

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 167

[USCG-2009-0576]

Port Access Route Study: The Approaches to San Francisco

AGENCY: Coast Guard, DHS.

ACTION: Notice of study results.

SUMMARY: The Coast Guard announces the completion of a Port Access Route Study (PARS) which evaluated the continued applicability of and the potential need for modifications to the current vessel routing in the approaches to San Francisco. The study was completed in February, 2011. This notice summarizes the study recommendations which include enhancements to existing vessel routing measures.

ADDRESSES: Comments and material received from the public, as well as documents mentioned in this preamble as being available in the docket, are part of docket USCG-2009-0576 and are available online by going to <http://www.regulations.gov>, inserting USCG-2009-0576 in the "Keyword" box, and then clicking "Search." This material is also available for inspection or copying at the Docket Management Facility (M-30), U.S. Department of Transportation, West Building Ground Floor, Room W12-140,

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1200 New Jersey Avenue SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: If you have questions concerning this notice, contact Lieutenant Lucas Mancini, Eleventh Coast Guard District, telephone 510-437-3801, e-mail Lucas.W.Mancini@uscg.mil. If you have questions on viewing the docket contact, Renee V. Wright, Program Manager, Docket Operations, 202-366-9826.

DEFINITIONS: The following definitions should help the reader to understand terms used throughout this document:

Marine Environment, as defined by the Ports and Waterways Safety Act, means the navigable waters of the United States and the land resources therein and thereunder; the waters and fishery resources of any area over which the United States asserts exclusive fishery management authority; the seabed and subsoil of the Outer Continental Shelf of the United States, the resources thereof and the waters superjacent thereto; and the recreational, economic, and scenic values of such waters and resources.

Precautionary area means a routing measure comprising an area within defined limits where vessels must navigate

with particular caution and within which the direction of traffic flow may be recommended.

Traffic lane means an area within defined limits in which one-way traffic is established. Natural obstacles, including those forming separation zones, may constitute a boundary.

Traffic Separation Scheme or TSS means a routing measure aimed at the separation of opposing streams of traffic by appropriate means and by the establishment of traffic lanes.

Vessel routing system means any system of one or more routes or routing measures aimed at reducing the risk of casualties; it includes traffic separation schemes, two-way routes, recommended tracks, areas to be avoided, no anchoring areas, inshore traffic zones, roundabouts, precautionary areas, and deep-water routes.

SUPPLEMENTARY INFORMATION:

Background and Purpose

The Coast Guard published a notice of study in the **Federal Register** on December 10, 2009 (74 FR 65543), entitled "Port Access Route Study: Off San Francisco" and completed the study in February, 2011.

The study area encompassed the traffic separation scheme off San Francisco and extended to the limit of the

Coast Guard San Francisco Vessel Traffic Service (VTS) area of responsibility in order to analyze traffic patterns of vessels departing from or approaching the current traffic lanes. The VTS area covers the seaward approaches within a 38 nautical mile radius of Mount Tamalpais (37[deg] 55.8'N, 122[deg] 34.6'W). The coverage area is annotated on National Oceanic and Atmospheric Administration (NOAA) chart number 18645.

The primary purpose of the study was to reconcile the need for safe access routes with other reasonable waterway uses, to the extent practical. The goal of the study was to help reduce the risk of marine casualties and increase the efficiency of vessel traffic in the study area. When vessels follow predictable and charted routing measures, congestion may be reduced, and mariners may be better able to predict where vessel interactions may occur and act accordingly. The Coast Guard studied whether extending the traffic separation scheme would increase the predictability of vessel movements and what the impact might be on fishing vessels operating in the area. The study also assessed potential impacts on the Gulf of the Farallons and Cordell Bank National Marine Sanctuaries and the marine environment if the traffic lanes were extended or modified. The Coast Guard announced the notice of study in the **Federal Register**

on December 10, 2009 (74 FR 65543), entitled "Port Access Route Study: Off San Francisco." Due to the lack of a substantive number of comments in response to the original notice and our strong desire to engage the public in the study process, we announced a public meeting to be held October 20, 2010 at the Executive Inn and Suites in Oakland California. The Coast Guard also sent out a press release to local media and news outlets to help solicit public comment.

The recommendations of the PARS are based in large part on the comments received to the docket, public outreach, and consultation with other government agencies.

Study Recommendations

The PARS evaluated 5 separate concerns that resulted in 7 recommendations intended to improve the safety of vessel traffic in the study area, as well as adhere to governing regulations regarding the National Marine Sanctuaries. The actual PARS should be consulted for a detailed explanation of each recommendation. The PARS also contains a chartlet of the proposed changes to the TSS. It can be accessed as described in the **ADDRESSES** section of this notice. The PARS recommendations include:

- Extend the northern TSS 17nm to the northern end of the VTS San Francisco area of responsibility.


- Add a dog leg turn in the northern TSS just below the 38th parallel to keep vessels on a predictable path in a prime area for fishing.
- Change the current flared configuration of the northern TSS to a 3 mile wide approach. The 3 mile wide TSS would consist of 1 nautical mile wide lanes, separated by a 1 nautical mile wide separation zone.
- Extend the western TSS 3nm seaward to the 200 fathom contour at the edge of the continental shelf.
- Shift the seaward end of the outbound lane closest to the Farallon Islands in the western TSS 3.7 nautical miles to the south. No shift in the inbound lane of the western TSS.
- Change the current flared configuration of the western TSS to a 3 mile wide approach. The 3 mile wide TSS would consist of 1 nautical mile wide lanes, separated by a 1 nautical mile wide separation zone.
- Extend the southern TSS 8.5NM to the southern end of the VTS San Francisco area of responsibility.

Conclusion

The PARS contains 7 recommendations, which would require the approval of the International Maritime Organization for implementation. The Coast Guard will

follow the federal rulemaking process for implementation of any of the proposed changes to the traffic separation schemes. This process will also include section 7 consultations with the National Marine Fisheries Service in accordance with the Endangered Species Act. This will provide ample opportunity for additional comments on proposed changes to the existing vessel routing system through a notice of proposed rulemaking (NPRM) published in the federal register.

Dated: *20 May 2011*


J. R. Castillo
Rear Admiral, U.S. Coast Guard
Commander, Eleventh Coast Guard District

PORT ACCESS ROUTE STUDY
APPROACHES TO SAN FRANCISCO BAY

DOCKET #USCG-2009-0576

February 2011

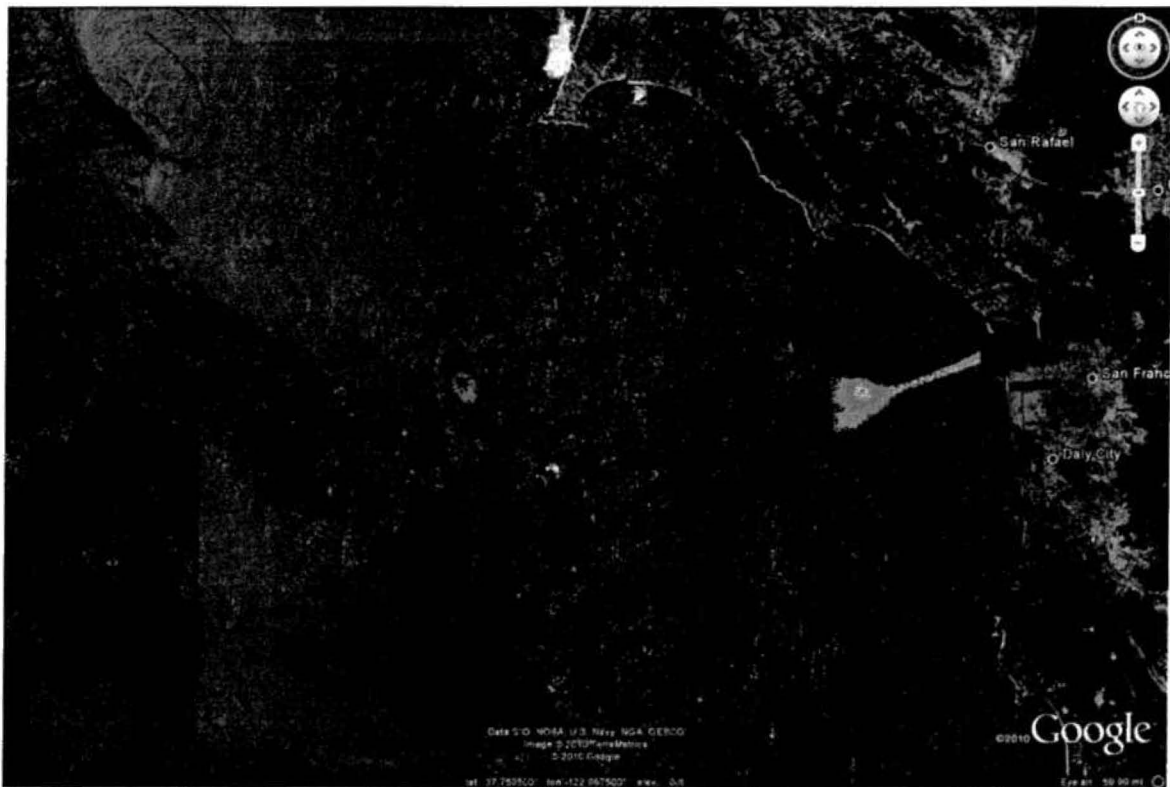


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I. INTRODUCTION

The Coast Guard has conducted a Port Access Route Study (PARS) to evaluate the continued applicability of and the need for modifications to current vessel routing in the approaches to San Francisco. The comments and views of interested stakeholders were considered throughout the study process. The primary purpose of the study was to reconcile the need for safe access routes with other reasonable waterway uses, to the extent practical. The goal of the study was to help reduce the risk of marine casualties and increase the efficiency of vessel traffic in the study area. The recommendations of the study may lead to future rulemaking action or appropriate international agreements.

The study assessed whether modifications to the existing Traffic Separation Scheme (TSS), or the creation of a new TSS, is necessary to increase the predictability of vessel movements, which may decrease the potential for collisions, oil spills, and other events that could threaten the marine environment as defined by section 1222 of the Ports and Waterways Safety Act (PWSA).

As a result of the study, The Coast Guard has identified potential safety enhancements to increase predictability of vessel traffic patterns in the TSS.

When vessels follow predictable and charted routing measures such as a TSS, congestion may be reduced, and mariners may be better able to predict where vessel interactions may occur and act accordingly.

II. BACKGROUND

A. Statutory Authority:

Section 4(c) of the PWSA, (P.L. 95-474, 33 U.S.C. 1223), authorizes the Secretary of Transportation to designate necessary fairways and traffic separation schemes to provide safe access routes for vessels proceeding to and from U.S. ports or other places subject to the jurisdiction of the United States. The authority to designate necessary fairways and traffic separation schemes is granted to the Commandant of the Coast Guard under 33 U.S.C. 1223(c), and recognizes the paramount right of navigation over all other uses in the designated areas. The PWSA requires the Coast Guard to undertake a study of the potential traffic density and the need for safe access routes for vessels in any area for which a fairway or traffic separation scheme is proposed or otherwise considered.

The PWSA also authorizes the Coast Guard to adjust the location or limits of designated fairways and/or TSS's in order to accommodate the needs of users which cannot be reasonably accommodated otherwise.

B. Definition of Terms:

The following definitions should help the reader to understand terms used throughout this document:

Area to be avoided or ATBA means a routing measure comprising an area within defined limits in which either navigation is particularly hazardous or it is exceptionally important to avoid casualties and which should be avoided by all vessels, or certain classes of vessels.

Deep-water route means a route within defined limits, which has been accurately surveyed for clearance of sea bottom and submerged obstacles as indicated on nautical charts.

Fairway means a lane or corridor in which no artificial island or structure, whether temporary or permanent, will be permitted so that vessels using U.S. ports will have unobstructed approaches.

Inshore traffic zone means a routing measure comprising a designated area between the landward boundary of a traffic separation scheme and the adjacent coast, to be used in accordance with the provisions of Rule 10(d), as amended, of the International Regulations for Preventing Collisions at Sea, 1972 (COLREGS).

Marine Environment, as defined by the PWSA, means the navigable waters of the United States and the land

resources therein and thereunder; the waters and fishery resources of any area over which the United States asserts exclusive fishery management authority; the seabed and subsoil of the Outer Continental Shelf of the United States, the resources thereof and the waters superjacent thereto; and the recreational, economic, and scenic values of such waters and resources.

No anchoring area means a routing measure comprising an area within defined limits where anchoring is hazardous or could result in unacceptable damage to the marine environment. Anchoring in a no anchoring area should be avoided by all vessels or certain classes of vessels, except in case of immediate danger to the vessel or the persons on board.

Precautionary area means a routing measure comprising an area within defined limits where vessels must navigate with particular caution and within which the direction of traffic flow may be recommended.

Recommended route means a route of undefined width, for the convenience of vessels in transit, which is often marked by centerline buoys.

Recommended track means 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.

Regulated Navigation Area or RNA means a water area within a defined boundary for which regulations for vessels navigating within the area have been established under 33 CFR part 165.

Roundabout means a routing measure comprising a separation point or circular separation zone and a circular traffic lane within defined limits. Traffic within the roundabout is separated by moving in a counterclockwise direction around the separation point or zone.

Separation Zone or separation line means a zone or line separating the traffic lanes in which vessels are proceeding in opposite or nearly opposite directions; or from the adjacent sea area; or separating traffic lanes designated for particular classes of vessels proceeding in the same direction.

Traffic lane means an area within defined limits in which one-way traffic is established. Natural obstacles, including those forming separation zones, may constitute a boundary.

Traffic Separation Scheme or TSS means a routing measure aimed at the separation of opposing streams of

traffic by appropriate means and by the establishment of traffic lanes.

Two-way route means a route within defined limits inside which two-way traffic is established, aimed at providing safe passage of ships through waters where navigation is difficult or dangerous.

Vessel routing system means any system of one or more routes or routing measures aimed at reducing the risk of casualties; it includes traffic separation schemes, two-way routes, recommended tracks, areas to be avoided, no anchoring areas, inshore traffic zones, roundabouts, precautionary areas, and deep-water routes.

C. Study Area:

The study area encompassed the traffic separation scheme off San Francisco and extended to the limit of the Vessel Traffic Service (VTS) area in order to analyze traffic patterns of vessels departing from or approaching the current traffic lanes. The VTS area covers the seaward approaches within a 38 nautical mile radius of Mount Tamalpais (37[deg] 55.8'N, 122[deg] 34.6'W). This includes the approaches in the north, west and south and is annotated on National Oceanic and Atmospheric Administration (NOAA) chart number 18645.

D. History:

In 1979, the Coast Guard initiated a PARS off the California coast. The study recommended an amendment to the existing traffic separation scheme off San Francisco which consisted of rotating the southern approach further seaward to provide a true north-south alignment. This shift would encourage vessels in the area to transit farther offshore when entering or departing San Francisco Bay from or to the south. The International Maritime Organization (IMO) adopted this recommendation in 1990.

The United States elected to postpone implementation of the amendment until the Monterey Bay National Marine Sanctuary was designated and a study of potential impacts was conducted. The Monterey Bay National Marine Sanctuary Vessel Management Final Report was published October 22, 1998. Similar to the 1979 PARS and the IMO adopted amendments, the report recommended shifting the "southern approach" of the San Francisco TSS slightly west to reduce risk of groundings along the San Mateo coastline and to improve north-south alignment. This recommended shift in the TSS was implemented on July 15, 2000. Later, in December of 2000, the IMO adopted voluntary routes for vessels 300 gross tons or more. These vessel routes are to help guide traffic through the Monterey Bay marine sanctuary, a sensitive marine environment, and set them on

a course aligned with the current southern and western approaches.

The Coast Guard has since identified a potential safety enhancement by increasing predictability of vessel traffic patterns in a popular offshore fishing area near the northern approach in the vicinity of Point Reyes for the traffic separation scheme off San Francisco. When vessels follow predictable and charted routing measures, congestion may be reduced and mariners may be better able to predict where vessel interactions may occur and act accordingly.

III. THE STUDY

A. Development:

In December 2009, the Eleventh Coast Guard District initiated a PARS for the approaches to San Francisco. A Federal Register Notice (74 FR 65543, December 10, 2009) announced the study and solicited comments. The notice contained a list of potential study topics and a list of questions to help focus responses.

Twenty three letters and numerous scientific studies were received on the docket in response to the published notice of study. From the comments received we identified a list of concerns expressed during the course of the study, which are listed in no particular order:

(a) Interactions with fishing vessels and commercial shipping have caused a safety concern for the fishing community.

(b) Northern outbound traffic lane passes through an Area of Special Biological Significance (ASBS) at Point Reyes Headland.

(c) Concerns of compliance with Rule 10 of the International Regulations for Preventing Collisions at Sea.

(d) A mandatory commercial vessel speed reduction should be required to help decrease pollution and ship strikes on endangered species.

(e) Weather was mentioned as a concern with using the western approach given predominant NW swells.

The inputs also encouraged finding optimal solution(s) that reduce the risk of marine accidents while minimizing risks to wildlife and sensitive areas.

We considered information presented in various studies and data collected both in-house and by other organizations

on vessel traffic patterns, density, and risks. U.S. Coast Guard sources included the latest Waterways Analysis and Management System (WAMS) report for the approaches to San Francisco and vessel transit statistics from VTS San Francisco. Another data source was the "Socioeconomic Profile of Fishing Activities and Communities Associated with the Gulf of the Farallones and Cordell Bank National Marine Sanctuaries."

B. Analysis:

In this part of the study we will present the following:

- Concerns
- Comments Received.
- Discussion of each issue, including suggested solutions.

Concern (a):

Interactions with fishing vessels and commercial shipping have caused a safety concern for the fishing community.

Comments Received:

Comments on this issue were received from commercial fishermen during a fishing vessel safety meeting involving several representatives of the local fishing community.

Comments were also submitted to the docket in response to

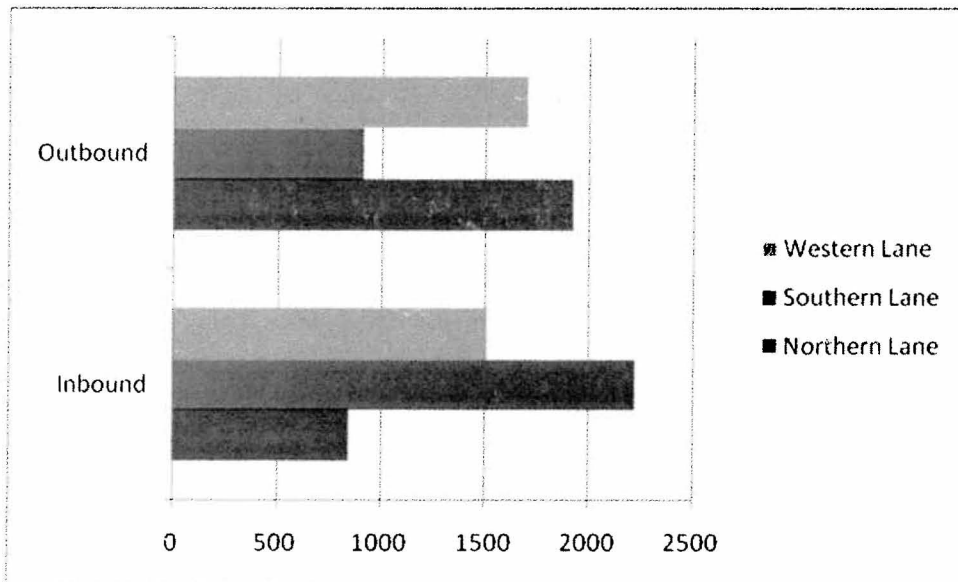
the federal register notice announcing the PARS study and from commercial fishermen who attended the public meeting, held in Oakland on October 20, 2010.

Discussion:

VTS San Francisco has provided data on vessel traffic throughout the study area.

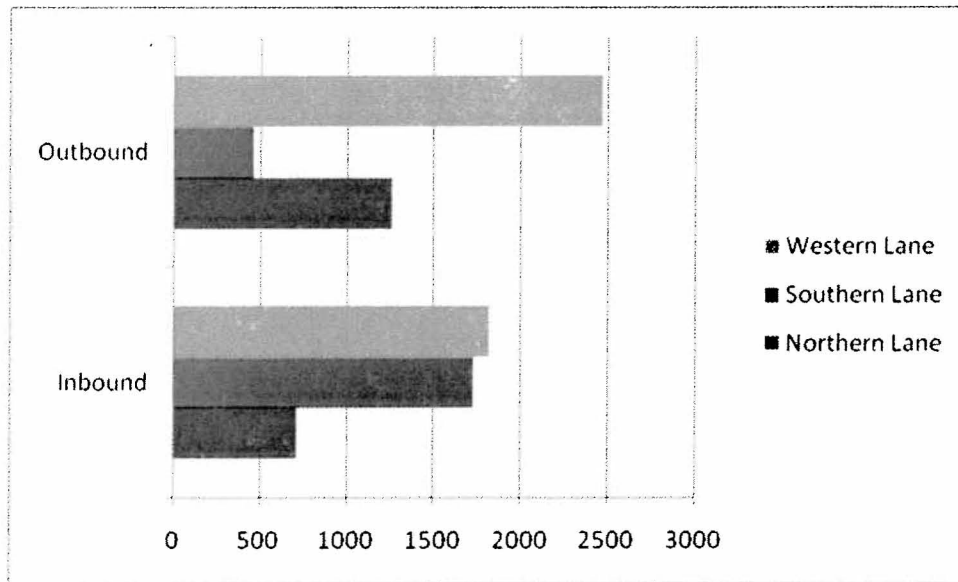
August 2008-August 2009

Direction	Northern Lane	Southern Lane	Western Lane	Grand Total
Inbound	844	2220	1507	4571
Outbound	1919	915	1700	4534
Grand Total	2763	3135	3207	9105



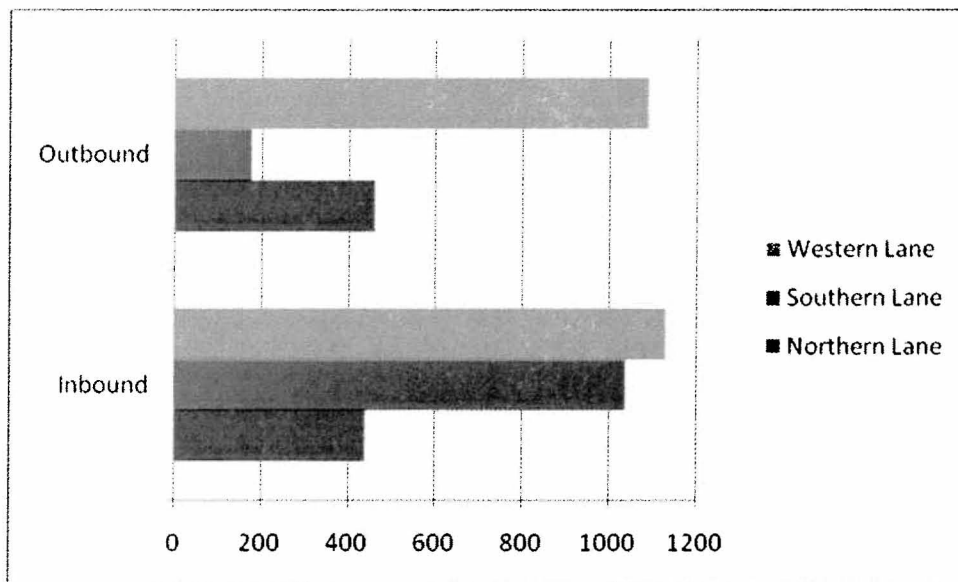
August 2009 - August 2010

Direction	Northern Lane	Southern Lane	Western Lane	Grand Total
Inbound	713	1730	1815	4258
Outbound	1260	461	2470	4191
Grand Total	1973	2191	4285	8449



June 2010–January 2011

Direction	Northern Lane	Southern Lane	Western Lane	Grand Total
Inbound	438	1038	1130	2606
Outbound	458	176	1086	1720
Grand Total	896	1214	2216	4326



Increased vessel traffic has been observed using the western approach. Vessels, which have traditionally used the established approaches in the north and south, have shifted to transiting through the western approach with more frequency. This is due, in part, to implementation of California Air Resources Board (CARB) regulation on July 1, 2009, which requires commercial vessels to use a low sulfur fuel within 24 nautical miles (nm) of the California

coastline. A recently adopted IMO Emission Control Area (ECA) will require use of low sulfur fuel out to 200nm from the coast of the United States. When implementation begins in 2012 vessel traffic may return to historical patterns.

A review and analysis of the data indicated approximately 50% of vessel traffic in and out of San Francisco Bay is transiting via the western approach. Prior to implementation of the CARB vessel traffic was more evenly distributed between the southern, western, and northern approaches.

Comments have stated that a large amount of fishing occurs at the approaches to San Francisco, with the northern and southern approaches being of particular concern to the fishing community. Salmon fishing grounds are located along the coast both north and south of the entrance to San Francisco Bay and extend west past the Farallon Islands almost to the extent of the marine sanctuary boundaries. The fishing community is concerned about traffic entering and exiting the traffic lanes, especially during reduced visibility conditions. Difficulty in communicating with some deep draft vessel operators increases risk as the intended routes of the vessels beyond the traffic lanes often remains unknown.

Extending the traffic lanes to the limit of the VTS operating area would make traffic more predictable beyond the current seaward end of the traffic lanes and would increase predictability of commercial vessel traffic patterns for the fishing fleet. The extension of all three approaches would make vessel traffic more predictable near fishing areas, thus improving safety for the fishing fleet.

A comment submitted to the docket mentioned dangerous interactions between ships and fishing vessels at the ends of the traffic lanes. It was mentioned that further extension of the lanes offshore would keep commercial shipping away from fishing gear and vessels thus creating a safer environment. It was also indicated that sending all traffic in and out the western approach would be the best solution as this keeps all commercial vessels out of known fishing grounds.

Tugs were specifically mentioned by local fisherman as running over crab lines as they do not tend to transit on predictable courses. However, a review of AIS data with VTS San Francisco showed tugs typically use the existing TSS when entering or departing San Francisco, however, the current approaches do not extend to the limits of the VTS. As tugs depart the TSS they continue their voyage which may inadvertently place them in popular crab fishing grounds.

The suggestion to create alternate traffic lanes for tug traffic is not recommended as with other commercial vessels their routes are varied depending on weather, cargo, and next port of call.

Concern (b):

Northern outbound traffic lane passes through an ASBS at Point Reyes Headland.

Comments Received:

Comments on this issue were received from the Center for Biological Diversity and the National Oceanic and Atmospheric Administration Office of National Marine Sanctuaries and address Title 15 Code of Federal Regulation 922.82 listed in the discussion of this concern.

Discussion:

15 CFR 922.82(a)(6) prohibits and thus makes unlawful:

“Operating any vessel engaged in the trade of carrying cargo within an extending area 2nm from the Farallon Islands, Bolinas Lagoon or any ASBS. This includes but is not limited to tankers and other bulk carriers and barges...In no event shall this section be construed to limit access for fishing, recreational or research vessels.”

It was also mentioned that cargo, barge, and tanker vessels sometimes wait offshore within two nautical miles of Bolinas Lagoon prior to entry into San Francisco Bay. Shifting the approach further offshore to move it out of the Point Reyes Headland ASBS would ensure compliance with the above rule making and may alleviate concerns of tanker vessels in vicinity of Bolinas Lagoon.

Concern (c)

Concerns of compliance with Rule 10 of the International Regulations for Preventing Collisions at Sea.

Comments Received:

No specific comments were submitted to the study's docket for this issue, however, it has been mentioned at Harbor Safety Committee meetings and VTS San Francisco has previously expressed concerns.

Discussion:

Vessels may engage in fishing within a separation zone, but a vessel engaged in fishing shall not impede the passage of any vessel following a traffic lane. Mariners are reminded to follow Rule 10 of the COLREGS which states, "Ships must cross traffic lanes steering a course "as nearly as practicable" at right angles to the direction of traffic. This reduces confusion and enables that vessel to cross the lane as quickly as possible."

A search through data on significant port safety and security cases from Coast Guard Sector San Francisco did not reveal any documented violations of Rule 10 compliance occurring in the traffic lanes for the approaches to San Francisco.

The suggestion to send all traffic through the western approach in order to avoid fishing grounds is not recommended. As use of the TSS is voluntary, removing northern and southern approaches would not necessarily guarantee total use of the western approach. Further, vessels transiting north or south with no designated traffic lanes would alternately increase the unpredictability of shipping traffic and possibly increase risk of collision. Designation of a single approach would increase vessel traffic density in those traffic lanes, as well as combining vessels of different sizes and speeds in one area. Historically, tank vessels have used the western approach, while container vessels have used the southern and northern approaches.

Adjustment of the northern approach, specifically narrowing the lanes to maintain a uniform width rather than increasing the width at the seaward end, may alleviate some of the concern with Rule 10 as it would reduce the amount of overlap between the TSS lanes and fishing grounds.

Shifting the northern traffic further offshore may further alleviate this issue as a majority of fishing activity occurs closer to shore.

Concern (d):

A mandatory commercial vessel speed reduction should be required to help decrease pollution and ship strikes on endangered species.

Comments Received:

Comments on this issue were received from the Cascadia Research Collective, Turtle Island Restoration Network (TIRN), the Center for Biological Diversity (CBD), Pacific Environment (PE), local commercial fishermen and concerned citizens.

Discussion:

Concerns have been raised that high speed vessels cause noise pollution from cavitation, or the formation and collapse of air bubbles as the propeller turns. The cavitation creates loud acoustic pollution at the same frequency used for communication by marine mammals and may interfere with the ability to locate the direction of the approaching ship in order to avoid it. Studies have indicated whales are more easily able to avoid slower moving vessels. One comment noted studies that showed vessel noise can trigger an alarm response/avoidance

behavior in sea turtles that can displace them from their natural food habitats.

Comments on this issue also referenced known air toxins and greenhouse gases emitted by vessels and their effects not only on air quality but in ocean acidification. Currently CARB regulation requires commercial vessels to burn a low sulfur fuel within 24nm of the coastline. This will be expanded when IMO implements its ECA which will require low sulfur fuel to be used within 200nm of the coastline. A 10kt speed limit was recommended by commenter's as a means to reduce deaths to marine species from ship strikes as well as lessening the emitted air pollutants. The 10kt speed rule on the east coast for the right whales was used as an example for what should be implemented on the west coast.

The authority and responsibility to promulgate speed restrictions to protect a marine species rests with the NOAA. The PWSA, the only relevant authority under which the Coast Guard can control vessel movement (or issue speed restrictions) is intended to protect the vessel, shore facilities and the marine environment from vessel damage and casualties, e.g., collisions, allisions or groundings that may damage the vessel and result in an oil or hazardous material release. Marine environment, as defined in the

PWSA, omits any reference to marine mammals as being protected under the statute. This is due to the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA) being the governing authority with regards to protecting marine mammals. Coast Guard authority to enforce the ESA and MMPA is limited to regulations that implement or further our enforcement of a substantive regulation or requirement in the statute. That enforcement authority does not extend to promulgating a speed restriction to protect marine species. Our authority under those statutes is limited to assisting with enforcement of regulations that National Marine Fisheries Service (NMFS) promulgates to protect marine mammals and endangered species.

Concern (e):

Weather was mentioned as a concern with using the western approach given predominant NW swells.

Comments Received:

Comments on this issue were received from commercial vessel masters and port pilots.

Discussion:

This issue counters the recommendation to extend the western approach to the VTS coverage limit. Comments to the docket indicated that due to a predominant northwesterly swell vessels will merge into the traffic

lane at a later point. This merge does not align with the goal of making the vessel traffic more predictable for that area. Given the concerns with the northwesterly swell and the probability that vessels would not use the seaward end of the extended western approach during inclement weather, there appears to be little benefit to extending this approach to the limit of the VTS operating area.

Recommendations were received to create a southwest approach to make transits smoother during heavy weather. This would alleviate the issue of heavy weather and its effects in the western approach as well as give commercial fishermen more room to conduct operations. While the creation of a single southwest approach has benefits under the current traffic patterns, vessels are likely to return to traditional traffic routes when the IMO's Emission Control Area (ECA) for North America is implemented in 2012. Tank vessels are expected to continue using the western approach. Large container vessels transiting between Los Angeles and San Francisco may return to traditional traffic patterns, which will increase use of the southern approach and provide better alignment with the Recommended Tracks through the Monterey Bay sanctuary.

Comments received from the commercial shipping community are not in favor of extending the western

approach. Four comments received noted that weather conditions can be dangerous for vessels using the western approach. By extending the lane further out to sea vessels would be forced to deal with heavy northwest wind and swells for longer periods of time.

IV. ALTERNATIVES:

Based on review of comments submitted to the docket and vessel traffic patterns, the following TSS options were considered. These options were presented at a public meeting held in Oakland on October 20, 2010.

Option 1

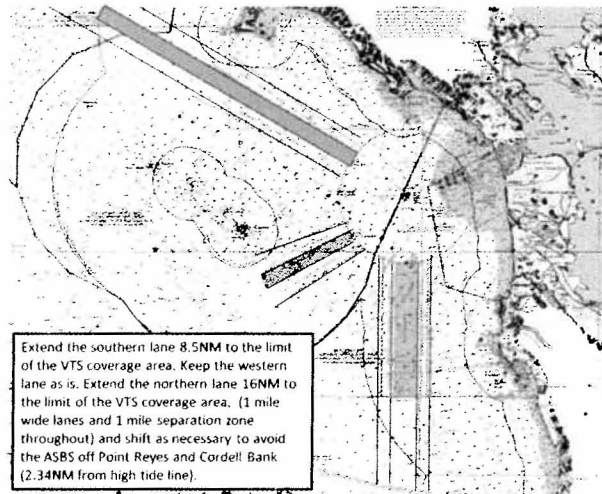
Option #1

Pros:

- Extends northern/southern TSS and gives all vessels a predictable approach and departure pattern.
- Helps give P/C and F/V visibility on standardized commercial traffic routes.

Cons:

- Could potentially bring vessels too close to Cordell bank on northern approach.



The existing southern approach would be extended 8.5 nautical miles to the limit of the VTS operating area. No

change would be made to the western approach. The northern approach would be extended 16.7 nautical miles to the limit of the VTS operating area and would be realigned and reconfigured to reduce impacts on both the ASBS off Point Reyes and Cordell Bank. One mile wide traffic lanes with a 1 mile separation zone are recommended. This proposal would enhance predictability of vessel traffic in the northern approach in the vicinity of Point Reyes. Shifting the approach further offshore to 3 nautical miles from Point Reyes will move them out of the Area of Special Biological Significance. Narrowing the northern end of the northern approach with uniform lane widths and extending the approach to the limit of the VTS operating area will provide a better defined traffic corridor and increased predictability of routing near prime fishing grounds. It is also expected to result in less fishing activity within the approach due to the reduction in width at the northern end. Extension of the southern approach by 8.5 nautical miles will increase predictability of vessel traffic towards Pigeon Point and the recommended tracks through the Monterey Bay National Marine Sanctuary. Due to concerns of the impact of a predominant northwesterly swell on vessel traffic if the western approach is extended, no changes are recommended.

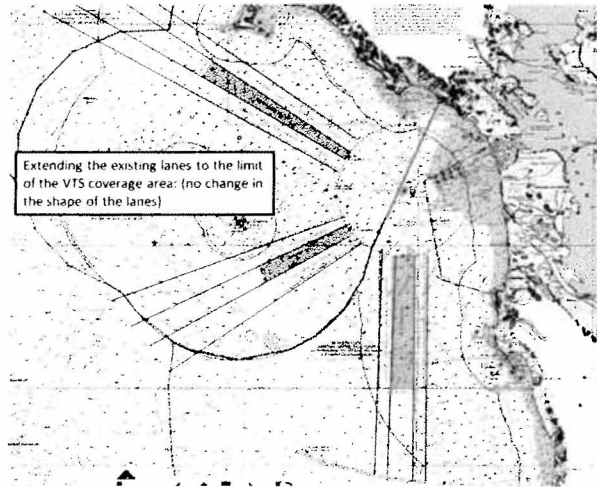
Option #2

Pros:

- Extends TSS's and gives all vessels a predictable approach and departure pattern.

Cons:

- Could potentially bring vessels too close to Cordell bank on northern approach.



This option would extend the existing approaches to the seaward limit of the VTS operating area with no change in the shape of the existing lanes. This would have the benefit of providing defined traffic corridors within the VTS operating area to enhance the predictability of vessel traffic. Although there are benefits to extending the existing approaches to increase predictability, there are concerns with extending the western approach lanes due to the predominant northwesterly swell. During the winter months Aleutian storms and low pressure systems moving across the central Pacific generate large swells that center on San Francisco. The swell direction is out of the

north and northwest forcing vessels transiting in the western approach to take the swell broadside. By extending the western approach it would increase the time and distance that vessels would be subject to the swell on their beam. An extension of the northern approach would increase predictability of vessel traffic in a popular fishing area. Extending the southern approach will provide increased predictability for vessel traffic in the area.

Option 3

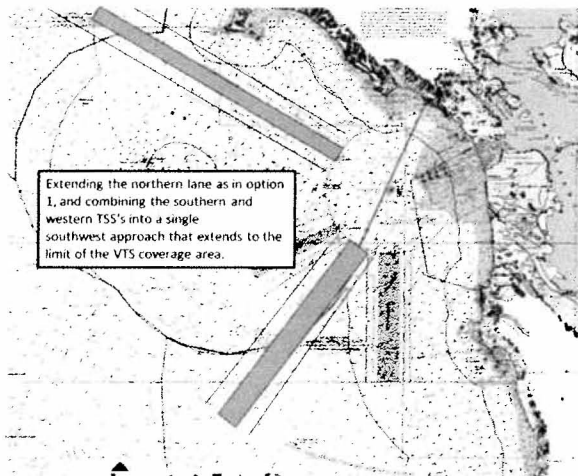
Option #3

Pros:

- Extends northern/southern TSS and gives all vessels a predictable approach and departure pattern.
- Helps give P/C and F/V visibility on standardized commercial traffic routes.

Cons:

- impact on vessels transiting to or from SF that use existing southern TSS.
- May result in vessels not using the new southern TSS.



This option consists of extending the northern approach as in option one, and combining the existing Western and southern approaches into a single southwest approach that

extends to the limit of the VTS coverage area. This would move the lanes away from the Farallon Islands, from 2nm to 8nm at the closest point, and reduce the impact of the northwesterly swell on vessels using the existing western approach. However, the reduction of swell impact would be minimal due to direction of predominant storms. The impact on fishing if the approach is shifted to the southwest is uncertain, although one fisherman stated his crab pots had been damaged when a vessel bypassed the western approach and followed this route due to weather conditions. The existing approaches align with the Recommended Tracks through the Monterey Bay National Marine Sanctuary approved by the IMO. Vessels 300 gross tons and above would normally use the tracks that line up with the San Francisco southern approach. Vessels carrying hazardous cargo in bulk and tank vessels would normally use the western approach. Although more vessels are currently using the western approach, this trend is anticipated to return to traditional routing patterns when the IMO approved ECA standards are implemented starting in 2012. Increased use of the southern approach is anticipated. A single southwest approach does not line up well with the Recommended Tracks through the Monterey Bay National Marine Sanctuary.

Option 4

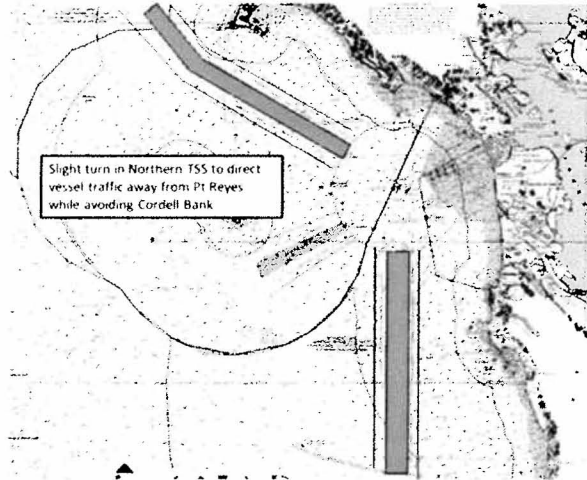
option #4

Pros:

- Extends northern/southern TSS and gives all vessels a predictable approach and departure pattern.
- Directs traffic away from Pt Reyes and avoids Cordell Bank.

Cons:

- Putting a turn in the TSS



This option would extend the northern approach 16.7 nautical miles to the northern limit of the VTS San Francisco operating area and add a turn to keep vessels farther away from Point Reyes and Cordell Bank. This option would have the same benefits as described in option one while increasing the distance between the approach and Cordell Bank. The proposed configuration for the western and southern approaches would be the same as in option one.

Option 5:

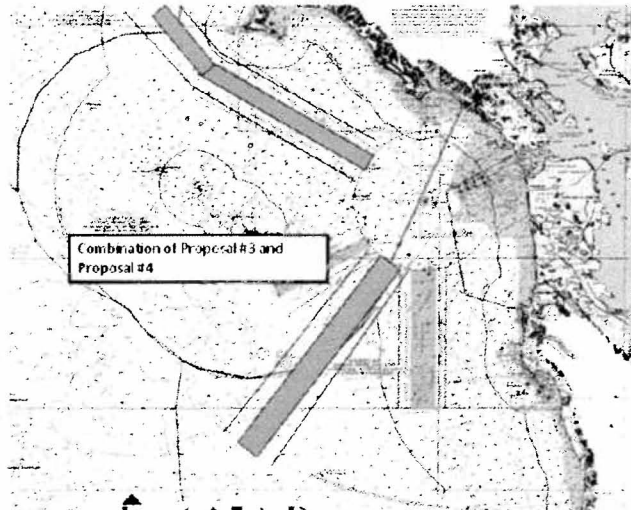
Option #5

Pros:

- Extends northern/southern TSS and gives all vessels a predictable approach and departure pattern.
- Directs traffic away from Pt Reyes and avoids Cordell Bank.
- Helps give P/C and F/V visibility on standardized commercial traffic routes.

Cons:

- Impact on vessels transiting to and from SF that use the existing southern TSS.
- May result in vessels not using the southern TSS.
- Putting a turn in the Northern TSS.
- May result in vessels not using the south West TSS when they want to transit close to shore.



This alternative proposes the same configuration for the northern approach as option four. It would also combine the southern and western approaches into a single southwestern approach as described in option three. The swell direction and storm activity remain a concern for the creation of a southwest approach to the limit of the VTS.

Option #6

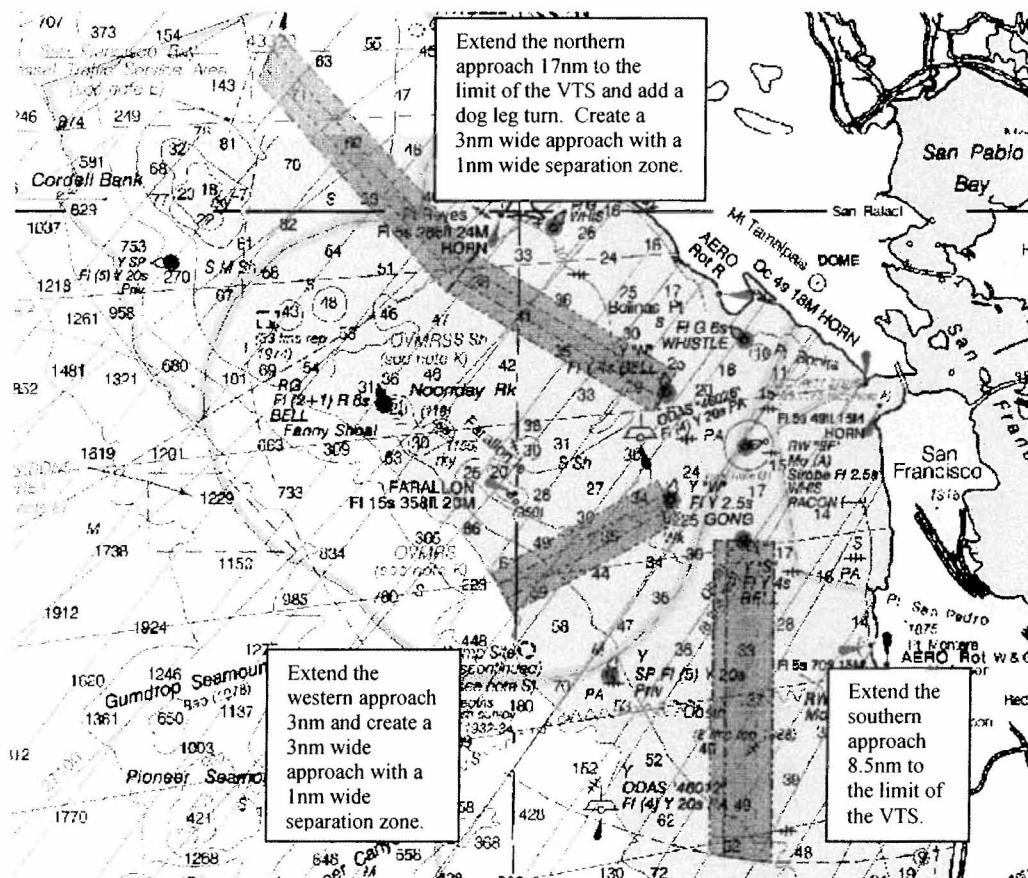
No Change



Status Quo. Make no changes to the existing TSS. The TSS has been in existence since the 1970's and has served effectively to distribute vessel traffic and establish predictability for vessels approaching and departing San Francisco. Prior to July 2009 there was an even distribution of traffic, about 1/3 of the vessels using each approach. The current pattern of 50% of the vessels using the western approach is expected to return to historical patterns when the IMO ECA is implemented in 2012.

V. FINAL RECOMMENDATION:

After reviewing all comments submitted to the docket, listening to comments at the public meeting held on October 20 in Oakland, CA, consulting with the national marine sanctuary managers in the study area, and following the guidance of the Port and Waterways Safety Act to reconcile the need for safe access routes with other reasonable waterway uses, the Coast Guard recommends the following modifications to the existing TSS:



Extend the northern approach 16.7nm to the northern end of the VTS San Francisco area of responsibility and add a dog leg turn just below the 38th parallel to keep vessels on a predictable path in a prime area for fishing. In conjunction, we find that changing the layout of the approach from its current flared configuration to a 3nm wide approach will shift the approach away from the ASBS at Point Reyes. The 3 mile wide approach will consist of 1 nautical mile wide lanes, separated by a 1 nautical mile wide separation zone. We recommend narrowing the western approach by shifting the northern boundary line away from the Farallon Islands and extending the end 3nm. After reviewing historical AIS data for vessels entering and exiting the western approach, the recommended 3nm extension seaward matches current vessel traffic patterns. Furthermore, this will keep vessels on a straightened course to the edge of the continental shelf, reducing the risk of whale strikes in an area of potential high whale density. Changing the layout of the approach from its current flared configuration to a 3nm wide approach will shift the approach away from the ASBS at the Farallon Islands. The 3 mile wide approach will consist of 1 nautical mile wide lanes, separated by a 1 nautical mile wide separation zone. No further changes to the western approach are recommended as

the USCG finds it effective for the safe navigation of commercial vessels. Due to weather patterns impacting vessels in transit, lengthening the western approach any further than 3nm would put an undue burden on vessels by keeping them abeam to swells from the north and northwest. We recommend extending the length of the southern approach 8.5nm to limit of the VTS coverage zone with no change in traffic lane width or separation zone width. Extending the southern approach will keep commercial vessels on a predictable path in known fishing areas. There has been general support for extending the existing northern and southern approaches to the limit of the VTS operating area to improve predictability of vessel traffic through prime fishing grounds. The recommended modifications will enhance predictability of vessel traffic patterns while transiting through an environmentally sensitive area which includes three national marine sanctuaries. Vessel collisions or groundings in any of the national marine sanctuaries could have catastrophic environmental impacts.

VI. CONCLUSION

The PARS provides an evaluation of the continued applicability and the need for modifications to the current vessel routing system. These recommendations are intended to improve predictability of vessel traffic patterns in

prime fishing areas. The USCG will continue to monitor traffic patterns as the IMO ECA begins implementation in 2012. The Coast Guard believes the recommendations to modify the existing TSS would work effectively to keep vessels on a predictable course. These proposed modifications would need to follow the federal rulemaking process to be implemented. This process will also include section 7 consultations with the NMFS in accordance with the ESA. A notice of proposed rulemaking would be prepared to invite public comment on the proposal. The proposed modifications would also require approval by the IMO.