# NORTHWEST ARCTIC
## SUBAREA CONTINGENCY PLAN

## POTENTIAL PLACES OF REFUGE
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POTENTIAL PLACES OF REFUGE

PART ONE – INTRODUCTION

A. PURPOSE AND SCOPE

This Potential Places of Refuge (PPOR) section supplements information found elsewhere in the Northwest Arctic Subarea Contingency Plan for Oil Spills and Hazardous Substances Releases, commonly referred to as the Northwest Arctic Subarea Contingency Plan (SCP). Information about sensitive areas associated with PPOR may be found in the Sensitive Areas - Section D of the SCP. Information about response strategies to protect sensitive areas and areas of public concern associated with PPOR may be found in the Geographic Response Strategies – Section G of the SCP.

A “place of refuge” is defined as a location where a vessel needing assistance can be temporarily moved to, and where actions can then be taken to stabilize the vessel, protect human life, reduce a hazard to navigation, and/or protect sensitive natural resources and other uses of the area (e.g., subsistence harvesting, commercial fishing, recreational boating). A place of refuge may include constructed harbors, ports, natural embayment’s, or offshore waters. This section identifies potential docking, anchoring, and mooring locations that may be selected as Places of Refuge in the Northwest Arctic Subarea. Actual designation of a Place of Refuge will always be an incident-specific decision made by the U.S. Coast Guard Captain of the Port (COTP) for Western Alaska.

The Northwest Arctic Subarea has thousands of miles of environmentally sensitive coastline. In addition to sensitive shoreline habitats such as marshes, sheltered tidal flats, and exposed tidal flats, Northwest Arctic supports a number of sensitive biological resources including birds, fish and shellfish, and marine mammals. The local communities are heavily reliant on marine resources for their livelihood and subsistence. Because of this unique relationship with the marine environment, much of the coast is utilized for subsistence activities and is extremely sensitive to the impacts of marine commerce, especially oil spills. Additional information about identification of sensitive areas and resources may be found in Section D of the SCP. Additional information about protection of sensitive areas may be found in Section G of the SCP.

The Northwest Arctic Subarea is used for limited marine commerce. This commerce has been directed at resupplying the communities and industry during the ice-free period of the summer and fall months. With climate change precipitating the ongoing reduction in sea ice and the subsequent expansion of the operating season, it is likely that shipping and industrial activities will increase throughout the Arctic. This activity will see a corresponding rise in marine commerce utilizing a variety of different types of vessels. Fuel barges, freighters, container ships, drilling ships, tankers and cruise ships operating in, and transiting through the Northwest Arctic may become more routine.

The Northwest Arctic is a unique operating environment, with limited infrastructure, extreme weather and few protected anchorages. These considerations affect the ability to accommodate stricken vessels of any size in these waters. The protection offered in most of the sites listed is limited and available only under certain circumstances outlined in the plans. In developing this...
section, consideration was given to historical anchorage sites near communities. These are well-known areas that have access to some of the limited infrastructure in the area that may affect repairs and assist in the response.

It is widely acknowledged that there is no perfect docking, mooring or anchoring, site for all vessels in all situations. A vessel’s length and draft are major determining factors when considering a site for refuge. Deep draft vessels, such as oil tankers and cruise ships, cannot be taken to certain locations. Some ports and bays may have shallow approaches and deep draft ships cannot enter these locations.

Shallower draft vessels, such as fishing vessels and supply vessels may be able to utilize these ports. For the purposes of this section, vessels have been divided into four categories:

- **Deep Draft II Vessels** are vessels with lengths up to and greater than 1000 feet and typically have drafts of 40-60 feet. The predominant deep draft vessels that may operate in the Northwest Arctic are container ships and tankers that are designed to the New Panamax dimensions.

- **Deep Draft I Vessels** are vessels with lengths up to and greater than 1000 feet and typically have drafts of 20-40 feet. The predominant deep draft vessels of this type that may operate in the Northwest Arctic are cruise ships, container ships and tankers.

- **Light Draft Vessels** are vessels up to 450 feet in length and have drafts to 20 feet. Freighters, catcher processors, and ocean going tugs are the most common light draft vessels operating in the Northwest Arctic.

- **Shallow Draft Vessels** are less than 300 gross tons and have drafts less than 15 feet.

The information in this section may be used for a vessel of any size that has suffered an incident, which creates a need for a temporary place of safe refuge, but it is focused on deep draft and light draft size vessels. Shallow draft sites were identified as assets for responding to PPOR incidents.

### B. HOW THE PPOR DOCUMENTS WERE DEVELOPED

This section was developed in 2011 by a Work Group of interested and knowledgeable stakeholders in keeping with the Alaska Regional Response Team’s "Guidelines for Places of Refuge Decision-Making," (Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/Releases, Annex O). The Work Group arrived at a consensus on the potential places of refuge and submitted this document to the Subarea Committee for approval and inclusion in the Northwest Arctic Subarea Contingency Plan. The Work Group participants represented the following organizations:

- Alaska Department of Environmental Conservation
- Alaska Department of Natural Resources
- Alaska Department of Fish and Game
- Alaska Marine Pilots Association
First Step: Risk Identification

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

- Locations of bulk fuel facilities and pipelines (Figure H-1);
- Location of noncrude carrier routes (Figure H-2);
- Locations of communities with spill response agreements, spill response hubs and equipment depots (Figure H-3);
- Locations of major airports (Figure H-4);
- Locations of marine casualty events (Figure H-5)
- Locations of subsistence and nearshore fisheries (Figure H-6)

Figure H-7 is a composite map of all risk factors combined.

Second Step: Feasibility

The second step led to the identification of 18 PPOR sites within the Northwest Arctic Subarea. A site assessment matrix (Table H-2) and key (Table H-1) were developed. The 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:

- PPOR identification;
- Response Zone #;
- Type of Berth;
- Location Name;
- Latitude;
- Longitude;
The PPOR identification method begins with a “DII”, “DI” “L” or “S” which indicates the appropriate size vessel for the site. Following the letter is a number which indicates the response zone in which the site is located. This is then followed by a number which is a unique site identifier with no importance attached to the magnitude of the number. 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 individual response zones and then by the maximum vessel size category suitable for the site.

Third Step: Factors to Consider
Step 3 identified specific factors that should be considered as part of the site assessment process. These factors include:

- Distance from population and logistics centers;
- Proximity to environmentally sensitive areas, wildlife resources, threatened or endangered species or habitats, and/or historic properties;
- Uses, such as fisheries, subsistence use, tourism and recreational use, and the location of public or private facilities;
- Response factors such as booming feasibility and the proximity to existing Geographic Response Strategy (GRS) sites; and
- The distance from the closest alternative PPOR.

Fourth Step: Review and Comment
Step 4 afforded the work group and stakeholders in the area the opportunity to review and comment on the draft documents. In this review, the workgroup ensured that information critical to their area of expertise is included.

C. HOW TO USE THE POTENTIAL PLACES OF REFUGE SECTION
The "Guidelines for Places of Refuge Decision-Making" (Annex O of the Unified Plan) will be used for places of refuge decision-making in the Northwest Arctic Subarea. (File available at: http://www.dec.state.ak.us/spar/ppr/plans/uc.htm)

Part Two of this document contains site-specific information for the PPOR in the Northwest Arctic 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, and detailed nautical charts; and 2) a table page providing site information and local site conditions. All geographic data was collected using Mercator Projection, North American Datum 1983.

D. 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 Preparedness and Response Program
555 Cordova Street
Anchorage, AK 99501

United States Coast Guard
Captain of the Port for Western Alaska
49000 Army Guard Rd
JBER, AK 99505
Northwest Arctic SCP: PPOR-Part One

Figure H-3: Locations of marine casualty events.

Northwest Arctic, Alaska

Risk Layers for Candidate Sites for Geographic Response Strategies and Potential Places of Refuge

Risk Symbols

- Response Region/Group
  - Airport
  - Airport Facility

- Offshore
  - Fixed Offshore Facility
  - Mobile Offshore Facility

- Onshore
  - Tank Farm
  - Storage Bunker

- Sky Area
  - Sky Authority
  - Sky Control

- Risk for Storage Site (in BBL)
  - Approx. 0 - 255 BBL
  - 256 - 599 BBL
  - 600 - 2999 BBL
  - 3000 - 5999 BBL
  - 6000 - 9999 BBL
  - 10,000 - 29,999 BBL
  - 30,000 - 59,999 BBL
  - 60,000 - 299,999 BBL
  - 300,000 - 499,999 BBL
  - 500,000 - 799,999 BBL
  - 800,000 - 999,999 BBL
  - 1,000,000 - 1,999,999 BBL

- Risk for Arctic Barge (in BBL)
  - Approx. 0 - 255 BBL
  - 256 - 599 BBL
  - 600 - 2999 BBL
  - 3000 - 5999 BBL
  - 6000 - 9999 BBL
  - 10,000 - 29,999 BBL
  - 30,000 - 59,999 BBL
  - 60,000 - 99,999 BBL
  - 100,000 - 199,999 BBL
  - 200,000 - 299,999 BBL

- Risk for Arctic Barge (in BBL)
  - Approx. 0 - 255 BBL
  - 256 - 599 BBL
  - 600 - 2999 BBL
  - 3000 - 5999 BBL
  - 6000 - 9999 BBL
  - 10,000 - 29,999 BBL
  - 30,000 - 59,999 BBL
  - 60,000 - 99,999 BBL
  - 100,000 - 199,999 BBL
  - 200,000 - 299,999 BBL

Northwest Arctic SCP: PPOR-Part One

H-11

PPOR date: May 2011

SCP Change 2, March 2018
Northwest Arctic, Alaska

RISK LAYERS for CANDIDATE SITES for GEOGRAPHIC RESPONSE STRATEGIES and POTENTIAL PLACES OF REFUGE

RISK SYMBOLS

Response Capable of Impact

- Airport
- Airport Runway
- Road
- Highway
- Coastal Access Road
- Waterway
- Coastal Waterway

Key Waterway: Alaska Coastal

Figure H.7: Composite map of all risk factors combined.

Northwest Arctic SCP: PPOR-Part One

May 2011

PPOR date: May 2011
SCP Change 2, March 2018
### North Slope and Northwest Arctic Potential Places of Refuge

#### Site Assessment Matrix

<table>
<thead>
<tr>
<th>PPOR ID#</th>
<th>Response Zone</th>
<th>Type of berth</th>
<th>Location Name</th>
<th>Lat</th>
<th>Lon</th>
<th>Max Vessel Depth</th>
<th>Anchoring Swinging Room or Dock Face (Columns)</th>
<th>Depth at dock face (FEET (MLW))</th>
<th>Depth at anchoring FATHOMS</th>
<th>Bottom Type</th>
<th>Exposure to Conflicting Uses</th>
<th>Ability to Boom</th>
<th>Sensitive Resources</th>
<th>Dist. to Population Center (miles)</th>
<th>Dist. To the next Alternative PPOR (miles)</th>
</tr>
</thead>
</table>

#### Northwest Arctic Potential Places of Refuge

<table>
<thead>
<tr>
<th>PPOR ID#</th>
<th>Response Zone</th>
<th>Type of berth</th>
<th>Location Name</th>
<th>Lat</th>
<th>Lon</th>
<th>Max Vessel Depth</th>
<th>Anchoring Swinging Room or Dock Face (Columns)</th>
<th>Depth at dock face (FEET (MLW))</th>
<th>Depth at anchoring FATHOMS</th>
<th>Bottom Type</th>
<th>Exposure to Conflicting Uses</th>
<th>Ability to Boom</th>
<th>Sensitive Resources</th>
<th>Dist. to Population Center (miles)</th>
<th>Dist. To the next Alternative PPOR (miles)</th>
</tr>
</thead>
</table>

#### North Slope Potential Places of Refuge

<table>
<thead>
<tr>
<th>PPOR ID#</th>
<th>Response Zone</th>
<th>Type of berth</th>
<th>Location Name</th>
<th>Lat</th>
<th>Lon</th>
<th>Max Vessel Depth</th>
<th>Anchoring Swinging Room or Dock Face (Columns)</th>
<th>Depth at dock face (FEET (MLW))</th>
<th>Depth at anchoring FATHOMS</th>
<th>Bottom Type</th>
<th>Exposure to Conflicting Uses</th>
<th>Ability to Boom</th>
<th>Sensitive Resources</th>
<th>Dist. to Population Center (miles)</th>
<th>Dist. To the next Alternative PPOR (miles)</th>
</tr>
</thead>
</table>

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Northwe
POTENTIAL PLACES OF REFUGE: PART TWO – INDEX & MAPS

Index of PPOR Maps
The Workgroup developed 4 PPOR Maps within the Northwest Arctic Subarea. These maps aid in the site assessment 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-8 provides an overview of the 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, pictures, and detailed nautical charts showing the location of anchorages, docks, and 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.
### Physical and Operational Characteristics for PPOR Map 01 of the Northwest Arctic Subarea-Saint Lawrence Island

<table>
<thead>
<tr>
<th>ID Number</th>
<th>Gambell Anchorage</th>
<th>Savoonga Anchorage</th>
<th>Pwooolik Bay</th>
<th>Manik Lagoon</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI-01/01</td>
<td>69°40’5”N 171°30’E</td>
<td>69°34’5”N 171°30’E</td>
<td>69°34’5”N 171°40’E</td>
<td>69°29’5”N 169°14’2”W</td>
</tr>
</tbody>
</table>

**Maximum Water Depths (DLW)**
- Gambell Anchorage: 8 fathoms
- Savoonga Anchorage: 13 fathoms
- Pwooolik Bay: 7 fathoms
- Manik Lagoon: 12 fathoms

**Maximum Water Draft**
- 60 ft

**Swing Room or Dock Face (per/dolphin)**
- 3 ft to shore
- 1 ft to shore
- 5 ft to shore
- 7 ft to shore

**Bedrock Type**
- Gambell: Mud
- Savoonga: Mud
- Pwooolik Bay: Solids
- Manik Lagoon: Solids

**Nearest Alternative Dock/Ferry**
- Gambell: DI-01-02
- Savoonga: DI-01-02
- Pwooolik Bay: DI-01-02
- Manik Lagoon: DI-01-02

**Prevalent Winds**
- SVW summer / NE winter
- October to April

**Currents**
- NG 1 knot on flood / 1.5 knots ebb
- Current velocity at other places around St. Lawrence Island is generally less than 1 knot

**Tides**
- Varies from 1.2 ft at Niyagak Lake; Lagoon entrance to 2.4 ft at NE Cape

**Sea Conditions**
- 9 fathoms with rock bottom 0.5 offshore offshore on south side of point

**Shelter from Severe Storms**
- Gambell: Sheltered from S, W winds / Exposed to E, N & S
- Savoonga: Sheltered from W winds / Exposed to E, N & S
- Pwooolik Bay: Sheltered from W winds / Exposed to E, N & S
- Manik Lagoon: Sheltered from W winds / Exposed to E, N & S

**Ice**
- Ice free July to October

### Site Considerations for PPOR Zone 01 of the Northwest Arctic Subarea-Saint Lawrence Island

<table>
<thead>
<tr>
<th>ID Number</th>
<th>Gambell Anchorage</th>
<th>Savoonga Anchorage</th>
<th>Pwooolik Bay</th>
<th>Manik Lagoon</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI-01/01</td>
<td>Gambell - 7 nm pop. 681</td>
<td>Savoonga - 13.5 nm pop. 671</td>
<td>Gambell - 90 nm pop. 681</td>
<td>Savoonga - 70 nm pop. 671</td>
</tr>
<tr>
<td>DI-01/02</td>
<td>Gambell - 3 nm pop. 681</td>
<td>Savoonga - 15.5 nm pop. 671</td>
<td>Gambell - 100 nm pop. 681</td>
<td>Savoonga - 70 nm pop. 671</td>
</tr>
</tbody>
</table>

**Healthcare Facilities**
- Gambell: Bessie A Kanning Health Clinic: 907-985-5012
- Savoonga: Bessie A Kanning Health Clinic: 907-985-5012

**Natural Resources Considerations**
- Fish & Wildlife: high density seabirds & shorebirds nesting, shorebird migration areas, waterfowl concentrations, walrus haulout
- Threatened & Endangered Species: walrus (candidate species), spectacled & Steller’s Eiders (threatened)
- Sensitive Areas: not designated

**Other Stakeholder Considerations**
- Fishery: groundfish, crab
- Historic Properties: Historic Properties are present throughout the area
- Subsistence: High level of subsistence activities
- Tourism/Recreation: Local recreation
- Waterfront Public Facilities/Parks: None
- Waterfront Private Facilities: None
- Response and Salvage Resource Consideration: None

**Closest Alternative Place of Refuge for same sized vessel**
- 25 to DI-01-02
- 25 to DI-01-01
- 60 to DI-01-04
- 60 to DI-01-03

**NOTE:** Some relevant information can be found on other maps which can be accessed through the relevant area section of the Northwest Arctic Subarea Contingency Plan. http://dot.alaska.gov/par/pary/plans/scp_rua.htm

NUKA Research & Planning Group, LLC.

Northwest Arctic SCP: PPOR-Part Two

H-20

PPOR date: May 2011
SCP Change 2, March 2018
Northwest Arctic SCP: PPOR-Part Two

H-22

PPOR date: May 2011
SCP Change 2, March 2018
### Physical and Operational Characteristics for PPOR Map 04 of the Northwest Arctic Subarea-Kotzebue Sound

<table>
<thead>
<tr>
<th>ID Number</th>
<th>Goodhope Bay</th>
<th>Sea Bay Anchorage</th>
<th>Denali Mtn. Transportation System Port Facilities-Red Dog Mine</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1-04-01</td>
<td>69°13.12N 169°54.11W</td>
<td>69°10.08N 169°14.94W</td>
<td>69°10.17N 164°04.06W</td>
</tr>
<tr>
<td>Maximum Vessel Size</td>
<td>Deep Draft Vessels - lengths up to 1000 ft, 20-40 ft. of draft, greater than 10,000 GT</td>
<td>Light Draft Vessels - up to 400 ft. in length, up to 20 ft. draft</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Navigational Approach</th>
<th>Approach from the N, NE</th>
<th>Approach from E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Water Depths (M/E/K)</td>
<td>8 Fathoms</td>
<td>8 Fathoms</td>
</tr>
<tr>
<td>Maximum Vessel Draft</td>
<td>15 ft</td>
<td></td>
</tr>
<tr>
<td>Drifting Reindeer Deck Face (in dolphins)</td>
<td>3.75 nm to aweal</td>
<td>3.75 nm to aweal</td>
</tr>
<tr>
<td>Bottom Type</td>
<td>Mud</td>
<td>Gravelly Mudly Sand</td>
</tr>
<tr>
<td>Keel Alternative Dock/Piers</td>
<td>80 nm to L-04-01</td>
<td>80 nm to L-04-01</td>
</tr>
<tr>
<td>Keel Alternative Anchorage</td>
<td>80 nm to L-04-01</td>
<td>80 nm to L-04-01</td>
</tr>
<tr>
<td>Prevailing Winds</td>
<td>West predominantly from the W during six ice free season</td>
<td></td>
</tr>
<tr>
<td>Currents</td>
<td>No data noted, 05. Drift SC to Redd 1 NW on ebb</td>
<td>General ocean current flows from SW down the coast, local currents may 30K</td>
</tr>
<tr>
<td>Tides</td>
<td>Mean High 3.79 ft, Mean Low 3.32 ft</td>
<td>Mean High 6.02 ft, Mean Low 3.59 ft</td>
</tr>
<tr>
<td>Sea Conditions</td>
<td>Exposed to N, E</td>
<td>Exposed to W</td>
</tr>
<tr>
<td>Shelter from Severe Storms</td>
<td>No shelter, Sheltered from severe storms</td>
<td></td>
</tr>
<tr>
<td>Fog</td>
<td>No</td>
<td>Fog during ice free season</td>
</tr>
<tr>
<td>Ice</td>
<td>Late October through Late May</td>
<td></td>
</tr>
</tbody>
</table>

### Site Considerations for PPOR Zone 04 of the Northwest Arctic Subarea-Kotzebue Sound

<table>
<thead>
<tr>
<th>ID Number</th>
<th>Goodhope Bay</th>
<th>Sea Bay Anchorage</th>
<th>Denali Mtn. Transportation System Port Facilities-Red Dog Mine</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1-04-01</td>
<td>Kotzebue 60 nm pop. 3201</td>
<td>Kotzebue 17 nm pop. 3201</td>
<td>Red Dog - 3 nm pop. 7 (private)</td>
</tr>
<tr>
<td>Healthcare Facilities</td>
<td>Maniak Medical Health Center and Kotzebue Clinic 807-402-3221</td>
<td>Saks &amp; Kanigas Clinic 807-405-3021 Red Dog Mine Clinic (private)</td>
<td></td>
</tr>
<tr>
<td>Fish &amp; Wildlife</td>
<td>High density seabird &amp; shorebird nesting, shorebird migration area, whale-fish concentrations, polar bear, salmon &amp; hiingas spawning, spotted seal hunting, mrged seal hunting, otter hunting, iceberg whales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Threatened &amp; Endangered Species</td>
<td>High density whale &amp; shorebird migration area, Waterfall concentrations, Polar bear, Bears</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitive Areas</td>
<td>Barrier islands, designated polar bear critical habitat, Polar bear critical habitat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Stakeholder Considerations</td>
<td>None, Salmon (historical)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historic Properties</td>
<td>Historic properties are present throughout the area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsistence</td>
<td>High level local subsistence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourism/Recreation</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfront Public Facilities</td>
<td>Barge landing facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfront Private Facilities</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response and Salvage Resource Consideration</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to Boom Vessel</td>
<td>Weather Dependent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geospatial Response Strategies</td>
<td>No (2011)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closest Alternative Places of Refuge for same sized vessel</td>
<td>36 nm to D1-04-02</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Sensitive resource information can be found on other maps which can be accessed through the sensitive area section of the Northwest Arctic Subarea Contingency Plan. [http://deq.alaska.gov/sp/cp/plan/contingency_plan.html]
POTENTIAL PLACES OF REFUGE: PART THREE – REFERENCES


Dept of Commerce - National Oceanic & Atmospheric Administration (NOAA), National Ocean Survey can provide detailed hydrographic charts of PPOR locations upon request. Contact Dave Neander, Dave.Neander@noaa.gov, (206) 526-6949, NOAA/ORR, 7600 Sand Point Way, NE, Seattle, WA 98115.

Useful Websites
The "Guidelines for Places of Refuge Decision-Making" Annex O of the Unified Plan
http://www.dec.state.ak.us/spar/perp/plans/uc.htm

Alaska Dept. of Environmental Conservation, Northwest Arctic GRS Information
http://www.dec.state.ak.us/spar/perp/grs/nwa/home.htm

Alaska Dept. of Environmental Conservation, Northwest Arctic Subarea Contingency Plan.
http://www.dec.state.ak.us/spar/perp/plans/scp_nw.htm

http://www.dnr.state.ak.us/mlw/planning/easmtatlas/

Alaska Dept. of Natural Resources, Northwest Arctic Subarea maps including, general maps, land use and management maps, biologically sensitive area maps, most environmentally sensitive area maps, environmentally sensitive index maps, and geographic response strategies.
http://www.asgdc.state.ak.us/maps/cplans/subareas.html#northwest

http://www.ak.blm.gov/alis/

Transport Canada-Marine Safety
http://www.tc.gc.ca/eng/marinesafety/menu.htm
(This page intentionally blank)