercised inside the jetties due to the rapid change in the channel conditions. Deep-draft vessels are usually taken in and out of the bay at high tide if there is any swell on the bar because of the shoaling in the entrance channel. (Coast Pilot 7 - 40th Edition 2008)

18.3 GENERAL ANCHORAGE

Per Humboldt Bay Harbor, Recreation and Conservation District Ordinance No. 17, Under the authority of section 4 of Appendix II of the California Harbors and Navigation Code:

No vessel may anchor within the Exclusion Zone of Humboldt Bay (Federal Navigation Channel).

No vessel may anchor or moor within Humboldt Bay for a period in excess of seventy-two (72) consecutive hours without the owner, operator, or captain of the vessel first obtaining a Temporary Anchoring Permit from the District, the owner, operator, or captain of the vessel shall present proper personal identification and license, if applicable, and evidence of title or ownership of the vessel. A Temporary Anchoring Permit authorizes the holder to anchor or moor only and grants no further rights, privileges, or uses. A Temporary Anchoring Permit is valid only for fourteen (14) continuous days from date of issuance or extension. A Temporary Anchoring Permit may be extended for only one additional fourteen (14)-day period at the discretion of the Harbor Master.

A Temporary Anchoring Permit may be issued only with respect to a named individual or government entity and a single vessel and shall be valid only in respect to that individual or government entity and vessel. It shall be the responsibility of the vessel owner, operator, or captain to contact the Humboldt Bay Harbor District and apply for a Temporary Anchoring Permit within seventy-two (72) hours of anchoring in Humboldt Bay.

Humboldt Bay Harbor District can be contacted at telephone number: (707) 443-0801, by fax at (707) 443-0800, by E-mail at woodleyisland@humboldtbay.org, or by VHF on channel 14.

18.4 UNDER KEEL CLEARANCE

Per Humboldt Bay Harbor, Recreation and Conservation District Ordinance No. 15, the established rule requires a two-foot under keel clearance on all vessels over 300 gross tons while transiting the navigation channels. See Appendix 19.13 for reference.

18.5 TUG ASSIST: NON-TANK VESSELS

Per Title 14 CCR 851.80-851.86 (See Appendix 19.3.1), Tug assist guidelines for vessels transiting Humboldt Bay requiring pilotage.

North Bay: Two (2) tugboat requirement on all vessels not equipped with bow thruster.

Tugboat 1: Twin screw, minimum 1,500 hp

Tugboat 2: Twin screw, minimum 2,000 hp

Vessels equipped with bow thruster will be reviewed by the Pilots on a case-by-case basis depending on current weather and tidal conditions, horsepower of thruster, design of rudder and draft of the vessel.

Single tug departure will be at the discretion of the Pilot.

South Bay: Two (2) tugboat requirement on all vessels arriving in South Bay.

Tugboat 1: Twin screw, minimum 1,500 hp

Tugboat 2: Twin screw, minimum 2,000 hp

Single tug departure will be at the discretion of the Pilot.

*Tugboat carrying Pilot to the pilot station must have transfer platform and safety equipment meeting or exceeding recommendations agreed upon with the Pilots.

**Pilot reserves the right to make changes to the above minimums based upon ship conditions, weather, or other limiting factors.

18.6 TUG ASSIST: TANK VESSELS – CDFW OSPR REGULATIONS

See Appendix 19.3 for a copy of the regulations.

TITLE 14. NATURAL RESOURCES DIVISION 1. FISH AND GAME COMMISSION - DEPARTMENT OF FISH AND GAME SUBDIVISION 4. OFFICE OF SPILL PREVENTION AND RESPONSE CHAPTER 4. VESSEL REQUIREMENTS SUBCHAPTER 4. TANK VESSEL ESCORT REGULATIONS FOR HUMBOLDT BAY

ARTICLE 1. GENERAL PROVISIONS AND DEFINITIONS

§ 851.80. Purpose and Scope.

The regulations in this subchapter set forth tank vessel escort requirements for tank vessels entering, shifting within, or leaving Humboldt Bay.

“Humboldt Bay” encompasses those harbor boundaries which include all submerged lands of Humboldt Bay (Inner Harbor); and the open water boundary defined as the area centered on the Humboldt Bay Sea Buoy and extending radially outward for a distance of one mile then landward to the perpendicular intersection with the north and south spits.

The escort tug requirements specify that tank vessels carrying as cargo a total volume of oil greater than or equal to 5,000 long tons or 5% of the vessel's deadweight tonnage, whichever is less, shall be escorted by a suitable escort tug(s).

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The escort tug(s) shall be used to influence the speed and direction of travel of a tank vessel in the event of a steering or propulsion failure, thereby reducing the possibility of groundings or collisions and the risk of an oil spill from these tank vessels.

The Administrator shall review the tug/tank vessel matching criteria and other requirements of this subchapter within two years of the effective date of this subchapter. The review will include a survey of the tank vessel-related incidents in U.S. waters to determine the type of failures that have occurred, an assessment of tug technology and any advances made in design and power, and the escort tug-related rules and policies that are implemented by other coastal states and maritime organizations. At the conclusion of the review, the Administrator will determine whether it is necessary to modify the tug/tank vessel match criteria or any other requirements of this subchapter.

Note: Authority cited: Section 8670.17.2 and 8670.23.1, Government Code. Reference: Section 8670.17.2 and 8670.23.1, Government Code.

§ 851.81. Definitions.

In addition to the definitions found in Government Code Section 8670.3 and Chapter 1, Section 790 of this subdivision, the following definition shall apply to this subchapter. Where similar terms are defined, the following will supersede the definition in Chapter 1:

(a) "Bona fide sister tug" means a tug which has not had its bollard pull capabilities verified by a member of the International Association of Classification Societies, but is constructed and maintained with the same hull form, engines, type of propulsion, stability, maneuverability, speed, power, and endurance of a tested and certified escort tug.

Note: Authority cited: Section 8670.17.2 and 8670.23.1, Government Code. Reference: Section 8670.17.2 and 8670.23.1, Government Code.

§ 851.82. Escort Tug Requirements for Tank Vessels.

(a) Escort tugs, alone or in combination, must have total ahead bollard pull in pounds greater than or equal to the tank vessel's deadweight tonnage. When required under this subsection and subsection 851.85(j)(2), additional escort tugs shall stand by during transit and be prepared to render assistance.

(b) All tankers transiting the waters of Humboldt Bay, carrying as cargo a total volume of oil greater than or equal to 5,000 long tons or 5% of the vessel's deadweight tonnage, whichever is less, shall use a minimum of one escort tug. For purposes of this subchapter, oil spill response vessels, and offshore supply vessels as defined in 46 USC 2101, are not required to engage escort tugs in accordance with this subchapter.

(c) All tank barges transiting the waters of Humboldt Bay, carrying as cargo a total volume of oil greater than or equal to 5,000 long tons or 5% of the vessel's deadweight tonnage, whichever is less, shall use at least one escort tug, in addition to the barge's line-haul tug. For purposes of this subchapter, oil spill response vessels, and offshore supply vessels as defined in 46 USC 2101, are not required to engage escort tugs in accordance with this subchapter.

Note: Authority cited: Section 8670.17.2 and 8670.23.1, Government Code. Reference: Section 8670.17.2 and 8670.23.1, Government Code.

§ 851.83. Requirements for Escort Tug Crew Members.

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Any escort tug used to comply with the requirements of this subchapter, must meet crew standards as follows:

(a) Escort tug operators shall, at a minimum, be duly licensed Operators of Uninspected Towing Vessels as set forth in Title 46, Code of Federal Regulations (CFR), Section 10.464.

(b) Escort tug crews shall have a minimum of two certified deck hands. An engineer, if employed, may not be included as a deck hand. This requirement does not preclude additional deck hands who are gaining experience for certification, but such deck hands cannot be used to meet the manning requirements of this section.

(c) Escort tug crews shall possess Coast Guard license(s)/document(s) appropriate for the escort tug and service.

Note: Authority cited: Section 8670.17.2 and 8670.23.1, Government Code. Reference: Section 8670.17.2 and 8670.23.1, Government Code.

§ 851.84. Requirements for Escort Tugs.

All escort tugs approved for use under this subchapter shall be equipped with and shall maintain in good working order:

(a) Primary and secondary VHF radios;

(b) 300 feet of tag line;

(c) Power line-handling equipment fore and aft for rapid, mechanically assisted deployment of lines. The primary winch shall be in the position best suited for the design of the particular vessel in escort service;

(d) Tow line with a “safe working load” that is 2.5 times the certified bollard pull rating of the escort tug;

(e) One working radar;

(f) Fendering as follows:

(1) appropriate to absorb the impact inherent in hull-to-hull operations;

(2) located at both the bow and stern to act as pivot points when pulling away from the tank vessel;

(3) sufficient to assure that there are no exposed corners, large holes or metal parts which could inflict damage on the escorted vessel; and

(4) sufficient surface area to minimize sliding when working at an angle.

Note: Authority cited: Section 8670.17.2 and 8670.23.1, Government Code. Reference: Section 8670.17.2 and 8670.23.1, Government Code.

§ 851.85. Requirements During Tank Vessel Escorts.

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- (a) Escort tugs shall maintain a station-keeping distance from the tank vessel being escorted of no further than 1,000 feet ahead or aside, or 500 feet astern of the tank vessel while engaged in the escort activity.
- (b) An escort tug shall not simultaneously engage in the escort of more than one tank vessel.
- (c) The speed or speeds selected for the transit must permit stationing the escort tug to allow the escort tug to effectively influence the tank vessel's movement in the event of a casualty.
- (d) A tanker shall have sufficient and qualified line-handling-capable crew members standing by and available to immediately receive lines from each escort tug. In addition, the tanker shall comply with all applicable federal regulations relating to anchor readiness.
- (e) The line-haul tug for a tank barge shall have sufficient and qualified line-handling-capable deck hands standing by available to receive lines from each escort tug. When the tank barge is fitted with an emergency tow wire or comparable, adequate mechanical device, or the escort tug is made fast to the tank barge, crew transfers shall not be required.
- (f) Tank vessels shall have sufficient and qualified direct supervision of line-handling-crew operations. Supervisors shall have direct radio communication capability with the bridge of the tank vessel or vessel towing a barge.
- (g) The master of any tank vessel shall maintain, at all times for which escort tug services are required, direct two way radio communications on VHF-FM with the master of the escort tug on a channel agreed to by both the master of the tank vessel and the master of the escort tug providing escort services.
- (h) Notwithstanding any other provision of this subchapter, all escort tugs in Humboldt Bay which meet the requirements of this subchapter for the escort of tank vessels shall have their bollard pull (ahead and astern) measured, except as provided in (i) below.
- (1) Bollard pull measurements shall be verified by a member of the International Association of Classification Societies.
- (2) Bollard pull measurements verified by a member of the International Association of Classification Societies in other ports of the State shall meet the requirements of this section, provided that evidence of the results of these measurements are on file with the Humboldt Bay Harbor District.
- (3) Escort tug companies shall provide the Humboldt Bay Harbor District with the results of the bollard pull measurements verified pursuant to the provisions of this subchapter.
- (4) Escort tugs whose bollard pull has not been measured and verified or are not within the scope of the definition of “bona fide sister tug”, shall not be used for the escort of tank vessels in Humboldt Bay.
- (i) An escort tug determined by the master/pilot to be a “bona fide sister tug” may be used with the same (ahead and astern) bollard pull as the certified sister tug.
- (j) The braking force shall be re-measured after any modification and/or repairs to the main engines, hull, shaft-drive line, or steering, that could affect the bollard pull. The new measurements must be registered with the Humboldt Bay Harbor District.
- (k) Escort tugs that submit to the Escort Tug Inspection Program, as described in Sections 851.8(a)(4)(B) and 851.23(a)(7)(B), can perform escort duties in any port in the state, if the tugs meet the requirements of the appropriate subchapter (i.e.,

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Subchapter 1, San Francisco Bay Region; Subchapter 2, Los Angeles/Long Beach Harbor; Subchapter 3, Port Hueneme Harbor; Subchapter 4, Humboldt Bay; Subchapter 5, San Diego Harbor), of this Chapter 4 of the California Code of Regulations.

(I) Notwithstanding any other provision of this subchapter:

(1) The tank vessel master remains responsible for the safe navigation and maneuvering of the tank vessel in all circumstances. The requirements outlined in this subchapter are in addition to, and not a limitation of, any other responsibilities created by custom, law, or regulation.

(2) Where an emergency exists, the tank vessel master may adjust the minimum escort tug requirements contained in this subchapter. For purposes of this subchapter, an emergency is defined as any of, but is not limited to, the following:

(A) imminent and immediate danger to the tank vessel, its cargo or its crew;

(B) imminent and immediate danger to a marine terminal, service or escort tug;

(C) imminent and immediate danger to a vessel in the proximity of the escorted vessel; or

(D) any emergency declared by the United States Coast Guard Captain of the Port which would necessitate a modification to the provisions set forth in this subchapter.

Note: Authority cited: Section 8670.17.2 and 8670.23.1, Government Code. Reference: Section 8670.17.2 and 8670.23.1, Government Code.

§ 851.86. Remedies.

(a) Nothing herein shall limit or prevent any action by any party in a court of competent jurisdiction.

(b) Any person who knowingly, intentionally, or negligently violates any provision of this subchapter shall be subject to criminal, civil, and/or administrative civil actions as prescribed in Article 9, Government Code, beginning with Section 8670.57.

Note: Authority cited: Section 8670.17.2(d) and 8670.23.1(d), Government Code. Reference: Section 8670.17.2, 8670.23.1 and 8670.57, Government Code.

18.7 TUG ASSIST: TANK VESSELS – USCG REQUIREMENTS

Per Marine Safety Bulletin MSIB: 23-01, January 05, 2023, Requirements for Humboldt Bay Bar Crossing for Tank Vessels: The MSIB advises mariners on the procedures for tank vessels to request permission from the Sector Humboldt Bay Commander to cross the Humboldt Bay Bar in accordance with the Regulated Navigation Area (RNA) described in 33 CFR § 165.1195 (See Appendix 19.9.1). The RNA includes all navigable waters of the Humboldt Bay Bar Channel and the Humboldt Bay Entrance Channel, Humboldt Bay, CA. A tank vessel is defined in 33 CFR §165.1195(b) "as any vessel that is constructed or adapted to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue."

In accordance with 33 CFR § 165.1195, a tank vessel is required to request permission for every bar crossing, to include inbound and outbound transits, within four hours of crossing. Permission must be requested by contacting Station Humboldt Bay on VHF-FM Channel 16 or (707) 443-2213. If unable to reach Station Humboldt Bay, contact Sector Humboldt Bay at VHF-FM Channel 16 or (707) 839-6113.

Bar crossings will not be permitted if all the following conditions are not met:

- (1) Sector Humboldt Bay Commander has granted permission to cross;
- (2) Sea conditions at the bar are less than six feet;
- (3) Winds at the bar are less than 30 knots;
- (4) The transit will take place during daylight hours;
- (5) The vessel has only a single tow or no tow;
- (6) The visibility at the bar is greater than 1,000 yards; and
- (7) The vessel and tow are in proper operating condition.

The Master of the vessel may request a waiver to cross the bar from the Sector Humboldt Bay Commander at least four hours prior to the planned bar crossing time using the same communication method as above. The waiver request must contain the following:

- (1) A description of the proposed operation;
- (2) The conditions for which the waiver is requested;
- (3) The reasons for requesting the waiver;
- (4) The reasons that the requester believes the proposed operation can be accomplished safely; and
- (5) A callback phone number.

The Sector Humboldt Bay Commander has the final authority to grant permission to cross the bar, close the bar, or grant a waiver. The Sector Humboldt Bay Commander decision will be communicated to the Master of the tank vessel by Sector Humboldt Bay via Station Humboldt Bay.

Any tank vessel that fails to receive proper permission to transit the RNA from the Sector Humboldt Bay Commander may be subject to enforcement action, to include Civil Penalty of not more than \$103,050 for each violation.

18.8 TUGS NAVIGATING SEVERE WEATHER & CRITICAL MANEUVERING AREAS OF HUMBOLDT BAY

18.8.1 Tugs with Tows <1600 Gross Tons: Guidelines for Navigating in Reduced Visibility

Critical Maneuvering Areas (CMAs): There are areas within Humboldt Bay where additional standards of care are required due to the restrictive nature of the channel, proximity of hazards, or the prevalence of adverse currents.

- Tugs with tows should not transit through CMAs when visibility is less than 0.25 nautical mile.
- Tugs with tows in petroleum service should not transit through CMAs when visibility is less than 0.5 nautical mile.

Locations within the Bay identified as Critical Maneuvering Areas:

- Humboldt Bay Entrance Light # 4 (Tip of South Jetty)
- Humboldt Bay Light # 11 (Rock and Roll Alley)

Vessels docked: Tugs with tows at a dock within Humboldt Bay should not commence movement if visibility is less than 0.25 nautical mile at the dock. Tugs with tows in petroleum service at a dock within the Bay should not commence a movement if visibility is less than 0.5 nautical miles at the dock.

Vessels proceeding to dock: Tugs with tows proceeding to a dock should anchor if visibility at the dock is known to be less than 0.25 nautical mile, unless, under all circumstances, proceeding to the dock is the safest option. Tugs with tows in petroleum service proceeding to a dock should anchor if visibility at the dock is known to be less than 0.5 nautical mile, unless, under all circumstances, proceeding to the dock is the safest option.

Note: Vessel captains or operators should broadcast a General Information Security call over Channel's 16 and 13 upon determination that a scheduled movement will be delayed or canceled.

18.8.2 Tugs with Tows <1600 Gross Tons: Guidelines for Navigating in Severe Weather

Several factors must be considered when limiting transits in the Bay or closing the Bar due to severe weather, including sea state, tidal influences, visibility, traffic density, and wind advisories issued by NOAA. The size and condition of the vessels being addressed must also be considered. The Harbor Safety Committee recommends a tiered approach, applying greater caution as conditions worsen.

18.8.3 Sustained winds exceeding 25 knots in the Bay:

- Tugs with tows should closely evaluate whether it is safe to transit in the Bay. Size and sail area of the vessel, tidal influences, visibility, operator skill and traffic density should all be considered.
- Vessel captains or operators should regularly monitor Channel's 16 and 13 and establish regular communications with the Coast Guard.

18.8.4 Sustained winds exceeding 40 knots in the Bay:

- Transits to and from berths are not recommended but may be performed following a careful risk management evaluation by the vessel operator and vessel management.

18.8.5 Sustained winds exceeding 40 knots and/or seas exceed 12 ft at the Sea Buoy

- Bar traffic restrictions and closure should be considered for tugs with tows. Size of the vessel, draft, swell period, tidal influences, visibility, and traffic density should all be considered. Strong ebb tides should be avoided, and a minimum of 10 feet under keel clearance at the Bar and Entrance Channel is recommended.

18.9 SAFE SPEED

Speed within the port should be at a minimum safe speed to maneuver and control the vessel, with regards to weather, conditions of draft, and the maneuvering characteristics of the vessel.

On approaches, speed should be at a level to accommodate safe transit (minimum for existing conditions). It should be noted that the approach to the Port of Humboldt Bay generally involves cross currents which are mostly unpredictable for direction and strength.

Extreme caution (no wake) should be used in the vicinity of the Fuel Barge and a No Wake Zone exists between the Samoa Bridge and the south end of the City of Eureka’s Public Marina. (City of Eureka Municipal Code §100.14) Speed within the Eureka Channel Inner Reach, Woodley Island Marina, Eureka Public Marina, and other marinas shall be limited to five (5) miles per hour. (HBHRCD Ord. No. 17 Sec. 7.10)

California Harbors and Navigation Code limits vessel speed to not more than 5 miles per hour within 100 feet of any person who is engaged in the act of bathing, a swimming float, diving platform or lifeline, and within 200 feet of a beach frequented by bathers, a way or landing float to which boats are made fast or which is being used for the embarkation or discharge of passengers.

The U.S. Coast Guard has established protection zones for 500 yards around all U.S. naval vessels in navigable waters of the United States. Vessels are to proceed at a no-wake speed when within a protection zone. Non-military vessels are not allowed to enter within 100 yards of a U.S. naval vessel, whether underway or moored, unless authorized by an official patrol.

18.10 SMALL CRAFT

California State Law requires all persons 13 years of age and younger to wear a personal floatation device (PFD) while underway on a moving recreational vessel of any length. The PFD must be Coast Guard-approved style in serviceable condition and of a type and size appropriate for the conditions and the activity. It is highly recommended that all people wear a PFD while underway.

Take a safe boating course and get your California Boater Card.

Even the most experienced boaters can learn from boating safety courses.

As of Jan. 1, 2021, all operators of motorized vessels on California waterways who are 40 years of age and younger are required to carry a lifetime boater card. By 2025, all operators of motorized vessels will be required to carry one regardless of age.

Be an informed mariner:

- 5 or more short blasts of a vessel's whistle/horn = DANGER SIGNAL
- Know the Rules of the Road
- Read Coast Guard Notice to Mariners
- Monitor the weather
- Listen to VHF Channel 16 for Coast Guard information broadcasts
- Be aware of current weather conditions, tidal times, currents, and changing conditions
- Ensure everyone on board is aware of all emergency procedures

18.11 COMMUNICATIONS

- VHF Channel 13 - Bridge to Bridge Communications
- VHF Channel 14- Port of Humboldt Bay / Woodley Island Marina
- VHF Channel 16 - Hailing and Distress
- VHF Channel 22 - Coast Guard Public Access
- VHF Channel 77 - Humboldt Bay Bar Pilots Coast Guard Group Humboldt Bay - Emergency Search and Rescue only (707) 839-6100 or 9-1-1

Use VHF Channel 13 to make passing arrangements with other vessels.

Treat VHF Channel 16 like you would 9-1-1. Mariners should be aware that Channel 16 is used for "Security" broadcasts for vessel movement and safety.

All users are encouraged to minimize voice traffic on all channels, maintain circuit discipline and broadcast on "low power" whenever possible.

Cellular phone coverage can be unreliable. Do not rely on a cellular phone as your only source of communication. Cellular phones cannot replace the VHF-FM marine radio's ability to communicate marine safety information with multiple marine users at one time.

18.12 TSUNAMI MARITIME ACTIONS: SMALL CRAFT

FOR SMALL CRAFT such as recreational sailing and motor vessels, commercial fishing vessels and all vessels under 300 gross tons.

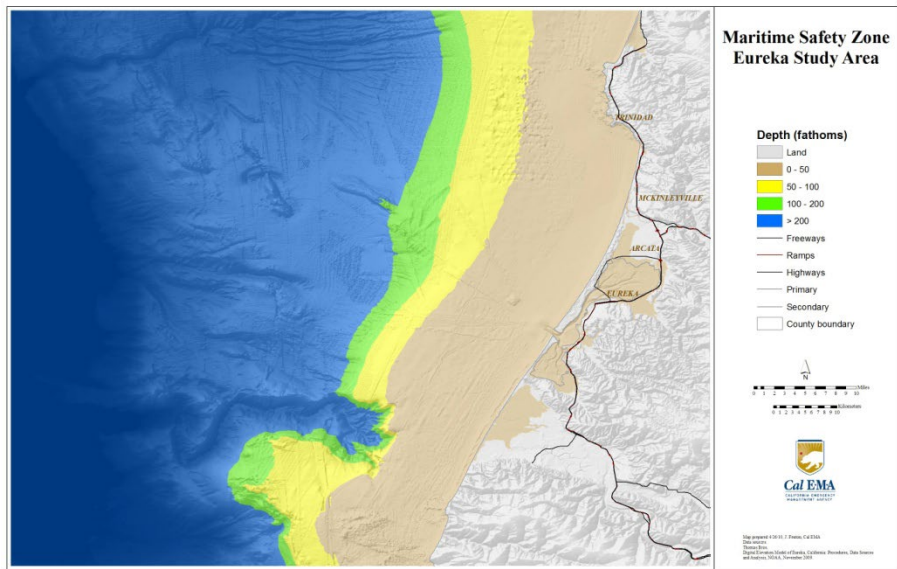
DROP, COVER, HOLD ON - You should first protect yourself from an earthquake. When the shaking stops, move quickly to higher ground away from the coast. Signs a tsunami may be imminent - if you feel a strong earthquake lasting 20 seconds or more near the coast, rapid change in water elevation, a loud roar from the ocean, go to high ground immediately.

18.13 TSUNAMI MARITIME ACTIONS PRECAUTIONARY MEASURES FOR OCEAN GOING SHIPS/BARGES

These Maritime Actions for a Distant Source Tsunami Hazard have been created for the Humboldt County Emergency Operations Plan and is considered a living document subject to change. This is for a DISTANT SOURCE tsunami only.

18.13.1 KEY POINTS TO KNOW

The safest locations for a vessel in a tsunami event are in deep water or out of the water and out of the Tsunami Hazard Zone. Cal OES’s “RULE OF THUMB” is 180+ feet (30 fathoms or more) in depth. This is approximately 4 miles offshore of Humboldt Bay. NOAA also recommends Mariners in deep water 180 feet or greater should stay at sea. Those in shallow water or harbors should move to deep water if there is enough time and weather conditions are suitable.



18.13.2 POSSIBLE MARINER ACTIONS PRIOR TO TSUNAMI SURGE ARRIVAL

Vessels at sea when a tsunami event is announced should remain in deep water. Given the time frame available, vessels within Humboldt Bay, with the ability to travel to deep water prior to the initial tsunami surge arrival time should do so as soon as possible. At Humboldt Bay, bar conditions may dictate the ability of vessels to get to sea. Trailer able vessels in the water or vessels on trailers within the Tsunami Hazard Zone should be moved to locations outside the zone.

18.13.3 DO YOU HAVE ENOUGH TIME TO ACCOMPLISH YOUR GOAL?

Exceptional care should be taken when making the decision to move a vessel from the Tsunami Hazard Zone. Congestion on the roads and in the harbor area may greatly delay all mitigation actions. Mariners should not attempt to remove a vessel from the Tsunami Hazard Zone unless they are certain the movement activity can be completed in the time available. Remember there may be road closures, restricted access, and traffic congestion.

At tsunami estimated TIME of arrival MINUS ONE (1) HOUR, also known as T minus 1 or T-1, access to coastal areas including the marinas will be prohibited.

TRAILER ABLE: If your vessel is trailer able and you wish to remove it from the water, consider the following:

- Make sure your family is safe first.
- Check the tide and weather conditions.
- Find someone to assist you to hook up your trailer, drive to the marina to drop you off, drive to the boat ramp, load the boat, go to high ground.
- PLEASE remember, there may be road congestion and congestion at the boat ramps. If you do not have time to accomplish your goals, you should not make the attempt.

NON-TRAILER ABLE: If you are unable to remove your vessel from the water, consider the following:

- Make sure your family is safe first.
- Grab extra lines and fenders for your vessel and remove any important items from your vessel.
- PLEASE remember, there may be road congestion. If you do not have time to accomplish your goals, you should not make the attempt.

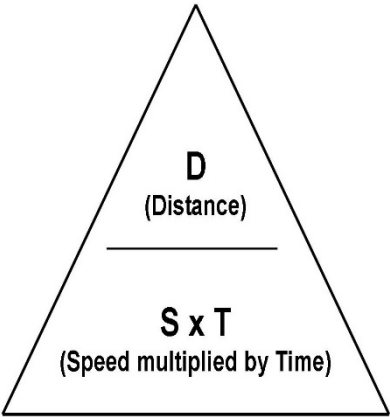
VESSELS considering leaving the harbor and head to sea, please consider the following:

- Make sure your family is safe first.
- Check tide, bar, and ocean conditions.
- Check the weather forecast for the next couple of days.
- Ensure you have enough fuel, food, and water to last a couple of days.
- Have someone drive you to the marina so your vehicle is not in the inundation zone.
- PLEASE REMEMBER: There may be road congestion. There may also be vessel congestion in the harbor as SHIPS, BARGES and other vessels attempt to depart at the same time. All vessels should monitor VHF Channel 16 and use extreme caution. NEVER impede another vessel. If you do not have time to accomplish your goal, you should not make the attempt.

Distance Speed Time formula.

To use this triangle put your finger over the letter you are going to solve. **Distance = Speed multiplied by Time.**

- If you want to know **S**, then put your finger over the **S** and it gives you **D / T** (Distance divided by Time).
- If you want to find **D** then cover the **D** and you have **S x T** (Speed multiplied by Time).
- If you want to find **T** then cover the **T** and you have **D / S** (Distance divided by Speed)



For marine purposes Distance is in nautical miles and tenths of a nautical mile. Speed is in knots (nautical miles per hour) and tenths of a knot. Time is in hours and minutes. To convert minutes to hours, divide by 60. To convert hours to minutes, multiply by 60.

Example:
I need to travel 9.0 nautical miles at 6 knots. How long will it take?
Distance divided by Speed = Time 9.0 nautical miles / 6 knots = 1.5 hours (1 hours 30 minutes)

It is approximately 09 nautical miles from Woodley Island Marina breakwater to the 30-fathom line.
It is approximately 15 nautical miles from Woodley Island Marina breakwater to the 50-fathom line.
It is approximately 19 nautical miles from Woodley Island Marina breakwater to the 100-fathom line.

18.13.4 THINGS TO CONSIDER WHILE AT SEA

- Monitor VHF-FM Channel 16 and the marine WX channels for periodic updates of tsunami and general weather conditions.
- Keep in contact with other boaters for safety and moral support.
- BEFORE RE-ENTERING HUMBOLDT BAY, make sure the harbor is open for traffic.
- Be aware of the tides, currents, and surges. Keep a look out for debris.

Possible Mariner Actions Following the Tsunami “All-Clear” Message: "ALL CLEAR" – DOES NOT MEAN THE HARBOR IS OPEN.

The "All-Clear" message is for land entry only. Mariners at sea should stay at sea until after the United States Coast Guard Captain of the Port has issued a message stating that Humboldt Bay is open for traffic. Check with your docking facility to ascertain its ability to receive vessels. Adverse tsunami surge impacts may preclude safe use of the harbor. Vessels may be forced to anchor offshore or to travel great distances to seek safe harbor. An extended stay at sea is a possibility if the Harbor is impacted by debris or shoaling. Make sure your vessel is prepared to stay at sea.

Where possible, mariners should congregate for mutual support while at sea, anchor or during transit elsewhere.

18.13.5 LESSONS LEARNED FROM PAST EVENTS

During the March 11, 2011, event, Crescent City boats headed to sea. Once the tsunami hit and they realized they were unable to return to Crescent City harbor, decisions needed to be made as to where to go because of a huge storm approaching the coast. Some vessels had enough fuel to make it to Brookings Harbor and to Humboldt Bay. Some smaller vessels did not have enough fuel and made the choice to re-enter Crescent City harbor to anchor. Some Crescent City Captains had never been to Humboldt Bay, and some were running single handed as they did not have enough time to round up crewmen. As with the Captains who chose to go to Brookings, all Captains heading to Humboldt Bay kept in close contact with

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each other for safety and for moral support. Even though the tsunami initially impacted the west coast on the morning of March 11, 2011, the largest surges in Crescent City did not arrive until later in the evening.

18.13.6 BACKGROUND

Very large underwater earthquakes are the most likely cause of tsunami waves which can cause significant damage to very distant shores. Earthquake-caused tsunami waves occur when the sea floor abruptly deforms and vertically displaces the overlying water column. The displaced water travels outward in a series of waves which grow in intensity as they encounter shallower water along coastlines. Tsunami wave impacts are greatest in and around ocean beaches, low-lying coastal areas, and bounded water bodies such as harbors and estuaries. Potential tsunami wave impact areas should always be avoided during tsunami events.

Any tsunami event can threaten harbors, facilities, and vessels. A distant source tsunami event does allow at least some time for local agencies and citizens to take steps to help mitigate the expected impacts of tsunami surges. However, the time available for response is minimal – All needed mitigation actions probably cannot be accomplished. Therefore, the actions to be taken must be prioritized and based on life- safety preservation. Only those actions with a surety of success should be attempted.

The distant tsunami source location does greatly impact the ability of Humboldt County response entities and the public to mitigate expected impacts. A tsunami originating in Chile (14-15 hours away), or Japan (9-10 hours away) will allow much more local mitigation activity than a tsunami originating in the Aleutians (4-5 hours away).

Response entities and the public should allow enough time to complete the mitigation activity and to depart the Tsunami Hazard Zone prior to the projected first tsunami surge arrival time. Emergent mitigation activities will be extensive and involve large numbers of people resulting in congestion and delayed actions – It may not be possible to complete normally simple mitigation actions in the time frame available.

Where do I get more information on Tsunamis and local conditions?
Redwood Coast Tsunami Work Group <http://humboldt.edu/rctwg/>

Tsunami evacuation maps may be found on the Redwood Coast Tsunami Work Group website. Locate your home, work, schools, etc. and download the maps of your areas. Talk with your family about emergency procedures. Know your surroundings and how to react.

Tsunami Warning Center: www.tsunami.gov

National Weather Service Office in Eureka www.weather.gov/eureka
Phone: 1-707-443-6484

Humboldt Harbor Safety Committee: www.humboldtharborsafety.org

Local television and radio stations.

Humboldt County Office Of Emergency Services”
<https://humboldt.gov.org/356/Office-of-Emergency-Services>

The Humboldt Bay Harbor Safety Committee participated in developing a draft of the Humboldt County Emergency Operations Tsunami Contingency Plan. The draft last published in the 2018 version of the Humboldt Harbor Safety Plan was not finalized and has been removed from this version.

19SUMMARY OF RECOMMENDATIONS

SUMMARY OF RECOMMENDATIONS

19.1 SUMMARY OF RECOMMENDATIONS

19.1.1 GEOGRAPHIC BOUNDARY

No recommendations.

19.1.2 GENERAL WEATHER AND TIDAL CONDITIONS

The HSC recommends continued support of the PORTS program.

If a major earthquake or tsunami occurs within the Humboldt Bay region, the Port Authority will make every effort to contact the U.S. Army Corps of Engineers to survey the channels and entrance if adverse conditions are noted.

19.1.3 ANCHORAGE AND AIDS TO NAVIGATION

The Humboldt Bay Harbor District, in consultation with the HSC, developed an anchoring Ordinance No. 17- An Ordinance Establishing Rules, Regulations and Enforcement Procedures for the Anchoring, Security, and Disposition of Vessels and Property in Humboldt Bay adopted June 2004. See Appendix 19.12 for Ordinance No. 17.

The Humboldt Bay Harbor District recommends to the HSC and OSPR that anchorage areas will need to be reviewed and possibly updated to reflect a projected increase in vessel traffic and anchorage needs associated with the proposed Offshore Wind Energy developments and potential new heavy lift, multipurpose terminal.

The HSC has determined that due to physical limitations (narrow channel width), anchorages will not be officially designated within the defined Harbor boundaries and that current procedures will be maintained (i.e., the pilot that guides the vessel will be allowed to determine the most suitable "holding" area for that vessel at that time). It should be clarified in the plan's annual update that there are no anchorages within the bay, and that there is a one-way traffic channel which shall be adhered to make harbor travel safe.

The HSC has made recommendations regarding safe mooring. However, upon further discussion with the HSC members, no further action will be required by the OSPR, as these recommendations are already being practiced by vessel and terminal owners/operators, and sufficient mooring ropes or wires during transfer operations are already required under federal regulation (33 CFR 156.120 (a))(<https://www.ecfr.gov/current/title-33/chapter-I/subchapter-O/part-156/subpart-A/section-156.120>).

19.1.4 SURVEYS, CHARTS, AND DREDGING

The Harbor Safety Committee has evaluated the current dredging program to determine accurate depth information and found that improvements were necessary.

Because of adverse weather conditions some channel areas of Humboldt Bay can shoal very quickly. The U.S. Army Corps of Engineers needs to continue to monitor the channels to assure that sufficient depths are maintained for safe vessel passage. The Entrance Channel and North Bay Channel shall be maintained at the project depth to minimize the risk of grounding. This recommendation is to be conducted and funded by the U.S. Army Corps of Engineers.

Soundings associated with existing annual harbor dredging operations by the U.S. Army Corps of Engineers are conducted between April and October, and include the Bar Channel, Entrance Channel, North Bay Channel, and the Samoa Channel. These dredge related soundings are considered adequate for traffic safety during the summer season providing that such dredging project-related soundings do commence with the "conditional" sounding in April, which is deemed necessary to indicate post-storm season conditions. Should the U.S. Army Corps of Engineers change existing dredging schedules; these

SUMMARY OF RECOMMENDATIONS

areas will require sounding in April for traffic safety. This recommendation to be conducted and funded by the U.S. Army Corps of Engineers.

Monthly soundings from December to March from the Bar to Beacon No. 11. This recommendation is to be conducted and funded by the U.S. Army Corps of Engineers.

The Harbor Safety Committee recommends that the U.S. Army Corps of Engineers implement the recommendation to finalize the evaluations that were identified in the Humboldt Bay Long-Term Sediment Management Study (CWIS # 081540; P2 Project # 105098) to reduce and prevent shoaling in the Bar and Entrance Channels.

19.1.5 VESSEL SPEED AND TRAFFIC PATTERNS

With the emergence of modern technologies associated with electric vessels and hydrofoil, the speed of vessels in Humboldt Bay and along the coast will need to be reevaluated in the future. Electric vessels with hydrofoil technology have the ability and potential to travel at high rates of speed while creating little to no wake. There are numerous reasons to evaluate speed such as safety of passengers aboard vessel, safety of other persons and vessels on the water, sea life, air quality, energy conservation, and wake.

The Harbor Safety Committee will continue to monitor vessel traffic within Humboldt Bay and will recommend solutions as issues arise.

19.1.6 SMALL VESSELS

The Humboldt Bay Harbor Safety Committee is committed to promoting safety for all recreational enthusiasts of Humboldt Bay. Safe boating and protection of the waters of Humboldt Bay remains a priority. The Humboldt Bay Harbor Safety Committee will continue to promote safe boating practices and educational opportunities.

The Harbor Safety Committee will publicize all information received on boating safety courses. The HSC will work to assist all organizations offering safe boating classes.

19.1.7 ACCIDENTS AND NEAR ACCIDENTS

Annual review of U.S. Coast Guard data and information solicited by the HSC from Humboldt County Sheriff's Marina Patrol, pilots, masters, industry representatives, and other parties shall be performed to assess the effectiveness of tug escorts in the prevention of accidents.

19.1.8 COMMUNICATIONS

It is the opinion of the Harbor Safety Committee that current communications systems are adequate and that current procedures be maintained.

19.1.9 TUG ESCORT/ASSIST FOR TANK VESSELS

The HSC shall annually review the performance and effectiveness of tug capabilities. This review shall rely, in part, on information solicited by the HSC from pilots, masters, industry representatives, and other parties.

The Humboldt Bay Area HSC recommends the following number of assist tugboats, which will also function as tug escorts, for vessels and barges in the Humboldt Bay Harbor.

SUMMARY OF RECOMMENDATIONS

All barges carrying hazardous or liquefied compressed gases will be escorted according to escort procedures described by the current Captain of Port Public Advisory (See Appendix 19.9.6 for 33 CFR 160.203).

All tank vessels must have a qualified Humboldt Bay Bar Pilot and escort tug. Additional tug(s) will be standing by and prepared to render assistance.

Any vessel equipped with a working bow and/or stern thruster may substitute this equipment for the services of one tugboat provided that such substitution does not reduce the total number of tugs below one (1). It shall be understood that the minimums contained herein reflect ideal circumstances and conditions. The master/pilot shall arrange for additional tugboat assistance should adverse weather conditions, unusual port congestion, or other conditions or circumstances so require.

Tugs and barges transporting oil or oil derivative products, or "certain dangerous cargoes" as described in 33 CFR 160.203 shall comply with the following rules and regulations:

All barges carrying hazardous or liquefied compressed gases will be escorted according to escort procedures described by the current Captain of Port Public Advisory (See Appendix 19.9.5).

46 CFR § 15.812 Pilots.

(a) Except as specified in paragraph (f) of this section, the following vessels, not sailing on register, when underway on the navigable waters of the United States, must be under the direction and control of an individual qualified to serve as pilot under paragraph (b) or (c) of this section, as appropriate:

(1) Coastwise seagoing vessels propelled by machinery and subject to inspection under 46 U.S.C. Chapter 33, and coastwise seagoing tank barges subject to inspection under 46 U.S.C. Chapter 37.

The HSC should review and monitor Tug Capability Requirements associated with the proposed offshore wind energy project and potential construction of a new multipurpose heavy lift terminal.

19.1.10 BRIDGES

No recommendations.

19.1.11 VESSEL TRAFFIC

The Committee should examine the future needs for a VTS in Humboldt Bay associated with the proposed offshore wind energy project and potential construction of a new multipurpose heavy lift terminal.

19.1.12 UNDER KEEL CLEARANCE

The HSC should monitor Under keel Clearance guidelines regarding an anticipated increase in size of vessels associated with the proposed offshore wind energy project and potential construction of a new multipurpose heavy lift terminal.

19.1.13 PILOTAGE

The HSC shall rely, in part, on information solicited by the HSC from pilots, masters, industry representatives, and other parties for recommendations.

The Humboldt Bay Harbor District currently has three Observing Apprentice pilots as of March 2023.

SUMMARY OF RECOMMENDATIONS

19.1.14 ENVIRONMENTAL AND ECONOMIC IMPACTS OF THE PLAN

This section will be revised with new recommendations in the next update of the Harbor Safety Plan.

19.1.15 PLAN ENFORCEMENT

It is encouraged that Committee members and alternates, as well as the entire waterfront community, monitor compliance of provisions contained in the Harbor Safety Plan. Noncompliance should be reported to the committee for appropriate action.

19.1.16 FUNDING AND COMPETITION

The Committee recommends that Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 be amended to provide funding for all the recommendations put forth in this Plan.
Should funding not be available through the recommended entities the Committee requests that the recommendations be funded through OSPR revenues.

The OSPR will endorse the HSC’s recommendations made in the Harbor Safety Plan; however, the OSPR cannot fund all the recommendations within the Plan, nor can Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 be amended to provide such funding. Should the HSC determine that more funding is required in the future, the HSC may prepare recommendations in the Plan, as part of the annual update for specific projects recommending a specific amount of funding for specific projects as described in the Plan that could not get funded. The OSPR will consider these recommendations as part of its review to determine the source and feasibility of funding.

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