UNITED STATES COAST GUARD

Pacific Coast
Port Access Route Study

Draft Report

Docket Number USCG-2021-0345

PAC-PARS Workgroup

July 2022

This page was intentionally left blank.

Table of Contents

List of Enclosures

List of Appendices

A. Executive Summary

The Pacific Coast Port Access Route Study (PAC-PARS) was initiated in 2021 to determine whether new or modified vessel routing measures were needed to ensure safety of navigation along the U.S. Pacific Coast due to the quickly evolving demand for use of coastal waters. In recent years, a growing number of stakeholders and organizations have required use of coastal waters for proposed offshore wind developments, new aquaculture projects, space mission launches and recoveries, military exercises, commercial fisheries, and National Marine Sanctuaries, all in addition to a general increase in vessel traffic. The workgroup that conducted this study examined vessel traffic data from the past decade and collected input and data from key stakeholders and the public to develop this study's recommendations with the goal to ensure continued safe, efficient, and predictable vessel navigation alongside other reasonable waterway uses.

On July 28, 2021, the USCG Pacific Area Command issued a Notice of Study (NOS) to publicly announce the PAC-PARS in the *Federal Register* (Docket number USCG-2021-0345). The NOS incorporated a 180-day comment period to offer an opportunity for industry, federal, state, local, and tribal governments and members of the public to engage in the study process and meet with the workgroup to discuss specific concerns, if desired. In addition, the USCG Pacific Area Command, Eleventh District, Thirteenth District, Sectors, Stations, and Aids to Navigation Teams collaborated to carry out a public affairs campaign to notify as many interested and potentially affected organizations and members of the public as possible.

A supplemental Notice of Intent (NOI) was issued by the Eleventh District and released in the *Federal Register* under the same docket number on February 24, 2022, which was open for a 90-day comment period. The purpose of the NOI was to solicit additional public input regarding four California offshore areas due to the status of other federal projects and comments received during the NOS.

To provide maximum opportunity for public input, the Coast Guard intends to publish this draft study containing the recommended vessel routing measures in the *Federal Register* and allow for a 60-day comment period. We hope this effort will provide all stakeholders an opportunity to be part of the process.

As a result of this study, the Coast Guard recommends:

- A 15NM-wide coastwise fairway that follows existing vessel traffic patterns and connects with existing Traffic Separation Schemes (TSSs) (Strait of Juan de Fuca, San Francisco, Santa Barbara and Los Angeles - Long Beach) and key ports
- A 5NM-wide nearshore fairway north of San Francisco
- A Coastal Fairway Zone that overlays the existing D13 Crabber-Towboat Lanes
- The removal of the International Maritime Organization (IMO) recommended routes located offshore of the Monterey Bay National Marine Sanctuary
- Continued support for the voluntary practice of bulk chemical and petroleum carriers to keep 50NM offshore without charted lanes in accordance with the 2002 Pacific States/British Columbia Oil Spill Task Force recommendations.

B. Purpose

This study evaluated whether new or modified vessel routes could improve safety of navigation by providing unimpeded routes for vessel traffic proceeding to or from ports along the western seaboard of the United States while also accommodating other reasonable waterway uses. Due to the emergence of new and increasing uses of pacific coastal waters, it was critical that the Coast Guard evaluate whether existing vessel routes were sufficient to provide safe access routes for future vessel traffic. This study and the associated coordination with other groups and organizations is required before any potential changes can be made to existing vessel routing measures.

The scope of this Port Access Route Study (PARS) included all waters extending from the baseline seaward to 200NM offshore and the approaches to the ports below.

San Diego, CA	Coos Bay, OR
Los Angeles/Long Beach, CA	Yaquina Bay, OR
Morro Bay, CA	Astoria, OR
San Francisco, CA	Grays Harbor, WA
Humboldt Bay, CA	Puget Sound, WA

These ports were included due to their economic significance, ties to military or national defense operations, vicinity to planned offshore developments or relation to international entry and departure transit areas that are integral to the safe, efficient, and unimpeded flow of commerce to/from major international shipping lanes.

C. Background

Statutory Authority

The Coast Guard's authority to designate fairways and traffic separation schemes is found in Chapter 700, Ports and Waterways Safety, of Title 46 of the United States Code (USC), specifically 46 USC 70003, which states, *"in order to provide safe access routes for the movement of vessel traffic proceeding to or from ports or places subject to the jurisdiction of the United States, the Secretary (of the department in which the Coast Guard resides) shall designate necessary fairways and traffic separation schemes for vessels operating in the territorial sea of the United States and in high seas approaches, outside the territorial sea, to such ports or places. Such a designation shall recognize, within the designated area, the paramount right of navigation over all other uses.*"

The Ports and Waterways Safety Act (PWSA) requires the Coast Guard to conduct a Port Access Route Study before establishing or modifying any fairway or traffic separation scheme (TSS).

Existing Routing Measures

Existing vessel routing measures in the study area include:

1. Approaches to the Strait of Juan de Fuca
   The traffic separation scheme for the approaches to the Strait of Juan de Fuca consists of three parts: the western approach, the southwestern approach, and precautionary area "JF." These parts are described in §§ 167.1301 through 167.1303.

2. Santa Barbara Channel TSS
   The Traffic Separation Scheme in the Santa Barbara Channel is described in 33 CFR §§ 167.451 and 167.452.

3. San Francisco TSS
   The Off San Francisco Traffic Separation Scheme consists of six parts: a Precautionary Area, a Northern Approach, a Southern Approach, a Western Approach, a Main Ship Channel, and an Area To Be Avoided (ATBA). The specific areas in the Off San Francisco TSS and Precautionary Area are described in 33 CFR §§ 167.401 through 167.406.

4. Los Angeles-Long Beach TSS
   The Traffic Separation Scheme in the approaches to Los Angeles-Long Beach consists of three parts: a Precautionary Area, a Western Approach, and a Southern Approach. The specific areas in the approaches to Los Angeles-Long Beach are described in 33 CFR §§ 167.501 through 167.503.

5. International Maritime Organization (IMO) Recommended Tracks
   In 1997, a workgroup of key stakeholders in the issue of vessel traffic reviewed existing practices and risks, and proposed establishing Recommended Tracks organized into north-south lanes offshore of the Monterey Bay National Marine Sanctuary to maximize protection of Sanctuary resources while allowing for the continuation of safe and efficient transportation. The group's recommendations also included alteration of the TSS off San Francisco to move vessels further offshore. These recommendations were approved by IMO and implemented in 2000.

Previous Port Access Route Studies

The Atlantic Coast Port Access Route Study (ACPARS) (82 FR 16510) analyzed the Atlantic Coast (Maine to Florida) waters seaward of existing port approaches out to 200 nautical miles (NM) offshore and was finalized in 2017. This study recommended establishing coastwise fairways to facilitate safe and predictable vessel routing.

Along the Pacific coast, the most relevant recent PARS include: The Approaches to San Francisco, completed in 2011; the Approaches to Los Angeles – Long Beach and in the Santa Barbara Channel, completed in 2011; and the Strait of Juan de Fuca and Adjacent Waters, completed in 2000. These studies took various approaches to assess navigational safety given

their capabilities at the time. All completed port access route studies can be found on USCG Navigation Center's (NAVCEN's) website, *https://www.navcen.uscg.gov/port-access-route-study-reports*.

Vessel Traffic Studies and Agreements

The West Coast Offshore Vessel Traffic Risk Management Project

The West Coast Offshore Vessel Traffic Risk Management Project was co-sponsored by the Pacific States/British Columbia Oil Spill Task Force and the USCG. This study looked at vessel traffic transiting between 3 to 200NM off the west coast from Cook Inlet in the north to San Diego in the south. The study completed reviews of vessel traffic and safety factors along the coast, transit distances from shore, and emergency support, among many other factors. Some of the recommendations from this study were published in the Coast Pilot and noted on nautical charts, recommending specific vessel, and cargo types transit set minimum distances from shore. This study was published in 2002 on the Oil Spill Task Force's website, *https://oilspilltaskforce.org/documents/other-documents/*.

In 2002 the Pacific States/British Columbia Oil Spill Task Force recommended a voluntary program that vessels laden with petroleum and chemical cargo observe a 50NM transit route from shore and non-tank vessels and laden tank barges observe a 25NM distance from shore in order to reduce the risk of drift groundings. The first observed period of this volunteer program witnessed 95% of vessels transiting these offshore recommended corridors demonstrating apparent compliance with the task force's recommendations. The U.S. Coast Pilot 7 Pacific Coast – California and U.S. Coast Pilot 10 Oregon, Washington, Hawaii and Pacific Islands both reference the recommended routes.

Crabber/Towboat Lane Agreement

Sea Grant brokered an agreement that provided navigable towboat and barge "lanes" through the crabbing grounds between Cape Flattery, Washington, and San Francisco back in 1971. Today, this "Crabber/Towboat Lane Agreement" is facilitated by the University of Washington Sea Grant program. The current tow-lanes (last updated in November 2019) can be viewed at https://wsg.washington.edu/community-outreach/outreach-detail-pages/crabbertowboat-lane-agreements-download-charts-data-and-meetings/.

Santa Barbara TSS Extension Study

The PAC-PARS workgroup reviewed the National Oceanic and Atmospheric Administration (NOAA) Channel Islands National Marine Sanctuary (NMS) Marine Shipping Working Group final report recommending an extension of the Santa Barbara TSS to IMO. This study concurs with the recommendation based on the analyses conducted, as it supports environmental, offshore renewable energy, and safe navigation objectives. This recommended extension supports vessel traffic management near Channel Islands and is in line with the Coast Guard's Maritime Commerce Strategic Outlook.

Navigation Guidelines

Traffic Separation Schemes and fairways may be designated or established to provide unobstructed approaches for vessels using U.S. ports. Ship routing measures in U.S. waters are established through the regulatory process.

The IMO is the only recognized international body for developing guidelines, criteria, and regulations on a global level concerning specific vessel routing measures. IMO states the purpose of ships' routing is "to improve the safety of navigation in converging areas and in areas where the density of traffic is great or where the freedom of movement of shipping is inhibited by restricted sea room, the existence of obstructions to navigation, limited depths or unfavorable meteorological conditions. Guidelines for establishing routing measures and areas to be avoided are contained in the IMO "Ships' Routeing[*sic*]" publication.

The United Nations Convention on the Law of the Sea (UNCLOS), Article 60, Paragraph 8 states; "Artificial islands, installations and structures and the safety zones around them may not be established where interference may be caused to the use of recognized sea lanes essential to international navigation." A similar provision is found in U.S. Law – The Outer Continental Shelf Lands Act (OCSLA), as amended by the Energy Policy Act of 2005 (EPAct), provides that the Secretary of the Interior shall ensure that any leases, easements, or rights-of-way are carried out in a manner that prevents interference with reasonable uses of the exclusive economic zone, the high seas, and the territorial seas; and in consideration in any other use of the sea or seabed, including use for a fishery, sea-lane, a potential site for a deep-water port, or navigation.

Definitions

Aquaculture - a value loss crop for the reproduction and rearing of aquatic species in controlled or selected environments including, but not limited to, ocean ranching, except private ocean ranching of Pacific salmon for profit in those States where such ranching is prohibited by law. (7 CFR 760.802)

Baseline (Territorial Sea Baseline) - The line defining the shoreward extent of the territorial sea of the United States drawn according to the principles, as recognized by the United States, of the Convention on the Territorial Sea and the Contiguous Zone, 15 U.S.T. 1606, and the 1982 United Nations Convention on the Law of the Sea (UNCLOS), 21 I.L.M. 1261. Normally, the territorial sea baseline is the mean low water line along the coast of the United States. (33 CFR 2.20)

Critical Marine Habitat - Specific areas within the geographical area occupied by species that contain physical or biological features essential to the conservation of the species that may require special management considerations or protection; and specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation. (50 CFR 424.12 (b)(2))

Deep-water Port - Any fixed or floating manmade structure other than a vessel, or any group of such structures, that are located beyond State seaward boundaries and that are used or intended

for use as a port or terminal for the transportation, storage, or further handling of oil or natural gas for transportation to or from any State. (33 CFR 148.5)

Exclusive Economic Zone - The zone where the U.S. and other coastal nations have jurisdiction over natural resources extending no more than 200 nautical miles from the territorial sea baseline. (33 CFR 2.30)

Fairway - A lane or corridor in which no artificial island or fixed structure, whether temporary or permanent, will be permitted. Temporary underwater obstacles may be permitted under certain conditions described for specific areas. Aids to navigation approved by the U.S. Coast Guard may be established in a fairway. (33 CFR 166.105)

High Seas - All waters seaward of the territorial sea baseline. (33 CFR 2.32)

Obstruction - Anything that restricts, endangers, or interferes with navigation. (33 CFR 245.5)

Precautionary Area - A routing measure comprising an area within defined limits where vessels must navigate with particular caution and within which the direction of traffic flow may be recommended. (33 CFR 167.5)

Recommended Route - A route of undefined width, for the convenience of vessels in transit, which is often marked by centerline buoys. (*General Provisions on Ships' Routeing*, adopted Nov. 20, 1985, IMO Resolution A.572(14) as amended at 2.1.9.)

Recommended Track - A route which has been specially examined to ensure so far as possible that it is free of dangers and along which vessels are advised to navigate. (*General Provisions on Ships' Routeing*, adopted Nov. 20, 1985, IMO Resolution A.572(14) as amended, 2.1.10.)

Regulated Navigation Area - A water area within a defined boundary for which regulations for vessels navigating within the area have been established under 33 CFR 165.

Structures - Any fixed or floating obstruction, intentionally placed in the water, which may interfere with or restrict marine navigation. (33 CFR 64.06)

Territorial Seas - Waters 12 nautical miles wide, adjacent to the coast of the United States. (33 CFR 2.22)

Traffic Separation Scheme - A routing measure aimed at the separation of opposing streams of traffic by appropriate means and by the establishment of traffic lanes. (33 CFR 167.5)

Abbreviations and Acronyms

ACPARS – Atlantic Coast Port Access Route Study
AIS – Automatic Identification System
ATBA – Area to Be Avoided
BOEM – Bureau of Ocean Energy Management
CFR – Code of Federal Regulations
CG-NAV – Coast Guard Office of Navigation Systems
COA – Course of Action
COP – Construction and Operations Plan

D11 – Coast Guard District Eleven
D13 – Coast Guard District Thirteen
EEZ – Exclusive Economic Zone
EIS – Environmental Impact Statement
FAQ – Frequently Asked Questions
FERC – Federal Energy Regulatory Commission
FR- Federal Register
GAP – General Activity Plan
GIS – Geographic Information System
IMO – International Maritime Organization
MOA – Memorandum of Agreement
MOC – Memorandum of Cooperation
MTS – Marine Transportation System
NAVCEN – Coast Guard Navigation Center
NEPA – National Environmental Policy Act
NM – Nautical Mile
NMS – National Marine Sanctuary
NOAA – National Oceanic and Atmospheric Administration
OCS – Outer Continental Shelf
OCSLA – Outer Continental Shelf Lands Act
OLE – NOAA's Office of Law Enforcement
OREI – Offshore Renewable Energy Installation
PACAREA – U.S. Coast Guard Pacific Area Command
PAC-PARS – Pacific Coast Port Access Route Study
PARS – Port Access Route Study
PWSA – Ports and Waterways Safety Act
SAP – Site Assessment Plan
SAR – Search and Rescue
TSS – Traffic Separation Scheme
USACE – United States Army Corps of Engineers
USC – United States Code
USCG – United States Coast Guard
VMS – Vessel Monitoring System
WEA – Wind Energy Area

D. Study Process

Objectives

The Pacific Coast PARS (PAC-PARS) workgroup used the objectives outlined in COMDINST 16003.2, "*Marine Planning to Operate and Maintain the Marine Transportation System (MTS) and Implement National Policy*," to guide this study.

1. Determine present traffic density characteristics
2. Determine potential traffic density characteristics

3. Determine if existing vessel routing measures are adequate
4. Determine if existing vessel routing measures require modifications
5. Determine the type of modifications
6. Define and justify the need for new vessel routing measures
7. Determine the type of new vessel routing measures
8. Determine if the vessel routing measures must be mandatory for specific classes of vessels

Data Collection and Processing

To make the above determinations, the PAC-PARS workgroup performed the following steps:

1. Collect and analyze Automatic Identification System (AIS) data used to track vessels and associated transit details
2. Collect and analyze Vessel Monitoring System (VMS) data used to track fishing vessels and associated transit details
3. Collect and analyze marine incidents and casualties (search and rescue cases, collisions, allisions, groundings, etc.)
4. Collect and address public input through comments submitted to the *Federal Register*
5. Collect and review coastal environmental and ecological data (protected species/areas, National Marine Sanctuaries and associated studies, predictive cetacean densities, etc.)
6. Review existing routing measures (IMO recommended routes, local/industry agreements, established TSS/fairways)

Public and Stakeholder Engagement

Over the course of the study, the Coast Guard coordinated with other Federal and State agencies and considered the views and concerns of maritime community representatives, environmental groups, and other interested stakeholders. This coordination helped to reconcile the need to maintain safe access routes with other reasonable waterway uses such as the construction and operation of renewable energy facilities and other uses of the Pacific Ocean in the study area.

E. Discussion

Vessel Traffic Analyses

Coastal Analysis

The coastal analysis evaluated vessel traffic for the years 2012, 2015, and 2017-2021 to determine vessel statistics and trends over time. The analysis found that fishing, recreational, passenger, ‘other’ ship-types, and vessel traffic overall increased over time. The most prominent users, based on the number of unique vessels active in the study area, were cargo and recreational vessels. Seasonally, many ship-type categories saw a large fluctuation in the number

of vessels, number of transits, and the distance transited. The highest traffic volume typically occurred in the third quarter of the calendar year, while the lowest traffic volume was seen in the first quarter. Detailed vessel traffic data for the study area can be found in Enclosure 1. Notable findings from the analysis include:

- Based on a 5-year average, 664 unique vessels and 1,338 transits crossed the southern sections of the inner IMO recommended tracks south of San Francisco. These transits will likely be displaced by the future development of the Morro Bay offshore wind energy lease.
- The study area saw a 5-year average of 8,152 total vessels, 676 fishing vessels, 224 tug and tow vessels, 3,062 recreational vessels, 304 passenger vessels, 2,822 cargo vessels, 576 tanker vessels, and 351 'other' vessels.
- Coastwise cargo vessel transits tended to follow similar tracks approximately 25-40NM from shore.
- Tanker vessels appeared to largely follow the 2002 West Coast Offshore Vessel Traffic Risk Management Project recommendation to maintain at least 50NM offshore when transiting along the coast.
- A significant portion of tug and tow vessels appeared to follow the crabber-towboat lanes when transiting along the Washington-Oregon coast.

Port Analysis

The port analysis evaluated vessel traffic for the years 2018-2021. The complete analysis of vessel traffic for the study's ports is found in Enclosure 2. Notable findings from the analysis include:

- Overall, the number of track lines and unique vessels in each port area showed a steady increase from 2018-2021. For Puget Sound, San Francisco, LA/LB, and San Diego, these increases in traffic appear to be predominantly associated with pleasure craft. Given that pleasure craft are not required to carry AIS, this may be indicative of increased voluntary carriage on these boats, but not necessarily an actual increase in traffic volume.
- In several areas, including Puget Sound, Astoria, San Francisco, and LA/LB, passenger vessel traffic decreased somewhat in 2020 compared to other observed years. This may be attributable to the COVID-19 pandemic and the decrease in cruise ship, ferry, or other passenger vessel activity in those areas during this time period.
- In some of the smaller port areas, such as Grays Harbor, Astoria, Coos Bay, and Morro Bay, fishing vessel activity increased from 2018-2021. Other areas, such as Yaquina Bay and Humboldt Bay, showed variability in fishing vessel activity.
- Generally, cargo vessels and tank ships must transmit on AIS in accordance with international convention or domestic regulation. Activity for these vessel types did not show dramatic increases or decreases over time.
- LA/LB showed the most noticeable increase of any port area. Although these observations are informative, data across a longer timeframe is needed to make definitive conclusions about the traffic trends for these areas over the years or to

discern if there is a statistically significant difference in the number of unique vessels or tracks between years.

Fishing Vessel Analysis

Vessel Monitoring System (VMS) data is primarily used for monitoring certain fisheries and gear-types through NOAA's Office of Law Enforcement (OLE). After receiving approval from OLE, the Pacific Fisheries Information Network (PacFIN) provided the PAC-PARS workgroup with the VMS dataset for the study area from 2017 to 2020. This data was processed into vessel densities following the same methods in Enclosure 1. The results were compared to the AIS data to validate fishing vessel activity within the study area. The visual results of this analysis will not be included in this draft study due to data distribution restrictions set by OLE and the proprietary information associated with fishing grounds. If the vessel densities created for the analysis are approved by OLE for release, they will be included in the final study.

SAR and Marine Incidents

Over the past ten years, the Coast Guard has documented over 35,000 Search and Rescue (SAR) cases in the area covered by this study. Over a third of all cases involved a disabled vessel. The other most common types of USCG SAR cases included reports of distress alerts and a person in the water.

The majority of cases also occurred close to shore – 80% of SAR cases in the study area over the last ten years happened in either inland waters such as rivers, bays, harbors, or territorial waters defined as waters within 12 nautical miles from shore.

With the shifting landscape of maritime uses within the PAC-PARS area combined with the overall trend of increasing commercial shipping traffic, the trends in Search and Rescue cases may also change. The recommended routes proposed will help mitigate maritime safety risks around these emerging ocean uses. They clearly designate routes to add predictability and improve safety in high vessel traffic areas such as LA/LB, San Francisco Bay, and the Strait of Juan de Fuca.

Coast Guard Headquarters is developing guidance for response operations within and around offshore wind installations. There will be an opportunity to incorporate this new guidance during the planning phase of the offshore wind developments in the PAC-PARS area.

Environmental Factors

The advice of NOAA experts was sought throughout the development of the study to ensure important environmental factors were considered while determining the locations and specifications of the recommended routing measures. NOAA provided recent studies, publications, and data related to the impact of vessel traffic on the marine environment - including whale migration patterns and vessel strike data, critical marine habitats, and National Marine Sanctuaries' studies in the PAC-PARS area.

With considerations taken for environmental factors, the recommended vessel traffic routing measures remain clear of susceptible environmental areas such as essential fish habitats, biologically significant areas, whale hotspots, sea mounts, and continental shelf boundaries. Vessel traffic lanes were kept outside NMS boundaries wherever possible and when not possible (i.e. for vessel traffic transiting in and out of San Francisco Bay), vessels are routed through the sanctuary as efficiently as possible. In addition, the recommended routing measures proposed in this study avoid two environmentally significant sea mounts – the Rodriguez Sea Mount by the Channel Islands and the Davidson Sea Mount in the Monterey Bay NMS.

Military and National Security

The PAC-PARS region has multiple Department of Defense (DoD) organizations conducting national security missions, testing, and operations along the Pacific Coast. The PAC-PARS process assisted in improving communication with military operations for the Pacific Ocean and current risks associated with maritime activities in the Pacific Missile Range. These discussions and meetings were productive in evaluating the national need for DoD programs and developing future strategies to improve notification protocols for the maritime community. The primary goal was to assess current vessel traffic patterns in the missile test range and evaluate alternative optional routing measures that may reduce the risk within the Pacific Missile Range to assist in mitigating operational risk, minimize DoD delays, and rescheduling due to vessel transit routes. A meeting with representatives for Vandenberg Space Force Base, Point Mugu Naval Air Station, US Navy Pacific Fleet, and Naval Region Southwest helped shape the fairway recommendations to best meet the need for safety of navigation while minimizing the impacts of vessel traffic on DOD operations.

Public Comments

Notice of Study

A Notice of Study for the PAC-PARS was announced in the *Federal Register* on July 28, 2021, initiating a 180-day public comment period. A total of 52 comments were received – some comments addressed concerns that fell outside the scope of the study.

Summaries for each comment topic are listed in alphabetical order below, and responses are provided in *italics*. Full submissions can be viewed by searching for Docket ID USCG-2021-0345 in the *Federal Register* or by going to: https://www.regulations.gov/docket/USCG-2021-0345/comments.

1. Anchorages

    a. Concern for the lack of anchorages off Washington and Oregon which causes cargo ships and tank vessels to drift slowly while waiting for a berth. This increases the risk of grounding, especially during inclement weather and creates a hazard for other mariners. Several comments noted a lack of safe harbors/anchorages, specifically in the vicinity of Grays Harbor.

b. Concern about milling behavior and loitering during times of high traffic congestion while awaiting an anchorage space or berth.

c. Concern about the steep drop-off off the California coast below 35 fathoms (past the depth a ship may anchor), reducing the area available to anchor in an emergency.

We did not consider anchorages in the scope of this study. However, Coast Guard Headquarters is conducting a national review of current anchorage regulation standards. The results of this analysis will be provided via the Federal Register with recommendations or adjudication of review processes and may require additional analysis with local USCG District Commands.

2. Commercial Concerns

a. Several requests for efficient vessel traffic routes to save fuel and time while enhancing order and predictability. One comment suggested that some measures be voluntary rather than mandated to ensure freedom of navigation. One comment requested economic considerations if a longer transit route was recommended far offshore.

b. Request to widen crabber-towboat lanes off the coast of Oregon to allow ships to use them.

The overarching goal of this study is to enhance navigation safety while considering the needs of all waterway users including commercial shipping. The recommendations of this PAC-PARS align as closely as practicable to historic vessel traffic patterns, including examining the traffic patterns of specific types of vessels, while also considering new and growing waterway uses to develop the best recommendations to fit all needs. If necessary, an additional analysis will determine any potential economic impacts of the recommended vessel routing measures prior to the rulemaking process.

This study is not recommending routing measures for specific vessel types - all fairways will be considered recommended routes for any type of vessel.

We evaluated the establishment of a route closer to shore to meet the safety needs of shallow draft vessels. We encourage mariners to take the vessel route that is the safest for their vessel's handling characteristics. Additionally, this study supports the agreement established by The Pacific States/British Columbia Oil Spill Task Force and The Western States Petroleum Association (WSPA) Agreement. These agreements request that deep-draft vessels carrying petroleum and chemicals continue to use a route outside of 50NM from shore. This agreement also addresses shallow-draft vessels and the routing recommendations. Coast Guard Districts Eleven and Thirteen support the efforts of these two organizations and the work that Pacific Area Command has achieved by

supporting The Western States Petroleum Association (WSPA) Agreement.

3. Environmental Concerns
   a. Air Pollution:

      1. Propose Vessel Speed Reduction (VSR) to 10 knots when within a certain distance from shore (within 24 up to 50 miles).
      2. Request thorough evaluation of potential impacts on air quality when determining route recommendations.
      3. Extend the Area to be Avoided (ATBA) west of the Channel Islands to reduce impact of vessel emissions on ozone concentrations on land.
      4. Successful new queuing system at the Port of Los Angeles/Long Beach reduces local air pollution and suggest widespread adoption of this policy.

The overarching goal of this study is to enhance safety of navigation while considering the needs of all waterway users. Any environmental impacts of the recommended routing measures will be analyzed by USCG Headquarters staff through a comprehensive environmental impact study before any changes to vessel routing measures can be codified via the rulemaking process.

   b. Impact to Wildlife/Fisheries:

      1. Consider existing Tribal rights to fishing grounds including any impact to migratory species the tribes rely on for food.
      2. Concern about the displacement of fisheries or the conflict of using certain gear within designated vessel traffic lanes.
      3. Recommendation to keep vessel traffic routes away from established bottom-contact fishing areas, which are identified as Essential Fish Habitat Conservation Areas.

The Coast Guard respects tribal rights regarding the marine resources in the study area and conducted direct outreach and consultation with tribal nations in the region.

The overarching goal of this study is to enhance navigation safety while considering the needs of all waterway users and any environmental impacts. The environmental impacts of the recommended routing measures will be analyzed by USCG Headquarters staff through consultation with other agencies including NOAA National Marine Fisheries Service before any changes to vessel routing measures can be codified via the rulemaking process.

   c. Oil Spills:

      1. Recommend continuing current practices of routing vessels over 300 gross tons 25NM offshore and vessels with persistent petroleum products 50NM offshore to reduce the potential for drift groundings and subsequent oil spills.

2. Concerns regarding the increased risk of oil spills that naturally accompanies increased vessel traffic and request any changes to vessel traffic routes consider improving safety on the water to minimize spill risk.
3. Increasing traffic and wait-times (likely to increase as a result of planned port expansions) results in a disproportionately high risk of a major oil spill, especially during inclement weather.

The overarching goal of this study is to enhance navigation safety while considering the needs of all waterway users and any environmental impacts. The establishment of the navigation corridors recommended by this study will help improve safety and help mitigate risks of marine incidents by improving the predictability of vessel traffic. The Coast Guard encourages the continuation of the WSPA agreement in which coastwise tanker ships voluntarily keep 50NM offshore.

d. Whale Strikes:

1. Suggest moving shipping lanes farther offshore.
2. Request for vessel speed reduction to 10 knots
3. Recommend special consideration for seasonal changes in migration patterns. One recommendation to ban nighttime traffic in certain areas during times of increased marine mammal presence.
4. Encourage continued development of quieter and more efficient vessel technology.
5. Recommendation to extend the TSS in the Santa Barbara Channel to reduce the wide footprint of vessel traffic in that area. Several comments recommended expanding the Area to be Avoided (ATBA) around the Channel Islands north, west, and south, to encompass areas with high whale densities. Commenters also recommended consideration of a new TSS south of the Channel Islands.
6. Modify the San Francisco TSS to avoid overlap with commercial fishing activity and sensitive habitats and reduce the incidences of ship strikes to whales.
7. Recommendation to establish a species-sensitive TSS that can route vessels around areas where protected species are foraging or otherwise using at the time.
8. Recommended routes should preserve whale habitats by reducing oil spills and underwater noise.
9. Concern about ship strikes and vessel traffic impacts to leatherback sea turtles.

The overarching goal of this study is to enhance navigation safety while considering the needs of all waterway users and any environmental impacts. The environmental impacts of the recommended routing measures will be analyzed by USCG Headquarters staff through consultation with NOAA before any changes to vessel routing measures can be codified via the rulemaking process.

In addition, over the course of this study, Coast Guard staff frequently consulted NOAA staff to seek input on best ways to mitigate the impact of the vessel routing recommendations on marine life.

4. Navigational Hazards:
    a. Offshore Wind Areas (OWAs):
        1. Concern over likelihood of allisions with the floating towers if a ship loses propulsion upwind of a wind farm. Recommendation for a large buffer area to allow for adequate emergency response time as well as a transit lane through the wind farm in case a quick return to port is necessary. One comment specifically recommended a 4 NM wide corridor through OWAs.
        2. Concerns about USCG ability to safely respond for emergency/SAR operations within the wind farms.
        3. Concern about potential interference with radar systems near OWAs; one recommended use of Pulse Compression Radar on fishing fleets.
        4. Encourage full interagency cooperation as well as coordination with the commercial sector when planning the development of OWAs to ensure best alignment during the process and fewer disputes.
        5. Request OWAs stay out of uncharted but state-defined pilot boarding ground.
        6. Concern about likely increase in vessel traffic around ports near proposed OWAs and recommend routing ships to the west of such areas to avoid transiting through sensitive, protected areas.
        7. Request OWAs not be placed near port entrances, as that would present an unnecessary risk for vessels transiting in and out.
        8. Suggestion that each site be allowed to define its own safety rules based on the risks and hazards present at each location rather than be subject to blanket regulations.
        9. Skepticism about the ability of OWA support vessels to withstand heavy weather off Northern California and Oregon, adding to the navigational risks for small fishing vessels.
        10. Suggestion that OWA support vessels have specified corridors to reduce conflicts with fishing fleets.

The Bureau of Ocean Energy Management (BOEM) is the lead federal agency for offshore wind developments and is responsible for the planning, leasing, site assessment, construction, and operations related to those developments. The Coast Guard is actively engaged with BOEM in providing guidance for response operations in and around wind farms.

The Coast Guard is collaborating with BOEM to review Navigational Safety Risk Assessments for specific projects and will incorporate these concerns during that process for the offshore wind areas along the Pacific coast.

    b. DoD Activity:

1. Concern that DoD exercises present a hazard to vessel traffic and the PAC-PARS should consider such areas carefully when recommending a route.
2. Concern about competing use of the Naval Air Ranges with passing commercial and pleasure vessels.

Access to coastal waterways is essential to many industries, including the DoD performing operations or exercises in support of national defense objectives. The Coast Guard publishes information on military activities in the Local Notice to Mariners (LNM), Broadcast Notice to Mariners (BNM), and Navigational TEleX (NAVTEX) for public awareness and to provide mariners information in advance to avoid any potentially hazardous activities. The Coast Guard recommends that the maritime community register for the Local Notice to Mariners (LNM) Email Message Subscriptions on the USCG Navigation Center website (www.navcen.uscg.gov). This email subscription is free and will assist all waterway users with updates to the navigational waters in their respective Coast Guard Districts.

The Coast Guard actively engaged with DoD counterparts during the study to develop vessel routing options that meet the needs of the DoD while also promoting the safe and efficient passage of vessel traffic while also considering any impacts to the environmentally sensitive Channel Islands National Marine Sanctuary.

c. General Vessel Activity:

1. Recommendation for separate vessel routing measures for small recreational and commercial vessels to reduce conflicts and increase safety between those vessels and large commercial vessels.
2. Request to consider rise of autonomous vessels when recommending routing measures.

All vessels, public and private, are subject to the jurisdiction of the International Regulations for Preventing Collisions at Sea (72 COLREGS) and 33 CFR 83, as amended. These rules provide standards to assist mariners in safe navigation and address all questions regarding seamanship on the high seas.

It is a challenge to predict and fully account for the impact of autonomous vessel technology at its current development stage. The Coast Guard is working separately to address this issue to ensure safe navigation continues and that policies and regulations evolve to appropriately account for the new technologies.

5. Oil Pipeline Strikes:

a. A need for underwater mapping of existing infrastructure to avoid anchor strikes of marine pipelines, fiber optic cables, etc.

b. Suggestion to assess navigation safety along the San Pedro Shelf between Los Angeles/Long Beach, along the Santa Barbara Channel near Ventura, and north of Point Conception, to include mapping/charting all proposed routes expeditiously.
c. Tugboats on the Pacific Coast commonly use heavy chains, which require a deeper draft than those using wire ropes, and may be more likely to experience allisions with underwater cables etc.
d. Request for appropriate charting and public notification of the location of contingency anchorages for emergency situations with the intended outcome of avoiding future strikes.

The Coast Guard observes standard protocols when working with other federal agencies responsible for permitting the installation of underwater structures such as pipelines and fiber optic cables. These include standard methods of charting these types of equipment located on the seabed, which can be found in the U.S. Chart No. 1 (Chart Symbols), Symbols, Abbreviations and Terms used on Paper and Electronic Navigational Charts and other U.S. Coast Guard and National Oceanic and Atmospheric Administration publications.

6. Removal of Existing Oil/Gas Platforms:

e. Consider impacts that oil and gas platform decommissioning will have on marine traffic.

The federal agency in charge of promoting compliance with safety and environmental standards and monitoring activities associated with oil and gas platforms is the Bureau of Safety and Environmental Enforcement (BSEE). In terms of the impact of decommissioning oil and gas platforms on marine traffic- this study's recommended routes are located farther offshore and well outside areas with offshore platforms.

7. Scope of the PARS:

f. Consider several planned port projects in Canada that will significantly increase marine traffic in northern Washington.
g. Recommendation to extend PAC-PARS to include Alaskan waters as well as those off British Columbia, as increasingly large vessels transit these waters to ports farther south.

The fairways proposed in this study were made wide enough to accommodate growing vessel traffic volumes.

The scope of this study is focused on the waters off Washington, Oregon, and California. Coast Guard District 17 covers Alaskan waters and is the unit responsible for conducting PARS in their region.

8. Surfing

h. Consider effects of breakwater installation and fairway designation on popular surf areas.
i. Breakwater is necessary for commercial and DoD interests, despite talks about its removal for surfing interests.

This study's recommended fairways do not impact existing shoreline infrastructure such as breakwaters – they provide voluntary recommended routes for offshore vessel traffic with connections to port approaches.

Notice of Inquiry

On February 25, 2022, Eleventh Coast Guard District issued a Notice of Inquiry (NOI), 87 FR 10757, on the *Federal Register* with the same document number as the Notice of Study USCG-2021-0345. The NOI included 28 questions to continue the engagement with the maritime community, federal and state regulators, and tribal nations. The NOI was published to provide an additional comment period with specific questions and was open for 90-days. District Eleven received an additional 16 comments to add to the Notice of Study.

The NOI was issued based on recognized areas of interest for expanding the public outreach and afford additional time to evaluate current trends associated with four areas: the BOEM Humboldt Wind Energy Area (WEA), San Francisco Traffic Separation Scheme (TSS), BOEM Morro Bay WEA, and Pacific Missile Range.

Summaries for each comment topic are listed in alphabetical order below and responses are provided in *italics*. Full submissions can be viewed by searching for Docket ID USCG-2021-0345 and 87 FR 10757 in the *Federal Register* at: https://www.regulations.gov/document/USCG-2021-0345-0054/comment.

1. Human Environment
   a. Request the USCG solicit information relevant to the NEPA process as soon as possible. This should include additional information on emissions from NOx, Sulphur, and particulate matter emitted by ships underway and at anchor or berth.
   b. Request the USCG integrate analyses required under the National Environmental Policy Act ("NEPA"), the Endangered Species Act (ESA), and other environmental laws.
   c. Consider introducing mandatory speed restrictions in critical habitat areas. These restrictions would reduce the risk of fatal whale strikes, vessel sound energy affecting mammals and habitats, and greenhouse gas emissions.

The overarching goal of this study is to enhance navigation safety while considering the needs of all waterway users and any environmental impacts. The environmental impacts of the recommended routing measures will be analyzed by USCG Headquarters staff through consultation with NOAA before any changes to vessel routing measures can be codified via the rulemaking process.

In addition, over the course of this study, Coast Guard staff frequently consulted NOAA staff to seek input on best ways to mitigate the impact of the vessel routing recommendations on marine life.

2. Commercial Industry
    a. Concern for the effects that additional ATBAs, mandatory vessel speed restrictions, and offshore development such as WEAs and aquaculture farms will have on route efficiency and anchorage capacities.
    b. Request BOEM, USN, and USCG align their efforts to optimize safe commercial navigation along the Western seaboard.
    c. Several routing recommendations were submitted for the Northern California areas that address the concern of increased commercial traffic density and displacement due to offshore development.
    d. Several comments were submitted regarding the occasional displacement of commercial vessels in the Pacific Missile Range due to Navy operations and the negative effects on the efficient movement of cargo.
    e. Request for any new or modified routing measure to have a minimum width of 3NM for safe commercial navigation.
    f. Concern for the study's reliance on AIS and VMS data alone to determine where fishing effort and activity is taking place. Commercial fishing organizations are concerned that a significant percentage of their vessel data is not being represented.

The overarching goal of this study is to enhance navigation safety while considering the needs of all waterway users including commercial shipping. The recommendations of this PAC-PARS align as closely as practicable to historic vessel traffic patterns while also considering new and growing waterway uses. In addition, the rulemaking process will evaluate any recommendations for potential environmental or economic impacts.

As part of the study process, the Coast Guard had multiple exchanges with NOAA, DOD, DOI, state, and tribal nation representatives at public forums and internal evaluations.

3. Marine Wildlife
    a. Recommendation to remove the northern TSS to San Francisco Bay due to its intersection with a highly used baleen whale habitat.
    b. Request continued monitoring of commercial ship AIS data to ensure compliance and speed control.
    c. Request the USCG incorporates the best available data on whale strikes and whale migratory patterns into their decision-making process.
    d. Request the USCG considers air pollution, underwater noise pollution, and vessel strikes on endangered species, including whales and sea turtles, when it undertakes its analyses.

e. Several recommended modifications to the San Francisco TSS were submitted to optimize navigational safety, reduce overlap with commercial fisheries, and reduce risk to sensitive habitats and threatened whale species.
f. Several recommended modifications to the IMO recommended routes in the Monterey Bay National Marine Sanctuary were submitted to mitigate the effects on marine mammals and birds and to reduce the risk of sensitive area pollution in the event of a large commercial vessel marine incident.
g. Several routing measures were recommended around Point Mugu and south of the Channel Islands. These recommendations considered effects on the Pacific Missile Sea Range, the Rodriguez Seamount, and the proposed Chumash Heritage NMS.
h. Concern that spatial displacement will result in higher concentrations of fishing vessels closer to shore and therefore will result in increased gear entanglements of marine mammals and turtles.

The overarching goal of this study is to enhance navigation safety while considering the needs of all waterway users and any environmental impacts. The environmental impacts of the recommended routing measures will be analyzed by USCG Headquarters staff through consultation with other agencies, including NOAA National Marine Fisheries Service, before any changes to vessel routing measures can be codified via the rulemaking process.

The Coast Guard appreciates all recommendations for updating TSSs. Existing and proposed TSSs have been considered a part of this study; recommended routes endeavor to maximize safe navigation and minimize negative impacts on the marine environment.

Coast Guard District Eleven and Coast Guard Sector San Francisco continue to be participating agencies with NOAA Sanctuary meetings and working groups. Currently, the PAC-PARS data supports a three TSS program for vessels departing and arriving at the port of San Francisco. As indicated in multiple working groups with NOAA Farallon National Marine Sanctuary and Cordell Bank National Marine Sanctuary, the northern TSS for San Francisco Bay supports safe navigation and provides a traffic management process that the Vessel Traffic Service monitors and provide routing measures to support improved navigation protocols. The northern TSS was established through the PARS process – see docket number USCG-2009-0576 in the Federal Register.

4. Wind Energy Areas
   a. Concern for the effects of regulations implemented within and around the BOEM WEAs on commercial and recreational fishing.
   b. Request to consider the amount of regularly utilized real estate the WEAs will be consumed in the Northern California waters and the adverse effects that will impose on commercial fishing of offshore species, specifically albacore tuna.
   c. Request to implement navigational routes through the WEAs that directly support the commercial fishing industry.

d. Recommend the lessees of WEAs mitigate safety and security concerns by utilizing a monitored camera surveillance system.
e. Recommend implementing regulations that restrict entry to only vessels 100 feet or less. This would reduce the probability of collisions due to the maneuverability of smaller vessels and the damage caused by possible allisions with the actual structures.
f. Concern for the effects of offshore development on the fishing industry and fishing-dependent coastal communities. Additional regulation would place a severe strain on the already highly regulated fishing industry. Areas of opportunity are already limited by fishing closures, marine mammal protection areas, and regulated vessel transit and shipping lanes.
g. Recommendation to implement navigational flexibility in and around the WEAs to maximize safety and minimize disruption to the fishing industry.
h. Concern for the fatal effects of offshore birds flying into active wind farms off Morro Bay.
i. Concern for the effects of overall increased vessel traffic in and out of Morro Bay harbor due to the WEA.
j. Recommendation to move the WEA offshore to a more commercially robust port like San Francisco for more suitable infrastructure support.
k. Concern for the effects of WEAs on the safe transit of tugboats, towboats, and barges through Humboldt Bay, San Francisco Bay, Morro Bay, and Point Mugu. Unsafe weather conditions cause the industry to modify routes. WEAs will significantly impact the use of safe weather routes and will increase emissions if the industry is forced further offshore.
l. Several regulatory recommendations were submitted to BOEM and the USCG to support the continuation of critical large-scale scientific surveys along the West coast by NOAA vessels.

BOEM is the lead federal agency for offshore wind developments and is responsible for planning, leasing, site assessment, construction, and related operations. The findings of this PARS may determine whether safety zones, security zones, recommended routes, regulated navigation areas, and other routing measures should be created for offshore wind areas.

The Coast Guard also has a role in collaborating with BOEM to review Navigational Safety Risk Assessments for specific projects and will incorporate these concerns during that process for the offshore wind areas along the Pacific coast. Finally, the Coast Guard reviews wind farm proposals to determine the impact on its Search and Rescue (SAR) mission and makes recommendations to mitigate any effects.

F. Outreach

Staff at the Eleventh and Thirteenth Coast Guard Districts conducted public outreach campaigns for their respective jurisdictions. This public information initiative involved virtual

and in-person outreach at Marine Sanctuary Advisory Committees, Harbor Safety Committees, marine exchanges, industry representative boards, and NOAA working groups. Both Districts issued press releases, social media announcements, Marine Safety Information Bulletins, Local Notice to Mariners, business letters, informational pamphlets, and flyers.

Two critical public comment periods drove the pace and method of outreach; the Notice of Study (NOS), published by Pacific Area Commands on July 28th, 2021, had a comment period of 180 days and the Notice of Inquiry (NOI), published by District Eleven on February 25th, 2022, had a comment period of 90 days. This provided multiple opportunities for public participation and upheld the Coast Guard's commitment to maintaining open dialogue and accessibility with the maritime community.

District Eleven

A summary of District Eleven's quarterly outreach efforts is outlined below. A variety of outreach material was developed for this study including the D11 PAC-PARS Business Letter, the NOS Marine Safety Information Bulletin (MSIB) (04-21), District Eleven Local Notice to Mariners article (Section I – Special Notices), NOI flyer, and NOI MSIB (01-22).

Third Quarter 2021

- Initial information about the PAC-PARS was presented via virtual monthly meetings to the San Francisco Harbor Safety Committee, headed by the Marine Exchange of the San Francisco Bay Region.
- Information was presented to the Channel Islands National Marine Sanctuary Advisory Council via a virtual public forum.
- Information was submitted to and published in the Pacific Maritime News Magazine.
- Notifications were made to the U.S. Senate and U.S. House of Representatives in the form of an official congressional notification.
- The NOS MSIB was published, providing background information, and providing specific instructions for accessing and commenting on the NOS. The MSIB also provided an email address (PACPARS@uscg.mil) as an alternate means of submitting comments or questions.

Fourth Quarter 2021

- Flyers and pamphlets with specific instructions for commenting on the NOS, along with the business letter from the District Commander, were distributed to the Marine Exchange of Southern California.
- Flyers, pamphlets, and the business letter were distributed to the office of Vessel Traffic System (VTS) LA/LB.

- Both districts attended a high-level virtual meeting hosted by BOEM to discuss the effects of offshore wind structures on the fishing communities.
- District Eleven's Commercial Fishing Vessel Safety Specialist released a newsletter featuring PAC-PARS information and the NOS flyer.

First Quarter 2022

- District Eleven Public Affairs created a post on the U.S. Coast Guard Pacific Southwest Facebook page (https://www.facebook.com/USCoastGuardCalifornia) requesting public participation in the PAC-PARS.
- Details of the NOI were discussed with a representative from the Environmental Protection Agency Region 9 Laboratory.
- District Eleven Public Affairs created a post on the USCG Northern California Twitter page (@USCGNorCal) requesting public participation in the PAC-PARS.
- An email containing the NOI and a flyer with specific instructions for commenting on the NOI were distributed to a group of over 100 port partners in the LA/LB area of responsibility.
- Initial information about the NOI was announced via virtual monthly meetings to the San Francisco Harbor Safety Committee. Details of the NOI's focus on the San Francisco area, as well as the timeline for public comment, were mentioned by both the Captain of the Port and the Navigation working group chair.
- District Eleven secured a panelist position in the Pacific Offshore Wind Summit held in San Francisco. This event was attended by over 500 representatives from various private and government organizations, including Offshore Wind California, the California Energy Commission, and the Bureau of Ocean Energy Management. The District Eleven panelist distributed the NOI MSIB and flyers to attendees.

Second Quarter 2022

- Initial information about the NOI was announced via virtual monthly meetings to the LA/LB Harbor Safety Committee. Details of the NOI's focus area, as well as the timeline for public comment, were mentioned by both the Captain of the Port and the Navigation working group chair. Flyers were also distributed to participants virtually.
- Printed NOI flyers were distributed to Coast Guard Sectors Humboldt Bay, San Francisco, LA/LB, and San Diego for public dissemination. Individual units handed out flyers to the maritime community during routine operations.
- The timeline for commenting on the NOI was announced via virtual monthly meetings to the San Francisco Harbor Safety Committee. The MSIB was also attached to the official meeting minutes.

- Flyers were sent to Coast Guard Auxiliary Flotillas throughout California for distribution to the maritime community. The flyers were distributed to marinas, yacht clubs, and marine supply stores throughout the cities of Brisbane, Oxnard, Ventura, Avila, Morro Bay, and Marina Del Rey.
- District Eleven attended the first in-person San Francisco Harbor Safety Committee held in over two years. The deadline for the NOI comment period was announced by the Captain of the Port and Navigation working group chair.
- District Eleven met with representatives from U.S. Naval Region Southwest, U.S. Navy Pacific Fleet, Point Mugu Sea Range, and U.S. Space Force Western Region for interagency discussion and collaboration on the PAC-PARS.

District Thirteen

A summary of District Thirteen's quarterly outreach efforts are outlined below.

Third Quarter 2021

- Initial information about the PAC-PARS was presented to the Olympic Coast National Marine Sanctuary.

Fourth Quarter 2021

- The NOS was discussed at the Puget Sound Harbor Safety Committee meeting. Feedback from the group included the recommendation that the USCG incorporate ocean floor features in the analysis.
- General PAC-PARS info was discussed during a BOEM Oregon Task Force meeting. A general timeline for BOEM's Oregon call area and Environmental Assessment was disclosed.
- The NOS was presented to the Coos Bay Harbor Safety Committee members.
- The NOS was discussed at the Columbia River Harbor Safety Committee meeting. Bar Pilots highlighted studies of possible interest and local fisherman highlighted that several fisheries are heavy and in close proximity to the entrances of OR and WA ports.
- The NOS was presented to the Pacific Fish Council, which was largely attended by members of the crabbing, pot, line, and trawler communities. Members expressed concerns about the fifty-year agreement between crabbers and the towing industry. Also, concerns about distances between WEA platforms for transiting and fishing were also brought up.
- D13 met with representatives from the Pacific Northwest Crabber/WA Sea Grant community to discuss the PAC-PARS and towing lane agreements. Attendees requested that data from fisheries logbooks be included in the analysis.
- Both districts attended a high-level virtual meeting hosted by BOEM to discuss the effects of offshore wind structures on the fishing communities.

First Quarter 2022

- Projected changes to the vessel traffic density in the port of Coos Bay were discussed with representatives from the Coquille Tribe.
- The PAC-PARS was discussed with eight representatives of the Makah Tribe. Tribal representatives emphasized importance of protecting Tribal usual and accustomed fishing ground and safety of navigation.
- D13 briefed Puget Sound Harbor Safety Committee with an update on PAC-PARS and closure of the public comment period. There was a comment regarding taking into account the sea floor and impacts to marine mammals caused by additional routing measures.
- Lash up meeting with BOEM West Coast Director, D11, and D13. BOEM provided an update on leasing status off the west coast and CG provided an update on PAC-PARS progress.
- PAC-PARS update briefed at Lower Columbia River Harbor Safety Committee meeting.
- Met with OR/WA crabber/towboat group and WA Sea Grant to discuss incorporating lanes as a federally recognized fairway.

Second Quarter 2022

- Provided project update to Puget Sound Harbor Safety Committee meeting.
- Crabber/towboat WA Sea Grant follow-up meeting on PAC-PARS. Tentative support for a fairway zone that enabled this community to refine and manage the agreed upon lanes inside of a larger federal fairway.
- Met with Columbia River Steamship Operators' Association to discuss lower Columbia River anchorages and had a brief discussion on PAC-PARS.
- Meeting with BOEM West Coast Director, D11, D13, and D14 to discuss PAC-PARS and lease updates.
- Briefed Trans Boundary forum (Pacific Coast Marine Advisory Review Panel/Puget Sound Harbor Safety Committee) on PAC-PARS update including a timeline for recommended federal recommendations with regards to routing measures. Trans Boundary forum includes major waterways users from WA and British Columbia operating in the shared waterway.
- Briefed Joint Coordinating Group which supports the 1979 State Department Cooperative Vessel Service Agreement between the U.S. and Canada. D13 staff provided an update on PAC-PARS and informed group that the Strait of Juan de Fuca Traffic Separation Scheme was not being evaluated as part of this study.

G. Recommendations

District Eleven

Charts showing the following recommended fairways are included in Appendix I and II.

Proposed Fairway System:

1. D11 Offshore Fairway – A voluntary fairway system with a 15NM wide major thoroughfare that generally follows the existing offshore route used by commercial container and bulk carrying vessels. The main trunk of the fairway runs north - south between the Oregon/California border to the Santa Barbara TSS north of the Channel Islands. This fairway provides a voluntary, recommended route for coastwise vessel traffic.

Port Approaches - The D11 Port Approaches connect vessel traffic entering and departing major California ports to the Offshore Fairway. These fairways are generally 5NM wide except for a larger opening at the San Francisco east/west TSS.

San Francisco: The approach/departure from San Francisco TSS has four recommended routes with a main East/West fairway to meet the historic vessel traffic patterns. Three other approach/departure fairways and openings in the fairway were added from north and south angled routes with a 5NM width. These angled approaches were added after discussion with industry representatives and federal agencies on ways to improve the study.

Santa Barbara TSS and Channel Island: The approach/departure from Santa Barbara TSS has two recommended routes to meet the historic vessel traffic patterns. These routes with a 5NM width support the lower section of the D11 Offshore Fairway and were added from discussion with industry representatives and federal agencies on ways to improve the study.

Humboldt: The approach/departure from Humboldt Bay has two recommended routes to meet the current historic traffic patterns and work with the planned BOEM Humboldt WEA. The two approaches/departure fairways were added from north and south angled routes with a 5NM width. These angled approaches were added after discussions with fishing, tug, and commercial shipping industry reps on ways to improve the study.

Latitude and Longitude of primary points:

D11 Offshore Fairway								
	Latitude	**Longitude**		**Latitude**	**Longitude**		**Latitude**	**Longitude**
1	37.69199	-124.24967	19	40.97161	-124.9209	Open		
2	37.66773	-124.04572	**20**	40.77775	-124.8311	**36**	37.22665	-122.6469
3	38.13045	-124.26297	**21**	40.71915	-124.7259	**37**	36.3866	-122.6712
4	38.13105	-124.33151	**22**	40.75346	-124.566	**38**	35.53454	-121.9937
Open			**Open**			**39**	34.50217	-121.1101
5	38.20939	-124.36514	**23**	40.67178	-124.6048	**Open**		
6	38.20924	-124.30018	**24**	40.53133	-124.849	**40**	34.45387	-121.1262
7	38.91267	-124.6342	**25**	40.3899	-124.826	**41**	34.23396	-121.1983
8	39.08081	-124.69148	**26**	38.89796	-124.2854	**42**	34.0167	-121.1385
9	39.15513	-124.79601	**Open**			**43**	33.81994	-120.961
Open			**27**	38.73637	-124.208	**Open**		
10	39.28757	-124.83394	**28**	38.20837	-123.9624	**44**	34.24804	-121.305
11	39.22378	-124.74543	**Open**			**45**	34.4297	-121.41

12	40.34598	-125.14819	**29**	38.12657	-123.924	**46**	34.43383	-121.6956
13	41.87827	-125.40672	**30**	37.62501	-123.6821	**Open**		
14	41.90966	-125.07572	**31**	37.59872	-123.4608	**47**	34.51763	-121.7126
15	41.32288	-124.9786	**Open**			**48**	34.51414	-121.4611
16	41.18604	-124.40443	**32**	37.33699	-123.2092	**49**	35.84225	-122.5573
Open			**33**	37.21996	-123.323	**50**	36.27365	-122.9232
17	41.14391	-124.55627	**34**	36.52019	-122.771	**51**	37.00716	-123.5252
18	41.12473	-124.83761	**35**	37.23389	-122.7512	**52**	36.85275	-123.6672

2. D11 Pt Mugu Fairway: This voluntary fairway provides an alternative route to the Santa Barbara TSS on the north side of the Channel Islands. This 5NM wide alternate route runs south of the IMO Area to Be Avoided (ATBA) around the Channel Islands. This route was developed in collaboration with NOAA National Marine Sanctuary and DOD representatives to help organize vessel traffic through the Pacific Missile Range and minimize disturbance to the Channel Islands NMS.

Latitude and Longitude of primary points:

D11 Pt Mugu Fairway								
	Latitude	**Longitude**		**Latitude**	**Longitude**		**Latitude**	**Longitude**
1	33.922858	-119.128	**Open**			**5**	33.681097	-120.156
2	33.765378	-120.16	**4**	33.733596	-120.915	**6**	33.840673	-119.11
3	33.819941	-120.961						

3. D11 San Diego Fairway: The approach/departure from San Diego and Southern Los Angeles/Long Beach harbors provides two voluntary recommended routes. The two approaches/departure fairways provide defined north and south angled routes each with a 5NM width. These approaches were added after discussions with fishing, tug, and commercial shipping industry representatives regarding vessel traffic issues in this area.

Latitude and Longitude of primary points:

D11 San Diego Fairway								
	Latitude	**Longitude**		**Latitude**	**Longitude**		**Latitude**	**Longitude**
1	33.26206	-118.00237	**5**	32.81472	-117.8059	**9**	32.90717	-118.0429
2	32.92517	-117.85358	**6**	32.67453	-117.7453	**Open**		
3	32.79796	-117.52975	**Open**			**10**	33.00225	-118.0523
Open			**7**	32.67813	-117.8521	**11**	32.97374	-117.9808
4	32.72221	-117.5715	**8**	32.86439	-117.9333	**12**	33.2329	-118.0955

4. D11 Near-Shore Fairway – This voluntary fairway system meets the needs of the predominant commercial fishing shipping industries off Northern California and supports the longstanding Crabber/Towboat Lane Agreement (1971), amended in November 2019. The D11 Near-Shore Fairway spans from above the northern leg of the San Francisco TSS and

proceeds north to Humboldt Bay and beyond to the California/Oregon border where it connects to the D13 Coastal Zone Fairway. The width of the fairway is 5NM to meet current and future vessel traffic safety needs.

Latitude and Longitude of primary points:

D11 Near-Shore Fairway								
	Latitude	**Longitude**		**Latitude**	**Longitude**		**Latitude**	**Longitude**
1	41.96496	-124.5476	**9**	39.70833	-123.8758	**17**	40.18657	-124.5001
2	41.97654	-124.43695	**10**	39.33333	-123.8767	**18**	40.46224	-124.7039
3	41.84246	-124.4086	**11**	38.875	-123.7958	**19**	40.67178	-124.6048
4	41.66852	-124.2442	**12**	38.26463	-123.4	**Open**		
5	41.16087	-124.2962	**Open**			**20**	41.18604	-124.4044
Open			**13**	38.15879	-123.4503	**21**	41.64486	-124.3582
6	40.69464	-124.47728	**14**	38.84641	-123.8961	**22**	41.81024	-124.5146
7	40.46833	-124.585	**15**	39.32901	-123.984	**23**	41.96496	-124.5476
8	40.22833	-124.40583	**16**	39.67952	-123.9839			

District Thirteen

Charts showing the recommended fairways are included in Appendix I and III.

Proposed Fairway System:

1. **D13 Offshore Fairway** – A voluntary fairway system with a 15NM wide major thoroughfare that generally follows the existing offshore route used by commercial container and bulk carrying vessels. The main trunk of the fairway is a north – south corridor spanning the Washington and Oregon coasts from outside the Strait of Juan de Fuca TSS Entrance down to the boundary of Oregon and California which is also the boundary of the Thirteenth and Eleventh Coast Guard Districts. This fairway aligns with the Eleventh District Offshore Fairway continuing south along the California coast.

   Port Approaches - The D13 Port Approaches provide connections to the Offshore Fairway for vessels entering and departing major ports along the Washington and Oregon Coasts.

   Columbia River: The approach/departure area for the Columbia River has three recommended routes: a primary 10 NM wide main east - west fairway and two angled approach/departure fairways providing access to points north and south each with a 5NM width. After discussions with industry representatives these angled approaches were added to better accommodate vessel traffic.

   Coos Bay: The approach/departure area for Coos Bay has two recommended routes to meet vessel traffic needs and accommodate the BOEM Coos Bay Call Area. The two approaches/departure fairways provide north and south angled

routes each with a 5NM width. These angled approaches were added to improve the study after discussions with fishing, tug, and commercial shipping industry representatives.

Latitude and Longitude of primary points:

D13 Offshore Fairway								
	Latitude	**Longitude**		**Latitude**	**Longitude**		**Latitude**	**Longitude**
1	46.8343	-124.7408	**13**	42.7171	-125.4568	**25**	43.8504	-125.1565
2	47.8491	-125.2686	**14**	41.9743	-125.4231	**26**	44.9944	-125.1595
3	48.2375	-125.0353	**15**	41.8783	-125.4067	**27**	46.0087	-124.5310
Open			**16**	41.9097	-125.0757	**Open**		
4	48.3042	-125.2844	**17**	41.9832	-125.0877	**28**	46.1635	-124.5649
5	47.8853	-125.5346	**18**	42.8714	-125.1271	**29**	45.2026	-125.1600
6	46.3027	-125.5233	**19**	43.0712	-124.7811	**30**	46.1624	-125.1623
7	46.3027	-125.6230	**Open**			**31**	46.1635	-124.5649
Open			**20**	43.2415	-124.6692	**Open**		
8	46.1611	-125.6344	**21**	42.9747	-125.1319	**32**	46.3019	-124.5954
9	46.1611	-125.5221	**22**	43.7462	-125.1568	**33**	46.3026	-125.1631
10	44.0014	-125.5044	**23**	43.4797	-124.6727	**34**	47.4017	-125.1650
11	43.9182	-125.5033	**Open**			**35**	46.3019	-124.5954
12	42.8008	-125.4601	**24**	43.5847	-124.6733			

2. **<u>D13 Coastal Fairway Zone</u> –** A voluntary coastal fairway zone meets the needs of the shipping and commercial fishing industries in this region and supports the successful Crabber/Towboat Lane Agreement (1971), amended in November 2019. The D13 Coastal Fairway Zone spans from just north of Grays Harbor, Washington to the Oregon/California border. The width of the zone varies due to environmental, economic, proposed BOEM Call Areas, and geographic needs for safe navigation routes for shallow-draft vessels and fishing grounds.

Latitude and Longitude of primary points:

D13 Coastal Fairway Zone								
	Latitude	**Longitude**		**Latitude**	**Longitude**		**Latitude**	**Longitude**
1	41.9908	-124.3717	**7**	43.0712	-124.7811	**13**	46.5232	-124.6442
2	41.9765	-124.4369	**8**	43.1826	-124.6685	**14**	46.8344	-124.7405
3	41.9654	-124.5477	**9**	44.4300	-124.6833	**15**	47.1256	-124.8913
4	42.6650	-124.6979	**10**	45.2802	-124.2994	**16**	47.1254	-124.2664
5	42.7659	-124.8261	**11**	45.7317	-124.5250	**17**	Point 1 and 16 connect with a	
6	43.0282	-124.7804	**12**	45.9433	-124.5167		line parallel to 3NM offshore.	

H. Conclusion

The continued growth of competing waterway uses and projects off the coast of California, Oregon, and Washington will challenge current traffic patterns and increase the risk to safe navigation. A wide range of emerging industries in pacific waters including commercial space missions, aquafarms, and renewable energy developments along with an overall growth in vessel traffic underscore the need for this PARS. Robust statistical analyses of all types of vessel traffic in the study area, detailed in Enclosures 1 and 2, support the need to secure safe access routes for the movement of vessel traffic along the coast and in and out of ports. The voluntary fairways recommended by this study provide improved traffic management and vessel voyage planning, reduce navigational hazards and the risks associated with unmanaged congestion for all vessel types and sizes while also accommodating other reasonable waterway uses.

Through extensive public and stakeholder engagement this PARS seeks a balanced approach to marine planning while preserving the safety of navigation at a critical point in the growing demand for use of our waterways.

I. References

American Waterways Operators and U.S. Department of Transportation. Economic Contribution of the US Tugboat, Towboat, and Barge Industry. May 10, 2017. Found at https://www.americanwaterways.com/sites/default/files/Econ%20Impact%20of%20US%20Tugboat%20Towboat%20and%20Barge%20Industry%20lh%206-22-17.pdf.

California Coastal Commission. (1998). Monterey Bay National Marine Sanctuary (MBNMS) Vessel Management Work Group's Proposal for MBNMS Vessel Traffic Management Measures. https://documents.coastal.ca.gov/reports/1998/7/F5b-7-1998.pdf.

Coastal Resources Center and Rhode Island Sea Grant College Program. Spatial Planning of Busy Waterways: A Case Study of Innovative Waterways Management in the San Francisco Bay Region. Tiffany Smythe, Jennifer McCann, Nicole Andrescavage and Christian Fox. 2016.

Ecology and Environment, Inc. Development of Mitigation Measures to Address Potential Use Conflicts between Commercial Wind Energy Lessees/Grantees and Commercial Fishermen on the Atlantic Outer Continental Shelf Report on Best Management Practices and Mitigation Measures. A final report for the U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewal Energy Programs, Herndon, VA. OCS Study BOEM 2014-654. 98 pp.

EPA, US Environmental Protection Agency. Environmental Impact Statements (EIS) Database. https://cdxapps.epa.gov/cdx-enepa-II/public/action/eis/search;jsessionid=C34ABE3108254BDC12759A9628F37EE4?search=&__fsk=1798485264#results.

Governor's Office of Planning and Research and Schatz energy Research Center. California Norther Coast Offshore Wind Studies: Military Recommendation for Wind Farm Designs. 2020. Found at Recent reports and publications – Schatz Energy Research Center (schatzcenter.org).

International Maritime Organization. Long-range identification and tracking (LRIT). 2022. Found at Long-range identification and tracking (LRIT) (imo.org).

Joint Working Group on Vessel Strikes and Acoustic Impacts. 2012. Vessel Strikes and Acoustic Impacts. Report of a Joint Working Group of Gulf of the Farallones and Cordell Bank National Marine Sanctuaries Advisory Councils. San Francisco, CA. 43 pp.

Mehdi, R.A. et al. "Improving coexistence of offshore wind farms and shipping: an international comparison of navigational risk assessment processes". World Maritime University, 2018.

Ministry of Infrastructure and the Environment and the Ministry of Economic Affairs of the Netherlands. Assessment framework for defining safe distances between shipping lanes and offshore wind farms. 2015. Found at https://www.msp-platform.eu/practices/assessmentframework- defining-safe-distances-between-shipping-lanes-and-offshore-wind.

Morley, H.R. Journal of Commerce. May 6, 2019. Found at https://www.joc.com/portnews/north-america-port-rankings-mexican-ports-grow-fastest_20190506.html.

NOAA National Centers for Coastal Ocean Science (NCCOS). September 2016. An Economic Analysis of Shipping Costs Related to Potential Measures to Manage the Co-Occurrence of Maritime Vessel Traffic and Whales in the Channel Islands Region. Found at: https://coastalscience.noaa.gov/project/shipping-costs-whales-channel-islands.

NOAA Fisheries. Pacific Ocean AquaFarms: Environmental Impact Statement. https://www.fisheries.noaa.gov/national/aquaculture/pacific-ocean-aquafarms-environmental-impact-statement.

NOAA National Marine Sanctuaries. Channel Islands National Marine Sanctuary Advisory Council Marine Shipping Working Group, Final Report. 2016. Found at: https://channelislands.noaa.gov/sac/working_groups.html#former.

NOAA National Marine Sanctuaries. Vessel Impacts: Channel Islands. 2013. Found at: Vessel Impacts at Channel Islands National Marine Sanctuary (noaa.gov).

Ocean Coastal Management, Thomas J. Moore, Jessica V. Redfern, Michael Carver, Sean Hastings, Jeffrey D. Adams, Gregory K. Silber. Exploring ship traffic variability off California (Volume 163, Pages 515-527). 2018.

Outer Continental Shelf Lands Act (43 U.S.C. 1331 et seq.) as amended by the Energy Policy Act of 2005 (Pub L. 109-58).

Pacific States/British Columbia Oil Spill Task Force and the USCG. The West Coast Offshore Vessel Traffic Risk Management Project. 2002. Found at: https://oilspilltaskforce.org/documents/other-documents/.

PEW Charitable Trust. Arctic Vessel Traffic in the Bering Strait, key measures for developing regulatory standards. 2014. Found at: https://www.pewtrusts.org/-/media/legacy/oceans_north_legacy/arctic_vessel_for_print_200copiesmay20141.pdf.

UK Maritime and Coastguard Agency. Marine Guidance Note 543, Safety of Navigation: OREI Guidance on UK Navigational Practice, Safety and Emergency Response. 2016.

UK Maritime and Coastguard Agency. Methodology for Assessing Marine Navigational Safety & Emergency Response Risks for OREI. 2020.

University of Washington Seas Grant Program. "Crabber/Towboat Lane Agreement." November 2019. Fount at: https://wsg.washington.edu/community-outreach/outreach-detail-pages/crabbertowboat-lane-agreements-download-charts-data-and-meetings/.

U.S. Army Corps of Engineers. Waterborne tonnage for principal U.S. ports. 2018. Found at: https://www.bts.gov/content/tonnage-top-50-us-water-ports-ranked-total-tons.

U.S. Coast Guard. Waterways Management (WWM), COMDTINST 16001.1. 2012.

U.S. Coast Guard. Marine Planning to Operate and Maintain the Marine Transportation System (MTS) and Implement National Policy, COMDTINST 16003.2B. 2019.

U.S. Coast Guard. Navigation and Vessel Inspection Circular No. 01-19. 2019.

U.S. Coast Guard. Atlantic Coast Port Access Route Study. 2015. Found at: https://www.navcen.uscg.gov/port-access-route-study-reports.

U.S. Coast Pilot, 7 Pacific Coast – California.

U.S. Coast Pilot, 10 Pacific Coast: Oregon, Washington, Hawaii and Pacific Islands.

U.S. Department of the Interior. Supporting National Environmental Policy Act Documentation for Offshore Wind Energy Development Related to Navigation, OCS Study BOEM 2019-011. 2019.

U.S. Department of Interior. Channel Islands National Marine Sanctuary Advisory Council. (2016). Marine Shipping Working Group, Final Report.

U.S. Department of Interior. 2021-2022 Greater Farallones & Cordell Bank National Marine Sanctuaries Advisory Councils Joint Ship Strike Working Group. Found at: https://cordellbank.noaa.gov/media/docs/2021-22-joint-ship-strike-working-group-report.pdf

U.S. Department of Defense, Navy Point Mugu Sea Range Environmental Impact Statement (EIS), January 01, 2022. Found at: https://pmsr-eis.com.

World Association for Waterborne Transport Infrastructure. Interaction between Offshore Windfarms and Maritime Navigation. 2018

Additional data and resources evaluated or reviewed for this study include:

NOAA

1. ENCDirect chart layers including Military Practice Areas, Areas to Be Avoided, Precautionary Areas, IMO Routes, and TSS.
2. Critical Habitats
3. National Marine Sanctuaries
4. "*Modeling predator and prey hotspots: Management implications of baleen whale co-occurrence with krill in Central California"* authored by Rockwood et al.
5. *"Habitat-based density estimates for cetaceans in the California Current Ecosystem based on 1991-2018 survey data"* authored by Becker et al.
6. 2017-2020 VMS fisheries data

BOEM

1. Morro Bay Wind Energy Area (WEA)
2. Humboldt WEA
3. Brookings Call Area (OR)
4. Coos Bay Call Area (OR)
5. Morro Bay WEA Draft Environmental Assessment (EA)
6. Humboldt WEA EA

USCG

1. Search and Rescue (SAR) Marine Information for Safety and Law enforcement (MISLE) data
2. Marine Incident MISLE data
3. Navigation and Vessel Inspection Circular (NVIC) NO. 01-19, Guidance on the Coast Guard's roles and responsibilities for offshore renewable energy installations (OREI)
4. Marine Planning to Operate and Maintain the Marine Transportation System (MTS) and Implement National Policy, COMDTINST 16003.2B. 2019.

IMO

Routing of Ships, Ship Reporting, and Related Matters (Including Voyage Planning) NAV 45/3/4 – establishment of recommended tracks between Pigeon Point and Point Sur, originally published in 1999 and amended by MSC 72/10/4 in 2000.