

**NORTH SLOPE
SUBAREA CONTINGENCY PLAN**

**POTENTIAL PLACES OF REFUGE
SECTION**

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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 North Slope Subarea Contingency Plan for Oil and Hazardous Substances Spills and Releases, commonly referred to as the North Slope 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 are referenced in – 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 embayments, or offshore waters. This section identifies potential docking, anchoring, and mooring locations that may be selected as Places of Refuge in the North Slope 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 North Slope 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, North Slope 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 North Slope Subarea is used for limited marine commerce. This commerce has been directed to 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 North Slope may become more routine.

The North Slope 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 drafts of 40-60 feet. The predominant deep draft vessels that may operate in the North Slope 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 North Slope 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 North Slope subarea.

Shallow Draft Vessels are less than 300 gross tons and have drafts less than 15 ft.

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

Canadian Places of Refuge

The vessels utilizing the Northwest Passage will be transiting through United States and Canadian waters. Any incident involving a vessel near the boundary waters will require the coordination between the United States and Canadian governments.

Transport Canada-Marine Safety will coordinate the Canadian response to a place of refuge request in the Canadian waters as directed by the "National Places of Refuge Contingency Plan." This plan recognizes that decisions are based on incident specific considerations and that there are no pre-identified potential places of refuge. It recognizes that pre-planning requires having relevant information and specialists available to make appropriate decisions.

The Site Assessment Matrix (Table H-2) provides a limited listing of Canadian assets that are within 200 nm of the United States and Canadian border. Areas listed represent historically used areas for staging and mooring vessels and do not represent preferred places of refuge.

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 North Slope Subarea Contingency Plan. The Work Group participants represented the following organizations:

North Slope SCP: PPOR-Part One

H-2

December 1999
Change 2, May 2012
PPOR Date: June 2011

Alaska Department of Environmental Conservation
Alaska Department of Natural Resources
Alaska Department of Fish and Game
Alaska Marine Pilots Association
U.S. Coast Guard
U.S. Department of the Interior – Offices of Environmental Policy and Compliance,
Fish and Wildlife Service, and National Park Service
U.S. Department of Commerce-NOAA and National Marine Fisheries Service
North Slope Borough
City of Barrow
City of Point Lay
North Slope Borough Planning Commission
Transport Canada
Canadian Coast Guard

First Step: Risk Identification

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

- Locations of bulk fuel facilities and pipelines (Figure H-1);
- Locations of communities with spill response agreements, spill response hubs and equipment depots (Figure H-2);
- Locations of airports and docks (Figure H-3);
- Locations of previous coastal oil spills (Figure H-4)

Figure H-5 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 North Slope 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;
Maximum Vessel Depth;
Anchoring Swing Room or Dock Face in feet;
Depth at dock face;
Depth at anchorage;
Bottom Type;
Exposure to;

Conflicting uses;
Ability to boom;
GRS in the area;
Sensitive Resources;
Distance to population centers; and
Distance to alternate PPOR.

The PPOR identification method begins with a “DI”, “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 North Slope Subarea.

[http://dec.alaska.gov/spar/perp/plans/uc/Annex%20O%20\(Jan%2010\).pdf](http://dec.alaska.gov/spar/perp/plans/uc/Annex%20O%20(Jan%2010).pdf)

Part Two of this document contains site-specific information for the PPOR in the North Slope 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 and Emergency Response Program
555 Cordova Street
Anchorage, AK 99501

United States Coast Guard
Captain of the Port for Western Alaska
510 L Street-Suite 100
Anchorage, Alaska 99501-1946

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May 31, 2004

North Slope, Alaska

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

Locations of Bulk Fuel Storage

Bulk Fuel Location	Company	Capacity-BBL
Point Hope	School/Corp./City/Borough/DOT	30,297
Point Lay	North Slope Borough	13,952
Wainwright	North Slope Borough/Corp/Private	35,664
Barrow	Eskimos, Inc.	74,452
Barrow	North Slope Borough	27,285
Kaktovik	North Slope Borough/Corp/USAF/Private	32,709
Prudhoe Bay	BP Exploration	241,119

RISK SYMBOLS

<p>Response Equipment Depot</p>	<p>Bulk Fuel Storage Sites > 5,000 bbls</p> <ul style="list-style-type: none"> - 5k-9,999 bbl. - 10k-39,999 bbl. - 40k-99,999 bbl. - 100k-299,999 bbl. - 300K-500,000 bbl. 	<p>North Slope Subarea Spills >24 barrels 1994-2004</p> <ul style="list-style-type: none"> = Persistent = Non-Persistent - 24-71 bbl. - 72-142 bbl. - 143-214 bbl. - 215-285 bbl. - 286-357 bbl. - 358-428 bbl. - 429-800 bbl. - 801-2619 bbl.
<p>Key Nearshore Subsistence and Fishing Grounds</p>	<p>North Slope Subarea Noncrude Carrier Routes</p> <ul style="list-style-type: none"> = Non-crude route 	<p>Zone Boundary</p> <ul style="list-style-type: none"> Zone Boundary Abandoned Canneries Airport Airport, lighted Dock Crane Barge Landing Craft / Shallow Water Vessels Dalton Highway

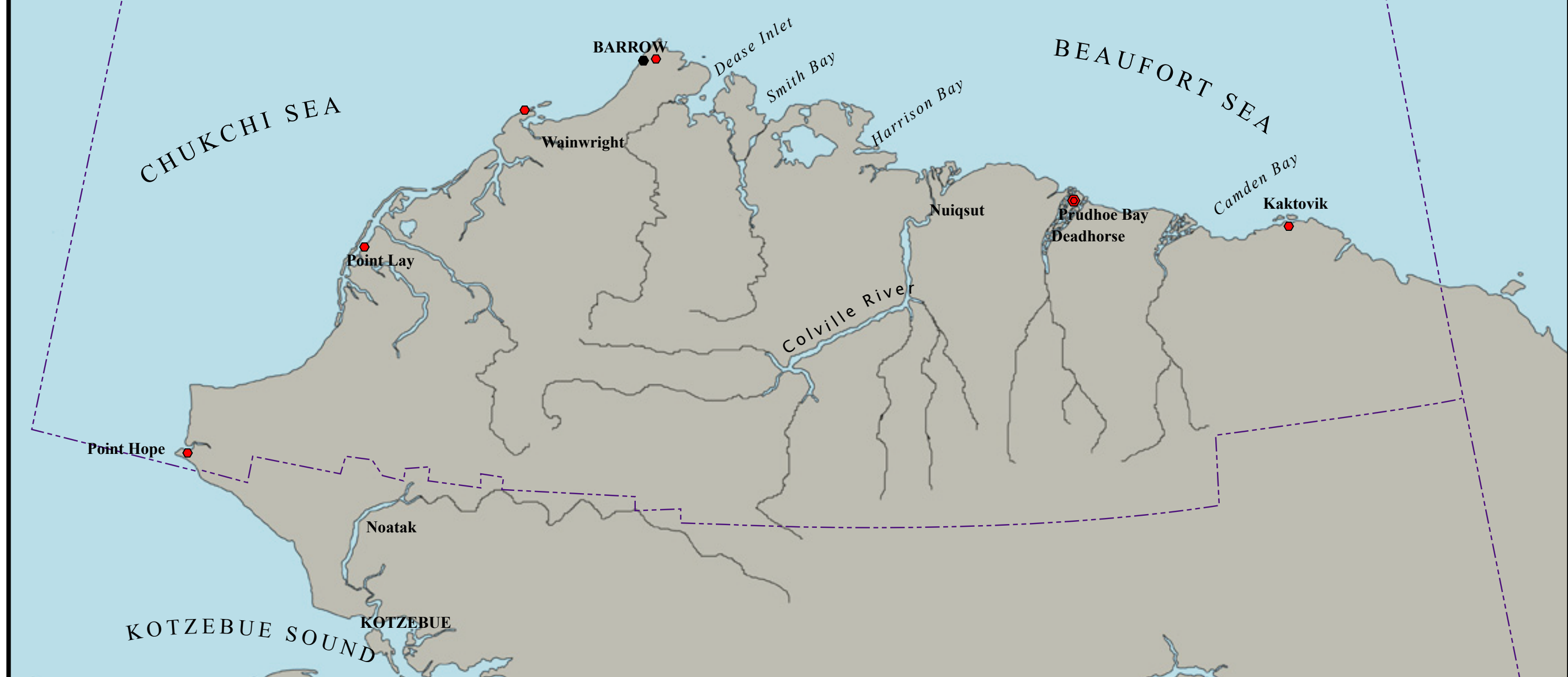


Figure H-1. Locations of bulk fuel facilities and pipelines.

May 31, 2004

North Slope, Alaska

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

RISK SYMBOLS

Response Equipment Depot

RISK SYMBOLS

<p>Response Equipment Depot</p>	<p>Bulk Fuel Storage Sites > 5,000 bbls</p> <ul style="list-style-type: none"> - 5k-9,999 bbl. - 10k-39,999 bbl. - 40k-99,999 bbl. - 100k-299,999 bbl. - 300K-500,000 bbl. 	<p>North Slope Subarea Spills >24 barrels 1994-2004</p> <ul style="list-style-type: none"> = Persistent = Non-Persistent - 24-71 bbl. - 72-142 bbl. - 143-214 bbl. - 215-285 bbl. - 286-357 bbl. - 358-428 bbl. - 429-800 bbl. - 801-2619 bbl.
<p>Key Nearshore Subsistence and Fishing Grounds</p>	<p>North Slope Subarea Noncrude Carrier Routes</p> <ul style="list-style-type: none"> = Non-crude route 	<p>Zone Boundary</p>
<p>Landing Craft / Shallow Water Vessels</p>	<p>Abandoned Canneries</p>	<p>Airport Airport, lighted</p>
<p>Dock</p>	<p>Crane</p>	<p>Barge</p>
<p>Dalton Highway</p>		

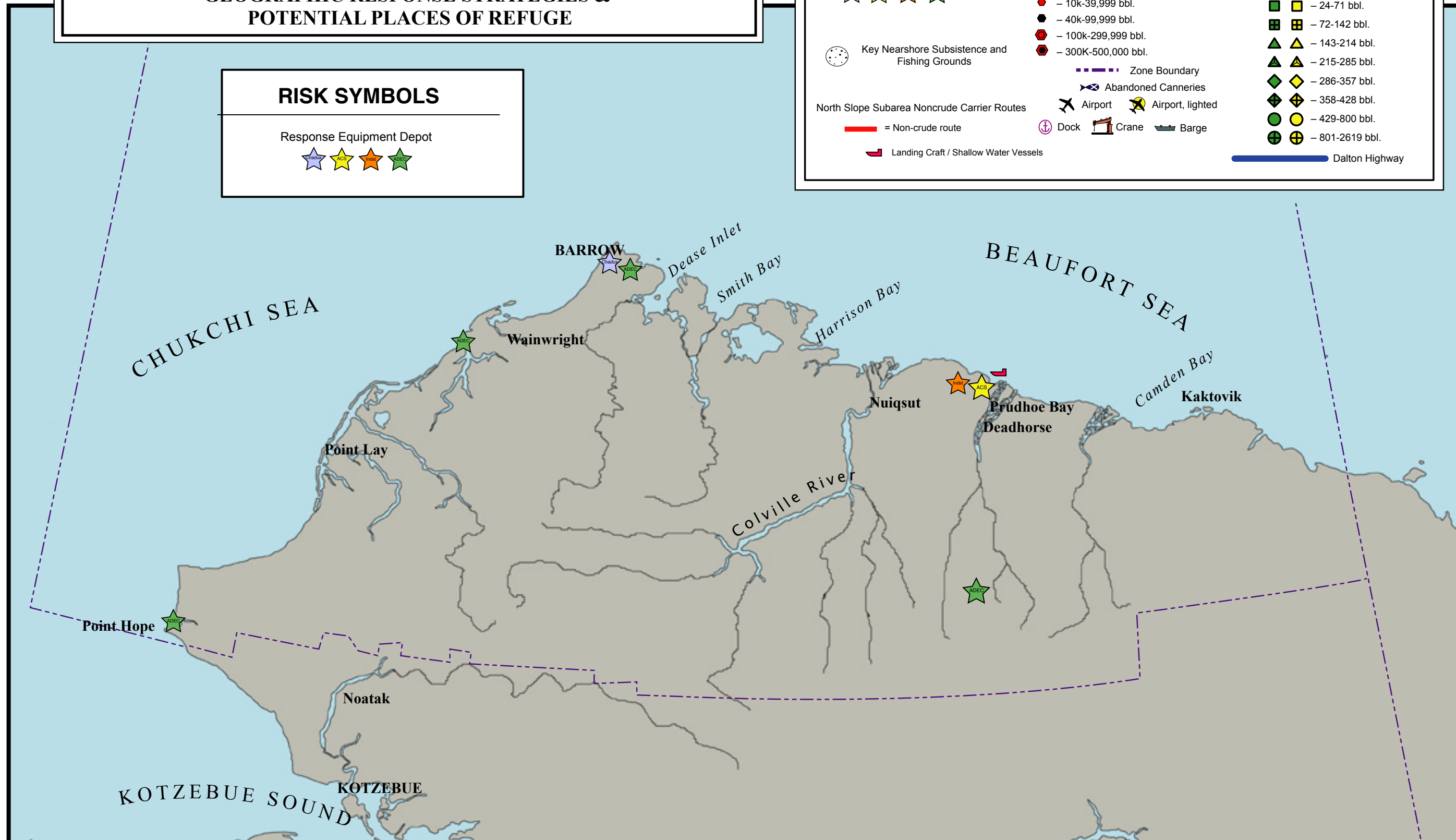


Figure H-2. Location of communities with spill response agreements, spill response hubs and equipment depots.

May 31, 2004

North Slope, Alaska

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

Logistics

Community Logistics	Airport	Length	Port
Point Hope	Gravel	4,000 ft.	Barge
Point Lay	Paved	3,519 ft.	Barge
Wainwright	Gravel	4,494 ft./3,000 ft.	Barge
Barrow	Paved/Lighted	6,500 ft.	Barge
Deadhorse	Gravel	6,500 ft.	Private
Kaktovik	Paved	4,000 ft.	Barge

RISK SYMBOLS

<p>Response Equipment Depot</p>	<p>Bulk Fuel Storage Sites > 5,000 bbls</p> <ul style="list-style-type: none"> - 5k-9,999 bbl. - 10k-39,999 bbl. - 40k-99,999 bbl. - 100k-299,999 bbl. - 300K-500,000 bbl. 	<p>North Slope Subarea Spills >24 barrels 1994-2004</p> <p> = Persistent = Non-Persistent</p> <ul style="list-style-type: none"> - 24-71 bbl. - 72-142 bbl. - 143-214 bbl. - 215-285 bbl. - 286-357 bbl. - 358-428 bbl. - 429-800 bbl. - 801-2619 bbl.
<p>Frequent Fishing Vessel</p>	<p>Key Nearshore Fishing Grounds</p>	<p>Zone Boundary</p>
<p>North Slope Subarea Noncrude Carrier Routes</p> = Carrier Route	<p>Airport</p>	<p>Airport, lighted</p>
	<p>Dock</p>	<p>Crane</p>
		<p>Barge</p>
		<p>Dalton Highway</p>

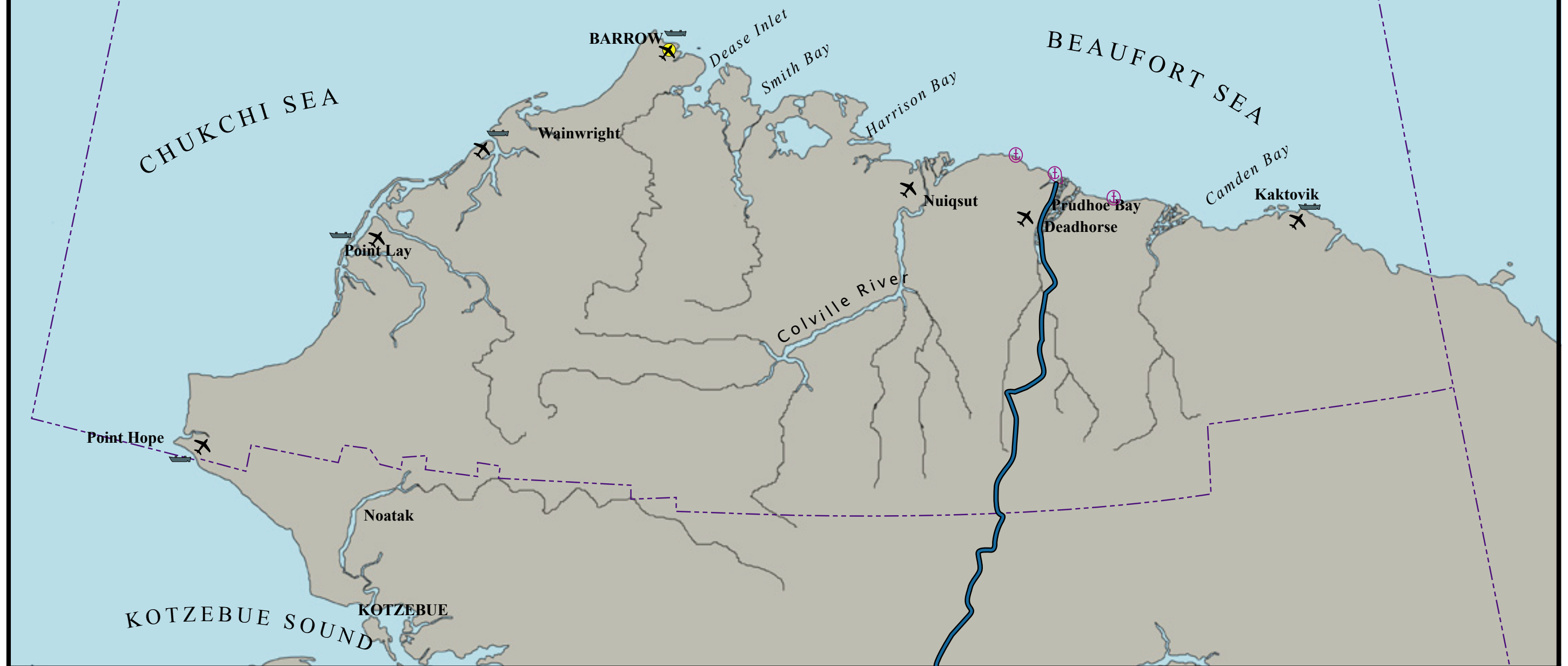


Figure H-3. Locations of airports and docks.

June 17, 2004

North Slope, Alaska

RISK LAYERS for CANDIDATE SITES for GEOGRAPHIC RESPONSE STRATEGIES

Locations of Major Oil Spill Events

Spill Date	Spill Name	Type	Qty-Bbl
12/24/2000	East Prudhoe Bay, BULK FUEL FACILITY, TANK #3	Diesel	36
6/30/1996	West Prudhoe Bay, MUKLUK PAD	Diesel	26
2/28/2003	East Prudhoe Bay, MCC FUEL DOCK	Diesel	85
5/25/1998	Wainwright City	Diesel	238

RISK SYMBOLS

<p>Response Equipment Depot</p> <p>Frequent Fishing Vessel</p> <p>Tramper Offload Activities</p> <p>Primary (≥20 loads) Secondary (≤20 loads)</p> <p>Key Nearshore Fishing Grounds</p> <p>Aleutian Subarea Noncrude Carrier Routes</p> <p>— = 227,272 Bbls (10 million gals.)</p> <p>— = 2,272,727 Bbls (100 million gals.)</p> <p>— = 18,181,818 Bbls (800 million gals.)</p> <p>— = 13 to 14 million Bbls #6 Oil Traffic to Asia 6000+/- vessels</p>	<p>Bulk Fuel Storage Sites > 5,000 bbls</p> <p>● - 5k-9,999 bbl.</p> <p>● - 10k-39,999 bbl.</p> <p>● - 40k-99,999 bbl.</p> <p>● - 100k-299,999 bbl.</p> <p>● - 300K-500,000 bbl.</p> <p>Zone Boundary</p> <p>Abandoned Canneries</p> <p>Airport</p> <p>Airport, lighted</p> <p>Dock</p> <p>Crane</p>	<p>Aleutian Subarea Spills >24 barrels 1994-2004</p> <p>● = Persistent ● = Non-Persistent</p> <p>■ - 24-71 bbl.</p> <p>■ - 72-142 bbl.</p> <p>▲ - 143-214 bbl.</p> <p>▲ - 215-285 bbl.</p> <p>▲ - 286-357 bbl.</p> <p>▲ - 358-428 bbl.</p> <p>▲ - 429-800 bbl.</p> <p>▲ - 801-2619 bbl.</p> <p>— Cruise and AMHS Ship Traffic</p>
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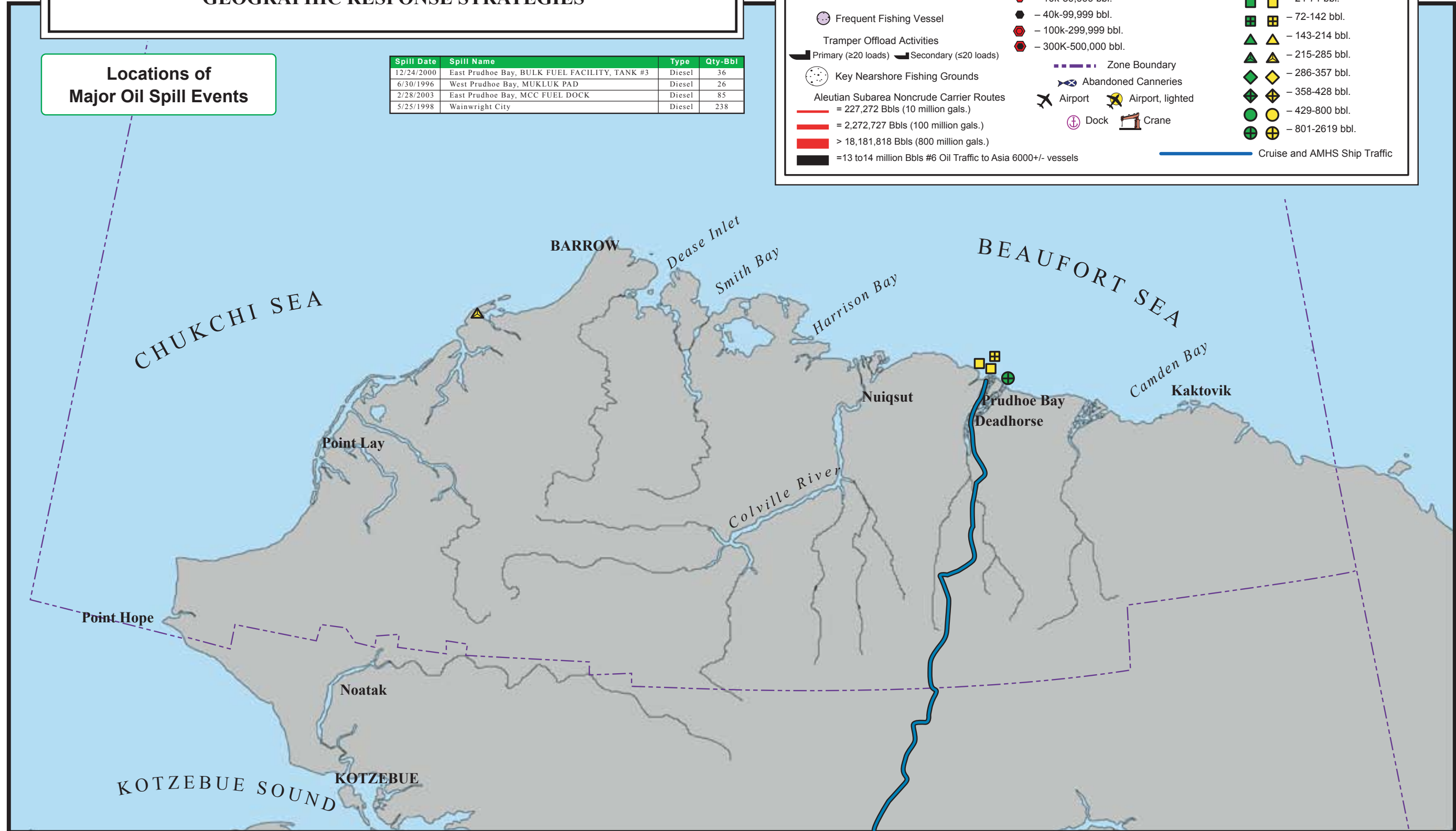


Figure H-4. Locations of previous coastal oil spills.

May 31, 2004

North Slope, Alaska
RISK LAYERS for CANDIDATE SITES for
GEOGRAPHIC RESPONSE STRATEGIES &
POTENTIAL PLACES OF REFUGE

RISK SYMBOLS

<p>Response Equipment Depot</p> <p>★ ★ ★ ★</p>	<p>Bulk Fuel Storage Sites > 5,000 bbls</p> <p>● - 5k-9,999 bbl.</p> <p>● - 10k-39,999 bbl.</p> <p>● - 40k-99,999 bbl.</p> <p>● - 100k-299,999 bbl.</p> <p>● - 300K-500,000 bbl.</p>	<p>North Slope Subarea Spills >24 barrels 1994-2004</p> <p>● = Persistent</p> <p>■ ■</p> <p>▲ ▲</p> <p>◆ ◆</p> <p>● ●</p> <p>⊕ ⊕</p>
<p>Key Nearshore Subsistence and Fishing Grounds</p> <p>⊙</p>	<p>Zone Boundary</p> <p>⋯</p>	
<p>North Slope Subarea Noncrude Carrier Routes</p> <p>— = Non-crude route</p> <p>— = Landing Craft / Shallow Water Vessels</p>	<p>Abandoned Canneries</p> <p>⊗</p> <p>Airport</p> <p>✈</p> <p>Dock</p> <p>⚓</p> <p>Crane</p> <p>🏗</p> <p>Barge</p> <p>🚢</p>	

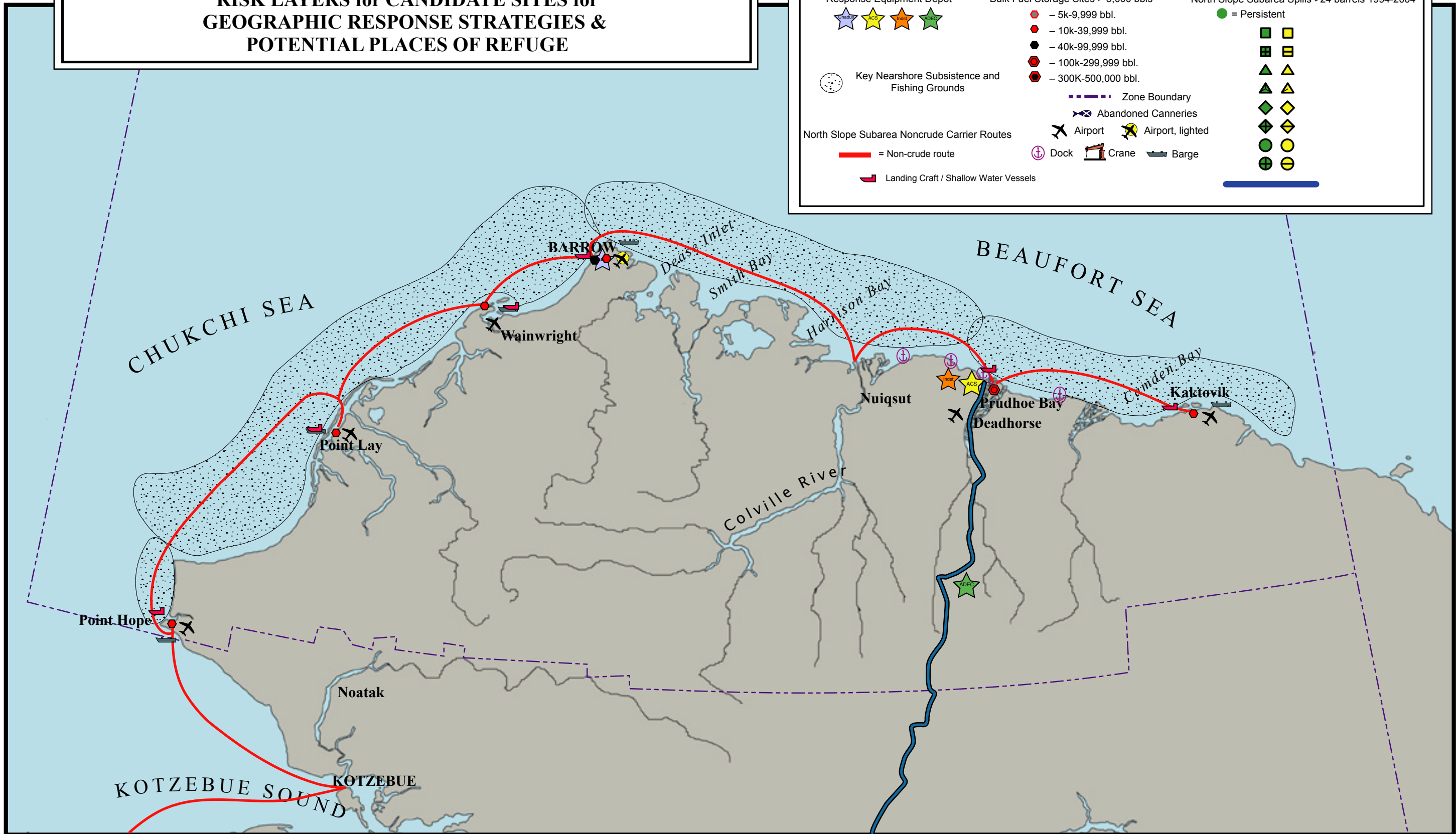


Figure H-5. Composite map of all risk factors combined.

PPOR ID#- Vessel Size	Type of berth	Swing Room	Bottom Type	Exposure	Conflicting Uses	Ability to Boom	Sensitive Resources	Distance via Water to Population Center
<p>DII = Deep Draft Vessels lengths up to 1000 feet, 40-60 feet of draft, greater than 10,000 GT</p> <p>DI = Deep Draft Vessels lengths up to 1000 feet, 20-40 feet of draft, greater than 10,000 GT</p> <p>L= Light Draft Vessel up to 450 feet in length, draft up to 20 feet</p> <p>S = A shallow draft vessel less than 300 Gross Tons, has a draft less than 15 ft., LOA less than 200 ft.,</p>	<p>A= Anchorage</p> <p>D/P= Dock or Pier</p> <p>M=Mooring</p>	<p>Distance measured to nearest shoal waters or hazard</p> <p>NR=Not restricted/open anchorage where vessel can be moored based on draft.</p>	<p>M= Mud</p> <p>Rky= Rocky</p> <p>G= Gravel</p> <p>Cl= Clay</p> <p>S= Sand</p> <p>SH=Shells</p> <p>H= Hard</p> <p>stk=Sticky</p> <p>sft=Soft</p> <p>St=silt</p> <p>Sl=Shale</p> <p>N/A=Not Applicable</p> <p>NI=No Information</p>	<p>Exposed to winds/seas from the direction noted</p>	<p>CF=Commercial Fishing</p> <p>SF=Sport fishing</p> <p>AQ= Aquaculture</p> <p>R=Recreational</p> <p>CI=Commercial/Industrial</p> <p>A= Anchorage</p> <p>S=Subsistence Activities</p> <p>WV=Wildlife Viewing</p> <p>H=Hunting</p>	<p>WD=Weather Dependent</p> <p>Y=Yes</p> <p>N=No</p>	<p>E= Threatened or Endangered Species present</p> <p>H=Highly Sensitive as designated by the NWA Subarea GRS Workgroup</p> <p>CH=Critical Habitat for endangered species</p>	<p>B = Barrow</p> <p>K = Kaktovik</p> <p>N = Nuiqsut</p> <p>P = Prudhoe</p> <p>W= Wainwright</p> <p>PL = Point Lay</p> <p>PH = Point Hope</p> <p>SM = St. Michaels</p> <p>KZ = Kotzebue</p> <p>RD= Red Dog Mine</p> <p>SH = Shishmaref</p> <p>WA = Wales</p> <p>BM = Brevig Mission</p> <p>NM = Nome</p> <p>G = Golovnin</p> <p>GB = Gambell</p> <p>SV = Savoonga</p> <p>T=Tuktoyaktuk</p>

Table H-1. Key to Site Assessment Matrix.

**North Slope and Northwest Arctic
Potential Places of Refuge
Site Assessment Matrix**

PPOR ID# (size-zone-number)	Response Zone #	Type of berth	Location Name	Lat.	Lon.	Max Vessel Depth	Anchoring SwingRoom or Dock Face(w/ Dolphins) in ft.	Depth at dock face in FEET (MLLW)	Depth at anchorage in FATHOMS	Bottom Type	Exposure to	Conflicting uses	Ability to Boom	Sensitive Resources	Dist. to Population Center(nm)	Dist. To the next Alternative PPOR (nm)
Northwest Arctic Potential Places of Refuge																
			Zone-01 Saint Lawrence Island													
DII-01-01	1	Anchorage	Gambell Anchorage	63°40.57'N	171°33.62'W	60	NR		8	Rky	N-E / S-N	S	N	E	7 to GB	25 to DII-01-02
DII-01-02	1	Anchorage	Savoonga Anchorage	63°42.80'N	171°34.27'W	60	NR		13	NI	W-E	S	N	E	1.3 to SV	25 to DII-01-01
DII-01-03	1	Anchorage	Powooliak Bay	63°13.07'N	170°49.88'W	60	NR		13	M,Rky	S-W	S	N	CH	50 to GB	60 to DII-01-04
DII-01-04	1	Anchorage	Manik Lagoon	62°59.42'N	169°14.27'W	60	NR		12	S,Sh	E-S	S	N	CH	70 to SV	60 to DII-01-03
			Zone-02 Norton Sound													
DII-02-01	2	Anchorage	Nome Anchorage	64°26.48'N	165°27.10'W	60	5000		10	S,G	E-W	CF	N		3 to NM	20 to DI-02-02
DI-02-01	2	Anchorage	St. Michael Bay	63°30.73'N	161°49.71'W	40	NR		5	Hrd	N-NW	CF, S	WD	CH	6 to SM	110 to DII-02-01
DI-02-02	2	Anchorage	Sledge Island	64°31.94'N	166°11.30'W	40	3800		3	Rky	WD		N	CH	20 to NM	20 to DII-02-01
L-02-01	2	Anchorage	Golovnin Bay	64°32.99'N	163°06.96'W	20	2100		4 (2-approach)	Hrd,Stky	S	CF, S	WD	CH	1 to G	110 to DI-02-01
L-02-02	2	Dock	City Dock-Port of Nome	64°29.65'N	165°26.33'W	20	200	22.5	N/A	NA	S	CI	Y		.75 to NM	3.8 to DII-02-01
L-02-03	2	Dock	Westgold Dock-Port of Nome	64°29.76'N	165°26.24'W	20	190	22.5	N/A	NA	S	CI	Y		.75 to NM	3.8 to DII-02-01
			Zone-03 Seward Peninsula													
DII-03-01	3	Anchorage	Cape York	65°29.10'N	167°43.27'W	60	4000		12	M,G,Rky	SE-W	S	WD	CH	14 to WH, 32 to BM	7.5 to DII-03-02
DII-03-02	3	Anchorage	Tin City	65°32.59'N	167°57.86'W	60	6000		14	S	SE-W	S	WD	CH	6 to WH, 39 BM	7.5 to DII-03-01
DII-03-03	3	Anchorage	Little Diomede	65°47.41'N	168°54.11'W	60	NR		20	Rky	WD	S	N	CH	75 to SH, 22 to WH	27 to DII-03-02
DI-03-01	3	Anchorage	Port Clarence	65°14.62'N	166°40.28'W	35	6000		6	M,Stky	Sheltered	S	WD	CH	8 to BM	28 to DII-03-02
DI-03-02	3	Anchorage	Shishmaref Anchorage	66°16.43'N	166°18.01'W	40	NR		6	M	N-E	S	N	CH	6 to SH	70 to DII-03-03
			Zone-04 Kotzebue Sound													
DI-04-01	4	Anchorage	Goodhope Bay	66°13.12'N	168°54.11'W	40	1800		6	M	N-E	S	WD	CH	46 to KZ	36 to DI-04-02
DI-04-02	4	Anchorage	Sea Buoy Anchorage	66°48.08'N	163°14.90'W	40	NR		8	M,S	W	S	WD	CH	17 to KZ	36 to DI-04-02
L-04-01	4	Dock	Red Dog Mine Port	67°36.17'N	164°04.06'W	15	350	15	NA	M,S	S-W	CI	WD	CH	3 to RD	60 to DI-04-02
North Slope Potential Places of Refuge																
			Zone-01 Pt. Hope to Wainwright													
DII-01-01	1	Anchorage	Pt Hope	68°26.14'N	166°38.89'W	60	12000		6	M	N-W	S	Y	CH	.8 to PH	98 to DII-01-02
DII-01-02	1	Anchorage	Point Lay Anchorage	69°46.06'N	163°21.88'W	60	24000		6	M	N-W-SW	S	Y	CH	1.3 to PL	54 to DII-01-03
DII-01-03	1	Anchorage	Icy Cape Anchorage	70°22.47'N	161°28.28'W	60	24000		8	M	N-W	S	N	CH	31 to W	30.5 to DII-01-4
DII-01-04	1	Anchorage	Wainwright Anchorage	70°39.26'N	160°14.27'W	60	7500		9	M	N-W	S	N	CH	7 to W	6 to S-01-01
S-01-01	1	Anchorage	Wainwright Inlet	70°35.84'N	160°02.94'W	8	4500		?	M	NW	S	Y	CH	4 to W	6 to DII-01-04
			Zone-02 Peard Bay to Harrison Bay													
DII-02-01	2	Anchorage	Barrow	71°19.97'N	156°50.30'W	60	6500		8	M	N-W	S	N	CH	2 to P	12 to DI-02-02
DI-02-01	2	Anchorage	Peard Bay	70°53.99'N	158°25.10'W	40	15700		6	M, CI	N	S	N	CH	35 to W	38 to DII-02-01
DI-02-02	2	Anchorage	Point Barrow	71°24.10'N	156°17.61'W	40	17300		5.5	M	N-E-W	S	N	CH	11 to B	12 to DII-02-01
L-02-01	2	Anchorage	Dease Inlet	71°13.83'N	155°53.35'W	20	3000		1	M	N-E-W	S	WD	CH	16 to B	15 to DI-02-02
L-02-02	2	Anchorage	Harrison Bay	70°37.52'N	151°26.88'W	20	12150		5.5	M,S	N-E	S	WD	CH	105 to B	64 to DI-03-01
			Zone-03 North Slope													
DII-03-01	3	Anchorage	Camden Bay	70°10.88'N	144°38.67'W	60	12000		10	M,S	N-E-W	S	N	CH	20 to K	66 to DI-03-02
DI-03-01	3	Anchorage	Midway Island Anchorage	70°35.62'N	148°13.13'W	40	20000		8	M	N-E-W	S	N	CH	16 to P	7.5 to DI-03-02
DI-03-02	3	Anchorage	Cross Island Anchorage	70°31.96'N	147°52.56'W	40	7590		6.5	G - reef	N-E-W	S	N	CH	17 to P	7.5 to DI-03-01
S-03-01	3	Dock	Oliktok Dock	70°30.21'N	149°53.50'W	4	18225	4	N/A	N/A	N-W	CI	WD	CH	30 to P	32 to L-02-02
S-03-02	3	Dock	West Dock	70°23.52'N	148°29.86'W	4	10600	4	N/A	N/A	N-W	CI	WD	CH	3 to P	13.5 to DI-03-01
S-03-03	3	Dock	Badami-Runway/Dock	70°09.19'N	146°53.73'W	4	6000	4	N/A	N/A	N-W	CI	Y	CH	30 to p	30 to DI-03-02
			Canada													
	Canada	Anchorage	Herschel Island	69°31.18'N	138°57.10'W	50	5000		9	M	W	S	WD	CH	130 to K	150 to Tuktoyaktuk
	Canada	Anchorage	Tuktoyaktuk	69°27.82'N	133°14.16'W	20	3000		5	M	N	CI	N	CH	2 to T	10 to the Tuktoyaktuk Dock
	Canada	Dock	Tuktoyaktuk	69°25.66'N	133°59.15'W	15	200	16	N/A		Sheltered	CI	Y	CH	0 to T	10 to the Tuktoyaktuk Anch.

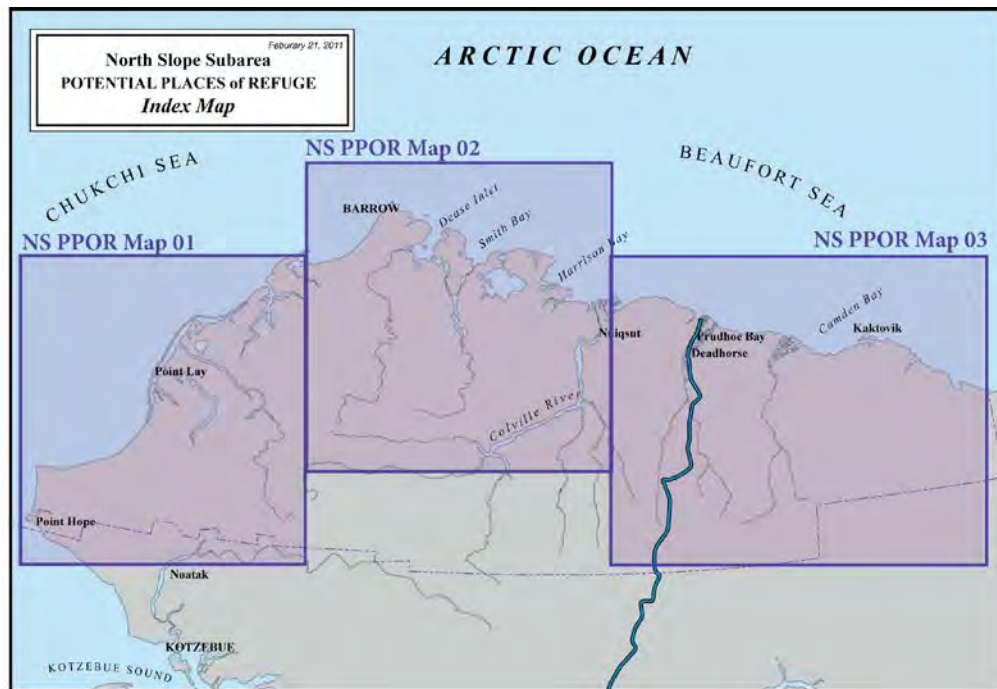
Table H-2. North Slope and Northwest Arctic Subarea Site Assessment Matrix.

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POTENTIAL PLACES OF REFUGE: PART TWO – INDEX & MAPS

Index of PPOR Maps

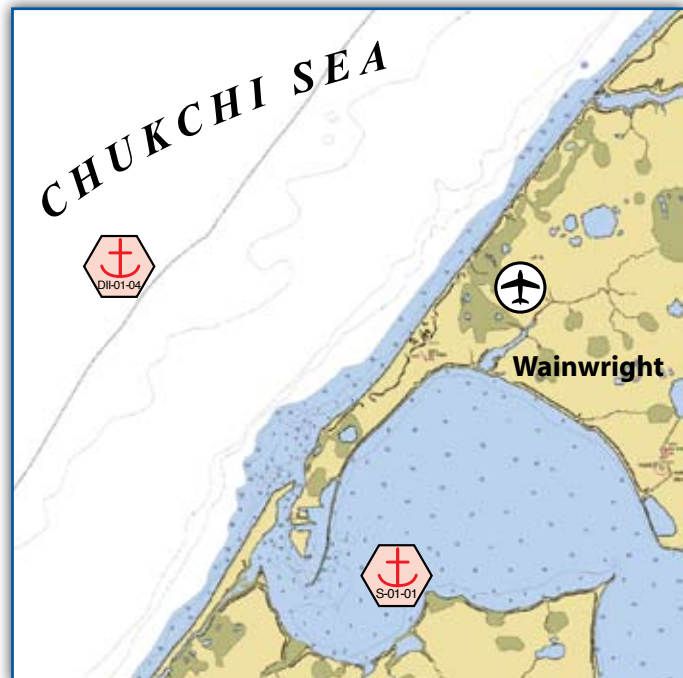
The Workgroup developed three PPOR Maps within the North Slope Subarea. These maps aid in the site assessment process. These maps are larger in scale, showing a small portion of the Subarea in more detail than the maps in Part One. The figure below provides an overview of the Subarea, identifying the 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.

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DII-01-04, Wainwright Anchorage & S-01-01, Wainwright Inlet.



DII-01-03, Icy Cape.



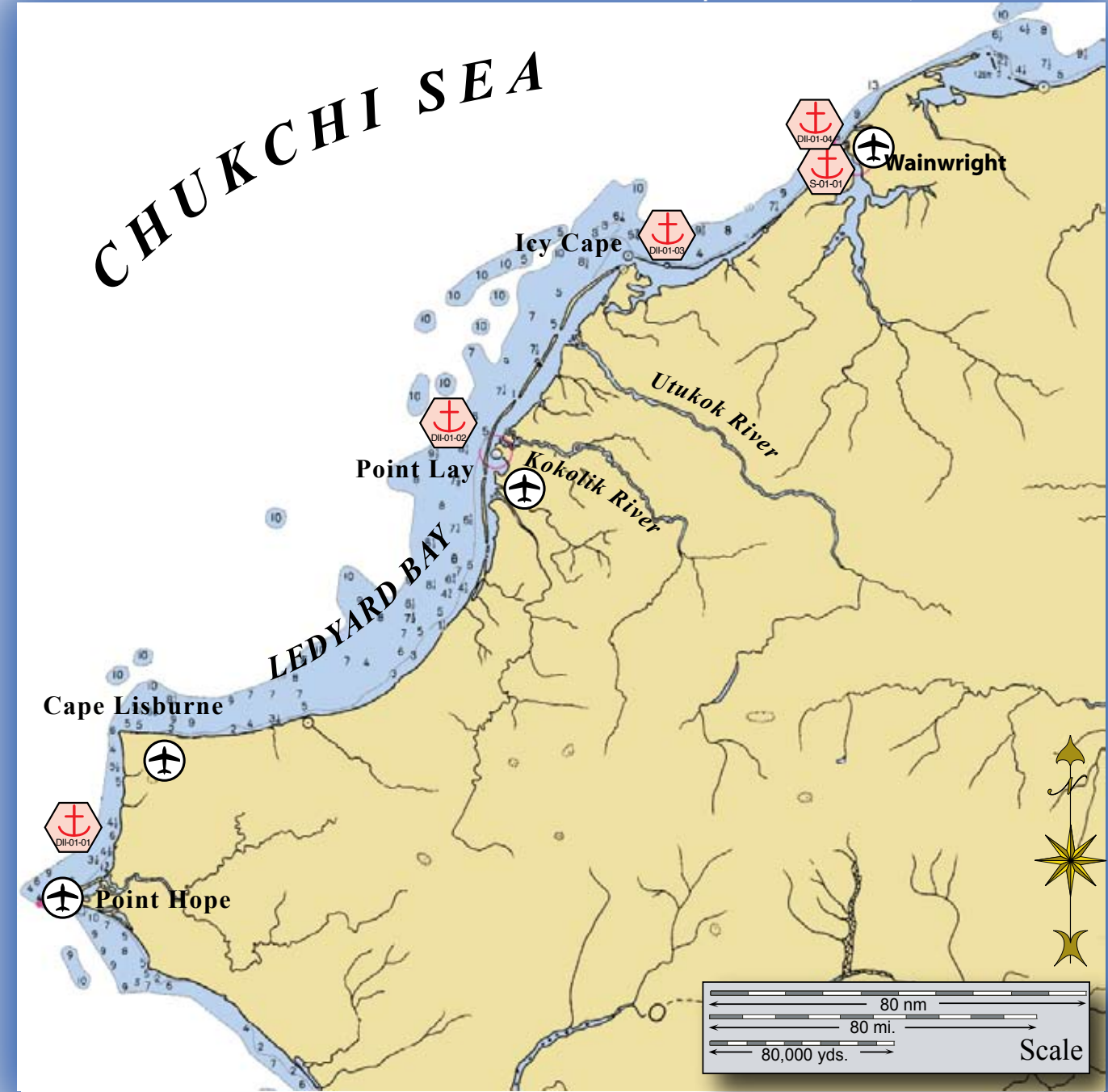
DII-01-02, Point Lay.



DII-01-01, Point Hope.

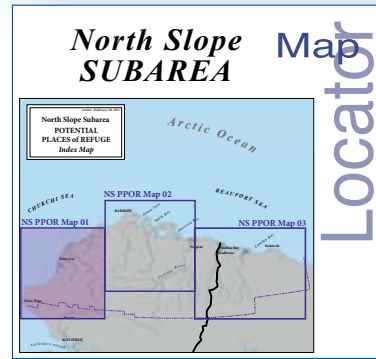
Stakeholders for PPOR Zone 01 of the North Slope Subarea			
Year-2011	Contact	Year-2011	Contact
Bureau of Land Management - ANCSA / Public Lands	Arctic Field Office Manager	North Slope Borough	Mayor
Alaska Maritime Wildlife Refuge	Refuge Manager	Arctic Slope Regional Corporation	President / CEO
Alaska Department of Natural Resources	State Historic Preservation Officer	City of Point Hope	Mayor
Native Allotments	Dept of the Interior-Regional Environmental Officer	Village of Point Lay	Village Coordinator

Potential Places of Refuge for North Slope Subarea



This is not intended for navigational use.

Soundings in fathoms



Legend

- Anchorage
- Mooring
- Dock/pier
- Crane
- Airport
- Consult ACS Tech Manual
- Private Cabins
- Public Use Cabins
- Boat Harbor

North Slope PPOR Map 01

USGS 1:1,587,870 Quadrangle Map Reference - Arctic Coast Map 16003_1

Physical and Operational Characteristics for PPOR Map 01 of the North Slope Subarea					
	Point Hope	Point Lay	Icy Cape	Wainwright Anchorage	Wainwright Inlet
ID Number	DII-01-01	DII-01-02	DII-01-03	DII-01-04	S-01-01
Location (In the general area)	68°26.14'N 166°38.89'W	69°46.06'N 163°21.88'W	70°22.47'N 161°28.28'W	70°39.26'N 160°14.27'W	70°35.84'N 160°02.94'W
Maximum Vessel Size	Deep Draft Vessels - lengths to 1000 ft., 40-60 ft. of draft, greater than 10,000 GT				Shallow Draft Vessels - less than 300 Gross Tons, has a draft less than 10 ft., LOA less than 200 ft., typical of Excursion/Fishing vessels
Type of Berthing	Anchorage				
Contact	N/A				
Navigational Approach	Approach from the N, NW, W, SW	Approach from the N, NW, W, SW	Approach from the N, NE, NW, W	Approach from the N, NW, W	Approach from the W
Minimum Water Depths (MLLW)	6 Fathoms	6 Fathoms	8 Fathoms	9 Fathoms	1.25 Fathoms
Maximum Vessel Draft	40 - 60 ft.				Less than 10 ft.
Swing Room or Dock Face (w/ dolphins)	5 nm to shoal	8 nm to shoal	2.6 nm to shoal	0.9 nm to shoal	4500 ft.
Bottom Type	Mud	Mud bottom with multi-sandbars in vicinity of the points		Mud	Mud bottom with multi-sandbars
Nearest Alternative Dock/Piers	100 nm to L04-01	178 nm to DII-02-01	170 nm to DII-02-01	77 nm to D11-02-01	83 nm to DII-02-01
Nearest Alternative Anchorage	98 nm to DII-01-02	54 nm to DII-01-03	30.5 nm to DII-01-04	6 nm to S-01-01	6 nm to DII-01-04
Prevailing Winds	N, S (July-September) 13 to 15 knots				
Currents	N 1.5 to 2 knots		N 1 knot		2 knots
Tides	Mean High 2.69 ft. (Higher 2.79) Mean Low 2.22 (Lower 2.17)	Mean Sea Level 38.05 ft.	Mean Sea Level 0.27 ft.	Mean Sea Level 0.27 ft.	Mean Sea Level 0.27 ft.
Sea Conditions	Mariners are advised that in the shallow waters of the Beaufort Sea, water levels are strongly influenced by meteorological conditions. Strong offshore winds can produce water depth up to 2.5 ft. less than those shown on the charts.	Anchorage is in depths of 6 fathoms, 1.5 mile off the village. Point Lay inlet and Lagoon travel limited due to shallow depths and sand bars. Point Lay Advisory submerged D5 cat in proximity of inlet.	There is a sharp turning point in the low flat barrier beach that separates Kasegaluk Lagoon from the ocean. No facilities, inlet and lagoon travel limited due to shallow, sand bars.	Mariners are advised that in the shallow waters of the Beaufort Sea, water levels are strongly influenced by meteorological conditions. Strong offshore winds can produce water depth up to 2.5 ft. less than those shown on the charts.	Controlling depth of 6 feet at normal water level, but passage should not be attempted without the aid of local guides.
Shelter from Severe Storms	Sheltered from S storms / Exposed to N, NW, W	Exposed to N, NW, W, SW	Sheltered from S storms / Exposed to N, NW, W	Exposed to swells N, NE, NW, SW	Exposure to N, W
Fog	Sea fog most prevalent from June through September (coastal and open ocean). July and August visibilities drop below 2 miles 10%-25% of the time.				
Ice	Mid-November through late June	November through late June	November through late June	October through late June	October through late June

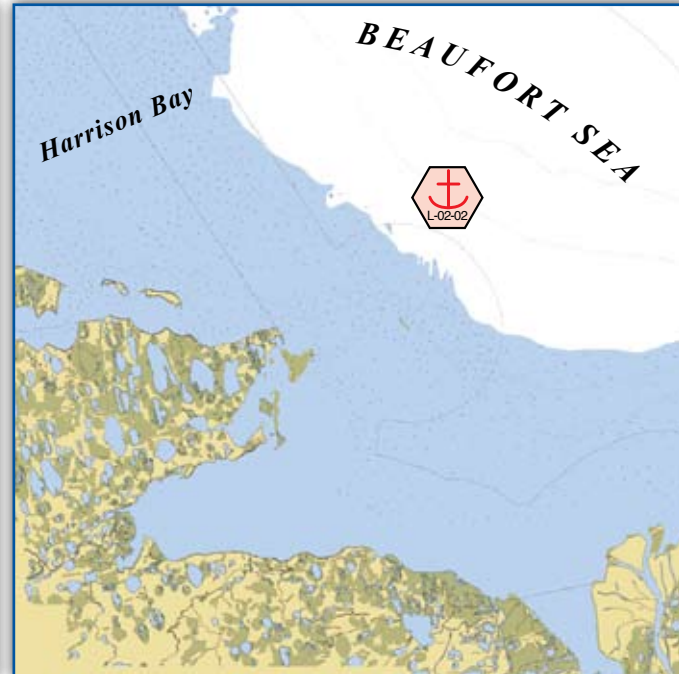
Site ID Number & Vessel Size Classification
DII = Deep Draft Vessels lengths up to 1000 feet, 40-60 feet of draft, greater than 10,000 GT
DI = Deep Draft Vessels lengths up to 1000 feet, 20-40 feet of draft, greater than 10,000 GT
L = Light Draft Vessel up to 450 feet in length, draft up to 20 feet
S = A shallow draft vessel less than 300 Gross Tons, has a draft less than 15 ft., LOA less than 200 ft

Site Considerations for PPOR Zone 01 of the North Slope Subarea					
	Point Hope	Point Lay	Icy Cape	Wainwright Anchorage	Wainwright Inlet
ID Number	DII-01-01	DII-01-02	DII-01-03	DII-01-04	S-01-01
Human Health & Safety					
Community-distance to (nm)	Point Hope - 0.8 nm/ pop. 674	Point Lay - 1.3 nm/ pop. 189	Wainwright - 31 nm/ pop. 556		Wainwright - 4 nm/ pop. 556
Health Care Facilities	Point Hope Clinic: 907-368-2234 / Fire EMS: 907-368-2774	Point Lay Health Clinic: 907-833-2526 / Fire: 907-833-2714	Wainwright Health Clinic: 907-763-2714 / Fire EMS: 907-763-2728		
Natural Resources Considerations					
Fish & Wildlife	Major seabird/waterfowl nesting grounds; waterfowl/shorebirds/ seabirds migration route; seals, bowhead whale, salmon	Major seabird/waterfowl nesting grounds; waterfowl/shorebirds/ seabirds migration route; brant and snow goose nesting, common eider, terns, waterbirds, ringed seal pupping, bowhead whale	Barrier islands/coastal wetlands nesting ground for brant, common eider, snow geese, loons, migrating waterfowl/spectacled and Steller's eider, shorebirds/seabirds, beluga whale concentrations, spotted seal, ringed seal pupping	High density waterfowl during open water, nesting/molting spectacled eider (threatened), shorebird breeding and fall migration, ringed seal pupping	
Threatened & Endangered Species	Polar Bear (threatened)	Polar Bear (threatened), Spectacled Eider (threatened)	Polar Bear (threatened), Spectacled Eider (threatened), Steller's Eider (threatened)	Polar Bear (threatened)	Polar Bear (threatened)
Sensitive Areas	Designated as Critical Habitat				
Other Stakeholder Considerations					
Fisheries	Salmon	No Commercial Fisheries			
Historic Properties	Historic properties are present throughout the area.				
Subsistence	High level of subsistence activity				
Tourism/Recreation	Local recreation				
Waterfront Public Facilities/Parks	None				
Waterfront Private Facilities	None				
Response and Salvage Resource Consideration					
Ability to Boom Vessel	Weather Dependent				Yes
Geographic Response Strategies	Consult Alaska Clean Seas Technical Manual (Volume 2, Map Atlas, Priority Protection Sites) at http://www.alaskacleanseas.org/tech-manual/				
Closest Alternative Place of Refuge for same sized vessel	98 nm to DII-01-02	54 nm to DII-01-03	30.5 nm to DII-01-04	6 nm to S-01-01	6 nm to DII-01-04

NOTE: Sensitive resource information can be found on other maps which can be accessed through the sensitive area section of the North Slope Subarea Contingency Plan: http://dec.alaska.gov/spar/perp/plans/scp_ns.htm



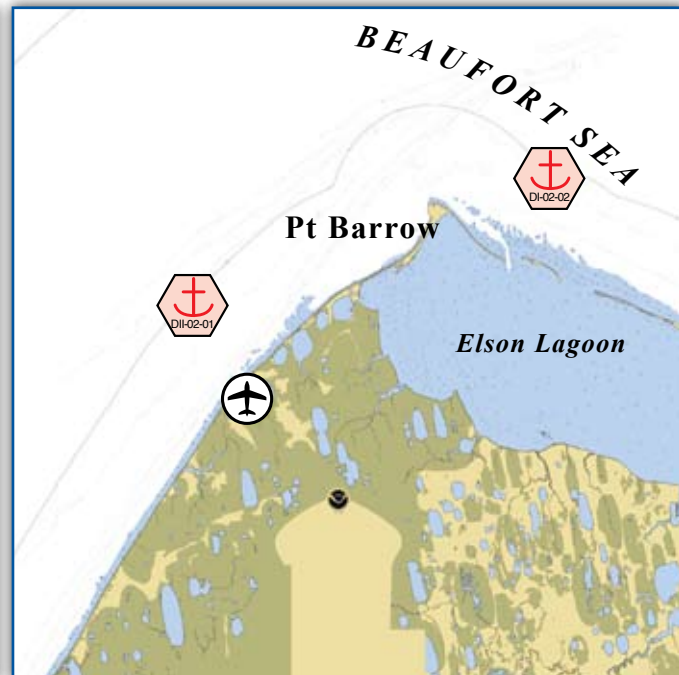
L-02-01, Dease Inlet.



L-02-02, Harrison Bay.



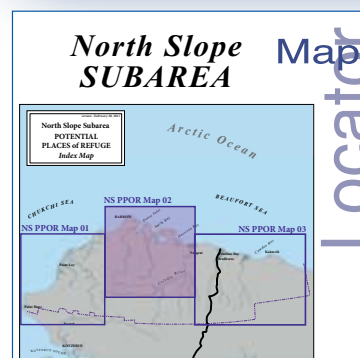
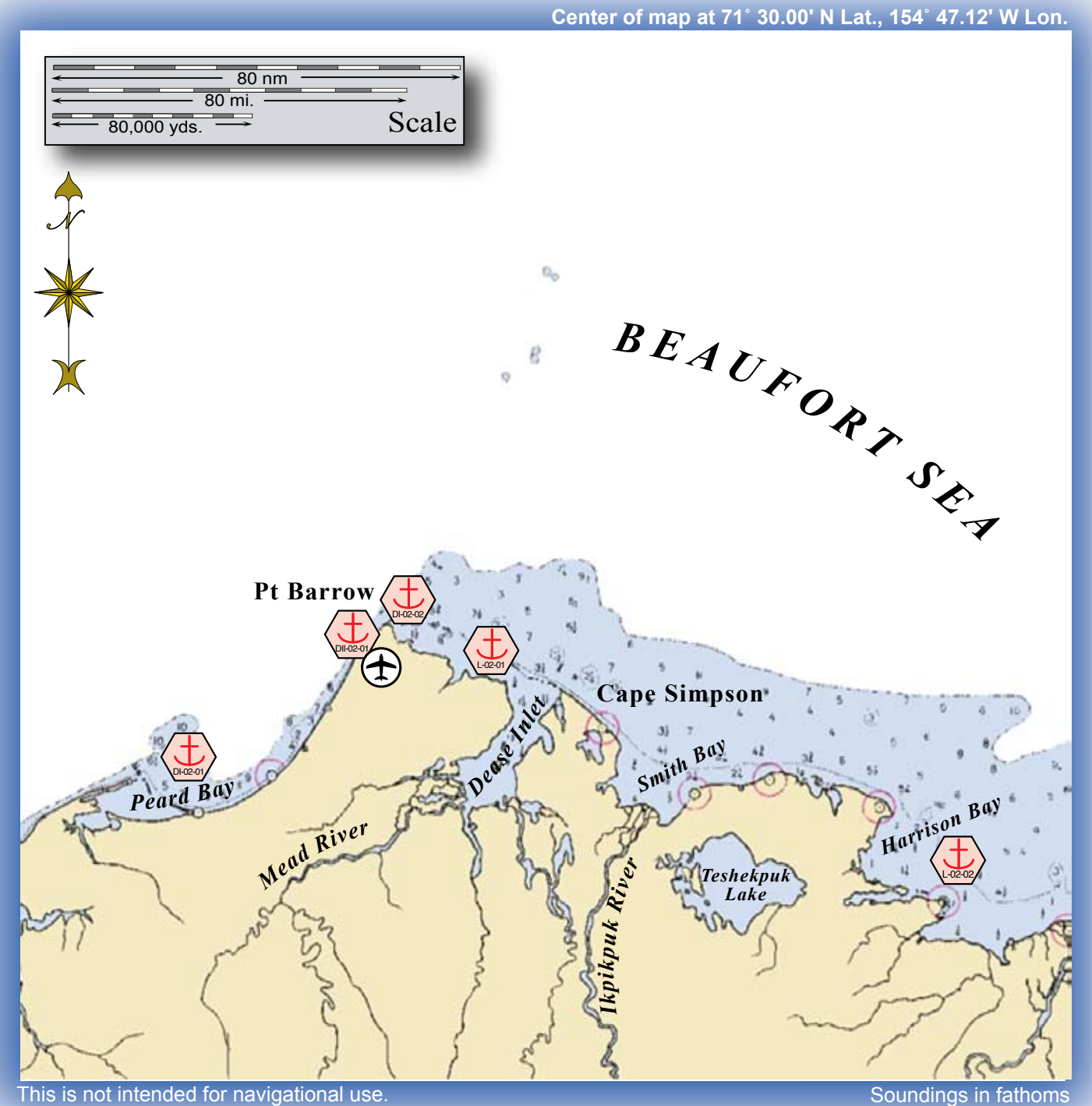
DI-02-01, Peard Bay.



DII-02-01, Barrow and DI-02-02, Point Barrow.

Stakeholders for PPOR Zone 02 of the North Slope Subarea			
Year-2011	Contact	Year-2011	Contact
Bureau of Land Management - ANCSA / Public Lands	Arctic Field Office Manager	North Slope Borough	Mayor
Arctic National Wildlife Refuge	Refuge Manager	Arctic Slope Regional Corporation	President / CEO
Alaska Department of Natural Resources	State Historic Preservation Officer	Alaska Eskimo Whaling Commission	Executive Director
Native Allotments	Dept of the Interior-Regional Environmental Officer	City of Barrow	Mayor
		City of Wainwright	Mayor

Potential Places of Refuge for North Slope Subarea



Legend

- Anchorage
- Mooring
- Dock/pier
- Crane
- Airport
- Consult ACS Tech Manual
- Private Cabins
- Public Use Cabins
- Boat Harbor

North Slope PPOR Map 02

USGS 1:1,587,870 Quadrangle Map Reference - Arctic Coast Map 16003_1

Physical and Operational Characteristics for PPOR Map 02 of the North Slope Subarea

	Barrow	Peard Bay	Point Barrow	Dease Inlet	Harrison Bay
ID Number	DII-02-01	DI-02-01	DI-02-02	L-02-01	L-02-02
Location (In the general area)	71°19.97'N 156°50.30'W	70°53.99'N 158°25.10'W	71°24.10'N 156°17.61'W	71°13.83'N 155°53.35'W	70°37.52'N 151°26.88'W
Maximum Vessel Size	Deep Draft Vessels - lengths to 1000 ft., 40-60 ft. of draft, greater than 10,000 GT	Deep Draft Vessels - lengths up to 1000 ft., 20-40 ft. of draft, greater than 10,000 GT		Light Draft Vessels - up to 450 ft. in length, up to 20 ft. draft	
Type of Berthing	Anchorage				
Contact	N/A				
Navigational Approach	Approach from E, NE, N	Approach from W, NW, N	Approach from W, NW, N, NE, E	Approach from N, NE, E	Approach from N, NE, E
Minimum Water Depths (MLLW)	8 Fathoms	6 Fathoms	5.5 Fathoms	1 Fathoms	5.5 Fathoms
Maximum Vessel Draft	60 ft.	40 ft.		20 ft.	
Swing Room or Dock Face (w/ dolphins)	1.3 nm to shoal	1.8 nm to sea mount	2 nm to shoal	1.6 nm to shoal	1.9 nm to shoal
Bottom Type	Mud	Mud, Clay	Mud	no bottom type noted	Sand, Mud
Nearest Alternative Dock/Piers	152 nm to S-03-01	190 to S-03-01	136 nm to S-03-01	121 nm to S-03-01	31.5 nm to S-03-01
Nearest Alternative Anchorage	12 nm to DI-02-02	38 nm to DII-02-01	12 nm to DII-02-01	15 nm to DI-02-02	64 nm to DI-03-01
Prevailing Winds	North Slope prevailing winds NE, E 11 to 14 knots in July, August, September				
Currents	NE 3 to 4 knots	NE 1 to 2 knots	NW 1 knot	NW 1 knot	General ocean current runs East-West along the coast, local currents may vary.
Tides	No tide data found				
Sea Conditions	Strong offshore winds in Beaufort can produce water depths up to 2.5 ft. less than charted depths.	Inner bay has uniform depths of ~20 ft. over the greater part of its area. A depth of 12 ft. can be carried into Peard Bay through a narrow channel just off the S end of the Seahorse Islands.	Medium draft vessels should be able to round Point Barrow at a distance of 1 mile, 30 ft. draft should stay at least 3 miles offshore.	In the winter, the ice freezes to a thickness of 6 - 10 ft and may not clear out until late summer.	Pacific Shoal, 3 to 5 ft. deep and 5 miles in N-S length, is centered about 8 miles SE of Cape Hlket.
Shelter from Severe Storms	Sheltered from severe storms from the E / Exposed N, W	Sheltered from SE, S, SW winds / Exposed N	No shelter from severe storms / Exposed to N, E, W	Exposed to N, E, W	Sheltered from SW, W storms / Exposed to N, E
Fog	Possible June through September				
Ice	October through late July	October through late June	October through late July	October through late July	October through late July

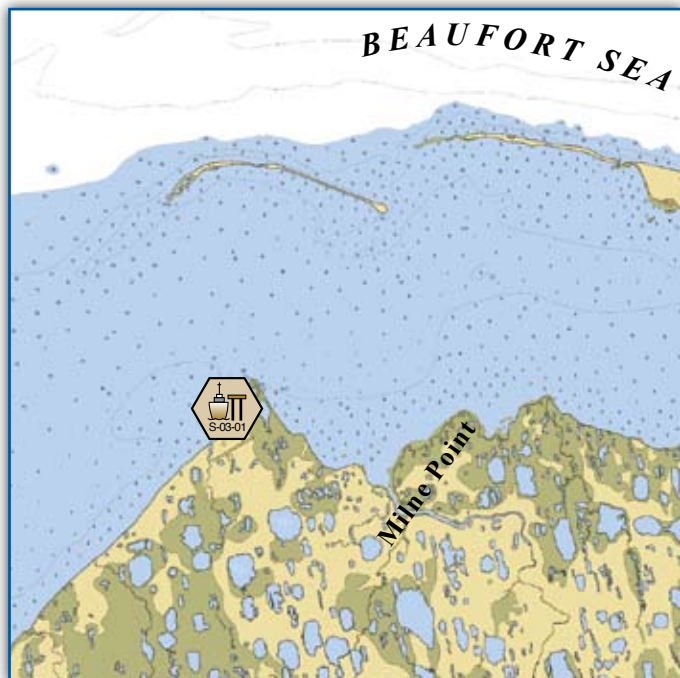
Site ID Number & Vessel Size Classification

DII = Deep Draft Vessels lengths up to 1000 feet, 40-60 feet of draft, greater than 10,000 GT
DI = Deep Draft Vessels lengths up to 1000 feet, 20-40 feet of draft, greater than 10,000 GT
L= Light Draft Vessel up to 450 feet in length, draft up to 20 feet
S = A shallow draft vessel less than 300 Gross Tons, has a draft less than 15 ft., LOA less than 200 ft

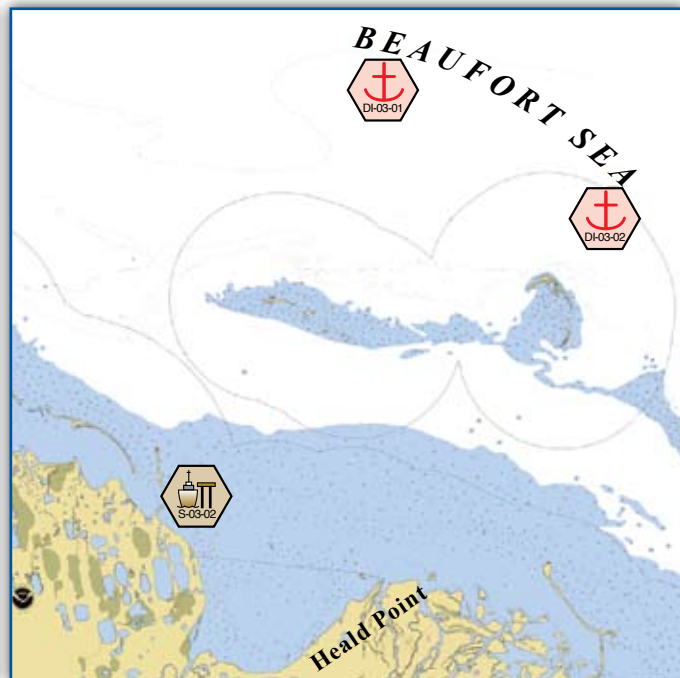
Site Considerations for PPOR Zone 02 of the North Slope Subarea

	Barrow	Peard Bay	Point Barrow	Dease Inlet	Harrison Bay
ID Number	DII-02-01	DI-02-01	DI-02-02	L-02-01	L-02-02
Human Health & Safety					
Community-distance to (nm)	Barrow - 2 nm/ pop. 4212	Wainwright - 35 nm/ pop. 556	Barrow - 11 nm/ pop. 4212	Barrow - 16 nm/ pop. 4212	Barrow - 105 nm/ pop. 4212
Health Care Facilities	Samuel Simmonds Memorial Hospital: 907-852-9248 / North Slope Borough Health Clinic: 907-842-0260				
Natural Resources Considerations					
Fish & Wildlife	Coastal waters migration concentration for king eider and spectacled eider (threatened), black guillemot nesting colony, ringed seal breeding/pupping, polar bear	High density areas for migrating and nesting waterfowl included Steller's eider (threatened) and spectacled eider (threatened), shorebird concentrations during open water, bearded seal, ringed seal breeding/pupping, gray whale (nearshore), spotted seal haulout, polar bear	Coastal waters migration concentration area for brant, eiders, long-tailed duck, and other waterbirds, coastal wetlands nesting for Steller's eider (threatened), shorebird nesting concentrations, ringed seal breeding/pupping, polar bear	High density seabird nesting coastal waters migration concentration area brant, eiders, long-tailed duck and other waterbirds, coastal wetlands spectacled eider (threatened) nesting, high density shorebird nesting, ringed seal breeding/pupping, polar bear	High density migration for geese, ducks, loons; high density shorebird nesting, coast wetland nesting spectacled eider (threatened), ringed seal breeding/pupping, polar bear denning, spotted seal haulout, anadromous waters
Threatened & Endangered Species	Polar Bear (threatened), spectacled eider (threatened)	Polar Bear (threatened), Steller's eider (threatened), spectacled eider (threatened)	Polar Bear (threatened), Steller's eider (threatened)	Polar Bear (threatened), spectacled eider (threatened)	Polar Bear (threatened), spectacled eider (threatened)
Sensitive Areas	Designated Critical Habitat-Polar Bear				
Other Stakeholder Considerations					
Fisheries	No Commercial Fisheries				
Historic Properties	Historic properties are present throughout the area.				
Subsistence	High Level Local Subsistence				
Tourism/Recreation	Local recreation				
Waterfront Public Facilities/Parks	None				
Waterfront Private Facilities	None				
Response and Salvage Resource Consideration					
Ability to Boom Vessel	Weather Dependant				
Geographic Response Strategies	Consult Alaska Clean Seas Technical Manual (Volume 2, Map Atlas, Priority Protection Sites) at http://www.alaskacleanseas.org/tech-manual/				
Closest Alternative Place of Refuge for same sized vessel	12 nm to DI-02-02	38 nm to DII-02-01	12 nm to DII-02-01	15 nm to DI-02-02	64 nm to DI-03-01

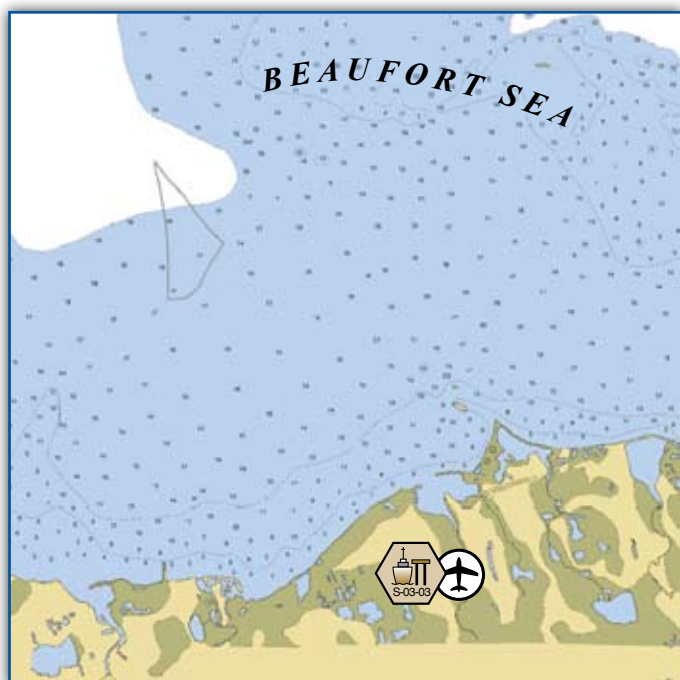
NOTE: Sensitive resource information can be found on other maps which can be accessed through the sensitive area section of the North Slope Subarea Contingency Plan: http://dec.alaska.gov/spar/perp/plans/scp_ns.htm



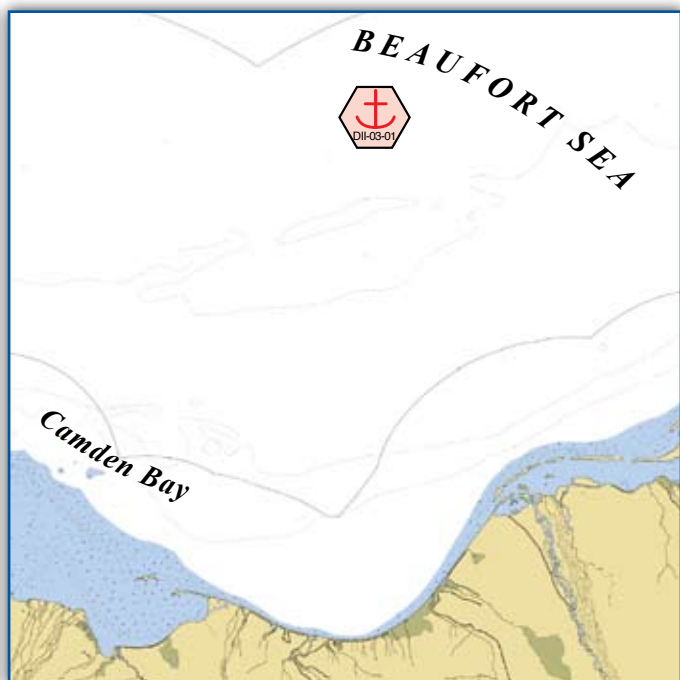
S-03-01, Oliktok Dock.



S-03-02, West Dock, DI-03-01, Midway Island Anchorage, and DI-03-02, Cross Island Anchorage.



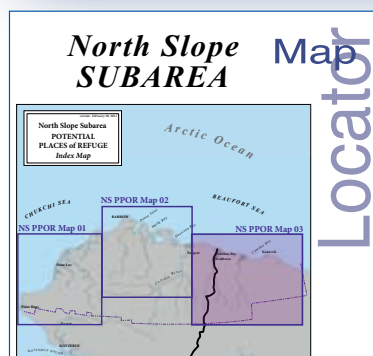
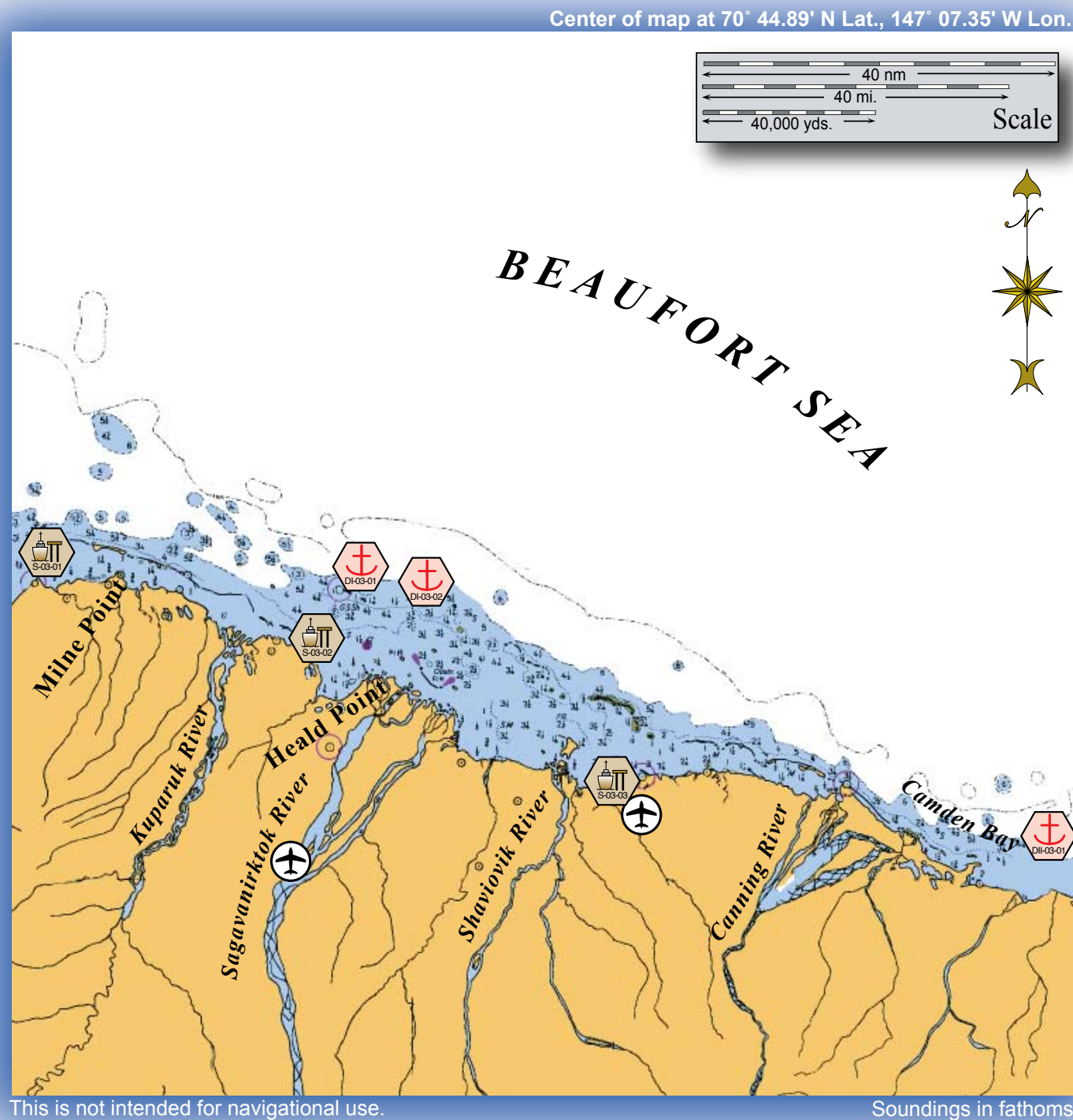
S-03-03, Badami Runway Dock.



DII-03-01, Camden Bay.

Stakeholders for PPOR Zone 03 of the North Slope Subarea			
Year-2011	Contact	Year-2011	Contact
Bureau of Land Management - ANCSA / Public Lands	Arctic Field Office Manager	North Slope Borough	Mayor
Arctic National Wildlife Refuge	Refuge Manager	Arctic Slope Regional Corporation	President / CEO
Alaska Department of Natural Resources	State Historic Preservation Officer	City of Kaktovik	Mayor
Native Allotments	Dept of the Interior-Regional Environmental Officer	City of Nuiqsut	Mayor
		Alaska Eskimo Whaling Commission	Executive Director

Potential Places of Refuge for North Slope Subarea



Legend

- Anchorage
- Mooring
- Dock/pier
- Crane
- Airport
- Consult ACS Tech Manual
- Private Cabins
- Public Use Cabins
- Boat Harbor

North Slope PPOR Map 03

USGS 1:1,587,870 Quadrangle Map Reference - Arctic Coast Map 16003_1

Physical and Operational Characteristics for PPOR Map 03 of the North Slope Subarea

	Camden Bay	Midway Island	Cross Island	Oliktok Dock	West Dock	Badami Dock
ID Number	DII-03-01	DI-03-01	DI-03-02	S-03-01	S-03-02	S-03-03
Location (In the general area)	70°10.88'N 144°38.67'W	70°35.62'N 148°13.13'W	70°31.96'N 147°52.56'W	70°30.21'N 149°53.50'W	70°23.52'N 148°29.86'W	70°09.19'N 146°53.73'W
Maximum Vessel Size	Deep Draft Vessels - lengths to 1000 ft. or greater, 40-60 ft. of draft, greater than 10,000 GT		Deep Draft Vessels - lengths to 1000 ft., 20-40 ft. of draft, greater than 10,000 GT		Shallow Draft Vessel - less than 300 Gross Tons, has a draft less than 10 ft., LOA less than 200 ft., typical of Excursion/Fishing vessels	
Type of Berthing	Anchorage			Dock		
Contact	N/A			ConocoPhillips		
Navigational Approach	Approach from NE, N, NW	Approach from NW, N, NE, E	Approach from W, NW, N, NE, E	Approach from W, NW	Approach from NW	Approach from NW
Minimum Water Depths (MLLW)	10 Fathoms	8 Fathoms	6.5 Fathoms	0.75 Fathom	0.5 Fathom	1 Fathom
Maximum Vessel Draft	60 ft.	40 ft.		5 ft.		
Swing Room or Dock Face (w/ dolphins)	2.7 nm to sea mount	3.3 nm to sea mount	1 nm to sea mount	18,225 ft.	10,600 ft.	6,000 ft.
Bottom Type	Sand, Mud	Sand, Mud	Sand, Mud, Reef	Sand, Mud	Sand, Mud	Sand, Mud
Nearest Alternative Dock/Piers	47 nm to S-03-03	13.5 nm to S-03-02	15.25 nm to S-03-02	38 nm to S-03-02	38 nm to S-03-01	37 nm to S-03-02
Nearest Alternative Anchorage	66 nm to DI-03-02	7.5 nm to DI-03-02	7.5 nm to DI-03-01	32 nm to L-02-02	13.5 nm to DI-03-01	30 nm to DI-03-02
Prevailing Winds	No data noted					
Currents	Prevailing ocean currents run East / West along the Northern Coast, local currents may vary. Use local knowledge for each site.					
Tides	Mean High 36.39 ft. (Higher 35.50) Mean Low 35.89 (Lower 35.81)					
Sea Conditions	Ice moves across the bay with prevailing winds.	Low beaches with little driftwood, good anchorage for vessels drawing up to 6 ft. can be found behind Reindeer Island, the W island of the group.	Large ice floes remain hinged to the N and E sides of the island during open water season. Protected anchorage for vessels drawing up to 10 ft. can be found behind the crescent-shaped island	No information located for dock specs, E of Colville River, is a triangular sandflat with elevation of as much as 5 ft. Excellent small-boat anchorage is found in depths of 5 ft. behind the small bar that extends NW from the point; this anchorage is exposed to SW weather, but protection from such can be found E of the point.	No information located for dock specs.	Very protected, appears to be no exposure from any direction.
Shelter from Severe Storms	Sheltered from S storms / Exposed to N, E, W	No shelter from severe storms / Exposed to N, E, W	Sheltered from S storms / Exposed to N, E, W	Exposed to N, W		Sheltered from all sides
Fog	No data noted					
Ice	Ice moves across the bay with prevailing winds	October through late July	Large ice floes remain hinged to the N and E sides of the island during open water season	October through late July		

Site ID Number & Vessel Size Classification

DII = Deep Draft Vessels lengths up to 1000 feet, 40-60 feet of draft, greater than 10,000 GT
DI = Deep Draft Vessels lengths up to 1000 feet, 20-40 feet of draft, greater than 10,000 GT
L = Light Draft Vessel up to 450 feet in length, draft up to 20 feet
S = A shallow draft vessel less than 300 Gross Tons, has a draft less than 15 ft., LOA less than 200 ft

Site Considerations for PPOR Zone 03 of the North Slope Subarea

	Camden Bay	Midway Island	Cross Island	Oliktok Dock	West Dock	Badami Dock
ID Number	DII-03-01	DI-03-01	DI-03-02	S-03-01	S-03-02	S-03-03
Human Health & Safety						
Community-distance to (nm)	Kaktovik - 20 nm/ pop. 239	Prudhoe/Deadhorse - 16 nm/ pop. 2174	Prudhoe/Deadhorse - 17 nm/ pop. 2174	Prudhoe/Deadhorse - 30 nm/ pop. 2174	Prudhoe/Deadhorse - 3 nm/ pop. 2174	No information noted
Health Care Facilities	Kaktovik Clinic: 907-640-6413	Oil Company Medical Staff (private) / Greater Prudhoe Bay Fire Dept: 907-659-5646				
Natural Resources Considerations						
Fish & Wildlife	Shoreline/nearshore high density nesting habitat for shorebirds, coast waters high density migration habitat for geese, ducks, loons	Barrier islands common eider nesting colony, high density shorebird nesting, coastal waters high density migration tern, geese, ducks, loons; shoreling/nearshore high density shorebird nesting, coastal wetlands spectacled eider (threatened) nesting, polar bear (threatened) denning area, ringed seal breeding/pupping	Polar Bear (threatened) denning area, common eider nesting colony, high density shorebird nesting, coastal water high density migration for geese, ducks, loons, shoreline/nearshore high density nesting habitat for shorebirds, coastal wetlands nesting spectacled eider (threatened), ringed seal breeding/pupping	Barrier islands common eider nesting colony, high density shorebird nesting, coastal waters high density migration tern, geese, ducks, loons; shoreling/nearshore high density shorebird nesting, coastal wetlands spectacled eider (threatened) nesting, polar bear (threatened) denning area, ringed seal breeding/pupping	Barrier islands brant nesting colonies, coast waters high density migration habitat for geese, ducks, loons, polar bear (threatened)	
Threatened & Endangered Species	None	Polar Bear (threatened)	Polar bear, spectacled eider			Polar bear
Sensitive Areas	No Designation, ANWR	Designated Critical Habitat polar bear		Designated Critical Habitat polar bear, spectacled eider		Designated Critical Habitat polar bear
Other Stakeholder Considerations						
Fisheries	No Commercial Fisheries					
Historic Properties	Historic properties are present throughout the area.					
Subsistence	High Levels Local Subsistence					
Tourism/Recreation	Local recreation					
Waterfront Public Facilities/Parks	None					
Waterfront Private Facilities	None					
Response and Salvage Resource Consideration						
Ability to Boom Vessel	No			Weather Dependent		Yes
Geographic Response Strategies	Consult Alaska Clean Seas Technical Manual (Volume 2, Map Atlas, Priority Protection Sites) at http://www.alaskacleanseas.org/tech-manual/					
Closest Alternative Place of Refuge for same sized vessel	66 nm to DI-03-02	7.5 nm to DI-03-02	7.5 nm to DI-03-01	32 nm to L-02-02	13.5 nm to DI-03-01	30 nm to DI-03-02

NOTE: Sensitive resource information can be found on other maps which can be accessed through the sensitive area section of the North Slope Subarea Contingency Plan: http://dec.alaska.gov/spar/perp/plans/scp_ns.htm

POTENTIAL PLACES OF REFUGE: PART THREE – REFERENCES

Alaska Regional Response Team. October 2004. Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/Releases, Annex O, Guidelines for Places of Refuge Decision-Making.

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://dec.alaska.gov/spar/perp/plans/uc/Annex%20O%20\(Jan%2010\).pdf](http://dec.alaska.gov/spar/perp/plans/uc/Annex%20O%20(Jan%2010).pdf)

Alaska Dept. of Environmental Conservation, North Slope GRS Information
<http://www.dec.state.ak.us/spar/perp/grs/nwa/home.htm>

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

Alaska Dept. of Natural Resources. North Slope Public Access Atlas.
<http://www.dnr.state.ak.us/mlw/planning/easmtatlas/>

Alaska Dept. of Natural Resources, North Slope 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>

U.S Bureau of Land Management. Alaska Land Information System.
<http://www.ak.blm.gov/alis/>

Transport Canada-Marine Safety
<http://www.tc.gc.ca/eng/marinesafety/menu.htm>

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