

## San Francisco Bay Potential Places of Refuge (PPOR) for Vessels in Distress

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Effects of Oil on Wildlife Conference

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## Background

- Multiple vessels have sustained catastrophic structural failure at sea
- M/T PRESTIGE -Tank ship off coast of Spain in 2002



## Policy

- *IMO Resolution A.949(23), Guidelines on Places of Refuge for Ships in Need of Assistance (Adopted in December 2003)*
- G-MOR Memo, February 2005
- COMDTINST 16451.9, *U.S. Coast Guard Places of Refuge Policy*, July 2007
- Provide stakeholders a framework for planning, preparedness, and response with respect to potentially polluting ships in need of assistance.
- Area Contingency Plan (ACP)

## PPORs

- **POTENTIAL** Places of Refuge (PPORs)
  - Vessel in distress notifies Captain of the Port (COTP) of need for place of refuge
  - Sites pre-identified that might serve as temporary refuge
  - Information will guide USCG to location decision during actual incident
  - Incident specific for particular vessel with fewest impacts to human safety and environment

## Participation – PPOR Subcommittee

### FEDERAL

- USCG
- National Oceanic and Atmospheric Administration (NOAA)
  - National Marine Sanctuaries
  - National Marine Fisheries Service
- Department of the Interior
  - National Park Service
  - U.S. Fish & Wildlife Service

### STATE

- California Department of Fish & Game - Office of Spill Prevention and Response
- California Coastal Commission
- Bay Conservation and Development Commission
- California State Parks

### LOCAL

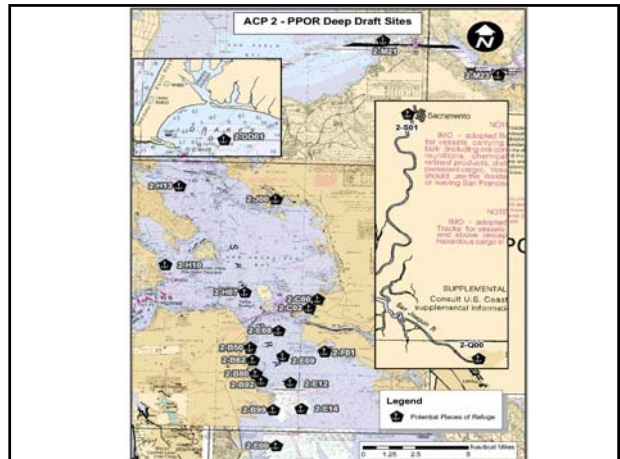
- San Francisco Bar Pilots Association
- Port of San Francisco
- Port of Oakland
- Port of Richmond
- East Bay Regional Park District

## PPOR Subcommittee Process

- Creation of PPOR Database (USCG/OSPR)
- Identification of 96 candidate PPOR sites for deep, medium and shallow draft vessels
- Focused on 22 deep draft sites (25-60 ft draft)
  - 11 Anchorages and 11 Dockages
  - Navigational and geographical data was obtained from San Francisco Bar Pilots and NOAA
  - USCG provided economic and demographic information
  - CDFG-OSPR coordinated sensitive resource information

**Potential Places of Refuge (PPOR) - Deep Draft Sites**

Site #	Place Name	Site Name	Co.	N	W
2-B00	San Francisco South	Pier 50	SF	37 46 25	-122 22 52
2-B02	San Francisco South	SF Dry Dock	SF	37 46 46	-122 22 46
2-B80	San Francisco South	Army Street Terminal/Pier 80	SF	37 45 00	-122 22 36
2-B02	San Francisco South	Piers 92/94/96	SF	37 44 36	-122 22 15
2-B09	San Francisco South	Hunters Point	SF	37 43 00	-122 21 30
2-C00	Oakland Outer Harbor	Any Site	A	37 48 12	-122 19 00
2-C02	Oakland Outer Harbor	Bertha 20-38	A	37 46 42	-122 19 30
2-E00	South Bay Anchorages	Any Other Anchorage	SF/IA	37 41 00	-122 21 15
2-E08	South Bay Anchorages	Anchorage 8	SF/IA	37 47 23	-122 21 19
2-E09	South Bay Anchorages	Anchorage 9	SF/IA	37 46 00	-122 21 00
2-E12	South Bay Anchorages	Anchorage 12	SF/IA	37 44 33	-122 20 30
2-E14	South Bay Anchorages	Anchorage 14	SF/IA	37 43 00	-122 19 48
2-F01	South Bay East Shore	Alameda Point/Naval Station	A	37 46 17	-122 18 30
2-H07	Central Bay Anchorages	Anchorage 7	SF/IA	37 46 30	-122 23 23
2-H10	Central Bay Anchorages	Anchorage 10	M	37 53 57	-122 28 13
2-H13	Central Bay Anchorages	Anchorage 13	M	37 55 25	-122 27 31
2-J00	Richmond-Harbor/SF Channel	PAAR 3	CC	37 54 47	-122 21 41
2-M21	Carguenez Strait West	Anchorage 21	Sol	38 03 47	-122 15 30
2-M23	Carguenez Strait East	Anchorage 23	Sol	38 02 00	-122 00 51
2-Q00	Port of Stockton/SJ River	Any Site	SJ	37 57 00	-121 19 46
2-S01	Port of Sacramento	Sacramento	Y	38 33 47	-121 33 00
2-0001	Drakes Bay	Deep Anchorage	M	38 00 00	-122 55 00

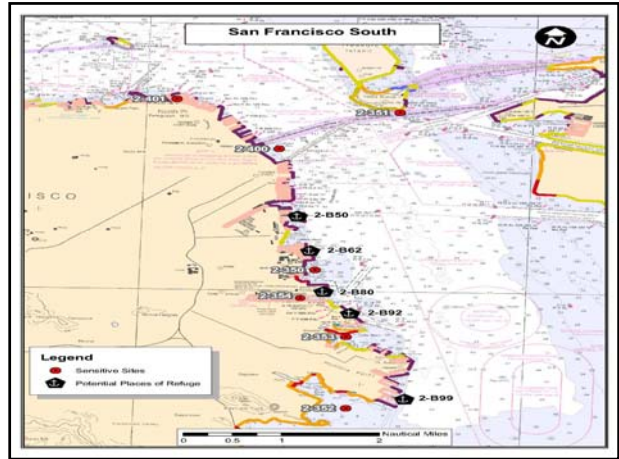
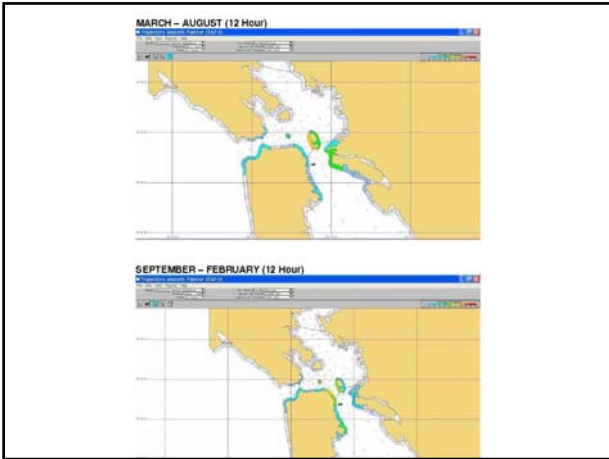


- ## Resources Workgroup Process
- Workgroup tasked with providing detailed natural/historic/cultural/aquaculture resource information for 22 deep draft PPOR sites
  - Sources for sensitive resource data included:
    - Environmental Sensitivity Index (ESI) Maps
    - ACP sensitive site information
    - Resource Trustee input

- ## Natural Resources
- Threatened and Endangered Species (TAES)
  - Keystone Non-protected (Non-TAES) Species
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- ## Other Resources
- Historical/Cultural (not identified by type or location)
  - Economic Impact on Commercial Fishing and Aquaculture
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- ## Resources Workgroup Process
- NOAA Trajectory Analysis Planner (TAP) Model simulations
  - Geographic Information System (GIS) maps generated for PPOR site clusters and ACP sensitive sites
  - Site data entered into PPOR Database
  - PPOR Database output to Resource Trustees for review and comment



**PPOR Pre-Incident Information Summary for San Francisco South: Pier 50** 2-B50  
Type: Dockage

Latitude: 37.814 Longitude: 122.29  
County: San Francisco

**Location Description:**  
Pier 50 (Mission Rock Terminal) covers approximately 18.5 acres and is in a highly industrial area with few residences in the immediate area. The site description is berths along its three sides: 1,575 feet (25 feet MLLW) along the north side, 1,000 feet (45 feet MLLW) along the east face and 1,400 feet (25 MLLW) along the south side. Pier 50 is capable of handling breakbulk cargo and lay berth (long-term dockage). Four transit sheds and 231,000 square feet of covered storage may be available on-site. Opportunities for containment are available on the north and south sides but not along the east face. The site is directly accessible from the open bay and has nearby access to Interstates 80 and 280.

Prevailing winds in the area typically blow away from land (i.e. from the west and north). Tidal currents in the area dominate water flows and may be as high as 4.5 knot ebb (to the south) and nearly 4.5 knot ebb (to the north).

Concrete bulkhead and riprap shorelines dominate the area with little to no sensitive shoreline habitat or shallow water habitats known nearby. Pacific Herring may spawn in the area during the winter months and Chinook Salmon is an Endangered species that may occur in nearby bay waters during the winter months.

**Natural Resource Concerns and Issues for this Place / Site**

**Threatened and Endangered Species (TAES):**  
 (FBI-SF-EIE) peregrine falcon present year-round, nest March-August.  
 South Basin-Hunters Point (SF-E/E) California brown pelican present near site from May-November.  
 Heron's Head Park/India Basin and Italia Creek/Pier 54 (F/E) California sealion plant present year-round at 18-87. Both potential suitable habitat for (SF-E/E) salt marsh harvest mouse.  
 (SFAC/2-350EX,351A/B,352B,353A,354A,400CX,401B, ES/SFB-Maps 15, 19, 20)

**Critical Habitat for TAES:**  
 Heron's Head Park/India Basin and Italia Creek/Pier 54 have high value as salt marsh habitat on industrialized SF Peninsula. Also suitable habitat for presence of (SF-E/E) salt marsh harvest mouse.

**Sensitive Non-protected (Non-TAES) Species:**  
 (SFAC/2-350EX,351A/B,352B,353A,354A,400CX,401B, ES/SFB-Maps 15, 19, 20)  
 SF South Collection-Herring spawn during winter, seabirds and fish present year-round. YB-Small cobbler pooled beaches south side of island are important year-round and nesting. South Basin-Hunters Point important fringe marshes, tidal mudflats, eelgrass, with concentrations of waterfowl and shorebirds present year-round and in higher numbers (1000+) during winter. Heron's Head Park/India Basin and Italia Creek/Pier 54 are wetland restoration sites with high ground vegetation, pickleweed marsh, saltmarsh ponds/lagoons, mudflats supporting variety of water birds, shorebirds and plant life. SF Waterfowl nesting (spawning in winter, birds roost and stage year-round. Pier 39 sea lion haulout year-round, highest numbers August-March.

**Critical Habitat for Non-protected (Non-TAES) Species:**

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**Substance-use Species:** Critical Habitat for Substance Species

**Sensitive Fish Habitat:** Historic and Cultural Resources

**Commercial Fisheries / Species:** Recreational Species and Habitat

**Commercial Fishing from TUVBL:**

**Human Health / Safety Concerns and Economic Issues for this Place / Site**

**Human Health and Safety:**  
 Approximately 55,000 people live, work or play near this site.  
 Economic Impact on Commercial Fishing and Aquaculture:  
 Port of San Francisco has a large-scale commercial fishing industry. Recent Cosco Busan oil spill in Nov 2007 is evidence enough to show how 50,000 jobs of oil can significantly affect recreational and commercial fishing.  
 Economic Impact on Recreational Fishing and Marine Tourism:  
 Port of San Francisco has a large-scale commercial fishing industry. Recent Cosco Busan oil spill in Nov 2007 is evidence enough to show how 50,000 jobs of oil can significantly affect recreational and commercial fishing.  
 Marine Tourism might be affected.

**Economic Impact on Maritime Commerce and Shipping:**  
 Redundant piers and accommodations exist to counter problems that may arise as a result of a Places of Refuge incident. As long as shipping channels are clear of obstructions, most commercial shipping will continue.

**Economic Impact on Non-maritime Commerce:**  
 Collateral effects due to a disturbance in intermodal transportation systems may happen if the maritime transportation system is obstructed.

**Other Economic Impacts:**  
 Airborne release of a hazardous substance or a catastrophic incident will most likely impact population desire to stay away from affected areas or any large metropolitan areas due to a fear factor.

**Stakeholder List for this Place / Site**

Name / Title	Organization	Phone	more details
E/C	EBI Dept. Chief of Resources	San Francisco Maritime National Historical Park	(415) 776-6088
C	City of San Francisco	San Francisco, City and County of	(415) 776-8711
R	Salmon Species Endangered Society	Port of San Francisco	(415) 776-6084
O	Linda Novick	SF Bay Conservation and Development Commission	(415) 552-3644
T	Vicki Torres, Earthwatch Specialist	US National Park Service, Golden Gate (NKA)	(415) 761-4478
T	Erica Thompson, Env. Program Chief	Golden Gate National Recreation Area (NPS)	(415) 761-4839

**Characteristics and Tactical Considerations**  
 Primary Jurisdictional Control: Port of San Francisco  
 Marine Fire Fighting Resources: SF PIER 24, 37-47, 42, 122-23, 24  
 Approximate Tug Response Time: 1 HOUR

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All of Nearby Environmentally Sensitive Sites: (SFAC/2-350EX,2-351A/B,2-352B,2-353A,2-354A,2-400CX,2-401B, ES/SFB - Maps 15, 19, 20) Is Containment Possible?

**Coast Pilot and Navigation Chart Information**

Charting Authority	Chart Number	Scale	Water Depth	Currents	Sea Conditions	Flag	Shelter From Severe Storms	Navigational Approach	Pilot Requirements
N	18	M	30E	0			SEASONAL, YES		<input checked="" type="checkbox"/>

**Specific Site Details**

Site ID	Site Name	Vessel Capacities		Site Capacities and Facilities		Containment Possibilities:
		Max. Length	Max. Beam	Max. Berth	Max. Storage	
50	Pier 50	1000	100	1000	1000	1000

1000' 1000 IS THE MAX LENGTH OF VESSEL ABLE TO BE AT THIS SITE.

SF PIER 21-10 IS HOME OF FIRE BOAT GUARDIAN AND PHOENIX.

SF PIER 21-12 IS HOME OF FIRE BOAT GUARDIAN AND PHOENIX. OTHER FIRE FIGHTING RESOURCES COME FROM FOSSICRYSTAL AND RICHMOND.

All the piers within this place have poor containment on the ends exposed to the Bay currents. Soft have significant potential for containment on the north and south sides of the piers, particularly if other resources are already positioned on the opposite side of the pier. Secondary containment of oil loading/unloading is variable and not particularly good except at the SF Dry Dock.

## PPOR Lessons Learned

### PPOR UNIT FORMATION:

- Timing
- Composition
  - USCG Officer
  - Environmental Unit Specialist (Planning)
  - Salvage Unit Specialist (Operations)
  - Local Government Specialist (Liaison)
  - Resource Trustees

## PPOR Lessons Learned

### USEFULNESS OF PPOR TOOLS:

- Alaska PPOR Model (+)
- USCG PPOR Job Aid (Tucci Tool) (Δ)
- PPOR Database
  - Navigational and Site Information (+)
  - Natural Resource Information (+/Δ)

## PPOR Lessons Learned

### PPOR OUTREACH EFFORTS:

- Federal (RRT)
- State (SIOSC)
- Local Government (Ports, Cities)
- Spill Management Teams
- Petroleum Industry
- Oil Spill Response Organizations (OSROs)
- Resource Trustees/Managers
- Other Stakeholders

## Summary

- Process for COTP to use in the event of PPOR incident
- Important for maritime industry to understand immediate notification to COTP necessary for vessels in distress
- Decision made in consultation with relevant stakeholders through PPOR Unit
- Implementation Guidance based on “Lessons Learned”

