

## POTENTIAL PLACES OF REFUGE: PART ONE – INTRODUCTION

### Purpose and Scope

This Potential Places of Refuge (PPOR) section supplements the Prince William Sound Subarea Contingency Plan for Oil and Hazardous Substances Spills and Releases, commonly referred to as the Prince William Sound Subarea Contingency Plan (SCP). Places of Refuge are potential docking, anchoring, or mooring sites that provide a sheltered location with adequate water depth to repair a leaking or disabled vessel. Places of Refuge may also be used to lighter (remove fuel or oil cargo) from a disabled vessel in order to prevent or limit environmental damage. If leaking vessels are not repaired, oil or other hazardous substances released from the vessel may impact downstream environmental resources and shorelines. Vessels should be anchored or moored in protected waters to safely undergo repairs and minimize environmental pollution. This section identifies potential docking, anchoring, and mooring locations that may be selected as Places of Refuge in the Prince William Sound Subarea. Actual designation of a Place of Refuge will always be an incident-specific decision made by the Captain of the Port for Prince William Sound.

Prince William Sound (PWS) has many miles of environmentally sensitive coastline. In addition to sensitive shoreline habitats such as marshes, sheltered tidal flats, and exposed tidal flats, PWS supports a number of sensitive biological resources including birds, fish and shellfish, and marine mammals. The area contains national forest lands, state critical habitat areas, state parks, native and other private lands, and is managed for a variety of uses including oil transportation, commercial fishing, subsistence and recreation.

PWS is also widely used for marine commerce. Oil tanker vessels, log transport ships, fuel barges, freighters, oil industry work boats, ferries, and cruise ships make routine stops at PWS ports. Also, commercial fishing boats, sport fishing charter boats, and privately-owned vessels regularly use local harbors and docks.

There is no perfect docking, mooring or anchoring site for all vessels in all situations. Larger vessels, such as oil tankers and cruiseships, cannot be taken to certain locations. Some ports may have shallow approaches or small bays, and large ships cannot enter these locations. But smaller vessels, such as fishing vessels and charter vessels, may be able to utilize these smaller ports. For the purposes of this section, vessels have been divided into three categories: large, medium and small.

**Large vessels** are vessels exceed 20,000 Gross Tons. These vessels have drafts of 25 to 60 feet and range in size from 450 to 1,000 feet long. Cruiseships and crude oil tankers are the predominant large vessels operating in Prince William Sound.

**Medium vessels** are vessels of 300 to 19,999 Gross Tons. These vessels have drafts of upto 25 feet and range in size from 200 to 450 feet in length. Freighters and ferries are the most common medium sized vessels operating in Prince William Sound.

**Small vessels** are less that 300 Gross Tons, generally draw less that 15 feet and are less that 200 feet in length. Fishing vessels, fishing tenders and pleasure craft make up the majority of the small vessels operating in Prince William Sound.

The information in this section may be used for a vessel of any size that has suffered an incident that creates need for a temporary place of safe refuge, but it is focused on large and medium size vessels, since there are many more potential places of refuge for small vessels. Some potential

places of refuge appropriate only for small vessels are designated, however many more potential places of refuge for small vessels exist in PWS.

The information provided here supplements information provided elsewhere in the Prince William Sound SCP and the Alaska Federal/State Preparedness Plan for Response to Oil & Hazardous Substances Discharge/Releases (commonly referred to as the Unified Plan). Information provided elsewhere in these plans is not duplicated herein.

## **How to Use the Potential Places of Refuge Section**

The U.S. Coast Guard Captain of the Port (COTP) Prince William Sound has jurisdiction over the movement of and temporary mooring or anchoring locations for leaking or damaged vessels within the PWS subarea. The COTP may confer with federal, state, tribal and local officials when deciding where and when to move a stricken vessel. This section lists information about candidate places of refuge in order to enhance the decision-making process and facilitate the overall response operation. The information in this POR document is intended to help decision-makers to address operational, logistical, and environmental issues when deciding where to take a stricken vessel to safely lighten its cargo and bunkers and repair the damage, while preventing or minimizing environmental damage or pollution.

The decision-making process for selecting a place of refuge is covered in detail in the Unified Plan (*reference section*). In general, the COTP must determine the operational/logistical needs of the vessel and then match those needs to potential places of refuge. Other considerations such as safety of life, environmental sensitivity, and conflicting uses must also be weighed. This section provides logistical information as well as information on other considerations to aid the decision-making process. However, the COTP should also consult with natural resource management agencies and other stakeholders at the time of the incident as time permits.

Part 2 of this document contains site-specific information for some of the potential places of refuge in the Prince William Sound subarea. An index map at the beginning of this section shows the location of the PPOR maps. Each PPOR map consists of two parts: 1) a map page showing a locator map, picture, and detailed nautical charts; and 2) a table page providing site information and local site conditions.

Each vessel incident presents unique circumstances that must be addressed. The goal is to safely repair or salvage a damaged vessel while avoiding or reducing impacts to local resources. Prior to bringing a vessel into a PPOR, the following factors will need to be considered:

- Status of the vessel;
- Public and crew safety;
- Logistical and navigational requirements of the vessel;
- Prevailing winds and currents;
- Navigational approach to the site;
- Anchoring ground;
- Vessel traffic;
- Spill response capabilities;
- Environmental resources at risk;
- Strategies to protect sensitive areas;
- Available support facilities; and
- Potential economic impacts.

The information provided in these PPOR should facilitate decision-making by providing data on many of the items listed above. In the event a vessel needs assistance, officials may refer to the candidate PPOR sites to aid them in responding to the incident.

## **Who to Contact for Input**

Comments and recommendations on these PPOR are welcomed. Please send your comments to either of the following agencies:

Alaska Department of Environmental Conservation  
Prevention and Emergency Response Program  
555 Cordova Street  
Anchorage, AK 99501

United States Coast Guard  
Captain of the Port, Prince William Sound  
Marine Safety Office (MSO) Valdez  
PO Box 486  
Valdez AK 99686

## **How the Document Was Developed**

This section was developed in 2004 through a cooperative Workgroup process involving federal and state agencies working with representatives from the maritime industry, marine pilots, local tribal and city governments, and stakeholder groups.

The workgroup participants were:

Alaska Department of Environmental Conservation,  
Alaska Department of Natural Resources,  
Alaska Department of Fish and Game,  
Alyeska Pipeline Service Company/Ship Escort and Response Vessel Service (SERVS),  
Cook Inlet Regional Citizens Advisory Council,  
Environmental Protection Agency (EPA),  
National Oceans and Atmospheric Administration (NOAA),  
Prince William Sound Regional Citizens' Advisory Council,  
Prince William Sound Response Planning Group,  
Southwest Pilots Association,  
U.S. Coast Guard, District 17,  
U.S. Coast Guard, Valdez Marine Safety Office, and  
U.S. Department of the Interior.

## **Site Assessment Process**

The first step of the PPOR process was to identify candidate sites (anchorage, moorings and docks/piers) within the PWS Subarea. The Workgroup began by researching available information to determine major risk factors in the PWS Subarea. Maps were developed, depicting the following risk and logistical information:

Locations of bulk fuel facilities (Figure H-1);  
Primary traffic routes for State ferries and cruise ships (Figure H-2);  
Primary traffic routes for crude oil tankers (Figure H-3);  
Locations of frequent fishing vessel/tramper offload activities (Figure H-4);

- Locations of key nearshore fishing grounds, hatcheries and remote release sites (Figure H-5);
- Locations of previous major marine spill events (Figure H-6); and
- Locations of spill response hubs and equipment depots (Figure H-7);

A total of 49 PPOR sites were identified for the PWS Subarea. A site assessment matrix (Table H-2) and key (Table H-1) was developed. This matrix consists of identified sites in each row with information about risk factors and site selection criteria in the columns. The information presented for each site includes:

- POR identification;
- Name;
- Location;
- Maximum vessel size;
- Swing room or dock face length;
- Bottom type;
- Exposure/protection;
- Conflicting uses;
- Sensitive resources;
- Response options;
- Distance to population centers; and
- Distance to alternate PPOR.

POR identifications are alpha-numeric; the beginning letter indicates the type of site, as follows:

- Anchorages begin with A,
- Moorings begin with M, and
- Docks and piers begin with D.

The number following the beginning letter is a unique site identifier with no importance attached to the magnitude of the number. The locations of potential places of refuge (anchorages, moorings and docks/piers) are shown on Figure H-8.

The site assessment matrix contains potentially suitable emergency anchorage, docking, and moorage locations based on operational factors such as water depth, swing room, exposure/protection, and navigational approach. Sites are grouped by the maximum vessel size category suitable for the site. The PPOR sites identified for small vessels should only be considered a partial list as there are many suitable sites available in PWS for the small vessel category (less than 300 gross tons).

The Workgroup then consulted with primary stakeholders to identify specific factors that should be considered as part of the site selection process. These factors include:

- Distance from population and logistics centers;
- Presence of cultural resources or historic properties;
- Proximity to environmentally sensitive areas, wildlife resources, and threatened or endangered species or habitats;
- Conflicting uses, such as fisheries, mariculture sites, tourism and recreational use, and the location of public or private facilities;
- Response factors such as booming feasibility and the proximity to existing GRS sites; and
- The distance from the closest alternative place of refuge.

Figure H-9 is a composite map of all Potential Places of Refuge and risk factors combined.

## **POTENTIAL PLACES OF REFUGE: PART TWO – PPOR MAPS**

### **Index of PPOR Maps**

The Workgroup developed 15 PPOR Maps within Prince William Sound to aid in the site selection process. These maps are larger in scale, showing a small portion of the Subarea in more detail than the maps in Part One. Figure H-10 provides an overview of the PWS Subarea, identifying the location of each PPOR Map. Each PPOR Map has been assigned an identifying number, which has no relevance other than as a map identifier.

### **PPOR Maps**

Each PPOR Map consists of two parts: 1) a graphic showing a locator map, picture, and detailed nautical charts showing the location of anchorages, docks, moorings, and other information critical to the selection of a place of refuge; and 2) a series of tables providing site information regarding local site conditions, environmental sensitivities and other considerations.

**PLACES OF REFUGE: PART THREE – REFERENCES**

International Maritime Organization, Draft Assembly Resolutions

    Finalized by Nav 49, 17 Jul 2003 ..... IMO  
Prince William Sound Marine Firefighting and Prevention Plan, 1999.....USCG MSO Valdez