Environmental Resources Section

Public Notice

Alaska District
U.S. Army Corps of Engineers

Date **11 May 2022** Identification No. **ER-PN-22-002**
Please refer to the identification number when replying.

The U.S. Army Corps of Engineers (USACE) Alaska District has prepared an Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) for the following project:

2022 CON/HTRW Limited Removal Action
Project 13 – Unalaska Valley
Formerly Used Defense Site (F10AK0841)
Unalaska Island, Alaska

The USACE Alaska District proposed project is authorized under the Department of Defense (DoD) Environmental Restoration Program – Formerly Used Defense Sites, which provides the means to clean up waste materials, contaminated soil, and unsafe structures and debris from areas formerly used by the DoD.

Information on the proposed project and anticipated environmental effects are discussed in the enclosed EA and draft FONSI. It may also be viewed on the USACE Alaska District's website at: www.poa.usace.army.mil. Click on the "Reports and Studies" button, look under "Documents Available for Public Review", and then click on the "Environmental Cleanup" link.

The EA and draft FONSI are available for public review and comment for 30 days from the date of this notice. All comments received on or before this date will become part of the official record. The FONSI will be signed upon review of comments received and resolution of significant concerns.

To obtain a printed copy of the EA and draft FONSI, please send a request via email to: Christopher.B.Floyd@usace.army.mil or send a request to the address below. Please submit comments regarding the proposed project to the above email or to the following address:

U.S. Army Corps of Engineers, Alaska District
ATTN: CEPOA-PM-C-ER (Floyd)
P.O. Box 6898
Joint Base Elmendorf-Richardson, Alaska 99506-0898

For information on the proposed project, please contact Chris Floyd of the Environmental Resources Section at the above email or Corps postal address.

Michael R. Salyer

Michael R. Salyer
Chief, Environmental Resources Section
USACE, Alaska District

US Army Corps of Engineers
Alaska District

Environmental Assessment and Finding of No Significant Impact

2022 CON/HTRW Limited Removal Action
Project 13 – Unalaska Valley
Formerly Used Defense Site (F10AK0841)
Unalaska Island, Alaska

(McKenney 2020; photo courtesy of Tacho)

May 2022

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FINDING OF NO SIGNIFICANT IMPACT

2022 CON/HTRW Limited Removal Action
Project 13 – Unalaska Valley
Formerly Used Defense Site (F10AK0841)
Unalaska Island, Alaska

I. In accordance with the National Environmental Policy Act, I have reviewed and evaluated the documents concerning planned environmental cleanup activities at Unalaska Island, Alaska:

As part of my evaluation, I have considered:

a. Existing resources and the No-Action Alternative.

b. Impacts to existing resources from the Preferred Alternative.

II. The possible consequences of these alternatives have been studied for physical, environmental, cultural, and social effects. My evaluation of significant factors has contributed to my finding:

a. No significant impacts to federally listed endangered or threatened species are anticipated.

b. No significant impacts are anticipated to natural resources, including fish and wildlife. There would be no appreciable degradation to the physical environment (e.g., water quality and air quality) as a result of the proposed activities.

c. The work at five of the six UST sites will have no adverse effect on historic properties under Section 106 of the National Historic Preservation Act. Work at the remaining site in the affected area will not affect any historic properties.

d. The No-Action Alternative was evaluated and determined to be unacceptable, as the U.S. Army Corps of Engineers is authorized and responsible for implementing the cleanup of Former Used Defense Sites under the applicable State and Federal statutes and regulations.

III. Based on the evaluation and disclosure of impacts contained within the Environmental Assessment, I find no significant impacts to the human environment are likely to occur as a result of the Proposed Action. Therefore, an Environmental Impact Statement will not be prepared prior to proceeding with the proposed environmental cleanup actions at Unalaska Island, Alaska.

_____ _____

DAMON A. DELAROSA
COL, EN
Commander, Alaska District
U.S. Army Corps of Engineers

Date

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ACRONYMS AND ABBREVIATIONS

ADCRA	Alaska Division of Community and Regional Affairs
ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish and Game
AHRS	Alaska Heritage Resources Survey
AKNHP	Alaska Natural Heritage Program
ANSCA	Alaska Native Claims Settlement Act
APE	Area of Potential Effects
AWC	Anadromous Waters Catalog
BGEPA	Bald and Golden Eagle Protection Act
bgs	Below Ground Surface
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CHU	Critical Habitat Unit
COU	City of Unalaska
CWA	Clean Water Act
CY	Cubic Yard
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
DPS	Distinct Population Segment
DPW	Department of Public Works
DRO	Diesel-Range Organics
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
E.O.	Executive Order
EPA	Environmental Protection Agency
EPP	Environmental Protection Plan
ESA	Endangered Species Act
FOE	Finding of Effect

FONSI	Finding of No Significant Impact
FR	Federal Register
FUDS	Formerly Used Defense Sites
GRO	Gasoline-Range Organics
MBTA	Migratory Bird Treaty Act
mg/kg	Milligrams per Kilogram
MLLW	Mean Lower Low Water
MMPA	Marine Mammal Protection Act
MSA	Magnuson-Stevenson Fishery Conservation and Management Act
NAAQS	National Ambient Air Quality Standards
NALEMP	Native American Lands Environmental Mitigation Program
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NMFS	National Marine and Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOB	Naval Operating Base
NRHP	National Register of Historic Places
NWP	Nationwide Permit
PA	Programmatic Agreement
PCE	Primary Constituent Element
PCN	Preconstruction Notice
POL	Petroleum, Oil, Lubricants
PTS	Permanent Threshold Shift
RAB	Restoration Advisory Board
RMS	Root-mean-square
ROI	Region of Influence
SHPO	State Historic Preservation Officer
SWPPP	Storm Water Pollution Prevention Plan
TTS	Temporary Threshold Shift
UAA	University of Alaska Anchorage
U.S.	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
WMP	Waste Management Plan
WWII	World War II

ENVIRONMENTAL ASSESSMENT

2022 CON/HTRW Limited Removal Action
Project 13 – Unalaska Valley
Formerly Used Defense Site (F10AK0841)
Unalaska Island, Alaska

1.0 PURPOSE AND NEED

1.1 Introduction

The United States Army Corps of Engineers (USACE) prepared this environmental assessment (EA) under the National Environmental Policy Act (NEPA) to address the investigation, excavation, and removal of containerized waste and associated contaminated soil at the Unalaska, Alaska (Figure 1-1). The USACE Proposed Action is authorized under the Department of Defense (DoD), Defense Environmental Restoration Program – Formerly Used Defense Sites (DERP-FUDS; 10 USC 2701 et seq.), which provides authorization to clean up waste materials, contaminated soil, and unsafe structures and debris from areas that were under the jurisdiction of the DoD and owned by, leased by, or otherwise possessed by the United States (U.S.) that were transferred from DoD control prior to 17 October 1986.

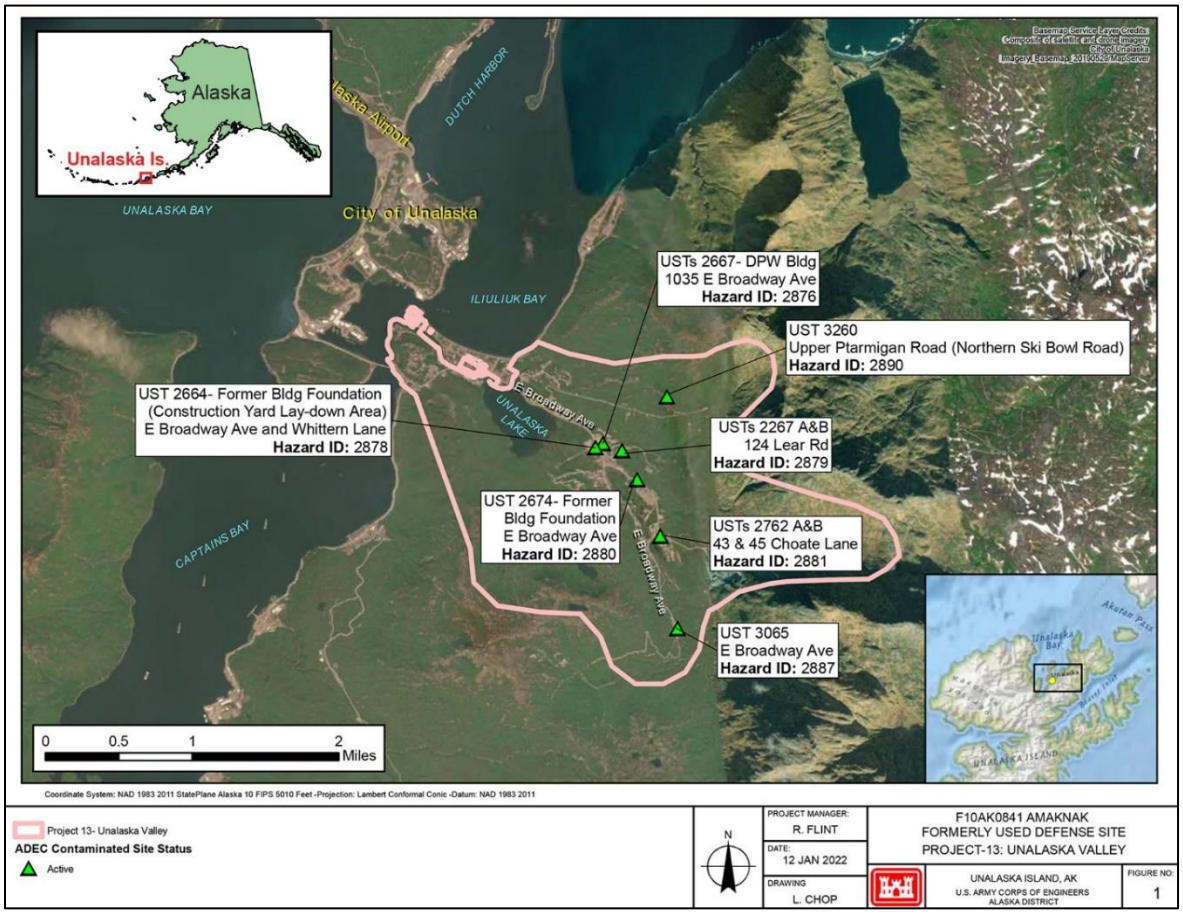

Figure 1-1. Location and Vicinity of the Proposed Project Sites (in Green) and Region of Influence (ROI; Pink Boundary) (Adapted from USACE 2022)

Most FUDS projects follow Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) processes, which would not include preparation of an EA under NEPA. However, the proposed activities involve the excavation and removal of petroleum products (e.g., fuel oil) released from underground storage tanks (USTs), and activity which falls outside the purview of CERCLA.

The objective of the Proposed Action at the prior Unalaska Defense Site is to bring contamination at seven former UST sites to within State of Alaska regulatory cleanup levels, using focused resampling of soil and groundwater, removal of contamination hot-spots, and the development of institutional controls. The ROI of the Proposed Action is shown in Figure 1-1, and the photo of each UST site can be found in Appendix C.

1.2 Project Site Description and History

The Proposed Action would follow several previous investigations and remedial efforts for World War II (WWII) era military sites within the Unalaska Valley (Figure 1-2 through Figure 1-8). The cleanup levels were based on the Over 40 Inch Zone levels due to project site annual precipitation above 40 inches per year (Section 3.2). Contamination of soil and groundwater above State of Alaska soil and groundwater clean-up levels is known or suspected to persist at these sites:

1.2.1 Unalaska Valley USTs 2267A & B

The former Building 2267 barracks foundation is located off Lear Road about 930 feet east of Broadway Ave (124 Lear Rd; Figure 1-2). The two former USTs for Building 2267 were located on the northeast side of the building. The tanks stored the heating oil for the Building 2267 heating system. Both tanks were removed and six cubic yards (CY) of contaminated soil were removed down to bedrock in 1997. Four confirmation samples collected from the bottom of the excavation pit exceeded the Alaska Department of Environmental Conservation (ADEC) Method 2 migration to groundwater diesel-range organics (DRO) value of 230 milligrams/kilogram (mg/kg).

1.2.2 Unalaska Valley UST 2664

The former Building 2664 warehouse foundation is located off Broadway Avenue directly south of Whittern Lane (Figure 1-3). The property is currently being used as construction lay-down yard. The former UST for Building 2664 was located on the east side and outside the building. The UST was removed by others before USACE remediated the site. 290 CY of contaminated soil were removed down to groundwater in 1997. One confirmation sample collected from the bottom of the excavation exceeded the ADEC Method 2 migration to groundwater DRO value of 230 mg/kg.

1.2.3 Unalaska Valley UST 2667

The former Building 2667 warehouse foundation is located at the southeast corner of Broadway Avenue and Whittern Lane (1035 East Broadway Avenue; Figure 1-4). It is the site of the City of Unalaska (COU) Department of Public Works (DPW) building. UST 2667 was encountered during excavation work for the DPW building. The 1,000-gallon tank was the source of heating oil for warehouse 2667. The tank and soils were excavated by the COU, because the COU was constructing the DPW building in 1998. To help facilitate the construction, USACE sampled the bottom of the excavation at the UST 2667 site during construction in 1998. Two confirmation samples that were

collected from the bottom of the excavation exceeded the ADEC Method 2 migration to groundwater DRO value of 230 mg/kg. A portion of the existing Public Works facility was built on the Building 2667 warehouse foundation, and the new facility completely covers the former UST and excavation area. The area is capped with the building.

1.2.4 Unalaska Valley UST 2674

The Building 2674 warehouse foundation is located on Broadway Avenue approximately 1200 feet northwest of its intersection with 165th Road (Figure 1-5). It is the site of fuel storage operations. The former UST for Building 2674 was located on the northwest side of the building outside the assumed former mechanical room. The UST stored the heating oil for the Building 2674 heating system. In 1997 it was discovered that the UST in this location had been previously removed. Approximately 130 CY of Petroleum, Oil, Lubricants (POL)- contaminated soil were removed, and four analytical samples were collected from the excavation. One of four soil samples collected from the bottom of the excavation pit had a DRO value of 1,700 mg/kg, which exceeded the ADEC Method 2 migration to groundwater DRO value of 230 mg/kg.

1.2.5 Unalaska Valley USTs 2762A & B

The former Building 2762 barracks foundation is located off Choate Lane about 200 feet southeast of Broadway Ave (43 & 45 Choate Lane; Figure 1-6). The two former USTs for Building 2762 were located on the west and outside of the building foundation, now pad is used for storage. The tanks stored the heating oil for the Building 2762 heating system. 100 CY of contaminated soil were removed down to bedrock in 1997; and an additional 50 CY of contaminated soil were removed down to bedrock in a later action. One confirmation sample collected from the bottom of the excavation exceeded the ADEC Method 2 migration to groundwater DRO value of 230 mg/kg and one exceeded ADEC Method 2 migration to groundwater gasoline-range organics (GRO) value of 260 mg/kg. There remains DRO contamination under a buried energized electric line and the building foundation.

1.2.6 Unalaska Valley UST 3065

The former Building 3065 latrine foundation is located directly east of Broadway Ave approximately 2 miles south of Unalaska Lake (Figure 1-7). The former UST for Building 3065 was located on the north side and outside the building. The 300-gallon UST and 47 CY of soil contaminated were removed in 1997. The contaminated soil was removed down to about one foot below groundwater. An additional of 55 CY of contaminated soil were removed in 2000. Four confirmation samples collected from the bottom of the excavation exceeded the ADEC Method 2 migration to groundwater DRO value. Since 2000, the building foundation has been removed.

A small stream flows to the southeast approximately 30 feet north and 20 feet east of the tank site. Due to the shallow groundwater (approximately four feet below ground surface (bgs) and proximity of the creek future excavation activities at the site will require significant engineer controls to prevent contamination and sediment migration to the stream.

1.2.7 Unalaska Valley UST 3260

The former Building 3260 was a mess hall located off Upper Ptarmigan Road (Northern Ski Bowl Road; Figure 1-8). The former 300-gallon UST for Building 3260 was located west of the northwest corner of the building. It is assumed that the tank stored the heating oil for the Building 3260 heating system. The UST was removed in 1997 and soil samples were collected, but no soil was removed. Because of wetland issues, soil and groundwater sampling was conducted to delineate the site, but no excavation occurred. Five soil samples exceeded the ADEC Method 2 migration to groundwater DRO value. Due to the wetlands at the site, future excavation will require engineer controls to prevent contamination and sediment migration, site restoration, and repairing the drainage at the site.

1.3 Project Purpose and Need

The objective of the Proposed Action at Unalaska is to bring contamination at seven former UST sites to within State of Alaska regulatory cleanup levels, using focused resampling of soil and groundwater, removal of contamination hot-spots, and the development of institutional controls.

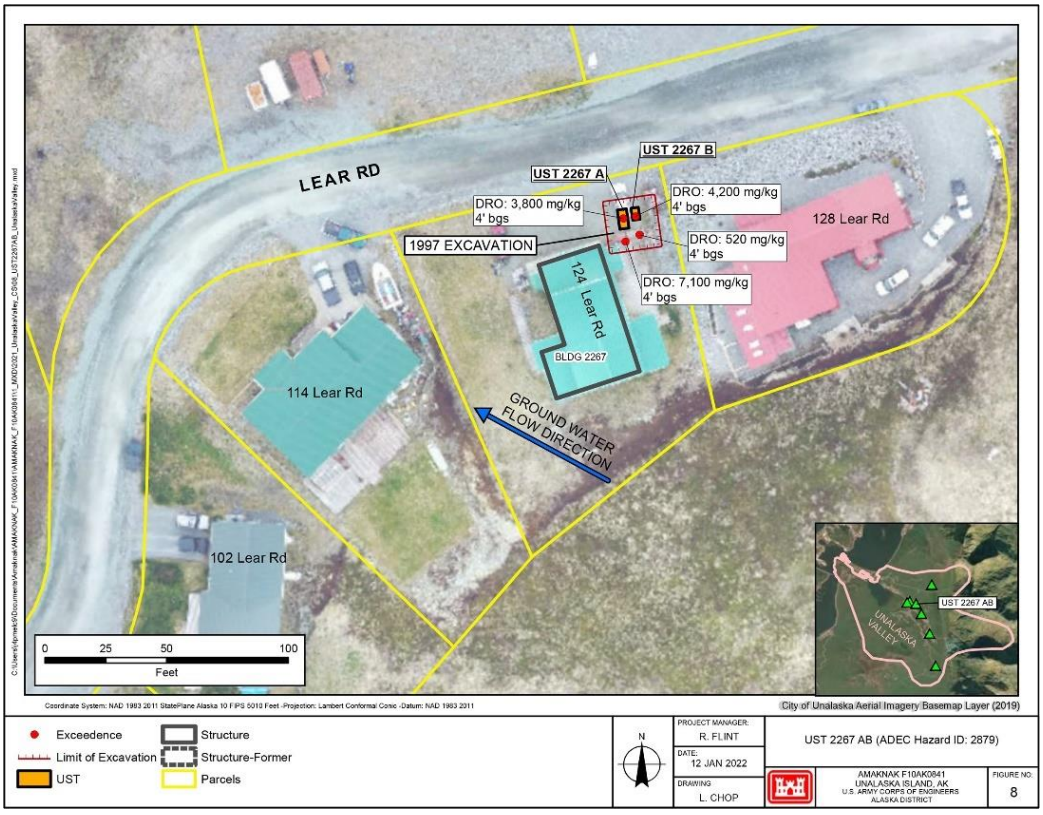

Figure 1-2. UST 2267 Site (USACE 2022)

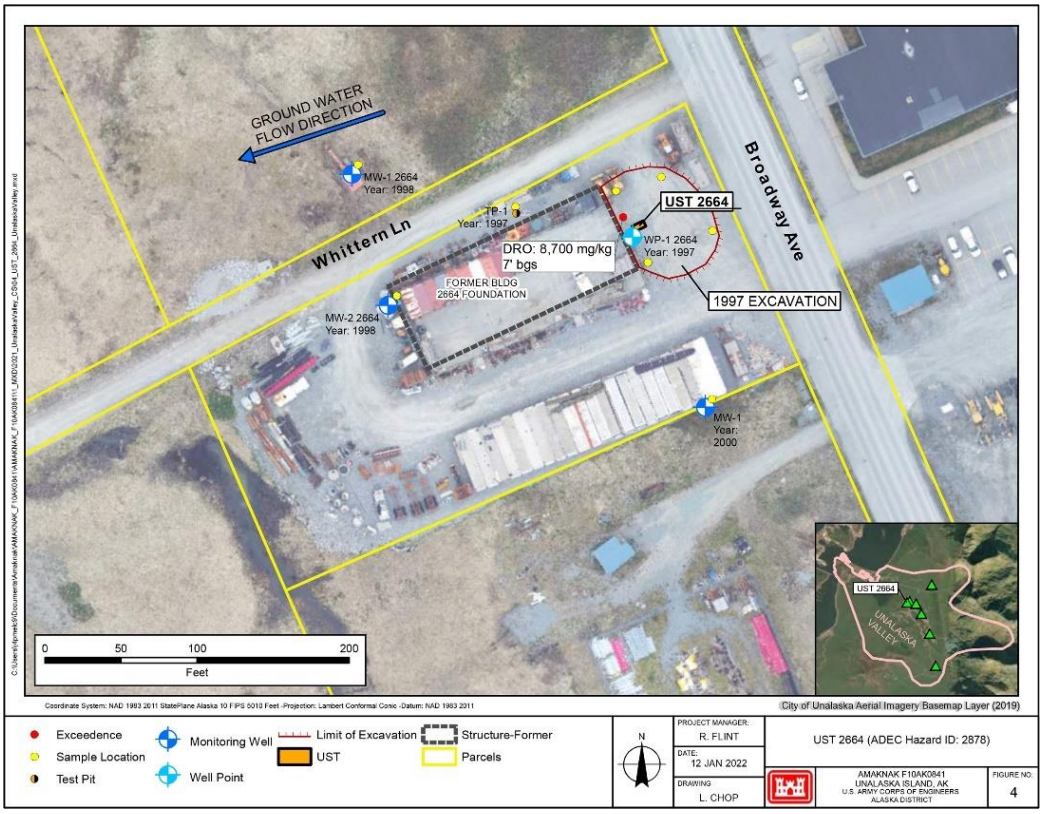

Figure 1-3. UST 2664 Site (USACE 2022)

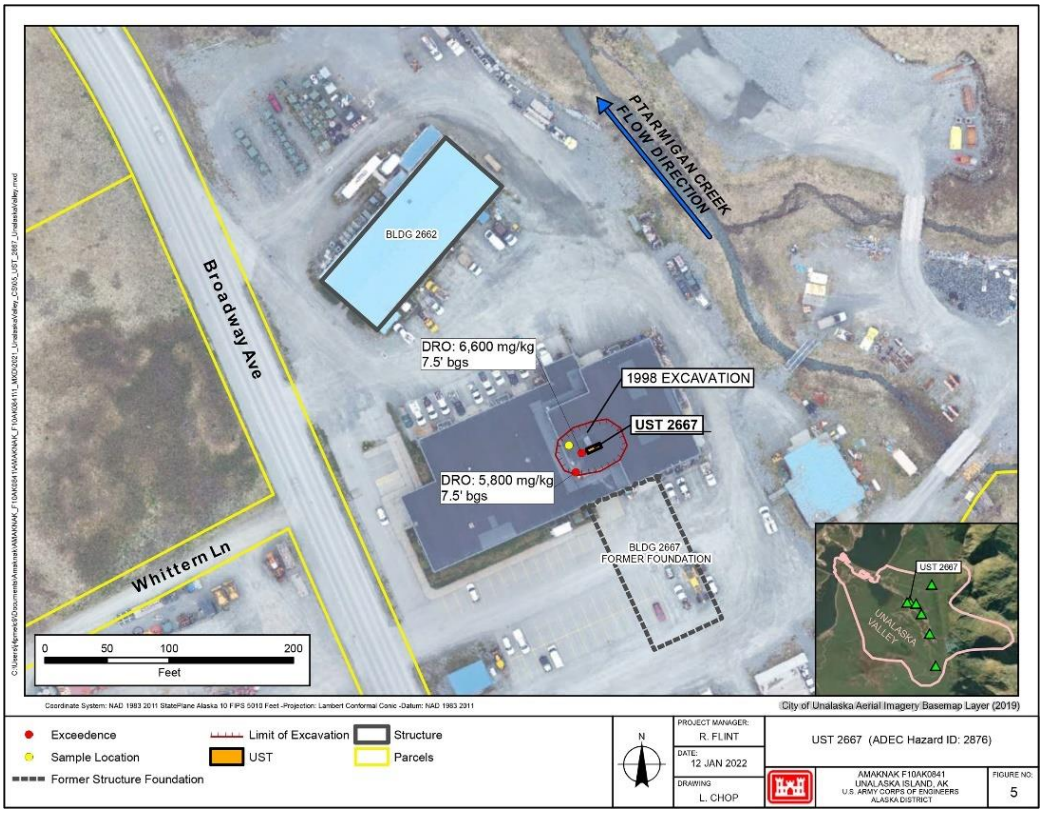

Figure 1-4. UST 2667 Site (USACE 2022)

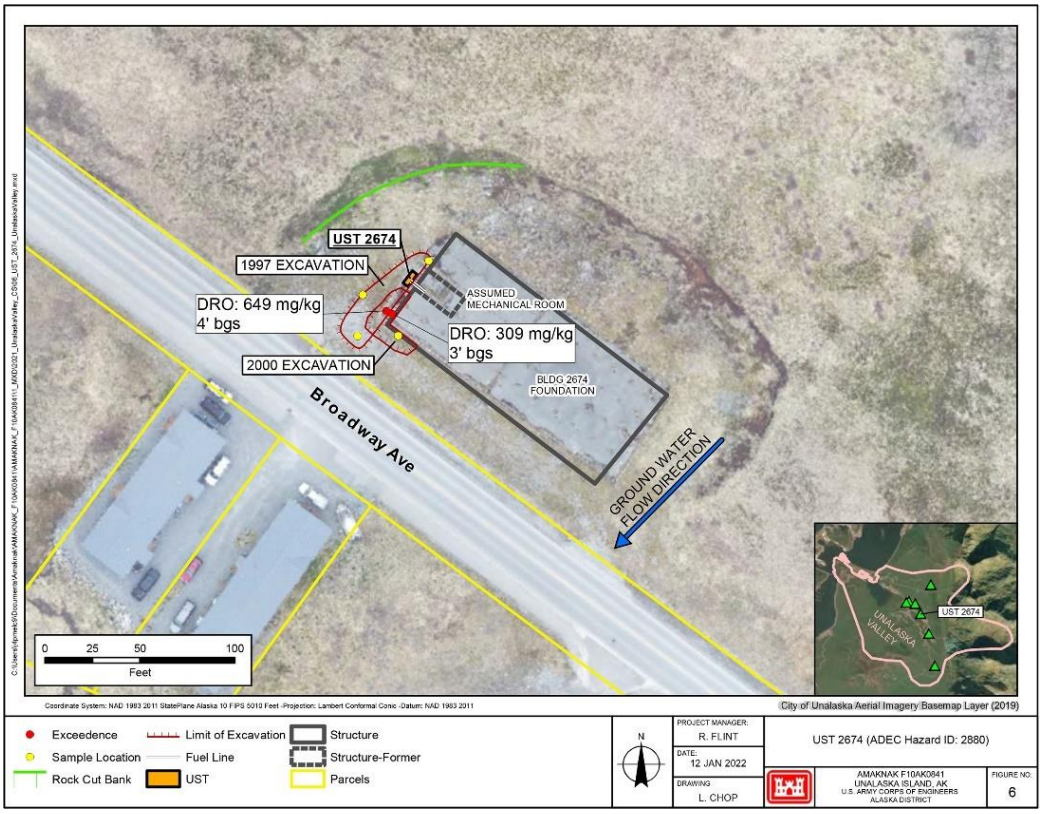

Figure 1-5. UST 2647 Site (USACE 2022)

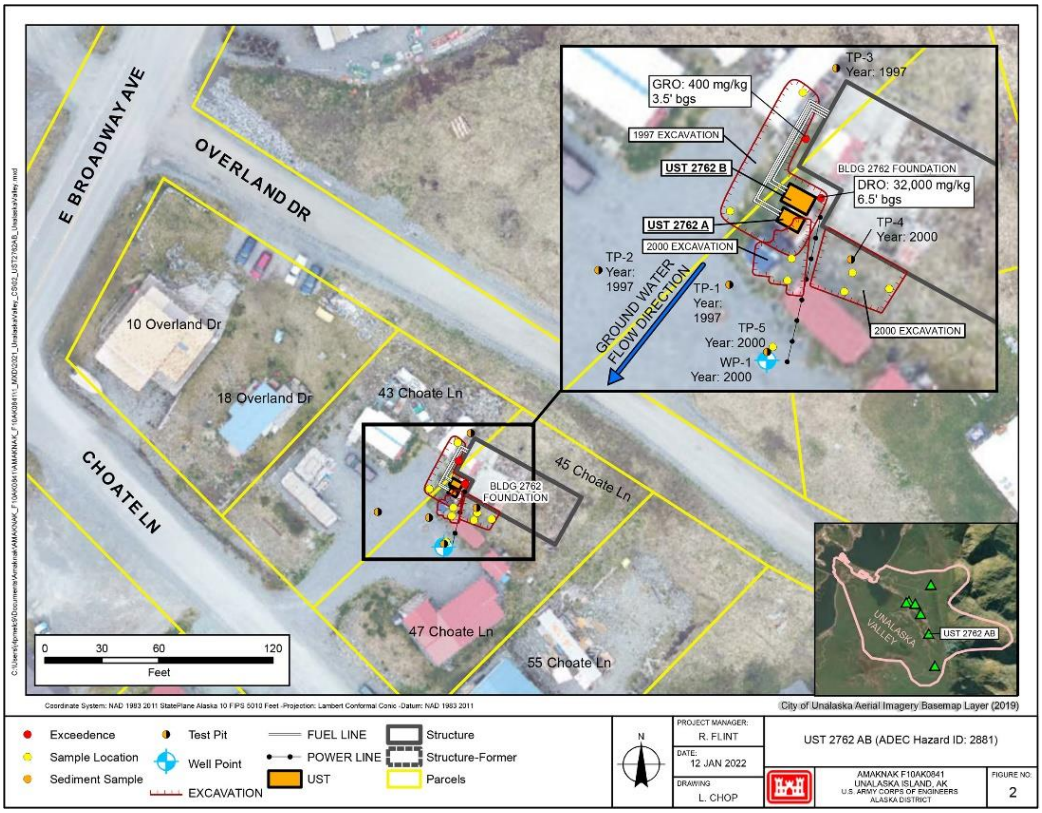

Figure 1-6. UST 2762 Site (USACE 2022)

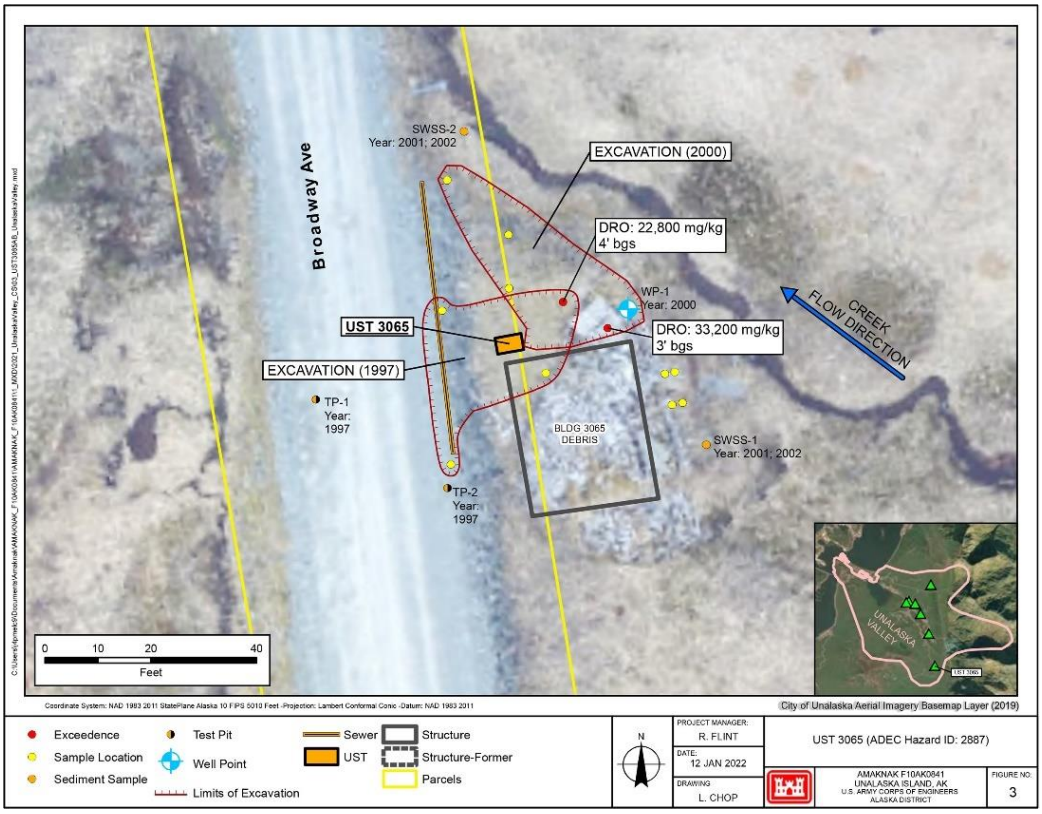

Figure 1-7. UST 3065 Site (USACE 2022)

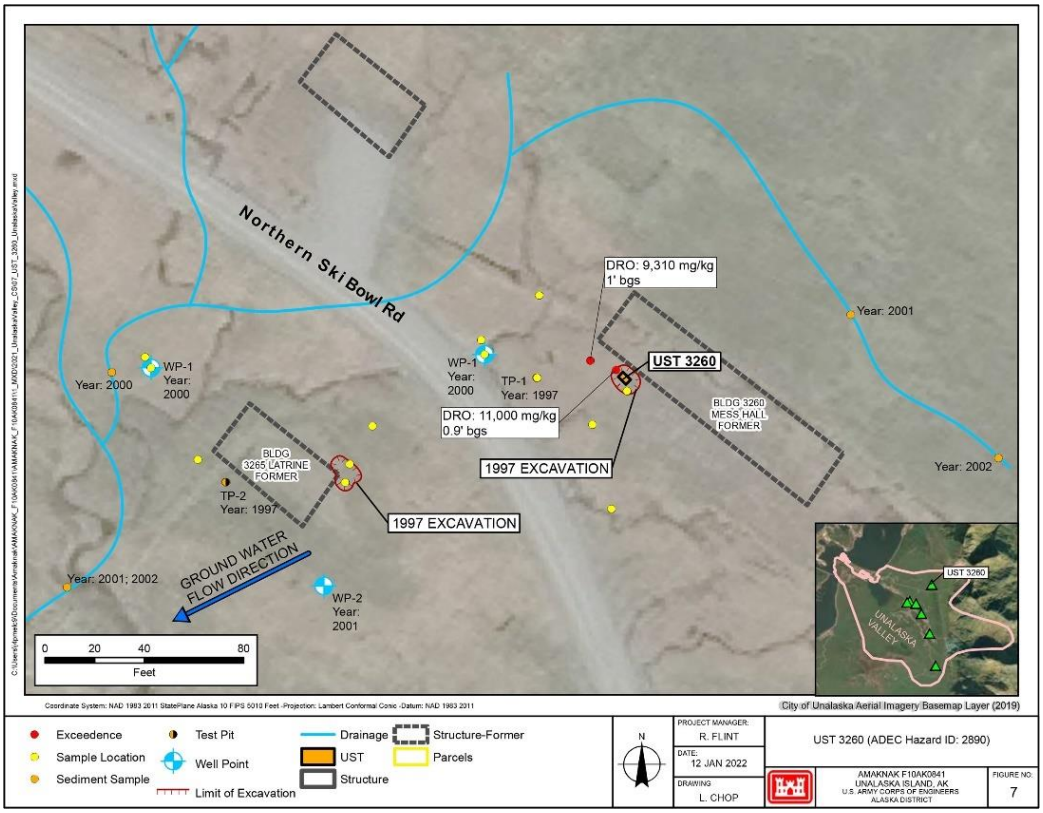

Figure 1-8. UST 3260 Site (USACE 2022)

2.0 ALTERNATIVES

2.1 No-Action Alternative

The No-Action Alternative would avoid the short-term disruptions to the local environment that would be caused by the excavation and removal of contaminated soil. However, under the No-Action Alternative, contaminated soil would remain in place. This would potentially allow the migration of chemical contaminants to adjacent wetland habitat.

2.2 Removal Action Alternative (the Proposed Action)

Further environmental sampling, accompanied by excavation of contaminated soil and removal of contaminant sources at buildings 3260, 3065, and 2762AB is the only action alternative presented in this EA. The USACE experience with environmental cleanup projects in Alaska has shown that in situ remediation or natural attenuation strategies at small, remote contaminated sites in the Aleutian Islands tend not to be practicable or economically feasible due to cold temperatures and high costs of maintenance and monitoring. Although Unalaska is more economically developed, it still is susceptible to cold temperatures and higher costs due to its remoteness. In such situations, direct removal and treatment of contaminated soil is generally the fastest, surest, and most economical means of eliminating or reducing environmental contamination.

2.3 Preferred Alternative

The Removal Action Alternative to remove contaminated soil is the Preferred Alternative. The project scope (USACE 2022) includes the following tasks:

1. USTs 2267 A&B: Drill to fractured bedrock at source area. Inspect for groundwater. If water present, install, develop, and sample groundwater well. Decommission well.
2. UST 2664: Locate, re-develop and sample groundwater wells WP-1 (1997), MW-1 (1998), MW-2 (1998), and MW-1 (2000) (Figure 1-3). If damaged, replace up to 4 wells. Develop environmental covenant (i.e., institutional controls) for residual contamination on property.
3. UST 2667: No field work. Prepare Pre-draft, Draft, Draft Final environmental covenant for residual contamination on property.
4. UST 2674: Install, develop, and sample groundwater well in POL source area down to bedrock. Decommission well.
5. USTs 2762 A&B: Coordinate deenergizing electric line and remove concrete foundation as necessary. Perform removal action. After completion of removal, install and sample groundwater well. Install, develop, and sample groundwater well in POL source area and 2 wells downgradient. Decommission wells.
6. UST 3065: Place engineering controls to ensure that the soil embankment is not breached, and stream is protected from sediment and DRO releases. Perform removal action. After completion of removal, install groundwater well and sample well and stream.

7. UST 3260: Place engineering controls to ensure wetlands are protected from sediment and DRO releases. Perform removal action. Restore drainage around site. After completion of removal, install and sample groundwater wells. Remove old sampling points. Reseed.

2.4 General Work Practices and Environmental Protection

Physical tasks of the Proposed Action would generally include:

- Excavating, containerizing, and properly disposing of contaminated soil.
- Collecting subsurface soil samples.
- Installing groundwater monitoring wells and collecting groundwater samples.
- Collect surface water samples.

Unlike many other FUDS projects, the proposed activities would take place in a developed community with existing transportation, lodging, and construction infrastructure. The contractor would minimize costs by using equipment and facilities already present at Unalaska, or through shipping via scheduled cargo vessels. Containerized contaminated soil to be removed from Unalaska would also be shipped via commercially scheduled vessel. This is in contrast to most FUDS removal actions in the Aleutian Islands, where a dedicated barge must deliver all necessary equipment and supplies to a remote, uninhabited location, often landing on an unimproved beach.

The contractor is required to prepare an Environmental Protection Plan (EPP) detailing measures to avoid and minimize environmental impacts. The EPP will include (but is not limited to):

- A list of Federal, State, and local laws, regulations, and permits concerning environmental protection, pollution control, and pollution abatement that are applicable to the contractor's proposed operations and the requirements imposed by those laws, regulations, and permits.
- Plan showing measures for marking the limits of use areas and locations of all proposed sampling, excavations, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.
- Methods for protection of features to be preserved within authorized work areas, as applicable (trees, shrubs, grasses and ground cover, landscape features, air and water quality, fish and wildlife, soil, and historical, archaeological, and cultural resources).
- Methods of protecting surface water and groundwater during construction activities, including storm water management and storm water pollution prevention plans. The contractor would be required to assume that the removal actions, when combined, exceed one acre, and prepare a Storm Water Pollution Prevention Plan (SWPPP) for the project.
- Daily inspections of vehicles, fuel containers, and other potential contaminant sources for leaks, and maintenance of spill-response equipment and materials in accordance to the project accident prevention plan (appended to the work plan).

- Watching for possible ground-nesting birds near the work sites and following EPP procedures to protect any nests discovered.
- Implementing rat prevention and control measures to avoid transporting rats into the project areas and/or spreading the existing Unalaska Island rat population.

The contractor will also prepare a Waste Management Plan (WMP) detailing how wastes will be managed both onsite and offsite. As appropriate and as applicable, this plan shall include any wastewater generated, pumped, or collected as part of any field activities. The plan shall propose facilities to be used for treatment, storage, and/or disposal; shall identify whether transfer facilities are to be used; and how the wastes will be tracked to ultimate disposal.

If, during work activities, the contractor observes items that might have historical or archaeological value, such observations shall be reported immediately to the USACE so that the appropriate authorities may be notified and a determination can be made as to their significance and what, if any, special disposition of the findings should be made. The contractor shall cease all activities that may result in the destruction of these resources and shall prevent its employees from trespassing on, removing or otherwise damaging such resources.

The excavations shall be backfilled with clean, like fill and contoured to match the surrounding grade and existing drainage and then reseeded with an approved seed mix appropriate for the local environment.

The contractor shall provide a signed certification by the Contract Manager, in the Removal Action Report, that the backfill provided did not exceed the most stringent ADEC and Environmental Protection Agency (EPA) soil cleanup levels.

Upon completion of field work activities, the contractor shall remove all debris, waste, and excess material from the site. Borrow areas, stockpile areas, temporary roads, and other construction-related support areas shall be restored to their pre-existing condition or to the conditions detailed in the accepted planning documents. Contaminated equipment shall be decontaminated prior to leaving the site. Contractor-utilized decontamination areas shall be restored. Decontamination-area liners and decontamination soil/sediment shall be containerized and disposed offsite. Decontamination water shall be containerized and disposed offsite unless an alternative is approved by ADEC. Decontamination and waste management activities shall be conducted in accordance with the accepted planning documents (USACE 2022).

Specific avoidance and minimization measures for protected species are detailed in Section 4.2.6.

3.0 AFFECTED ENVIRONMENT

3.1 Community and Land Use

The COU overlooks Iliuliuk Bay and Dutch Harbor on Unalaska Island in the Aleutian Islands, roughly 800 air miles southwest of Anchorage. The city includes Amaknak Island and the port at Dutch Harbor, and the 2020 Census showed a population of 4,561. The original village and town site faces Iliuliuk Bay, while newer construction has spread up Unalaska Valley (Figure 1-1). The UST sites are in a low-density mixture of

residential, commercial, and industrial properties. Most of the sites are in areas modified and developed since the USTs were first installed (Figure 1-2 through Figure 1-8).

Non-residents peak during fish processing periods in Unalaska. Commercial fishing, fish processing, and related services are a major component of the Unalaska economy. Subsistence and recreational activities occur within Unalaska Valley. Fishing is the principal subsistence activity undertaken by local residents. Salmon is the predominant subsistence fish resource; however, other subsistence resources include harbor seals, halibut, cod, birds, bird eggs, marine invertebrates, berries, and other plants. (USACE 2001).

3.2 Climate

Unalaska Island is within the southwest maritime climate zone, characterized by persistently overcast skies, high winds, and frequent cyclonic storms (ADCRA 2022). Winter squalls can produce wind gusts in excess of 120 mph. During the summer, extensive fog forms over the Bering Sea and North Pacific. The temperature on the island is fairly moderate and uniform with temperatures averaging 41 to 56^{o}F in summer and 31 to 40^{o}F in winter. Total precipitation is approximately 60 inches annually with about up to 90 inches of snow, which typically melts soon after falling due to the warm winter temperatures (COU n.d.).

3.3 Topography, Soils, and Hydrology

The geology of Unalaska Island is predominantly volcanic, and the terrain was heavily shaped by glaciers from the late Pleistocene. Lowlands generally have slight slopes while mountains tend to be steep with gradients of more than 5 degrees. Most soils in Unalaska Valley are expected to be relatively shallow organics and marine sediments overlaying volcanic material or basaltic bedrock (Gallant et al. 1995). Vegetation within the Proposed Action ROI consists of mainly drawf scrub and herbaceous communities (USACE 2001).

Groundwater likely occurs in areas of high permeability areas of artificial, alluvial, and pyroclastic deposits and less so in localized deposits and fractured bedrock. The water tends to flow towards discharge areas as surface water runoff/stream flow and as shallow groundwater flow. Prominent surface water within or near the Proposed Action ROI includes Iliuliuk River, Unalaska Lake, Captains Bay, and Iliuliuk Bay. The predominant drainage system of Unalaska Valley is the Iliuliuk River and Iliuliuk Lake, which have numerous creeks and drainages running through them (USACE 2001).

3.4 Air Quality and Noise

Limited industrial development, low population density, and strong meteorological influences combined leading from good to excellent air quality throughout the entire Aleutian Island chain. Unalaska Valley presumably enjoys good air quality because of the low density of pollutant emission sources and persistent winds from the adjacent ocean. The COU operates a diesel-powered secondary power plant in Unalaska Valley, under a Title V permit from the ADEC, which expires on September 14, 2023. Other emission sources would include incinerating solid wastes; vessel, motor vehicle, and aircraft exhaust; motor vehicle traffic in dusty or unpaved areas; fuel evaporation; electrical power generating equipment and facilities, diesel heaters at individual

buildings, and construction equipment. Air quality generally improves with distance from sources of pollution. Potential volcanic eruptions along the Aleutian Islands may influence air quality as well.

There is no established ambient air quality monitoring program at Unalaska Island, however, and little existing data to compare with the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act (CAA). These air quality standards include concentration limits on the “criteria pollutants” carbon monoxide, ozone, sulfur dioxide, nitrogen oxides, lead, and particulate matter. The island is not in a CAA “non-attainment” area, and the “conformity determination” requirements of the CAA do not apply to the Proposed Action.

No specific noise data exists for Unalaska Valley, but a mixture of natural and anthropogenic background noise would consist of noise generated by local vehicle traffic, light industrial activities, wildlife, and wind.

3.5 Fish and Wildlife

Roughly one hundred species of birds can be found on Unalaska Island, depending on the season. Several Asiatic species, such as brambling and Eurasian widgeon, have been sighted as casual and accidental visitors to the island, in addition to North American passerine, waterfowl, raptor, and seabird species (USFWS 2016). The United States Fish and Wildlife Service (USFWS) seabird colony database notes populations of pigeon guillemot and several species of cormorant in Iliuliuk Bay (Seabirds.net 2022). The Endangered Species Act (ESA) Species Listing from USFWS in Appendix A, contains a list of migratory birds of particular concern as well as a timeline showing the probability of their presence and breeding season. Emperor geese have been known to nest in Unalaska Lake and Iliuliuk River in the Proposed Action ROI (USACE 2001).

Native terrestrial mammals present on Unalaska Island are limited to a few species of shrew, vole, and ground squirrel (Peterson 1967) as well as weasel and lemming. Introduced mammals include mice, Norway rats, red foxes, and livestock such as sheep, horses, and cattle (USACE 2001).

The marine waters adjacent to the Proposed Project ROI are rich in plankton, benthic invertebrates, and more than 100 species of fish (USACE 2001, Appendix B). Details about marine mammals and their habitat found in the coastal and marine waters adjacent to the Project ROI can be found in Sections 3.6.1 and 3.6.2.

3.6 Protected Species

3.6.1 Endangered Species Act

Jurisdiction under the ESA of 1973 is divided by species between the USFWS and the National Marine Fisheries Service (NMFS). Through informal consultation with the USFWS and the NMFS by using online tools (Appendix A; NMFS 2022), the USACE has identified the ESA-listed species that may be present in the project area (Table 3-1). ESA-listed species are expected to occur in waters and shorelines adjacent to the Proposed Action ROI; however, none are expected to occur near the UST sites themselves.

Table 3-1. ESA Species within Proximity of the Proposed Action

Species	Population	Status	Agency Jurisdiction
Steller sea lion, *Eumetopias jubatus*	Western DPS	Endangered	NMFS
Humpback whale, *Megaptera novaeangliae*	W. Pacific DPS	Endangered	NMFS
	Mexico DPS	Threatened	NMFS
N. Pacific right whale, *Eubalaena japonica*	All	Endangered	NMFS
Sperm whale, *Physeter macrocephalus*	All	Endangered	NMFS
Fin whale, *Balaenoptera physalus*	All	Endangered	NMFS
Blue Whale, *Balaenoptera musculus*	All	Endangered	NMFS
Western N. Pacific gray whale, *Eschrichtius robustus*	All	Endangered	NMFS
Beluga Whale *Delphinapterus lecucas*	Cook Inlet DPS	Endangered	NMFS
Northern sea otter, *Enhydra lutris kenyoni*	S.W. Alaska DPS	Threatened	USFWS
Steller's eider, *Polysticta stelleri*	All	Threatened	USFWS
Short tailed albatross, *Phoebastria albatrus*	All	Endangered	USFWS

DPS: Distinct Population Segment

Western DPS Steller Sea Lions

There are two Stellar sea lion DPS in Alaska: Eastern U.S. DPS and Western U.S. DPS. Individuals born at and west of Cape Suckling, Alaska (144°W), are part of the Western U.S. DPS; while those born east of 144°W are part of the Eastern U.S. DPS. The Proposed Action ROI is within the Western U.S. DPS range. The Western U.S. DPS was listed as endangered pursuant to the ESA in 1990 by 55 Federal Register (FR) 49204 and has remained endangered since through the 62 FR 24345. The Western U.S. DPS is listed as protected and depleted under the Marine Mammal Protection Act (MMPA) as well.

NMFS designated critical habitat for Steller sea lions on August 27, 1993 (58 FR 45269). Designated critical habitat includes the following areas, as described at 50 CFR §226.202:

1. Terrestrial zones that extend 3,000 feet (0.9 kilometers) landward from each major haulout and major rookery;
2. Air zones that extend 3,000 feet (0.9 kilometers) above the terrestrial zone of each major haulout and major rookery in Alaska;
3. Aquatic zones that extend 3,000 feet (0.9 kilometers) seaward of each major haulout and major rookery in Alaska that is east of 144^{o} W longitude [not applicable to Aleutians FUDS projects];

4. Aquatic zones that extend 20 nautical miles (37 kilometers) seaward of each major haulout and major rookery in Alaska that is west of 144° W longitude; and,
5. Three special aquatic foraging areas: the Shelikof Strait area, the Bogoslof area, and the Seguam Pass area, as specified at 50 Code of Federal Regulations (CFR) §226.202(c).

The marine waters of Iliuliuk Bay and Captains Bay offshore the Proposed Action ROI fall within the Bogoslof Foraging Area, and within the 20 nautical mile aquatic zones of a couple major haulouts and a major rookery. However, there are no major haulouts, rookeries in the vicinity of Iliuliuk Bay nor Captains Bay (Figure 3-2). The nearest known Steller sea lion major haulouts and rookeries are listed in Table 3-2 below. Other known or observed Unalaska Steller Sea Lion Haulouts were identified in 2017 by NMFS as well (Figure 3-3).

There are no haulouts or rookeries present within Captains Bay nor Iliuliuk Bay, however, it is presumably used by Steller sea lions mainly as a foraging area. In past winter surveys (2000-2006), there were two areas where large aggregations (50-60) of Steller sea lions were common (USACE, unpublished data). These areas are shown on Figure 3-1. Steller sea lions in the Aleutian Islands feed primarily on Atka mackerel, rockfish, sand lance, octopus, and other species available year around, but will adjust their foraging patterns to exploit locally and seasonally abundant species such as salmon and cod (NMFS 2008).

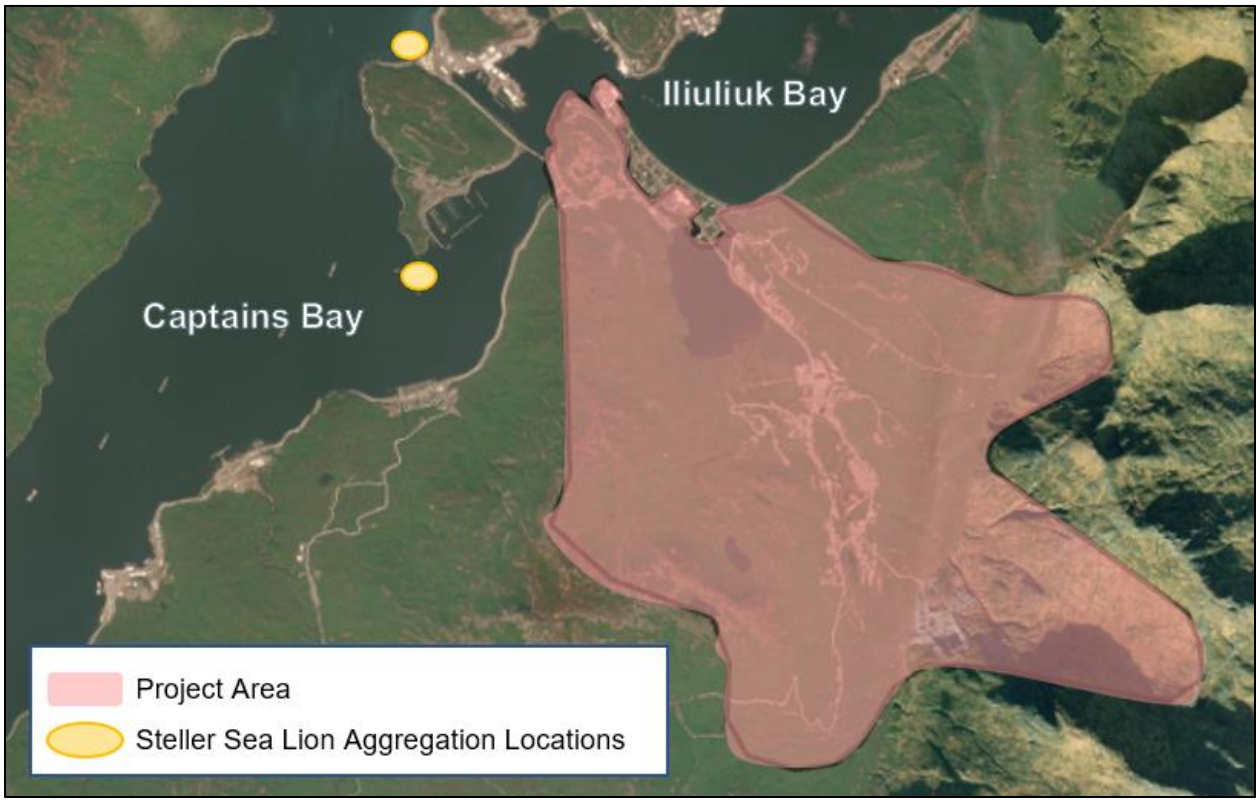

Figure 3-1. Steller Sea Lion Aggregation Locations, 2000-2006 Winter Surveys

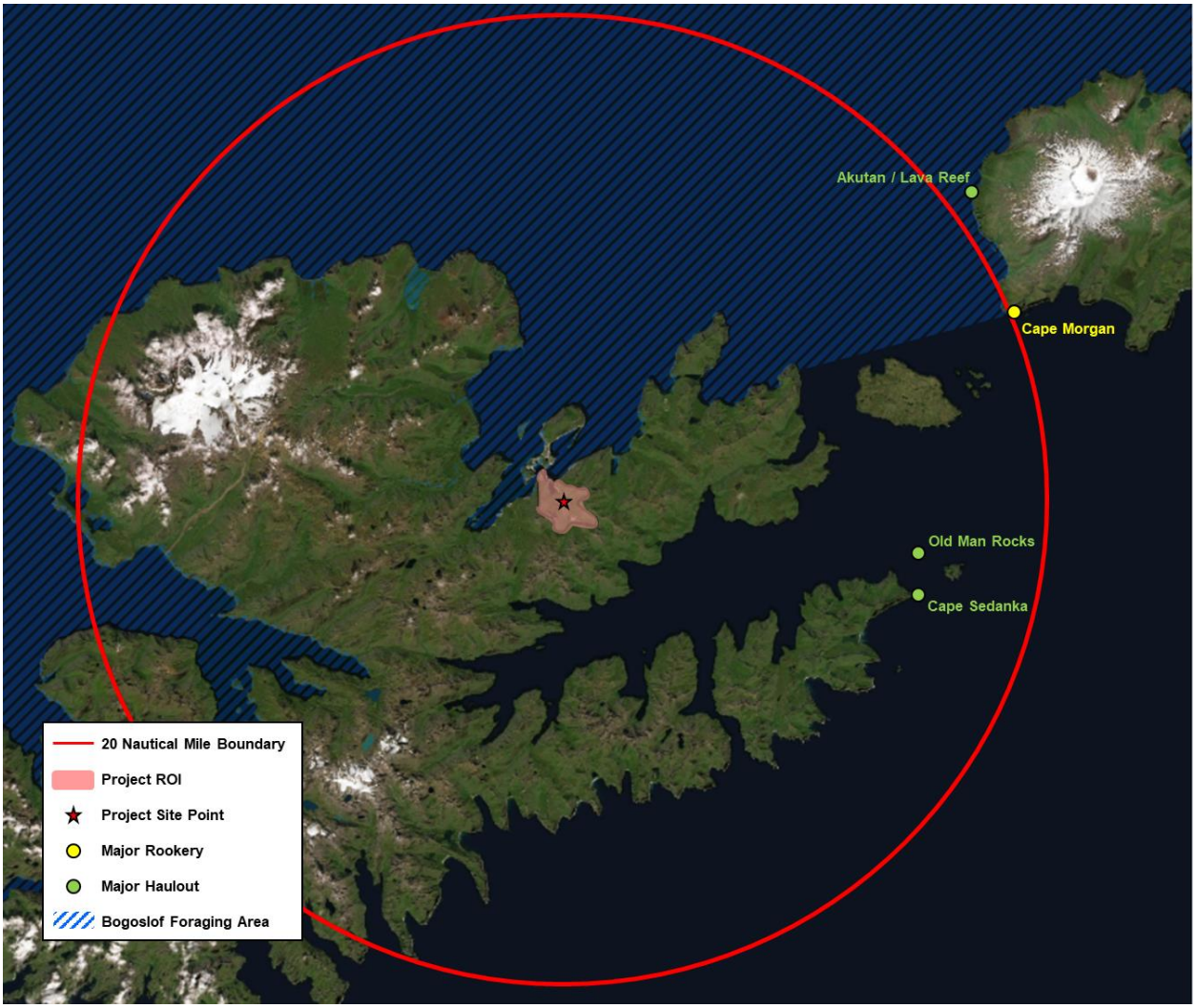

Figure 3-2. Steller Sea Lion Critical Habitat within Proximity of the Proposed Action ROI

Table 3-2. Nearest Steller Sea Lion Major Haulouts and Rookery to the Proposed Action ROI

Haulout/Rookery Name	Critical Habitat Status	Distance from Project Site	Latitude/ Longitude
Akutan/Cape Morgan	Major Rookery	20 n. miles NE	53 03.5N / 166 00.0W
Akutan/Reef-Lava (2015)	Major Haulout	21 n. miles NE	54 10.5N / 166 04.5W
Old Man Rocks	Major Haulout	15 n. miles SE	53 52.0N / 166 05.0W
Unalaska/Cape Sedanka	Major Haulout	15 n. miles SE	53 50.5N / 166 05.0W

N. miles = nautical miles

Sites were identified through 50 CFR 226.202.

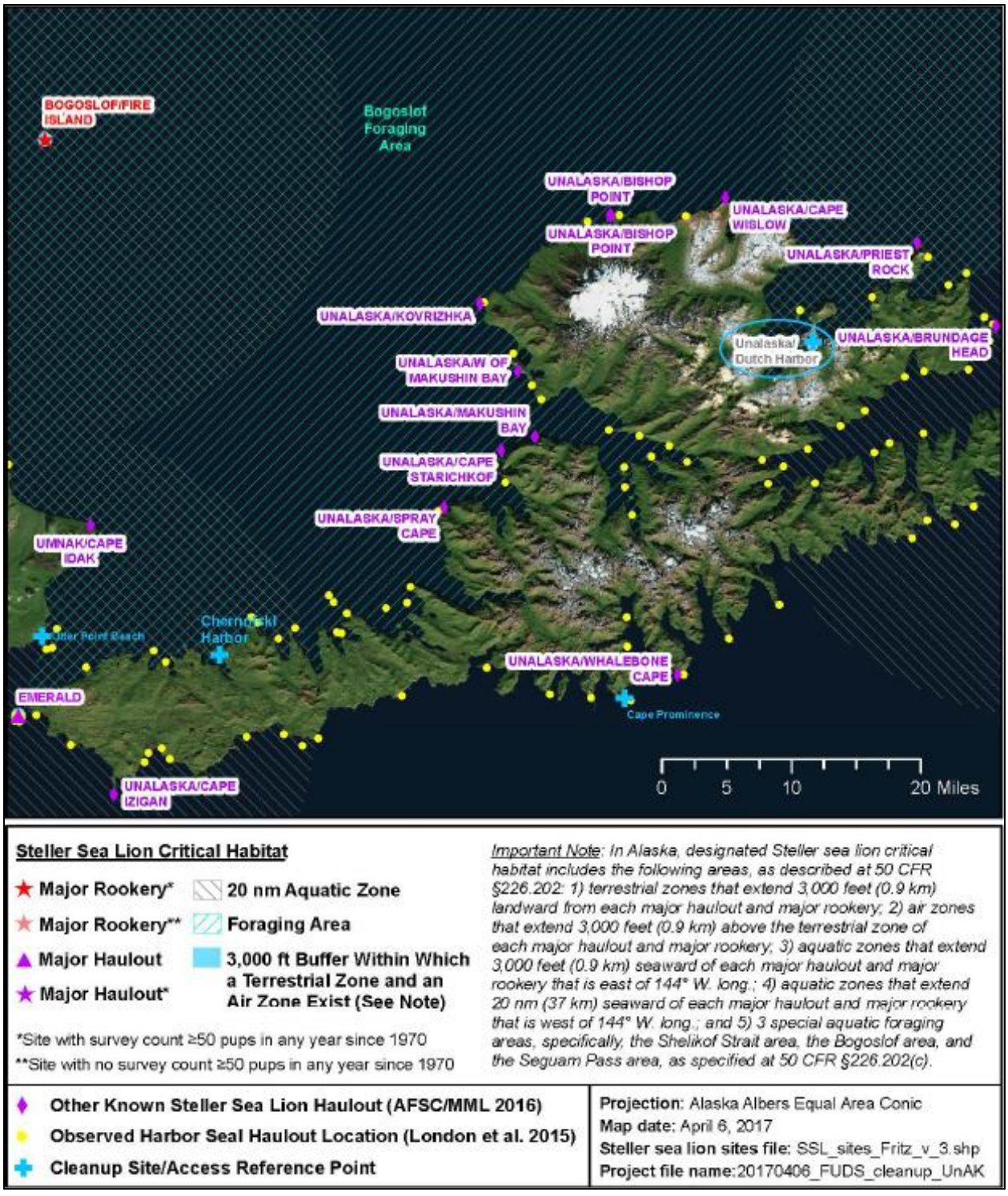

Figure 3-3. NMFS 2017 Unalaska Steller Sea Lion Use Areas

Great Whales

Humpback, North pacific right, sperm, fin, blue, and Western North Pacific gray whales are far-ranging species and would be encountered only incidentally by the schedule vessels the contractor would likely utilize for transportation of equipment and materials.

Of these species, the Northern Pacific right whale and humpback whale have designated critical habitat. The North Pacific right whale has critical habitat in the form of two large offshore areas of the Bering Sea and Gulf of Alaska designated in 78 FR 19000, roughly 120 miles to the northeast of the Proposed Action ROI (Figure 3-5). Critical habitat was designated for the threatened Mexico DPS, endangered Western North Pacific DPS, and endangered Central America DPS through an ESA Final Rule (86 FR 21082). The critical habitat for the humpback whale Western North Pacific DPS and Mexico DPS includes the waters adjacent to the Proposed Action ROI (Figure 3-4). The likelihood of an individual humpback whale encountered in Aleutian Islands/Bering Sea waters, which includes the marine waters adjacent to the project site, has an 86.5 percent probability being from the Hawaii DPS, an 11.1 percent chance of being from the threatened Mexico DPS, and a 4.4 percent chance of being from the endangered Western North Pacific DPS (NMFS 2019). Encounters are most likely to occur during the summer and fall when humpbacks are in Alaska near shores, reefs, and shallow waters for foraging (Zimmerman and Karpovich, 2008).

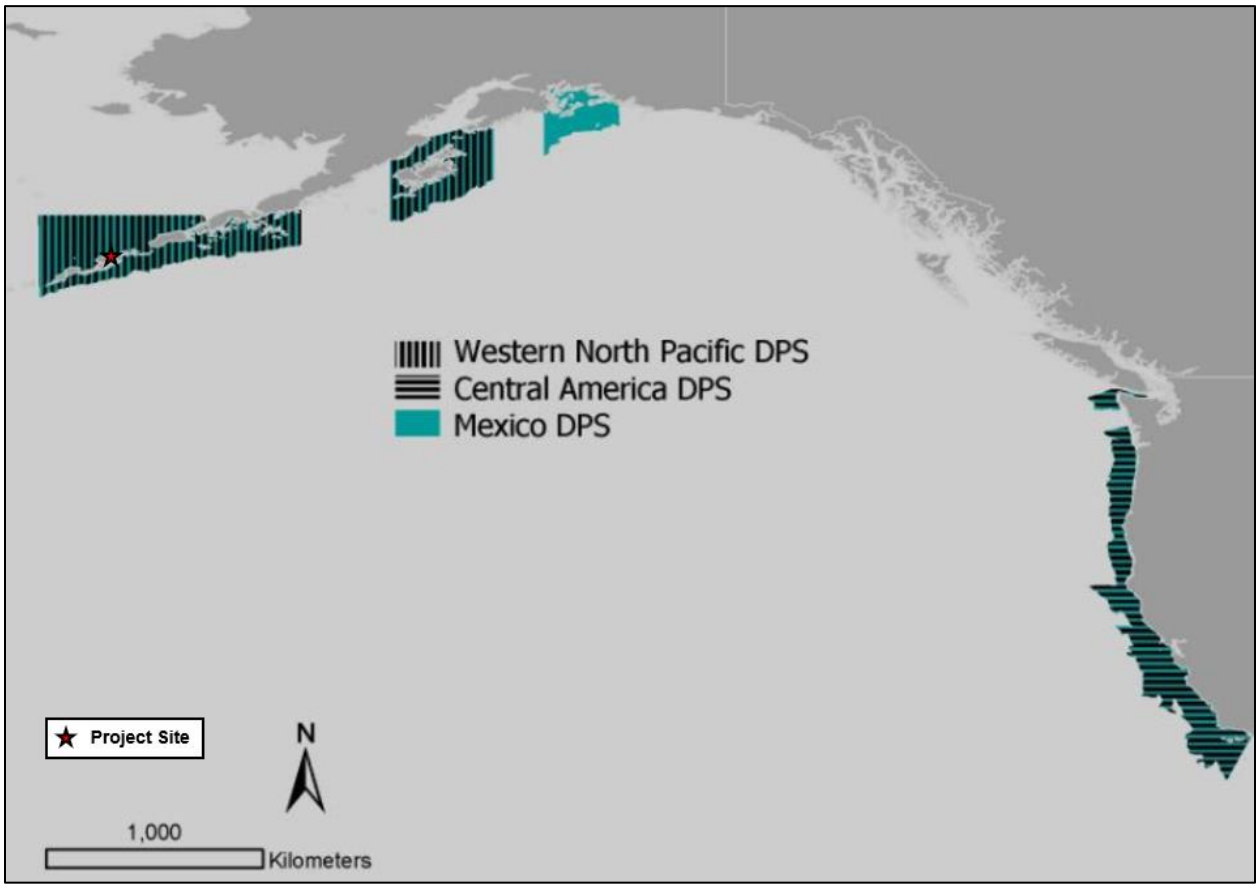

Figure 3-4. Humpback Whale Critical Habitat Areas

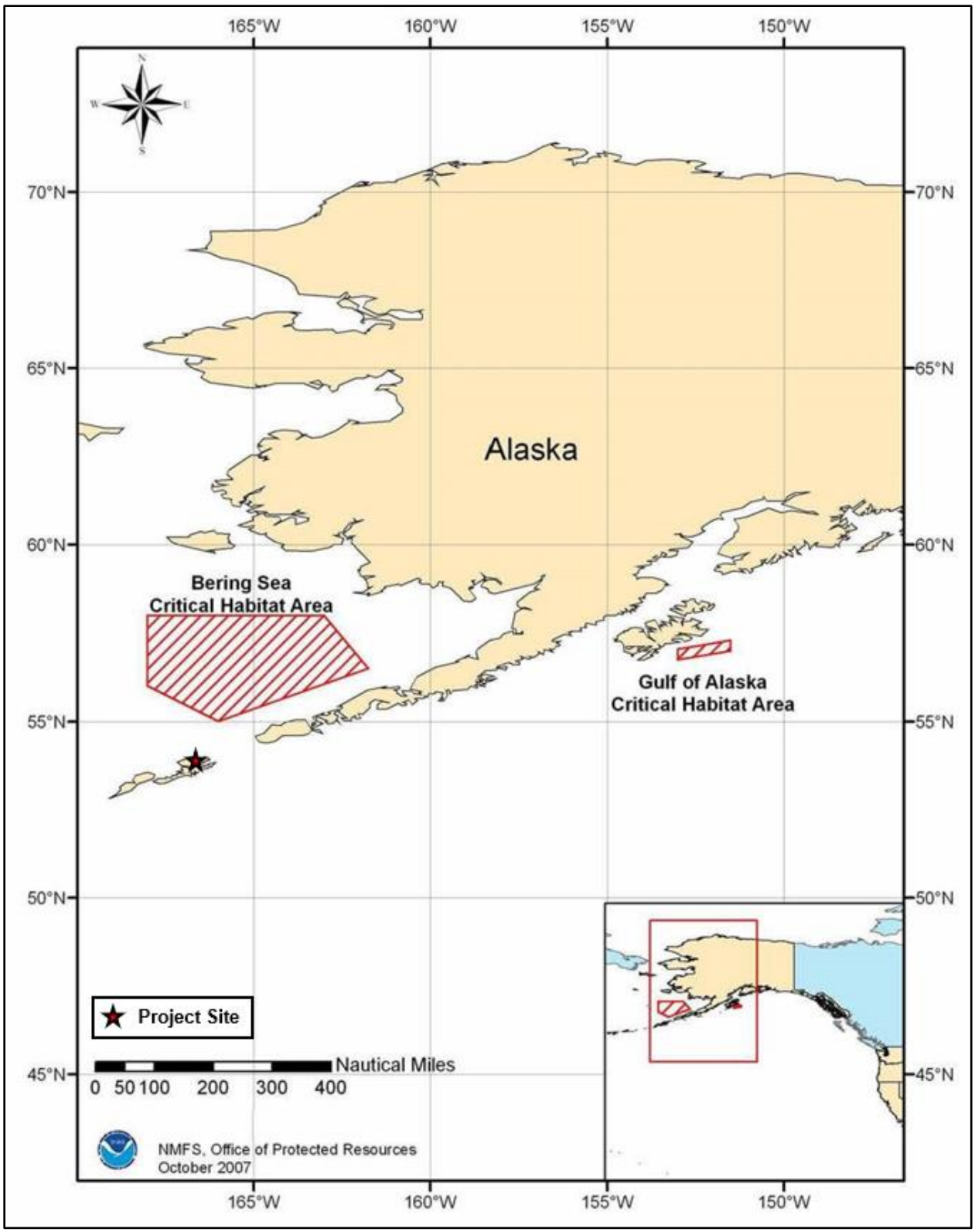

Figure 3-5. North Pacific Right Whale Critical Habitat Areas

Cook Inlet Beluga Whales

The Cook Inlet beluga whale does not occur within the Proposed Action ROI, however, it has potential to be encountered by ocean vessels sailing to or from the Cook Inlet, and are considered by the NMFS to be within the action area of this project. NMFS began conducting comprehensive and systematic aerial surveys of Cook Inlet belugas in 1993. These surveys documented a decline in beluga abundance from 653 whales in 1994 to 347 whales in 1998. Despite cooperative efforts between NMFS and Alaska Native subsistence users, which dramatically reduced subsistence hunts, abundance data collected since 1999 indicate that the population has not increased, and the lack of population growth led the NMFS to list the Cook Inlet beluga whale as endangered on October 22, 2008 (73 FR 62919).

NMFS designated critical habitat for the Cook Inlet beluga whale in 2011 (76 FR 20180). Critical habitat for this species is divided into two areas (Figure 3-6). Area 1 is the spring-through-autumn concentration area in northern Cook Inlet and is important for calving and foraging. Area 2 consists of known fall and winter use dispersed through a larger area of Cook Inlet.

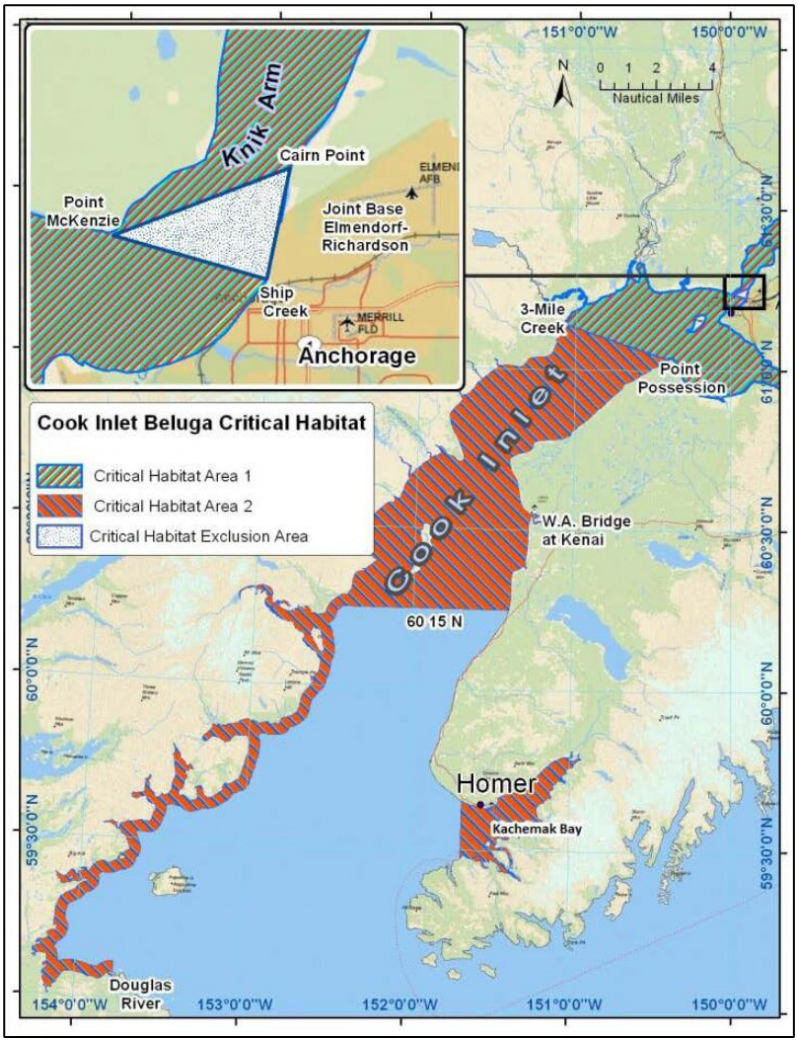

Figure 3-6. Cook Inlet Beluga Whale Critical Habitat

Northern Sea Otter

There are 3 northern sea otter DPS in Alaska: Southwest, Southcentral, and Southeast. The southwest Alaska DPS is the DPS relevant to this project, and it was designated as a threatened species in 2005 by 68 FR 6600. The northern sea otter, unlike most other mammals, is managed and under the jurisdiction of the USFWS.

The critical habitat of the northern sea otter in Alaska is identified by USFWS and is designated in 74 FR 51988. There are five critical habitat units (CHUs) for the southwest Alaska DPS of northern sea otters as shown in Figure 3-7.The critical habitat pertaining to this EA is within the Eastern Aleutian CHU, which consists of approximately 832 kilometers^2 (321 miles^2) includes:

- Nearshore marine waters from the mean high tide line to 20 meters (65.5 foot) depth contour; and,
- Waters occurring within 100 meters (328.1 feet) of the mean high tide line.
- The critical habitat Final Rule 74 FR 51988 identified four primary constituent elements (PCEs) for northern sea otter habitat:
- Shallow, rocky areas where marine predators are less likely to forage, which are waters less than 2 meter (6.6 feet) in depth;
- Near-shore waters that may provide protection or escape from marine predators, which are those within 100 meter (328.1 feet) from the mean high tide line;
- Kelp forests that provide protection from marine predators, which occur in waters less than 20 meter (65.6 feet) in depth; and,
- Prey resources within the areas identified by PCEs 1, 2, and 3 that are present in sufficient quantity and quality to support the energetic requirements of the species

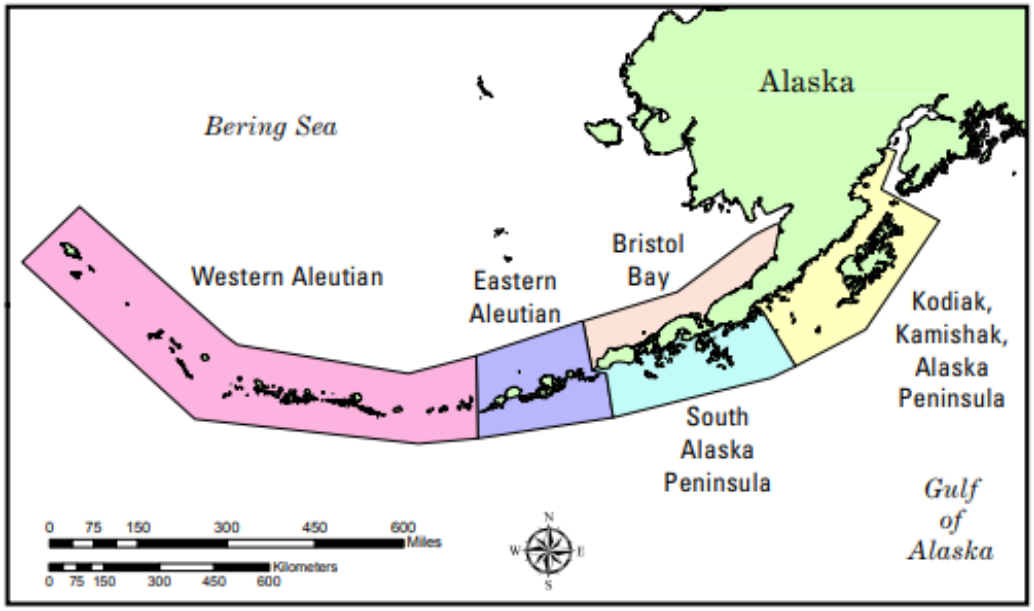

Figure 3-7. Northern Sea Otter Southwest Alaska DPS Five CHU (USFWS 2009)

Steller's Eider

The Alaska breeding population of Steller's eider was listed as threatened in 1997 through 62 FR 31748, and critical habitat for Steller's eider was designated by USFWS in 2001 through 66 FR 8850. This species of sea duck winters in coastal waters along the Aleutian Islands and Alaska Peninsula, but nests in northeastern Siberia and limited areas of mainland Alaska; thus, they would not be present at Unalaska Island during spring-summer Proposed Action activities. However, Steller's eider is known to occur in shallow nearshore waters on the outside of the Dutch Harbor spit during from November through March when they molt and winter.

The critical habitat for the Alaska breeding population of Steller's eider encompasses approximately 7,300 kilometers^2 (2,800 miles^2), and it includes Yukon-Kuskokwin Delta and Kuskokwin Shoals, Seal Islands, Nelson Lagoon, and Izembek Lagoon breeding habitats in western Alaska, which are more than 161 kilometers (100) miles east of the Proposed Action ROI.

Short-tailed Albatross

Short-tailed albatrosses breed on several small islands off the coast of Japan, but range across much of the North Pacific Ocean as adults and sub-adults. In the marine environment, the species tends to concentrate in regions along the break of the continental shelf, where upwelling and high primary productivity result in zones of abundant food resources, namely squid and pelagic fishes. The short-tailed albatross may be found in near-shore waters but commonly only where such up-wellings occur near the coast. No critical habitat is currently designated for this species.

3.6.2 Marine Mammal Protection Act

The MMPA provides protection for all whales, dolphins, porpoises, seals, sea lions, and sea otters, regardless of a species' listing under the ESA. The NMFS ESA/MMPA mapper website (NMFS 2022) identifies Baird's beaked whale, Dall's porpoise, harbor seal, killer whale, minke whale, northern fur seal, Pacific white-sided dolphin, ribbon seal, Stejneger's beaked whale as non-ESA marine mammals that potentially may be found within or immediately offshore waters adjacent to the Proposed Action ROI but not at the project sites. These waters include: Captains Bay, Summer Bay, Iliuliuk Bay, and Dutch Harbor.

3.6.3 Migratory Bird Treaty Act

Except for the state-managed ptarmigan and grouse species, all native birds in Alaska (including active nests, eggs, and nestlings) are protected under the Federal Migratory Bird Treaty Act (MBTA; USFWS 2022b). The species of birds that can be found at or around the Proposed Action ROI (Figure 1-1) and when they are likely to be in the area can be found in Appendix A. USFWS timing recommendations to avoid land disturbance and vegetation clearing in Unalaska are shown in Table 3-3.

Table 3-3. Nesting Bird Timing Recommendations to Avoid Land Disturbance and Vegetation Clearing

Alaska Habitat Type	Shrub/Open	Seabird Colonies	Eagles
Aleutian Islands	April 25 – July 15	May 1 – September 15	March 1 – August 31

3.6.4 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) prohibits takings such as killing eagles or destroying nests, as well as regulates human activity or construction that may interfere with eagles' normal breeding, feeding, or sheltering habits. In the absence of trees, bald eagles in the Aleutian Islands typically nest at the tops of sea-stacks or cliffs (Byrd & Williams 2008), at Unalaska Island; nonetheless, sea-stacks and cliffs do not exist at the UST sites. Bald Eagles in Unalaska may be seen foraging anywhere along the Unalaska Island coast and tend to congregate around harbors, the dump, and on land stacked crab cages. There are no bald eagle surveys that were conducted at the UST sites. However, bald eagles would not typically nest in the Proposed Action sites. As for golden eagles, according to the online Wildlife Mapper of the Alaska Natural Heritage Program (AKNHP) of the University of Alaska Anchorage, they range can include Unalaska (AKNHP 2022); however, the USFWS species list in Appendix A did not include them at the site.

3.6.5 Anadromous Waters and Essential Fish Habitat

The Alaska Department of Fish and Game (ADFG) identifies anadromous waters in the Proposed Action ROI within its Anadromous Waters Catalog (AWC; ADFG 2021) (Figure 3-8, Table 3-4). The main anadromous water in the project area is the Iliuliuk River Anadromous Stream. Coho salmon, pink salmon, sockeye salmon, and Dolly Varden are the fish present within the project area's anadromous streams.

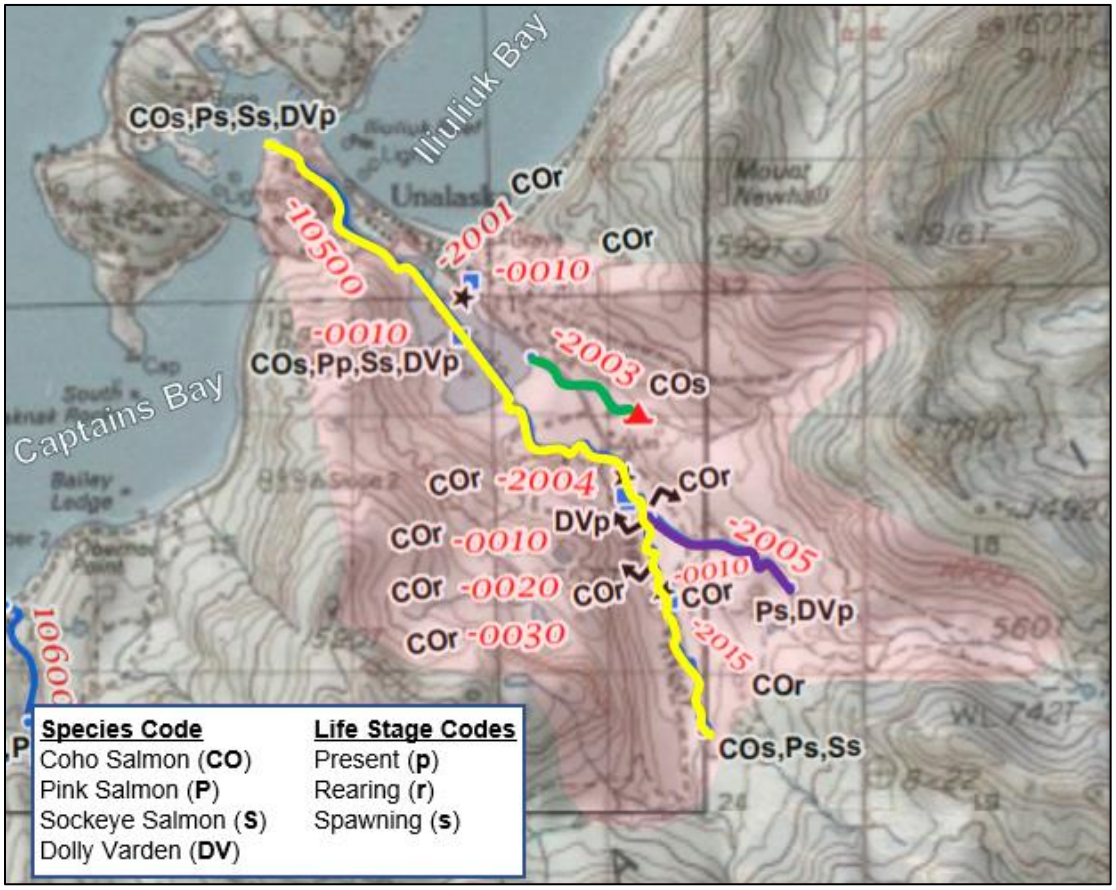

Figure 3-8. Anadromous Waters within the Project ROI (Pink Shading)

Table 3-4. Main Anadromous Waters in the Proposed Project ROI

Type	Figure Color	Name	AWC Code
Proposed Action ROI		*Not Applicable*	*Not Applicable*
Anadromous Stream		Iliuliuk River	302-31-10500
		None	302-31-10500-2003
		None	302-31-10500-2005

Captains Bay and Iliuliuk Bay are the waters immediately adjacent to the Proposed Action Area. Both bays are within areas NMFS designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) as essential fish habitat (EFH) for all five species of Pacific salmon (Chinook, coho, sockeye, chum, and pink salmon) and numerous Aleutian Island species to include groundfish species such as northern rockfish, rock sole, sculpin, walleye pollock, and skate. The EFH is managed by the North Pacific Fishery Management Council. The total species list for Captains Bay and Iliuliuk Bay are in the EFH Reports of Appendix B. The EFH Reports were produced from the National Oceanic and Atmospheric Administration (NOAA) EFH Mapper.

3.7 Special Aquatic Sites

Special aquatic sites, identified as part of the Clean Water Act (CWA), are waters of the U.S. possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general environmental health or vitality of the entire ecosystem of a region. The following ecosystems are considered to be special aquatic sites:

- Wetlands
- Coral reefs
- Sanctuaries and refuges
- Mudflats
- Vegetated shallows
- Riffle and pool complexes (in freshwater streams)

The wetlands within the Proposed Action ROI are most likely present and concentrated along the Iliuliuk River, Unalaska Lake, and other streams and waterbodies within Unalaska Valley; however, most of the area is uplands and/or developed. Detailed wetland delineation has not been conducted at the UST sites, which have been disturbed due to prior remediations and development; however, wetlands are known to occur at the south of Unalaska Lake (USACE 2001).

Additionally, Much of Unalaska Island is part of the Alaska Maritime National Wildlife Refuge, administered by the USFWS (USFWS 2022a). Within the Proposed Action area (Figure 1-1), Unalaska Lake and a portion of Iliuliuk River are part of this refuge (Figure 3-9).

Figure 3-9. Alaska Maritime National Wildlife Refuge within the Project Area

3.8 Cultural and Historic Resources

The Proposed Action has a large affected environment for cultural resources that encompasses a large swath of Unalaska Valley, east and south of Unalaska Lake. Comparison of the proposed excavation and groundwater monitoring areas with the Alaska Heritage Resources Survey (AHRS) indicates 31 cultural resources in the affected environment (Table 3-5). The AHRS Mapper shows multiple structures within Unalaska Valley and one polygon area (UNL-00606; Figure 3-10). Some sites reported in the AHRS are part of the Proposed Action areas. This is true for Warehouse 2674 (UNL-00577), 43 Choate Lane (UNL-00417), and Army Mobilization Warehouse 2461 (UNL-00409). The Fort Mears and Dutch Harbor Naval Operating Base (NOB) National Historic Landmark (NHL), which encompasses Amaknak Island, and a portion of the COU is approximately 1.2 miles straight line distance from the nearest project site.

Table 3-5. Known Cultural Resources within General Vicinity of the Affected Environment

AHRS No.	Site Name	NRHP Status*	APE
UNL-00117	Unalaska Cemetery Site	U	
UNL-00120	Dutch Harbor NOB and Fort Mears NHL	R	
UNL-00389	U.S. Army Mess Hall Building	U	
UNL-00394	Grimnes Property (Williamsburg Cabanas)	U	
UNL-00399	827 E. Broadway Avenue House	U	
UNL-00406	Army Mobilization Warehouse Bldg. 2674 Foundation Ruins	U	

AHRS No.	Site Name	NRHP Status*	APE
UNL-00407	John Bush Property	U	
UNL-00408	US Army Mobilization Warehouse/US Army Reclamation Bldg. 2461	U	
UNL-00409	Army Mobilization Warehouse Bldg. 2664 Foundation Ruins	U	**X**
UNL-00410	Former WWII Army Warehouse or Barracks, Williwaw Services Building	U	
UNL-00411	Holmes Property/Former 63-Man Barracks Bldg. 2766	U	
UNL-00412	True Value Hardware Bldg.; Former Army Warehouse Bldg. 2672	U	
UNL-00413	Cabana at 53 Hawley Lane	U	
UNL-00414	Former Army Cold Storage Bldg. 2669, Alpha Welding Shop	U	
UNL-00417	43 Choate Lane, Hawley Property	U	**X**
UNL-00418	Morris Property	U	
UNL-00419	Storrs Property, Former Army Barracks Bldg. 2032	U	
UNL-00420	Grimnes / Henning Property (WWII Cabanas)	U	
UNL-00421	137 Loop Road, Former WWII Barracks Bldg. 2191	U	
UNL-00422	Sparks Property, 28 Dutton Road (Possibly Barracks Bldg. 2032)	U	
UNL-00424	443 Dutton Road, Former Latrine Bldg. 2085	U	
UNL-00425	567 Dutton Road, Former Barracks Bldg. 2038	U	
UNL-00428	Fort Mears Stockade, Prisoner of War Campsite	U	
UNL-00573	Barracks Bldg. 2766	C	
UNL-00574	Mess Hall 3860	C	
UNL-00577	Warehouse Building 2674	C	**X**
UNL-00578	Ski Bowl Generator Building	E	
UNL-00590	Memorial Park Pill Boxes and Park	U	
UNL-00592	Cabana with Tower at 547 Dutton Road Bldg. 2039	U	
UNL-00593	Cabana at 46 Nirvana Drive Bldg. 2048	U	
UNL-00594	Cabana at 66 Jack London Drive	U	
UNL-00606	Fort Mears E. Broadway Ave. WWII Housing Area	N	**X**

*National Register of Historic Places (NRHP) Status: **U**- Unevaluated, **N**- Not Eligible, **E**- Eligible, **R**- On the National Register, **C**- Contributing Property to Dutch Harbor/Fort Mears National Historic Landmark.

APE – Area of Potential Effects

Bldg. – Building

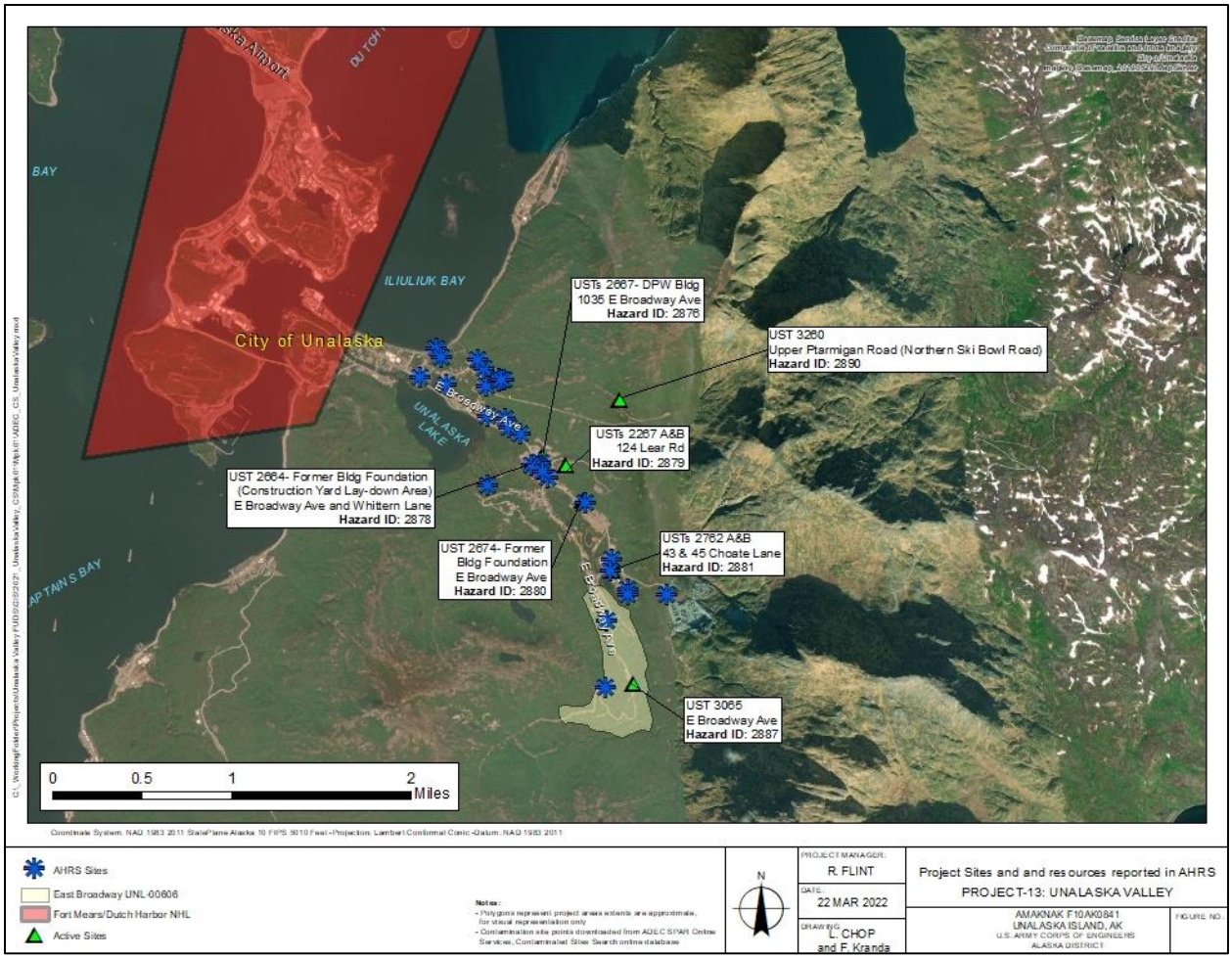

Figure 3-10. Project Areas (Green) and Resources Reported in AHRS (Blue)

43 Choate Lane (UNL-00417)
UST 2762 AB, ADEC Hazard ID 2881

Underground Storage Tank (UST) 2762 AB is the former location of a Series 700-1165 standard wood-frame barracks. This site is listed in the AHRS as “43 Choate Lane, Hawley Property” (UNL-00417). A plot plan and building schedule for this area dated August 30, 1945, shows that it was a two story 63-man barracks measuring 29 feet, 6 inches by 80 feet. Historically, the structure was oriented in a north-south direction. It is not known when the building was removed or salvaged.

The UST 2762 AB Site is on a private residential lot. The site is bounded on its northern and southern ends by residential buildings and on the east and west ends gravel roads. According to the AHRS site UNL-00417 has not been evaluated for National Register eligibility, although the site was the subject of environmental remediation projects in 1997 and 2000, which were conducted under Programmatic Agreements (PAs) with the State Historic Preservation Officer (SHPO) among other parties (USACE 2000). There are three other cultural resources listed in the AHRS that are within 0.7 miles to 0.15 miles of this site. All of these resources are also the location of former WWII military structures.

The affected environment for the cultural resources at this site consists of the transportation route along Choate Lane and the former excavation areas on a private residential lot. The affected environment is bounded on its north, east, and south sides by residential structures and a hill topped by a gravel road forms the boundary of east side

Latrine, East Broadway WWII Housing Area (UNL-00606)
UST 3065, ADEC Hazard ID 2887

UST 3065 is the site of a former wood-frame latrine with a concrete foundation This feature is located within the East Broadway WWII Housing Area (UNL-00606). It is not known when the wood-frame building was removed or salvaged; however, the concrete foundation remained in place until 2020. Removals were conducted in 2000 to remove POL-impacted soils, however the excavation did not proceed underneath the concrete foundation. In 2020, the Qawalangin Tribe of Unalaska, under the Native American Lands Environmental Mitigation Program (NALEMP), removed the concrete foundation.

The affected environmental for cultural resources at this site includes the transportation route to the site along Broadway Avenue and the former excavation areas. The affected environment is bounded on its north and east sides by the Unalaska (Iliuliuk) River.

Army Mobilization Warehouse Building (UNL-00409)
UST 2664, ADEC Hazard ID 2878

Army Mobilization Warehouse Building No. 2664 (UNL-00409) is located on the east end of Unalaska Valley, directly adjacent to and north of Broadway Avenue. This site is a former wood-frame warehouse with concrete foundation. While the wood-frame structure no longer exists, the concrete foundation is present and in good condition. It is not known when the wood-frame building was removed or salvaged. The site is currently used as a laydown yard for Conex containers and construction equipment and supplies by the landowner. The former UST for Building 2664 was on the north side of the former building. The UST was removed by an unknown party before the USACE remediated the site in 1997.

The affected environment for cultural resources at this site includes the transportation route to the site along East Broadway Avenue and the areas of groundwater monitoring surrounding the foundation. The affected environment encompasses areas to the north and south of the former UST to account for installation and decommissioning of groundwater monitoring wells situated around the site.

Warehouse Building 2674 (UNL-00577)
UST 2674, ADEC Hazard ID 25812

This site is a former wood-frame warehouse with a concrete foundation. The concrete foundation is still present and is similar in size and style to the foundation of the Army Mobilization Warehouse Building (UNL-00409), which is located 2,000 feet to the northwest. It is not known when the wood-frame building was removed or salvaged. Contaminated soils were removed in an area adjacent to the foundation in 2000.

The affected environment for cultural resources at this site includes the transportation route to the site along East Broadway Avenue and the areas north, east, west of and adjacent to the extant foundation. The affected environment for this area accounts for

potential excavation areas outside of the foundation and potential groundwater monitoring well locations.

Mess Hall 3260
UST 3260, ADEC Hazard ID 2890

This site is the former location of a wood and concrete foundation for a wood frame Mess Hall located in the “Ski Bowl” area on the northern hillside of Unalaska Valley. The UST and associated foundation materials were removed by the USACE in 1997. There is no debris or structural elements indicating the presence of these former structures on the surface of the site. Although, depressions of former building footprints are discernable at some former structures. Although the “Ski Bowl” area was included in 1997 and 2000 PAs with the SHPO and other parties this site is not listed in the AHRS.

The affected environment for the UST 3260 project area encompasses the former excavation areas and monitoring well points on both sides of the unnamed dirt and gravel road in the Ski Bowl area. There are no structural elements within the affected environment which extends south from the former UST 3260 excavation to allow for additional excavation or installation of groundwater monitoring wells if needed.

124 Lear Road, Barracks 2267
UST 2267 AB, ADEC Hazard ID 2879

POL-impacted soil from a leaking UST was excavated at this location in 1997. The site is the location of two former USTs that had provided heating oil for Building 2267, a barracks on Lear Road. In 1997, both tanks were removed along with 6 CY of contaminated soil that were excavated down to bedrock.

The affected environment for UST 2267 consists of the transportation route along Lear Road and the previous excavation area. The site is in the parking lot of a private residence and is being used as a laydown area for lumber. The affected environment is bounded by this private residence, the road, and a second private residence directly east of the project location.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 No-Action Alternative

The No-Action Alternative would avoid the short-term disruptions to the local environment that would be caused by the operation of heavy equipment and excavation of soil. However, the contaminated soil and waste materials would remain in place, where it will continue to present a physical hazard and potentially allow the migration of chemical contaminants to the nearby environment.

4.2 Removal Action Alternative (Preferred Alternative)

Under the Preferred Alternative, contaminated soils and waste materials would be removed from the site as described in Section 2.4. The potential environmental consequences are discussed in Sections 4.2.1 through 4.2.10.

The protected species resources, essential fish habitat resources, cultural resources, and environmental justice and protection of children will use statutory language for the assessments of potential effects.

All other resource categories' the magnitude of the effects will be evaluated using best professional judgement and these criteria that are tiered as follows:

- Minor: effects are not detectable or are so minor that they would neither destabilize nor noticeably alter any important attribute of the resource.
- Moderate: effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.
- Major: Environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

4.2.1 Effects on Community and Land Use

The Proposed Action UST sites are in or near locations of human activity. At most, the Proposed Action can cause inconvenience and increased noise that would reduce the quality of but not prevention of outdoor subsistence and recreational activities within the immediate areas of the UST sites. The Proposed Action of cleaning up waste and contaminated soil would lead to the Project Site areas becoming safer for humans and wildlife, and although the FUDS removal project does not include the demolition and removal of the large, deteriorating former military structures at the site, the cleanup of the various sites would encourage development of the area. Economically, the residents would benefit from the Proposed Action due to the temporary increase of business from project work and workers and to the long-term result of a cleaner environment. The magnitude of effects of the Proposed Action activities on community and land use would be minor.

4.2.2 Effects on Climate

The Proposed Action activities would be too limited in physical scope or duration to have any discernable effect on climate; the magnitude of effects would be minor.

4.2.3 Effects on Topography, Soils, and Hydrology

The small areas of excavation and backfill will not significantly alter the area topography or patterns of overland water flow in the area; the magnitude of effects would be minor.

4.2.4 Effects on Air Quality and Noise

Air quality may be affected during the project period from the use of construction equipment, vehicles, and generators. The USACE assesses that any increase in pollutant emissions caused by the project would be transient, highly localized, and would dissipate entirely at the completion of the project. The area is not in a CAA "non-attainment" area, and the conformity determination requirements of the CAA would not apply to the Proposed Action at this time. The magnitude of effects on air quality would be minor.

The project activities would likely generate airborne noise higher than ambient levels for the project area, which may be noticeable to wildlife or any people in the area. Any disturbances would be short-lived and sporadic. The magnitude of effects from increased airborne noise would be, at worst, minor.

4.2.5 Effects on Habitat and Wildlife

Because the Proposed Action activities would be highly localized in impacts and affect an area already altered by the former military construction, past cleanup efforts, and area development, the activities would have little effect on local wildlife and no long-term negative impact on their habitat. The Proposed Action ROI is surrounded by areas of similar, higher-quality habitat, and any wildlife displaced from the project area by noise and activity should be able to quickly resume their natural behavior. Ground-nesting birds are likely to be the most vulnerable animal species at the site. The destruction of active nests, eggs, or nestlings is a violation of the MBTA and/or BGEPA, and the field workers will need to check Proposed Action areas for nests or evidence of nests (e.g., adult birds acting agitated but staying in the immediate area; distraction displays such as wing-dragging). The magnitude of effects of Proposed Action activities on habitat and wildlife would be minor.

4.2.6 Effects on Protected Species

4.2.6.1 Effects on Endangered and Threatened Species

The Action Area is defined in the ESA regulations (50 CFR 402.02) as the area within which all direct and indirect effects of the project will occur. The Action Area is distinct from and larger than the project footprint, because some elements of the project may affect listed species some distance from the project footprint. The Action Area, therefore, extends out to a point where no measurable effects from the project are expected to occur. All ESA-listed species that may be found in the project “Action Area” would be expected to be present in the marine environment.

NMFS defines the Action Area for these projects to include the project cleanup site, and the vessel transit route between Anchorage and the project cleanup landing site, bounded by a 2 kilometers (1 nautical mile) buffer on each side of the route. Exact routes of project vessels cannot be precisely specified; however, it will be assumed the vessels will follow standard commercial shipping routes as depicted in Figure 4-1, Figure 4-2, and Figure 4-3 from Appendix D.

The standard commercial shipping routes through the Cook Inlet travel through the Cook Inlet beluga whale critical habitat. Once leaving the Cook Inlet, it is likely that a large portion of the route will be within Steller sea lion critical habitat and will pass numerous Steller sea lion haulouts and rookeries. The vessels will likely travel through the Shelikof Strait Steller sea lion designated special foraging area. Although the vessels are less likely to travel east and south of Kodiak Island, if weather conditions necessitate that the vessels take this route, it is possible that the vessels would transit through the Gulf of Alaska portion of North Pacific right whale critical habitat. If the vessels travel along typical shipping routes through Unimak Pass and travel north of the Aleutian Islands, the transit route would likely be through the Bogoslof and Seguam Pass designated Steller sea lion special foraging areas (Appendix D).

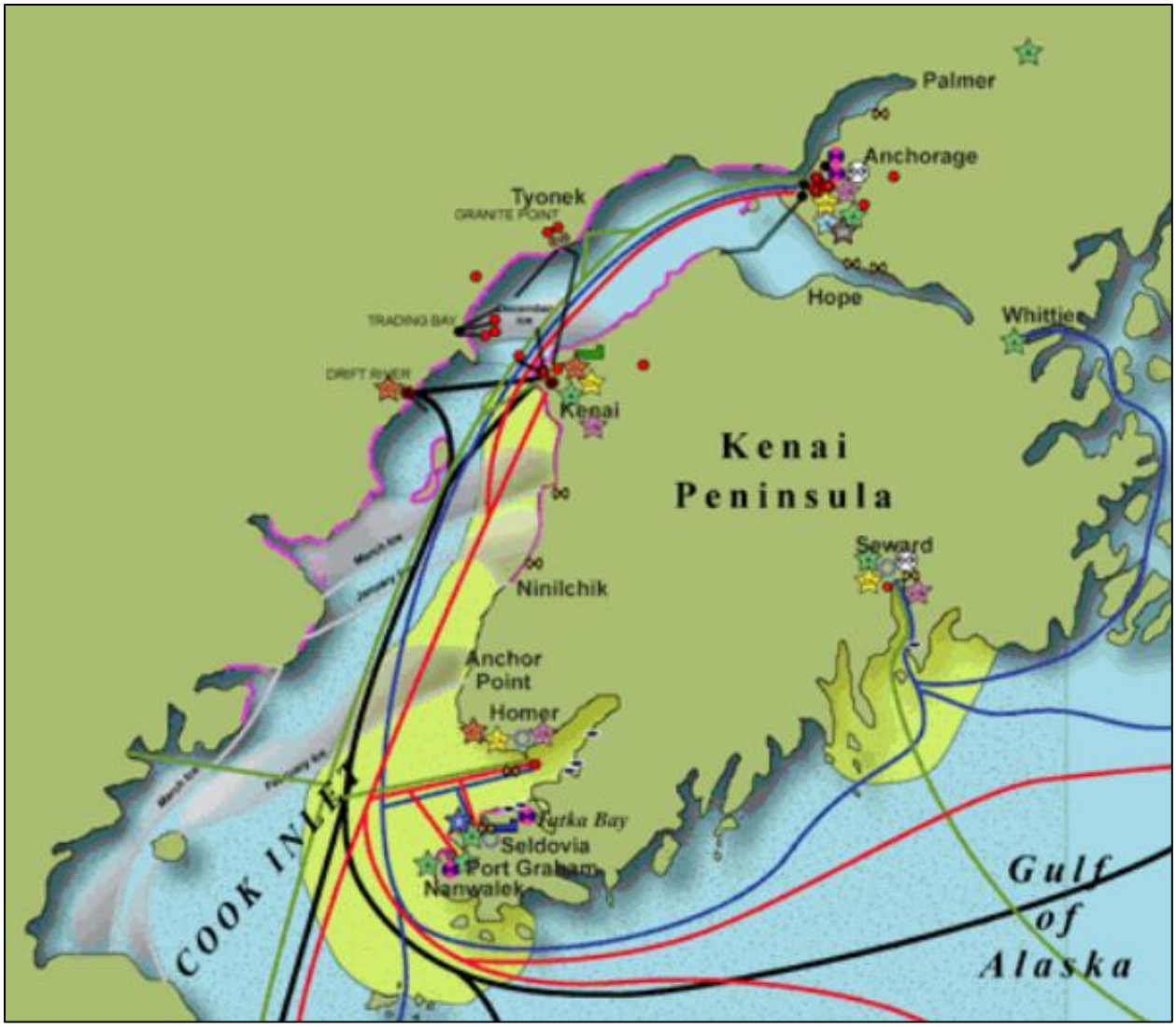

Figure 4-1. Typical Feeder Traffic (Red Lines), Tanker (Black Lines), and Freight Carrier Routes (Green Lines) through the Cook Inlet

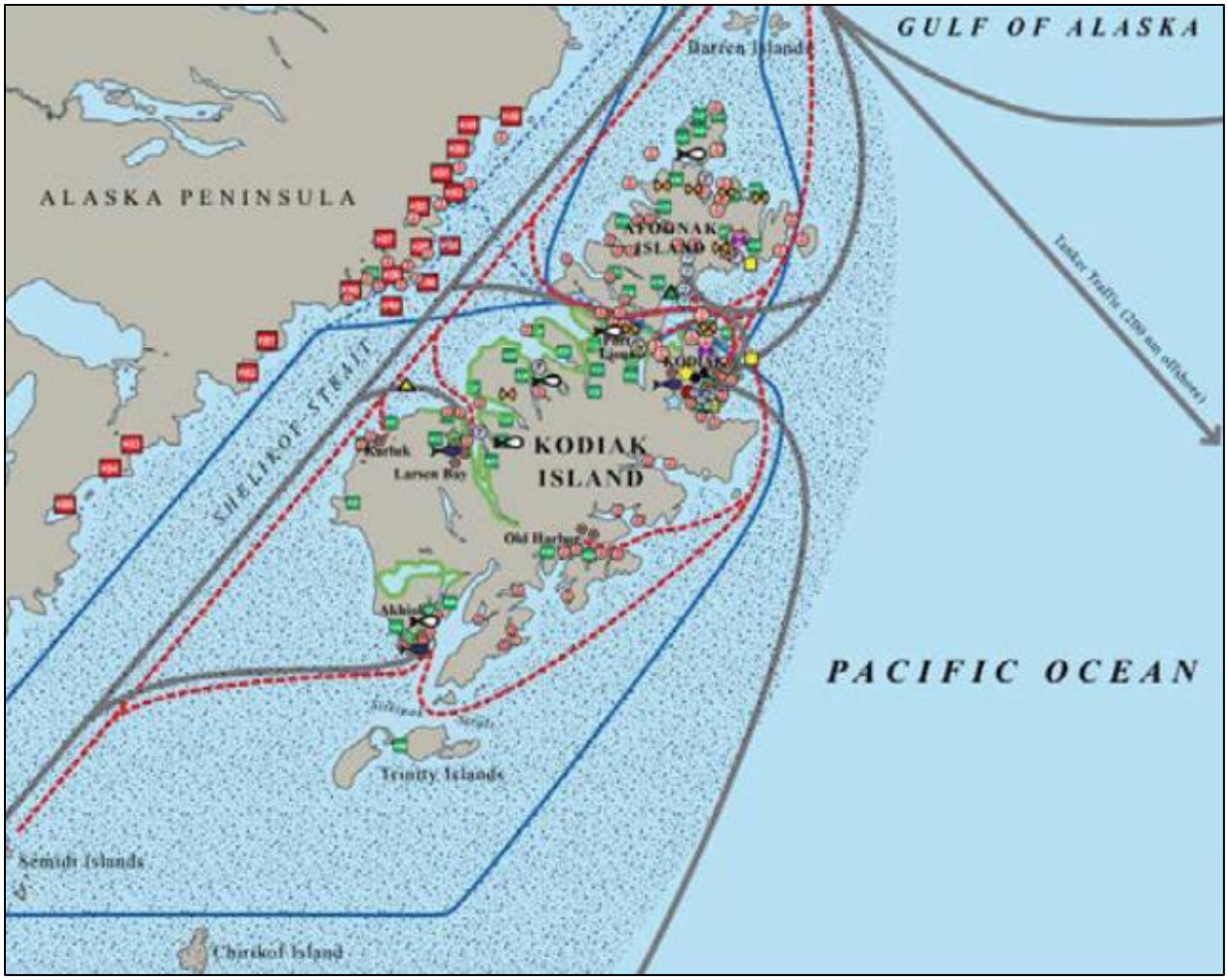

Figure 4-2. Commercial Shipping Routes (Gray Lines), Feeder Traffic (Dashed Red Lines), and Cruise Ship and Alaska Marine Highway System Traffic (Blue Lines) through Shelikof Strait

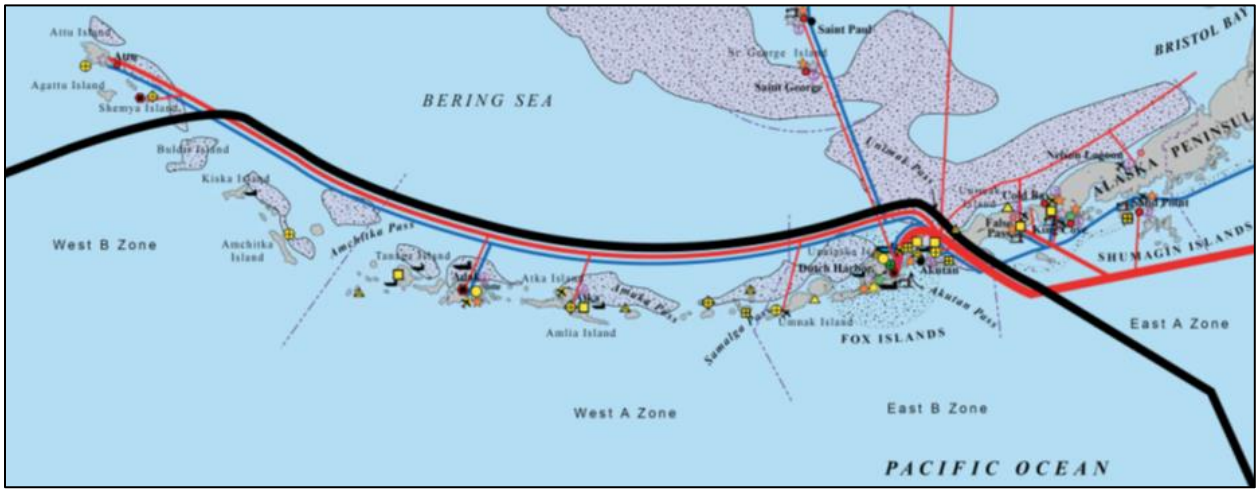

Figure 4-3. Vessel Transit Routes for Tankers (Red and Black Lines), Cruise Ships, and the Alaska Marine Highway System Ferry (Blue Line)

This project would use scheduled vessels, not project-dedicated vessels, for transport of equipment and materials. Therefore, although effects from transit on ESA-listed species are anticipated, the Proposed Action should not cause any additional effects or impacts due to extra vessel transit routes. Additionally, because work will be conducted on land away from the shore, the most likely potential effect to endangered marine mammal species occurring in or near the Proposed Action ROI would be in-air noise and disturbance. Nonetheless, for this Proposed Action, noise and disturbance and physical strikes by water vessels will be assessed for the commercial shipping transit use.

Noise and Disturbance

For marine mammals, the distance that potentially disturbing sounds can carry underwater is an important component of the action area. Since 1997, the NMFS has used generic sound exposure thresholds to determine whether an activity produces underwater sounds that might result in impacts to marine mammals (70 FR 1871). NMFS recently developed comprehensive guidance on sound levels likely to cause injury to marine mammals (Level A Harassment) through onset of permanent and temporary threshold shifts (PTS and TTS) (81 FR 51693). NMFS is in the process of developing guidance for behavioral disruption (Level B harassment). However, until such guidance is available, NMFS uses the conservative thresholds in Table 4-1 of underwater sound pressure levels expressed in root-mean-square (RMS), from broadband sounds that cause behavioral disturbance, and referred to as Level B harassment under section 3(18)(A)(ii) of the Marine Mammal Protection Act (MMPA):

Table 4-1. NMFS Level B Harassment Thresholds

Level B Harassment Thresholds		
Underwater (dB re: 1 µPa)		
Sound Type	Cetaceans	Pinnipeds
Continuous Sound	120	120
Impulsive Noise	160	160
Airborne (dB re: 20 µPa)		
Sound Type	Harbor Seals	Other Pinnipeds
All Types	90	100

For the buffers around vessel routes, we relied on empirical measurements of vessel noise from Cook Inlet (Blackwell and Greene 2003), which suggest that received sound levels associated with project vessels would be expected to decline to 120 dB re 1µParms within 2 kilometers of the source.

Vessels Strikes

The probability and severity of strike events depends on the frequency, speed, and route of the marine vessels, as well as the distribution of marine mammals in the area. An analysis of ship strikes in Alaskan waters (Neilson et al. 2012) found that whale mortalities are more likely when large vessels travel at speeds greater than 12 knots. Another study (Vanderlaan and Taggart 2007) used observations to develop a model of the probability of lethal injury based upon vessel speed, projecting that the chance of lethal injury to a whale struck by a vessel is approximately 80 percent at vessel speeds

over 15 knots, but approximately 20 percent at 8.6 knots. The relatively low speed of a typical ocean-going barge and tug (typically no more than 9 knots), together with a barge's blunt prow and shallow draft, make it far less likely to strike and inflict injury upon a marine mammal than larger, faster ocean-going vessels such as cruise ships and cargo ships. The limited maneuverability and long stopping distance of a barge and tug would make it difficult for the vessels to avoid an observed marine mammal, and in many circumstances, unsafe for them to attempt to do so. Conversely, however, the vessel's low speed and consistent course would enable marine mammals to avoid the path of the barge and tug well before there was a danger of collision.

Mitigation Measures

The following avoidance and mitigation measures will be followed to reduce the risk of adverse effects on endangered and threatened species when the vessel is in transit (Appendix D):

Vessel Transit: These procedures apply to all vessels operating under contract for the Proposed Action.

- Consistent with safe navigation, project vessels will avoid travelling within 3 nautical miles of any of Steller sea lion rookeries or major haulouts (Figure 4-4) to reduce the risks of disturbance of Steller sea lions and collision with protected species.

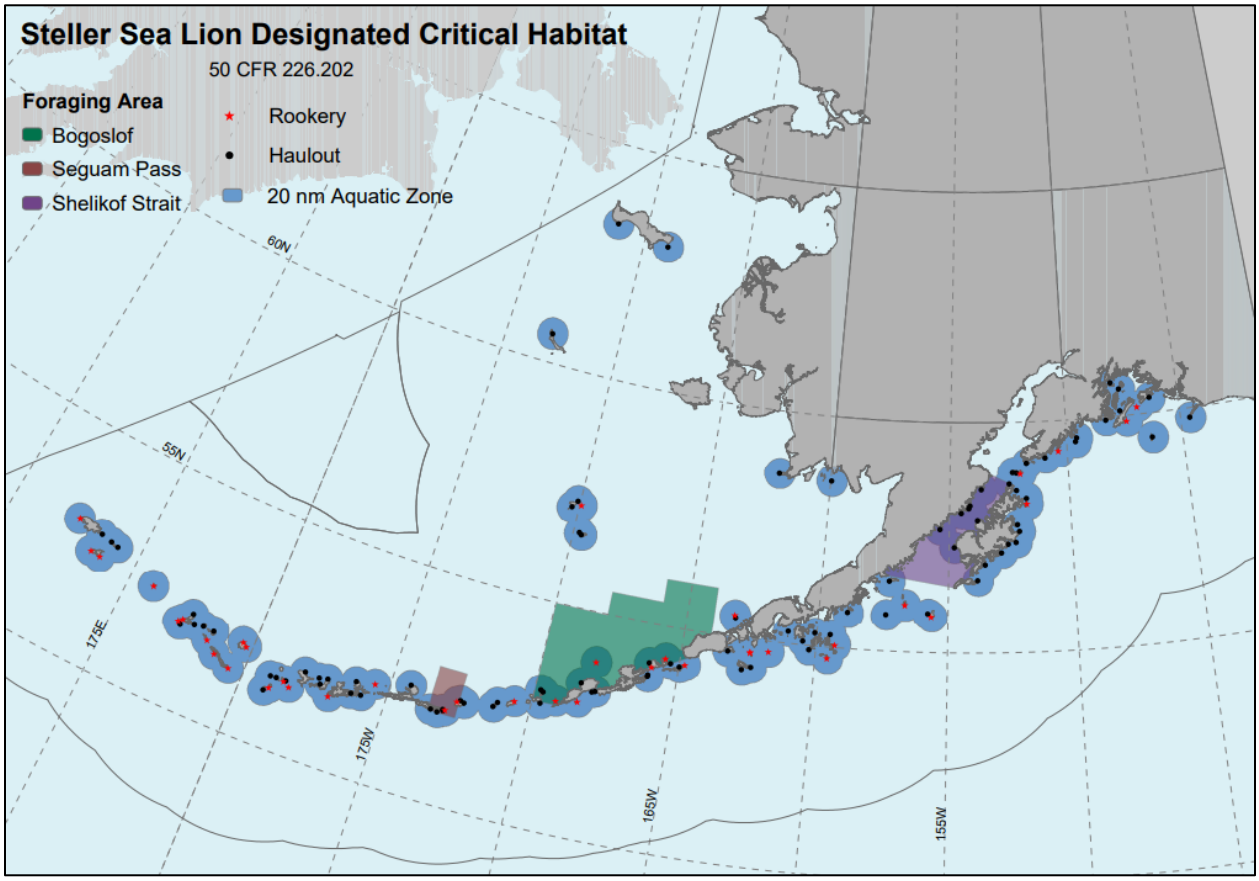

Figure 4-4. Western-Southcentral Alaska Steller Sea Lion Designated Critical Habitat

- If travel within 3 nautical miles of major rookeries or major haulouts is unavoidable, vessels will reduce speed to 9 knots (10 miles per hour) or less while within 3 nautical miles of those locations.
- Vessels and barges will not allow tow lines to remain in the water, and no trash or other debris will be thrown overboard, thereby reducing the potential for marine mammal entanglement.
- The transit route for the vessels will avoid known Steller sea lion biologically important areas and designated critical habitat to the extent practicable.
- Vessels may not be operated in such a way as to separate members of a group of marine mammals from other members of the group.6
- If a vessel approaches within 1.6 kilometer (1 mile) of observed whales, except in emergency situations, the vessel operator will take reasonable precautions to avoid potential interaction with the whales by taking one or more of the following actions, as appropriate:
    - Steering around the whale(s) if possible.
    - Reducing vessel speed to less than 5 knots (9 kilometers per hour) and avoiding changes in direction and speed within 300 meters (1000 feet) of the whale(s).
    - Checking the waters immediately adjacent to the vessel(s) to ensure that no whales will be injured when the propellers are engaged.
- Consistent with NMFS marine mammal viewing guidelines (https://alaskafisheries.noaa.gov/pr/mm-viewing-guide), operators of vessel should, at all times, avoid approaching marine mammals within 100 meters (100 yards) of whales to avoid whale disturbance.
- Vessels should take reasonable steps to alert other vessels in the vicinity of whale(s), and report any stranded, dead, or injured listed whale or pinniped to the Alaska Marine Mammal Stranding Hotline at 877-925-7773.
- When transiting through Cook Inlet, project vessels will maintain a distance of at least 1.5 miles from the mean lower low water (MLLW) line of the Susitna Delta (Figure 4-5).

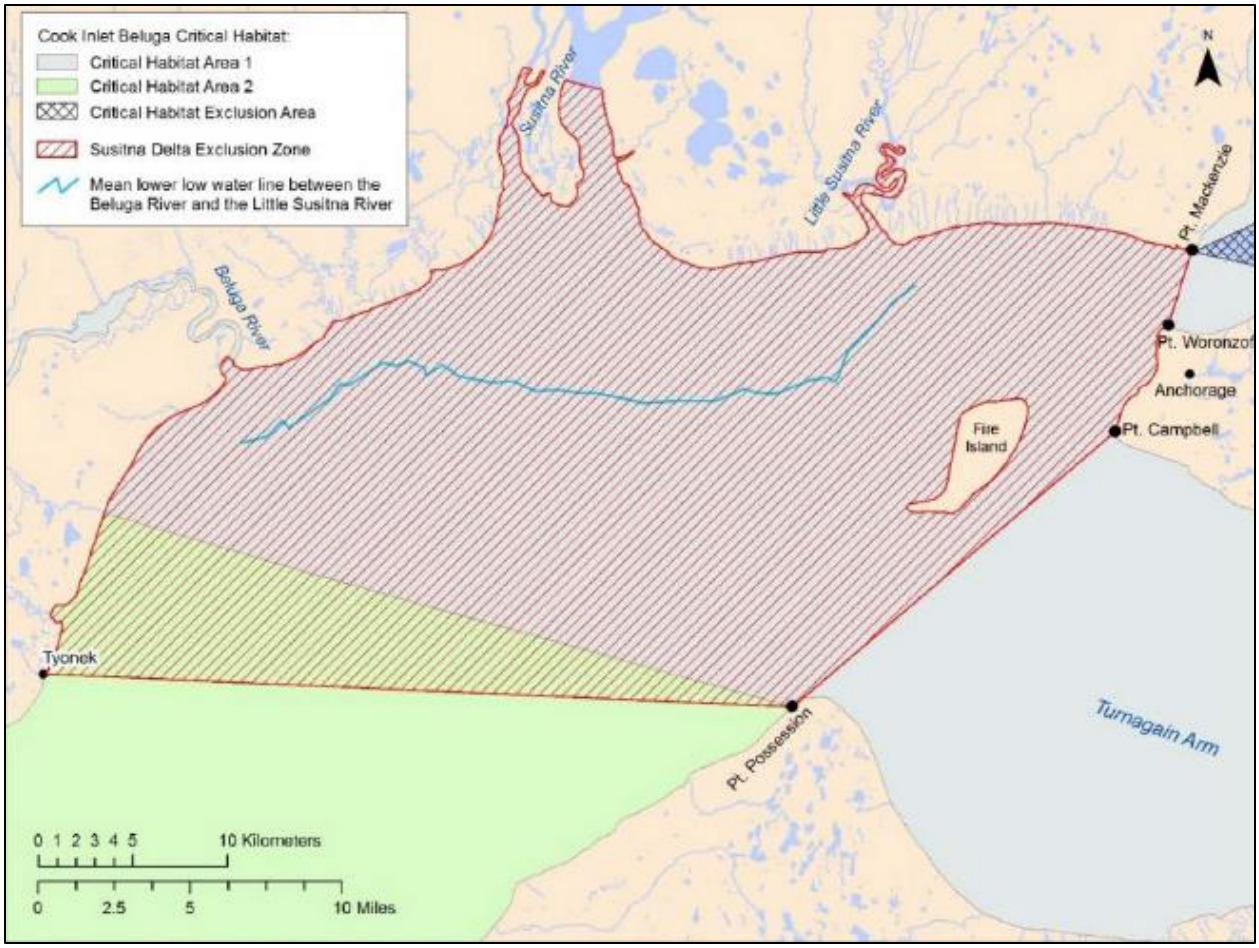

Figure 4-5. Susitna Delta Exclusion Zone, Showing MLLW Line Between the Beluga and Little Susitna Rivers

- Vessels will avoid transit within North Pacific right whale critical habitat (Figure 3-5) to the extent practicable. If transit within North Pacific right whale critical habitat cannot be avoided:
    - Vessel operators must reduce speed to 10 knots (19 kilometers per hour) and exercise caution while within North Pacific right whale critical habitat.
    - Vessels will maneuver to keep at least 800 meters (875 yards) away from any observed North Pacific right whale and avoid approaching whales head-on (consistent with vessel safety).
    - Vessels transiting through North Pacific right whale critical habitat must have Protected Species Observers (PSOs) actively engaged in sighting marine mammals.
    - A PSO is not required if vessels reduce speed to 5 knots while within North Pacific right whale critical habitat.
- Although take is not authorized, if a listed marine mammal is taken (e.g., struck by a vessel), it must be reported to NMFS within 24 hours. The following will be included when reporting take of a listed species:

- Number of listed animals taken.
- The date, time, and location of the take.
- The cause of the take (e.g., vessel strike).
- The time the animal(s) was first observed and last seen.
- Mitigation measures implemented prior to and after the animal was taken.
- Contact information for PSO, if any, at the time of the collision, ship's Pilot at the time of the collision, or ship's Captain.

The USACE conducted informal consultation in 2019 with the NMFS for similar FUDS project activities at several Aleutian Island sites. The USACE and the NMFS have agreed (Wright 2022) to leverage the NMFS 2019 Letter of Concurrence (NMFS 2019) to cover the proposed 2022 activities in Unalaska Valley. As summarized in Table 4-2, the USACE adopts the same determinations of effect on ESA species and their critical habitat as the NMFS concurred with in 2019. An exception is the critical habitat for humpback whales, which wasn't designated until 2021. The USACE determines that its proposed activities will have no effect on critical habitat for humpback whales. The NMFS Final Rule (86 FR 21082) designating critical habitat for humpback whales focuses on preserving the productivity of important whale feeding areas and avoids requiring restrictions on vessel operations.

Table 4-2.Summary of Determinations for ESA-Listed Species

Species	Agency Jurisdiction	USACE Determination of Effect on Species	USACE Determination of Effect on Critical Habitat
Steller sea lion	NMFS	May affect, but is not likely to adversely affect	Not likely to adversely modify or destroy
Humpback whale	NMFS	May affect, but is not likely to adversely affect	No effect
N. Pacific right whale	NMFS	May affect, but is not likely to adversely affect	Not likely to adversely modify or destroy
Sperm whale	NMFS	May affect, but is not likely to adversely affect	*Not applicable*
Fin whale	NMFS	May affect, but is not likely to adversely affect	*Not applicable*
Blue Whale	NMFS	May affect, but is not likely to adversely affect	*Not applicable*
Western N. Pacific gray whale	NMFS	May affect, but is not likely to adversely affect	*Not applicable*
Cook Inlet Beluga Whale	NMFS	May affect, but is not likely to adversely affect	Not likely to adversely modify or destroy
Northern sea otter	USFWS	No effect	No effect
Steller's eider	USFWS	No effect	*Not applicable*
Short tailed albatross	USFWS	No effect	*Not applicable*

The USACE also determines that the Proposed Action will have no effect on Steller's eiders and short-tailed albatrosses, as they are not expected to be present during the summer and/or not occur inland where the work will be conducted. Northern sea otters

are present in the nearshore waters surrounding Unalaska and Amaknak Island but are unlikely to be affected by project activities. Large slow-moving vessels offer little risk of disturbing or striking sea otters, especially near established harbors and docks; however, skiffs and other small, fast watercraft do pose a risk for harassing, disorienting, and injuring sea otters (USFWS 2022c). The USACE project will not be operating such small watercraft as part of this project, and therefore determines that the project will have no effect on northern sea otters.

The USACE received concurrence with these determinations from the NMFS for this project site in 2022. Both the NMFS and the USFWS will receive a copy of this EA for review and be notified prior to the start of the project's Proposed Action in Unalaska Valley in 2022.

4.2.6.2 Effects on Marine Mammals

The anticipated effects on cetaceans or pinnipeds not listed under the ESA (Section 3.6.2), are expected to be the same as described above for the ESA-listed marine mammals. The USACE determines that the Proposed Action will not result in a taking under the MMPA. The magnitude of effects of project activities may affect, but is not likely to adversely affect marine mammals.

4.2.6.3 Effects on Migratory Birds

The USACE determines that the Proposed Action is unlikely to result in the killing of a migratory bird, or destruction of an active nest. The magnitude of effects of the Proposed Action activities may affect, but is not likely to adversely affect migratory birds.

4.2.6.4 Effects on Eagles

Nesting eagles are not expected at the Proposed Action sites, which are not cliffs and generally developed and treeless. A few transient adult bald eagles may be seen from the sites and Proposed Action area, but the USACE anticipates a very low risk of a taking under the BGEPA. The magnitude of effects of project activities may affect, but is not likely to adversely affect eagles.

4.2.7 Effects on Essential Fish Habitat and Anadromous Waters

The USACE determines that the proposed activity will not alter or adversely affect marine or freshwater EFH and anadromous waters, due to the Proposed Action occurring outside the marine and freshwater environments along with the adoption of the mitigatory measures detailed in Section 2.4. The magnitude of effects of the Proposed Action activities on EFH and anadromous waters would be no effect.

4.2.8 Effects on Special Aquatic Sites

The Proposed Action area (Figure 1-1) has not been delineated for jurisdictional wetlands, but wetlands are presumed to be present, and there are refuge lands present (Figure 3-9). Much of the area to be excavated be highly localized and affect areas already altered and disturbed by the former military construction, past cleanup efforts, and area development. Since a detailed wetland delineation has not been conducted, there is the potential that work would result in the discharge of fill materials into wetlands, which is subject to regulation pursuant to Section 404 of the CWA. If work

necessitates the discharge of fill materials in wetlands or any other special aquatic site, the discharge would comply with the substantive requirements of the Department of the Army Nationwide Permit (NWP) 5 (Scientific Measuring Devices), NWP 6 (Survey Activities), and NWP 38 (Cleanup of Hazardous and Toxic Waste) (see Section 5.1).

The removal of chemical contaminants from the project site is a remedial action in its own right that benefits the overall environment, and the USACE does not intend to mitigate for or attempt to restore the small, discontinuous areas of wetlands that may be lost in the course of the project excavation and backfilling activities. The magnitude of effect of the Proposed Action activities on special aquatic sites would be minor.

4.2.9 Effects on Cultural and Historic Resources

Two of the six Proposed Action locations, former Mess Hall 3260 and 124 Lear Road, have not been formally evaluated for listing in the NRHP. The USACE will consider these resources eligible for listing in the NRHP for this project or until the resources have been formally evaluated. The results of the mitigation required by the 2000 PA is unclear for these sites (USACE 2000). The AHRS cards that do exist do not reflect the previous work conducted at each location. Other sites are entirely missing from the records. Excavation areas will largely be within the limits of 1997 and 2000 excavations. Installation of monitoring wells will be temporary and in close vicinity to existing monitoring wells or at previous locations of monitoring well installation, which have since been removed. The No-Action alternative would not have any direct physical effects on cultural resources in Unalaska Valley.

43 Choate Lane (UNL-00417)
UST 2762 AB, ADEC Hazard ID 2881

Work completed at this site in 1997 and 2000 was covered under the 2000 PA (USACE 2000). According to the AHRS card, there has been no National Register evaluation for this site, even though it was included in mitigation identified in the 2000 PA. Excavation in this area would not impact any know physical remnants of the former barracks as it no longer exists. As excavation and groundwater monitoring work would not affect any known cultural resources, the USACE proposes a finding of effect of no adverse effects on historic properties for this site.

Latrine, East Broadway WWII Housing Area (UNL-00606)
UST 3065, ADEC Hazard ID 2887

Former Latrine 3065 is within the boundaries of the East Broadway World War II Housing Area which is not eligible for listing in the NRHP. The undertaking at this location will result in no historic properties affected.

Army Mobilization Warehouse Building (UNL-00409)
UST 2664, ADEC Hazard ID 2878

Work at this site was originally covered under the 2000 PA (USACE 2000). The AHRS card for this site has not been updated to reflect previous removal actions. The USACE proposes to treat this site as eligible for listing in the NRHP for the purposes of this undertaking. Proposed work at this site is to commission and then decommission groundwater monitoring wells. As installation of these groundwater monitoring wells will

be close to existing monitoring wells, the USACE proposes a finding of no adverse effect on historic properties for this site.

Warehouse Building 2674 (UNL-00577)
UST 2674, ADEC Hazard ID 25812

This site was determined to be a contributing property to the Dutch Harbor Naval Operating Base & Fort Mears National Historic Landmark (UNL-00120). In 2000, the removal effort at this site was monitored by Michael Yarborough of Cultural Resources Consultants, LLC under contract to the USACE. The building foundation was measured to be 60 feet x 153 feet. Yarborough quoted Denfeld (1985:70) and said that Building 2674 was the only structure of its kind constructed at Fort Mears (CRC 2001). This area was further surveyed by the USACE Archaeologist Shona Pierce in 2015 (USACE 2015). The USACE initially determined that the site was not eligible for listing in the NRHP; however, upon further consultation with the SHPO, this finding was revised to indicate that it contributed to the NHL. Work at this site would be to commission and decommission a groundwater monitoring wells to determine if any POL is impacting groundwater. Groundwater monitoring will not disturb the existing foundation; therefore, the USACE proposes a no adverse effect on historic properties for this location.

Mess Hall 3260
UST 3620, ADEC Hazard ID 2890

Mess Hall 3260 is part of the Ski Bowl area. The 2000 removal effort was covered under the PA (2000 PA). Neither this Mess Hall site nor the Ski Bowl area have been recorded in the AHRS. This area appears to have been subject to intensive debris removal efforts in the past as there are no longer any structural debris on the surface. In the 2000 PA, the Ski Bowl is specifically identified in Section III, Categorical Exclusions, which are identified as areas that did not require consultation for the PA as they were beyond the NHL boundary and declared not eligible by the USACE and SHPO (USACE 2000:2). Email correspondence with Sarah Meitl, Alaska State Historic Preservation Office, Review and Compliance Coordinator, on February 25, 2022, indicates that the SHPO considers these findings of ineligibility for listing in the NRHP to only apply within the scope of the 2000 PA (USACE 2000). Therefore, for the purposes of this project the USACE will treat the Mess Hall 3260 site as eligible for listing in the NRHP. Because there are no structural debris left at this site, proposed excavations and groundwater monitoring well commissioning and decommissioning will result in no adverse effect on historic properties.

124 Lear Road, Barracks 2267
UST 2267 AB, ADEC Hazard ID 2879

Work expected at this site includes collecting soil samples with a Geoprobe drill rig and potentially commissioning and decommissioning a groundwater monitoring well. The site is currently a driveway/laydown area for a private residence. There is no surficial evidence indicating that any WWII remains are present. Drilling at this site is not expected to impact any cultural resources. As the site has not been evaluated for listing in the NRHP, the USACE proposes to treat this site as eligible for the purposes of this undertaking. Due to the lack of historical materials or structural remnants, the USACE proposes that work at this location will result in no adverse effect on historic properties.

Assessment of Effect

The assessments of effect for each project site are summarized in Table 4-3. Of the six sites within the affected environment, one is not eligible for listing in the NRHP, one is eligible, and one is a contributing feature of a NHL. Three sites are unevaluated, but the USACE proposes to consider them eligible for the purposes of this undertaking.

Table 4-3. Summary of Findings of Effect for Proposed Action

Project Site	AHRS #	NRHP Eligibility	Finding of Effect
43 Choate Lane UST 2762 AB	UNL-00417	Unevaluated	No adverse effect
E. Broadway Latrine 3065	UNL-00606	Not Eligible	No historic properties affected
Army Mobilization Warehouse 2664	UNL-00409	Eligible	No adverse effect
Warehouse Bldg. 2674	UNL-00577	Contributing	No adverse effect
Mess Hall 3260	N/A	N/A	No adverse effect
Barracks 2267	N/A	N/A	No adverse effect

The project will not impact any of the existing foundations or structural elements at any of the sites. There are no known precontact cultural resources at the sites and previous environmental remediation that included excavation at the project sites has not resulted in any post review discoveries of previously undocumented subsurface cultural resources.

4.2.10 Effects on Environmental Justice and Protection of Children

Executive Order (E.O.) 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations was issued in 1994. The purpose of the order is to avoid disproportionate adverse environmental, economic, social, or health effects from federal activities on minority and low-income populations.

The USACE anticipates no disproportionate adverse effects on minority or low-income populations, because although Unalaska does have minority and low-income populations, the work will be conducted on previously remediated sites and project work will positively affect the community by increasing potential of brining business to the local community.

On April 21, 1997, E.O. 13045, Protection of Children from Environmental Health and Safety Risks, was issued to identify and assess environmental health and safety risks that may disproportionately affect children.

There are children in the Proposed Action area; however, the USACE anticipates no disproportionate health or safety risks to children as a result of the agency's Preferred Alternative. Rather, the Proposed Action should create a safer environment for children by removing potentially contaminated soil from the area.

5.0 REGULATORY COMPLIANCE AND AGENCY COORDINATION

A checklist of project compliance with relevant Federal, state, and local statutes and regulations is shown in Table 6-1.

National Environmental Policy Act.

This EA and unsigned Finding of No Significant Impact (FONSI) were prepared using information gathered during iterations of this project, and the most recent correspondence with State and Federal resource agencies. Consistent with the NEPA process and the USACE regulations and guidance, the EA and unsigned FONSI are made available for a public review period. If requested, a public meeting may be held to discuss project alternatives and ask for public views and opinions.

Clean Water Act.

Where backfill is placed in excavations that have extended into wetlands, that fill would constitute a discharge under Section 404 of the CWA. The USACE, which is the enforcement authority for Section 404, does not issue itself CWA permits for its activities. However, the USACE incorporates by reference (in accordance with 40 CFR 1502.21) the analyses under NEPA and CWA Section 404(b)(i) performed for the issuance of NWP 38, "Cleanup of Hazardous and Toxic Waste":

> "Specific activities required to effect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority."

The State of Alaska certified the full list of NWPs issued by the USACE in 2021, so no separate Section 401 Certificate of Reasonable Assurance is required for the Unalaska activities, which falls within the scope and intent of NWP 38. The Pre-Construction Notification (PCN) required under General Condition 31 to this NWP does not apply to this project, as the USACE is adopting the analysis behind the NWP and not the permit itself.

Endangered Species Act.

The USACE initiated formal consultation for the Unalaska FUDS project under the ESA in 2022, with USFWS (Appendix A) and used the online NMFS ESA Mapper (NMFS 2022) in order to determine what ESA-listed species were at or near the Proposed Action ROI. The USACE determined that no ESA-listed species identified through USFWS and NMFS online resources may be affected, but not adversely affected by the Proposed Action. Additionally, in formal consultation with NMFS, NMFS concurred with the adoption of the 2019 Letter of Concurrence (Appendix D) for the project through email on April 20, 2022; thus, no further formal consultation was required with NMFS. The major operational threat to northern sea otters would be small, fast-moving watercraft. These are not being used for the Proposed Actions activities. In addition, Steller's eider and short-tailed albatross were assessed as a no effect; thus, USFWS was not consulted further beyond the species listing. Both NMFS and USFWS will have the opportunity to review this EA.

Marine Mammal Protection Act

The USACE determined that marine mammals identified through USFWS and NMFS online resources may be affected, but unlikely adversely affected by the Proposed Action. NMFS was formally consulted and concurred with the adoption of the 2019 LOC (Appendix D) for the project on April 20, 2022; thus, no further formal consultation was required. Both NMFS and USFWS will have the opportunity to review this EA.

Migratory Bird Treaty Act

The USACE has reviewed information on the migratory birds that may potentially occur in the Proposed Action area (Appendix A) and has made the determination that the planned activities are not likely to adversely affect any migratory birds nor their eggs or nests. No further coordination is required.

Bald and Golden Eagle Protection Act

The USACE has reviewed information on the eagles that may potentially occur in the Proposed Action area and has made the determination that the planned activities are not likely to adversely affect any eagles nor their eggs or nests. No further coordination is required.

Magnuson-Stevens Fisheries Conservation and Management Act.

The USACE has reviewed information on EFH in the Proposed Action area and has made the determination that the planned activities would have no effect on EFH. No further coordination is required, but NMFS Habitat Division will have the opportunity to review this EA.

National Historic Preservation Act.

The USACE formally initiated consultation with the Alaska SHPO through a Finding of Effect (FOE) letter sent on March 29, 2022. The USACE also sent the FOE letter to project stakeholders. The USACE proposed a finding of no adverse effect for 5 of the sites and no historic properties affected for the remaining one site. Consultation parties identified for this project under Section 106 include the Qawalangin Tribe of Unalaska, Ounalashka Corporation, Aleut Corporation, Unalaska Preservation Commission, National Park Service, Aleutian Pribilof Islands Association, and the SHPO. The USACE received SHPO concurrence on April 26, 2022.

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments.

The USACE FUDS Program has engaged in activities to promote awareness of agency operations within the Amaknak FUDS through the Amaknak Restoration Advisory Board (RAB) Meetings that occurred on November 17, 2020; March 16, 2021; May 6, 2021; June 28, 2021; August 13, 2021; November 10, 2021; January 19, 2022; and May 4, 2022 with the following federally recognized Tribes, Alaska Native Claims Settlement Act (ANCSA) village corporations, and ANCSA regional corporations:

- Qawalangin Tribe of Unalaska
- Ounalashka Corporation
- Aleut Corporation
- Aleutian Pribilof Islands Association

There have been more than 8 correspondences and 8 engagements discussing community priorities and interests for FUDS work on Unalaska Island. The USACE personnel involved include/included the USACE Alaska District FUDS Project Manager, Environmental Engineer, Archaeologist, Tribal Liaison, and NALEMP Project Manager. These correspondences and engagements resulted in successful hybrid virtual/in-

person RAB Meetings and recorded community response. At each meeting, opportunities were also created in the form of identifying additional community members who have interest in future work.

Further notification of FUDS Program actions within the Aleutian Region, to include this Proposed Project, was sent April 29, 2022, to the following entities:

- Native Villages of Akutan, Atka, False Pass, Nelson Lagoon, Unga, Belkofski, Pauloff Harbor, and Nikolski;
- Agdaagux Tribe of King Cove
- Qawalangin Tribe of Unalaska
- Aleut Community St. George Island
- Pribilofs Islands Aleut Community of St. Paul
- Aleutian Pribilof Islands Association, Inc.
- The Aleut Foundation
- Aleut, Akutan, Atxam, Belkofski, Chaluka, Isanotski, King Cove, Nelson Lagoon, Ounalashka, Sanak, Shumagin, St. George Tanaq, Tanadgusix, and Unga Corporations

Coastal Zone Management Act. Alaska withdrew from the voluntary National Coastal Zone Management Program on July 1, 2011. Within the State of Alaska, the Federal consistency requirements under the Coastal Zone Management Act do not apply to federal agencies, those seeking forms of federal authorization, and state and local government entities applying for federal assistance.

6.0 CONCLUSION

The completed EA supports the conclusion that the Proposed Actions do not constitute a major Federal action significantly affecting the quality of the human environment. Table 6-1 shows the environmental compliance that this project will meet in accordance with applicable laws and regulations. An environmental impact statement (EIS) is therefore not necessary for the agency's Proposed Action, and the prepared FONSI may be signed.

Table 6-1. Environmental Compliance Checklist

Law	Compliance
Federal	
Clean Air Act	Fully Compliant
Clean Water Act	Fully Compliant
Coastal Zone Management Act	Not Applicable
Endangered Species Act	Fully Compliant
Estuary Protection Act	Fully Compliant
Federal Water Project Recreation Act	Fully Compliant
Fish & Wildlife Coordination Act	Not Applicable
National Environmental Policy Act	Partially Compliant*

Law	Compliance
Federal	
Land and Water Conservation Fund Act	Fully Compliant
Marine Protection, Research & Sanctuaries Act	Not Applicable
National Historic Preservation Act	Fully Compliant
River and Harbors Act	Fully Compliant
Magnuson-Stevens Fishery Conservation & Management Act	Fully Compliant
Marine Mammal Protection Act	Fully Compliant
Bald Eagle Protection Act	Fully Compliant
Watershed Protection and Flood Preservation Act	Fully Compliant
Wild & Scenic Rivers Act	Not Applicable
Executive Order 11593, Protection of Cultural Environment	Fully Compliant
Executive Order 11988, Flood Plain Management	Fully Compliant
Executive Order 11990, Protection of Wetlands	Fully Compliant
Executive Order 12898, Environmental Justice	Fully Compliant
Executive Order 13045, Protection of Children	Fully Compliant
Executive Order 13175, Consultation and Coordination with Indian Tribal Governments	Fully Compliant
State & Local	
State Water Quality Certification	Fully Compliant
Alaska Statute 16.20.500 Critical Habitat Areas	Fully Compliant
Alaska Coastal Management Program	Not Applicable

*Full compliance will be attained upon the signing of the FONSI

7.0 DOCUMENT PREPARATION

This EA was prepared by Chris Floyd from Environmental Resources with the assistance of Biologist Kayla Campbell, Archaeologist Forrest Kranda, and FUDS Project Manager Rena Flint from the Alaska District, USACE.

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APPENDIX A.
USFWS ESA SPECIES LISTING FOR PROPOSED ACTION ROI

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Anchorage Fish And Wildlife Conservation Office
4700 Blm Road
Anchorage, AK 99507
Phone: (907) 271-2888 Fax: (907) 271-2786

In Reply Refer To: March 18, 2022
Project Code: 2022-0021697
Project Name: 2022 CON/HTRW Limited Removal Action Project 13 - Unalaska Valley; Formerly Used Defense Site

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and some candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that candidate species are not included on this list. We encourage you to visit the following website to learn more about candidate species in your area:

http://www.fws.gov/alaska/fisheries/fieldoffice/anchorage/endangered/candidate_conservation.htm

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Endangered Species: The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the

conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

https://www.fws.gov/birds/policies-and-regulations.php

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a Federal nexus) or a Bird/Eagle Conservation Plan (when there is no Federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see:

https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php

In addition to MBTA and BGEPA, Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures

that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm
http://www.towerkill.com
http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Marine Mammals

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Anchorage Fish And Wildlife Conservation Office
4700 Blm Road
Anchorage, AK 99507
(907) 271-2888

Project Summary

Project Code: 2022-0021697
Event Code: None
Project Name: 2022 CON/HTRW Limited Removal Action Project 13 - Unalaska Valley; Formerly Used Defense Site
Project Type: Non-NPL Site Remediation
Project Description: The Removal Action Alternative to remove contaminated soil is the Preferred Alternative. The project scope (USACE 2022) includes the following tasks:

1. USTs 2267 A&B: Drill to fractured bedrock at source area. Inspect for groundwater. If water present, install, develop, and sample groundwater well. Decommission well.

2. UST 2664: Locate, re-develop and sample groundwater wells WP-1, (1997) WP-2, and (1998) WP-1 (Figure 4). If damaged, replace up to 3 wells. Develop environmental covenant (i.e., institutional controls) for residual contamination on property.

3. UST 2667: No field work. Prepare Pre-draft, Draft, Draft Final environmental covenant for residual contamination from UST 2667.

4. UST 2674: Install, develop, and sample groundwater well in POL source area down to bedrock. Decommission well.

5. USTs 2762 A&B: Coordinate deenergizing electric line and remove concrete foundation as necessary. Perform removal action. After completion of removal, install and sample groundwater well. Install, develop, and sample groundwater well in POL source area and 2 wells downgradient. Decommission wells.

6. UST 3065: Place engineering controls to ensure that the soil embankment is not breached, and stream is protected from sediment and DRO releases. Perform removal action. After completion of removal, install and sample groundwater well and sample stream.

7. UST 3260: Place engineering controls to ensure wetlands are protected from sediment and DRO releases. Perform removal action. Restore drainage around site. After completion of removal, install and sample groundwater wells. Remove old sampling points. Reseed.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@53.85910605,-166.51424827178357,14z

Counties: Aleutians West County, Alaska

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Sea Otter *Enhydra lutris kenyoni* Population: Southwest Alaska DPS There is **final** critical habitat for this species. Your location overlaps the critical habitat. ***This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.*** Species profile: https://ecos.fws.gov/ecp/species/2884	Threatened

Birds

NAME	STATUS
Steller's Eider *Polysticta stelleri* Population: AK breeding pop. There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1475	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Northern Sea Otter *Enhydra lutris kenyoni* https://ecos.fws.gov/ecp/species/2884#crithab	Final

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

The following FWS National Wildlife Refuge Lands and Fish Hatcheries lie fully or partially within your project area:

FACILITY NAME	ACRES
ALASKA MARITIME NATIONAL WILDLIFE REFUGE https://www.fws.gov/refuges/profiles/index.cfm?id=74500	8,626.54

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Feb 1 to Sep 30
Black Oystercatcher *Haematopus bachmani* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9591	Breeds Apr 15 to Oct 31

NAME	BREEDING SEASON
Black Scoter *Melanitta nigra* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Black-legged Kittiwake *Rissa tridactyla* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Common Loon *gavia immer* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/4464	Breeds Apr 15 to Oct 31
Common Murre *Uria aalge* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Apr 15 to Aug 15
Double-crested Cormorant *phalacrocorax auritus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/3478	Breeds Apr 20 to Aug 31
Kittlitz's Murrelet *Brachyramphus brevirostris* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/1633	Breeds May 15 to Aug 31
Long-tailed Duck *Clangula hyemalis* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/7238	Breeds elsewhere
Red Phalarope *Phalaropus fulicarius* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Red-breasted Merganser *Mergus serrator* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Red-faced Cormorant *Phalacrocorax urile* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 15 to Jul 31

NAME	BREEDING SEASON
Red-necked Phalarope *Phalaropus lobatus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Surf Scoter *Melanitta perspicillata* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Thick-billed Murre *Uria lomvia* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Apr 15 to Aug 15
White-winged Scoter *Melanitta fusca* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
Yellow-billed Loon *Gavia adamsii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8199	Breeds Jun 1 to Sep 20

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

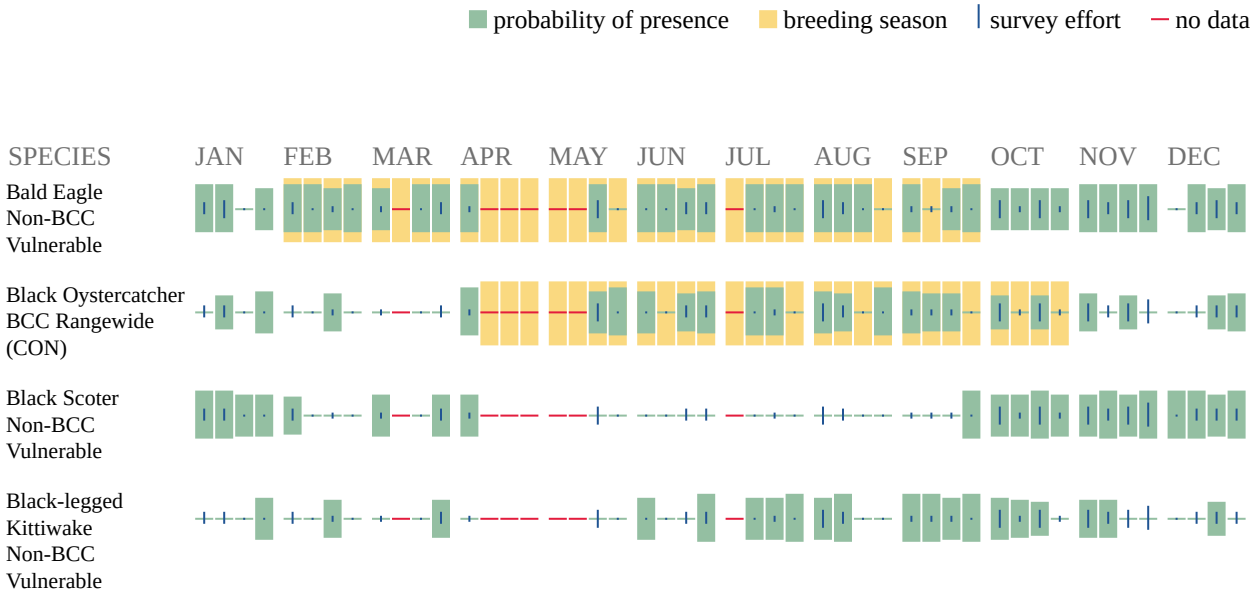
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

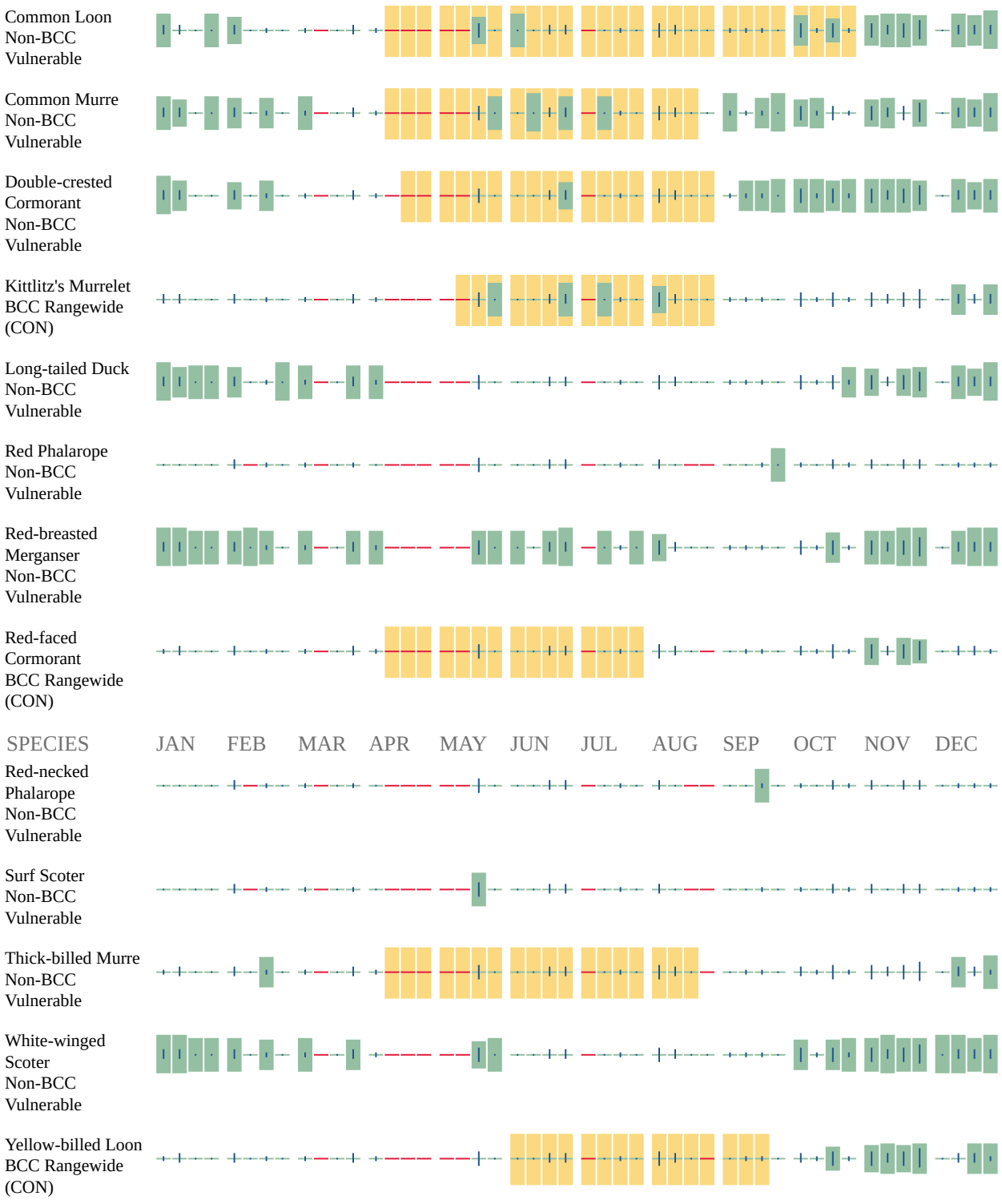
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php

- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Marine Mammals

Marine mammals are protected under the Marine Mammal Protection Act. Some are also protected under the Endangered Species Act[1] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora[2].

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries[3] [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the Marine Mammals page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

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1. The Endangered Species Act (ESA) of 1973.
2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

NAME

Northern Sea Otter *Enhydra lutris kenyoni*
Population: Southwest Alaska DPS
Species profile: https://ecos.fws.gov/ecp/species/2884

IPaC User Contact Information

Agency: Army Corps of Engineers
Name: Kayla Campbell
Address: 2204 3rd Street
City: JBER
State: AK
Zip: 99506
Email kayla.n.campbell@usace.army.mil
Phone: 9077532757

APPENDIX B.
EFH REPORTS FOR CAPTAINS BAY AND ILIULIUK BAY

EFH Mapper Report - Captains Bay

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Alaska Regional Office
Alaska EFH Mapper

Query Results

Degrees, Minutes, Seconds: Latitude = 53° 51' 47" N, Longitude = 167° 26' 11" W
Decimal Degrees: Latitude = 53.863, Longitude = -166.563

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Alaska skate (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Arrowtooth Flounder (Aleutian Islands)	Adult (Spring) Adult (Summer) Juvenile (Summer) Larvae (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Atka mackerel (Aleutian Islands)	Adult (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Bering skate (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Bigmouth sculpin (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Dusky rockfish (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Flathead sole (Aleutian Islands)	Adult (Summer) Egg (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Great sculpin (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Mud skate (Aleutian Islands)	Adult (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Northern rock sole (Aleutian Islands)	Adult (Spring) Adult (Summer) Juvenile (Summer) Larvae (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Northern rockfish (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Pacific cod (Aleutian Islands)	Adult (Summer) Juvenile (Summer) Larvae (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Rex sole (Aleutian Islands)	Adult (Fall) Adult (Summer) Egg (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Rougheye rockfish (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Shortraker rockfish (Aleutian Islands)	Adult (Winter)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Southern rock sole (Aleutian Islands)	Adult (Fall) Adult (Spring) Adult (Summer) Adult (Winter) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Walleye pollock (Aleutian Islands)	Adult (Spring) Adult (Summer) Egg (Summer) Larvae (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Dover sole (Aleutian Islands)	Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Kamchatka flounder (Aleutian Islands)	Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Sablefish (Aleutian Islands)	Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Yellow Irish lord (Aleutian Islands)	Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Pacific ocean perch (Aleutian Islands)	Larvae (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Weathervane Scallop	LateJuvenile/Adult	North Pacific	Scallop FMP
		Chinook Salmon	Marine Immature Adult Marine Mature Adult	North Pacific	Amendment 13 to Salmon FMP
		Chum Salmon	Marine Mature Adult Marine Immature Adult Marine Juvenile	North Pacific	Amendment 13 to Salmon FMP

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Pink Salmon	Marine Mature Adult Marine Juvenile	North Pacific	Amendment 13 to Salmon FMP
		Sockeye Salmon	Marine Immature Adult Marine Juvenile	North Pacific	Amendment 13 to Salmon FMP
		Coho Salmon	Marine Juvenile	North Pacific	Amendment 13 to Salmon FMP

Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

Gulf of Alaska Groundfish EFH,
Big Skate,
Longnose Skate,
Sharks,
Bering Sea / Aleutian Islands Groundfish EFH,
Forage Fish Complex,
Sharks (Bering Sea),
Squid Complex

EFH Mapper Report - Iliuliuk Bay

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Alaska Regional Office
Alaska EFH Mapper

Query Results

Degrees, Minutes, Seconds: Latitude = 53° 52' 53" N, Longitude = 167° 28' 36" W
Decimal Degrees: Latitude = 53.881, Longitude = -166.523

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Arrowtooth Flounder (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Atka mackerel (Aleutian Islands)	Adult (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Bering skate (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Dusky rockfish (Aleutian Islands)	Adult (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Flathead sole (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Great sculpin (Aleutian Islands)	Adult (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Northern rock sole (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Northern rockfish (Aleutian Islands)	Adult (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Pacific cod (Aleutian Islands)	Adult (Summer) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Rex sole (Aleutian Islands)	Adult (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Southern rock sole (Aleutian Islands)	Adult (Fall) Adult (Spring) Adult (Summer) Adult (Winter) Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Walleye pollock (Aleutian Islands)	Adult (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Yellow Irish lord (Aleutian Islands)	Adult (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Sablefish (Aleutian Islands)	Juvenile (Summer)	North Pacific	Amendment 115 to FMP for Groundfish of the BSAI
		Weathervane Scallop	LateJuvenile/Adult	North Pacific	Scallop FMP
		Chinook Salmon	Marine Immature Adult Marine Mature Adult	North Pacific	Amendment 13 to Salmon FMP
		Chum Salmon	Marine Mature Adult Marine Immature Adult Marine Juvenile	North Pacific	Amendment 13 to Salmon FMP
		Pink Salmon	Marine Mature Adult Marine Juvenile	North Pacific	Amendment 13 to Salmon FMP
		Sockeye Salmon	Marine Immature Adult Marine Juvenile	North Pacific	Amendment 13 to Salmon FMP
		Coho Salmon	Marine Juvenile	North Pacific	Amendment 13 to Salmon FMP

Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. ****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**
Gulf of Alaska Groundfish EFH, Big Skate, Longnose Skate, Sharks, **Bering Sea / Aleutian Islands Groundfish EFH**, Forage Fish Complex, Sharks (Bering Sea), Squid Complex

APPENDIX C.
PROJECT SITE PHOTO LOG

Amaknak FUDS Unalaska Valley Sites
Unalaska, Alaska
Photo Log

Photo 1. USTs 2267AB, 124 Lear Rd, 1997 excavation located under lumber pile, view S. November 2021.

Photo 2. UST 2664, E Broadway Ave and Whittern Ln, foundation used as laydown area, view SW. June 2021.

Photo 3. UST 2667, 1035 E Broadway Ave, City of Unalaska Department of Public Works, view E. June 2021.

Photo 4. UST 2674, E Broadway Ave, foundation used as a storage area, view N. June 2021.

Photo 5. USTs 2762AB, 43 Choate Ln, former UST location obscured by containers, view SW. January 2022.

Photo 6. UST 3065, E. Broadway Ave showing removed concrete foundation, view NE. June 2021.

Photo 7. UST 3260, Overview of former Mess Hall 3620 Upper Ptarmigan Rd/ Northern Ski Bowl Rd, view NW. June 2021.

APPENDIX D.
NMFS 2019 LETTER OF CONCURRENCE

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

May 8, 2019

Colonel Phillip Borders
U.S. Army Corps of Engineers, Alaska District
PO Box 6898
JBER, Alaska 99506-0898

Re: Letter of Concurrence for proposed FUDS 2019 Cleanup activities in the Aleutian Islands (NMFS # AKRO-2019-00405)

Dear Colonel Borders:

The National Marine Fisheries Service (NMFS) has completed informal consultation under section 7(a)(2) of the Endangered Species Act (ESA) regarding the Formerly Used Defense Sites (FUDS) cleanup activities proposed for 2019. The U.S. Army Corps of Engineers (USACE) requested written concurrence that the proposed action may affect, but is not likely to adversely affect (NLAA), the endangered Western Distinct Population Segment (DPS) Steller sea lions (*Eumetopias jubatus*), endangered Western Pacific DPS humpback whales (*Megaptera novaeangliae*), threatened Mexico DPS humpback whales, endangered North Pacific right whales (*Eubalaena japonica*), endangered western North Pacific gray whales (*Eschrichtius robustus*), endangered fin whales (*Balaenoptera physalus*), endangered blue whales (*Balaenoptera musculus*), endangered sperm whales (*Physeter microcephalus*), or endangered Cook Inlet beluga whales (*Delphinapterus leucas*). The USACE also determined that the proposed action is not likely to adversely modify or destroy designated critical habitat for the Steller sea lion, Cook Inlet beluga whale, or North Pacific right whale.

Based on our analysis of the information you provided to us, and additional literature cited below, NMFS concurs with your determination. This letter underwent pre-dissemination review in compliance with applicable Data Quality Act guidelines. A complete administrative record of this consultation is on file in this office.

Consultation History

NMFS received your original request for consultation for 2019 FUDS work at three sites in the Aleutian Islands on October 17, 2018. Following the earthquake in November 2018 and partial government shutdown December 2018-January 2019, NMFS contacted the Corps to resume discussions about the proposed FUDS work. On March 27, 2019, NMFS received an updated letter, which included four new sites in addition to the three that had been originally proposed. Following further discussions with your staff, consultation on the updated proposed work was initiated on April 1, 2019.

Proposed Action
The USACE proposed to conduct FUDS cleanup work in spring-summer 2019 on the following sites in the Aleutian Islands:

1. Unalaska Island, Cape Prominence site - Removal of containerized waste and contaminated soil at a World War II-era radar site atop Cape Prominence (N53.4466, W166.7576) and from a former support camp at nearby beach on Usof Bay (N53.4565, W166.7614). Site access will be via landing craft at the Usof Bay beach, and by helicopter from Dutch Harbor.
2. Umnak Island, Fort Glenn site - Survey for and limited removal of World War II-era munitions at various inland locations across eastern Umnak Island. Access to Umnak Island will be via landing craft at Otter Point beach (N53.3847, W167.8451).
3. Adak Island, Cape Yakak site - Removal of containerized waste and contaminated soil from inland sites on Cape Yakak (N51.6034, W176.9443). Access will be by via landing craft at a nearby cove on the Bay of Waterfalls, and by helicopter via Adak Airport.
4. Unalga Island site - Removal of containerized waste and contaminated soil from several inland sites. Access will be via boat at Maiga Bay (N53.9832, W166.1821).
5. Chernofski Harbor Site - Archaeological survey followed by limited removal action. Access will be by boat landing at approximately N53.4038, W167.5087.
6. Great Sitkin Island - Site visit only; landing via small craft from larger vessel at approximately N51.9950, W176.0960.
7. Port Heiden sites - Environmental sampling, including monitoring well installation. Equipment will be landed by barge at an established but unimproved beach landing site (N56.9213, W158.6801).

Work at these project sites is expected to start in mid-May and be completed by mid-September. Each of the project sites will be accessed by barges, landing craft or aircraft, delivering personnel, equipment, and supplies and/or retrieving containerized waste. Vessels will stage out of Anchorage.

Action Area
The action area is defined in the ESA regulations (50 CFR 402.02) as the area within which all direct and indirect effects of the project will occur. The action area is distinct from and larger than the project footprint because some elements of the project may affect listed species some distance from the project footprint. The action area, therefore, extends out to a point where no measurable effects from the project are expected to occur.

For marine mammals, the distance that potentially disturbing sounds can carry underwater are an important component of the action area. Since 1997 NMFS has used generic sound exposure thresholds to determine whether an activity produces underwater sounds that might result in impacts to marine mammals (70 FR 1871). NMFS recently developed comprehensive guidance on sound levels likely to cause injury to marine mammals through onset of permanent and temporary threshold shifts (PTS and TTS; Level A harassment) (81 FR 51693). NMFS is in the process of developing guidance for behavioral disruption (Level B harassment). However, until

such guidance is available, NMFS uses the following conservative thresholds of underwater sound pressure levels[1], expressed in root mean square[2] (rms), from broadband sounds that cause behavioral disturbance, and referred to as Level B harassment under section 3(18)(A)(ii) of the Marine Mammal Protection Act (MMPA):

- impulsive sound: 160 dB re 1 μPa_{rms}
- continuous sound: 120 dB re 1μPa_{rms}

In addition, NMFS uses a threshold of 100 dB re 20 μPa_{rms} for in-air sounds that cause Level B behavioral disturbance to non-harbor seal pinnipeds.

NMFS defines the action area for these projects to include the project cleanup sites, the helicopter routes between the airport landing and project cleanup sites, and the vessel transit route between Anchorage and the project cleanup landing sites, bounded by a 2 kilometer (km) (1 nautical mile [nm]) buffer on each side of the route. For the buffers around vessel routes, we relied on empirical measurements of vessel noise from Cook Inlet (Blackwell and Greene 2003), which suggest that received sound levels associated with project vessels would be expected to decline to 120 dB re 1µParms within 2 km of the source.

Although the exact routes of project vessels cannot be precisely specified, as they are based on sea conditions at the time of passage, we assume that the vessels will follow standard commercial shipping routes, depicted in Figures 2, 3, and 4.

The standard commercial shipping routes through Cook Inlet travel through Cook Inlet beluga whale critical habitat. Once leaving Cook Inlet, it is likely that a large portion of the route will be within Steller sea lion critical habitat, and will pass numerous Steller sea lion haulouts and rookeries. The vessels will likely travel through the Shelikof Strait Steller sea lion designated special foraging area. Although the vessels are less likely to travel east and south of Kodiak Island, if weather conditions necessitate that the vessels takes this route, it is possible that the vessels would transit through the Gulf of Alaska portion of North Pacific right whale critical habitat. If the vessels travel along typical shipping routes through Unimak Pass and travel north of the Aleutian Islands, the transit route would likely be through the Bogoslof and Seguam Pass designated Steller sea lion special foraging areas.

[1] Sound pressure is the sound force per unit micropascals (µPa), where 1 pascal (Pa) is the pressure resulting from a force of one newton exerted over an area of one square meter. Sound pressure level is expressed as the ratio of a measured sound pressure and a reference level. The commonly used reference pressure level in acoustics is 1 µPa, and the units for underwater sound pressure levels are decibels (dB) re 1 µPa.

[2] Root mean square (rms) is the square root of the arithmetic average of the squared instantaneous pressure values.

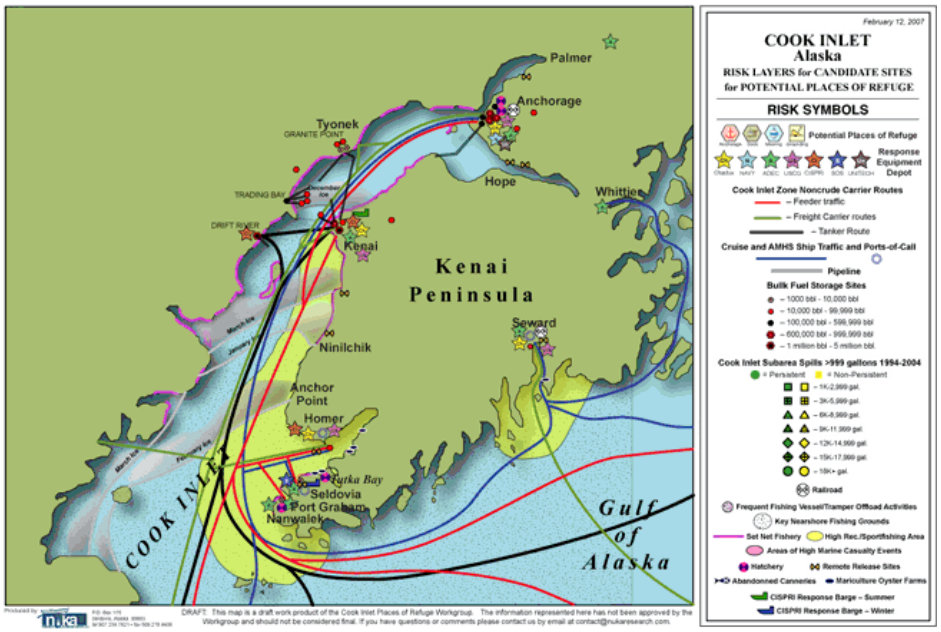


Figure 1. Map showing typical feeder traffic, tanker, and freight carrier routes through Cook Inlet.[3] Our analysis assumes that the route of the project vessels to the Aleutians will be similar to these.

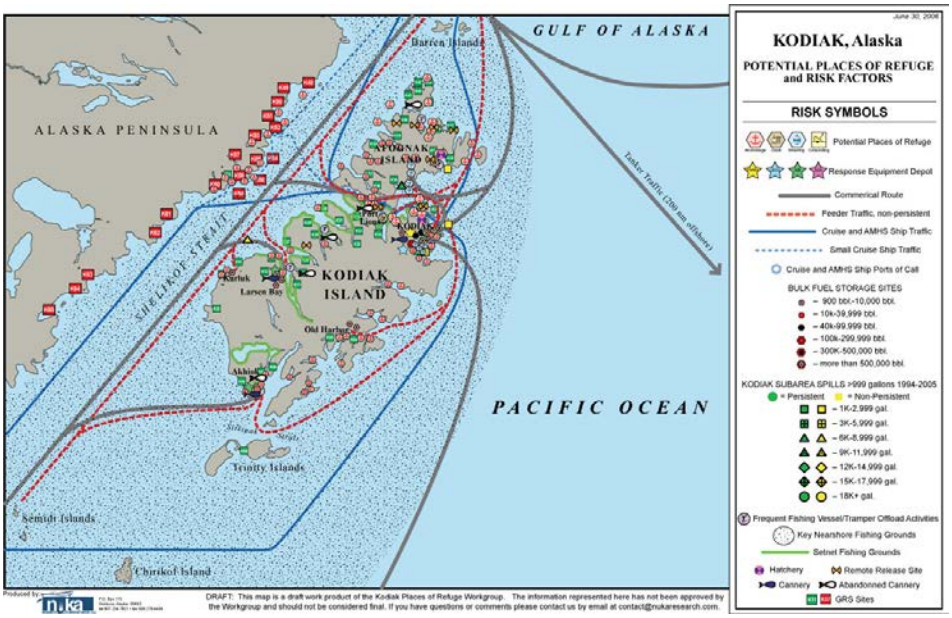


Figure 2. Map showing commercial shipping routes (gray lines), feeder traffic (dashed red lines) and cruise ship and Alaska Marine Highway System (AMHS) traffic (blue lines) through Shelikof Strait, or east of Kodiak Island.[4] Our analysis assumes that the project vessels will follow one of the shipping routes, depending on weather.

[3] https://dec.alaska.gov/spar/ppr/response-resources/ppor/cook-inlet/
[4] https://dec.alaska.gov/spar/ppr/response-resources/ppor/kodiak/

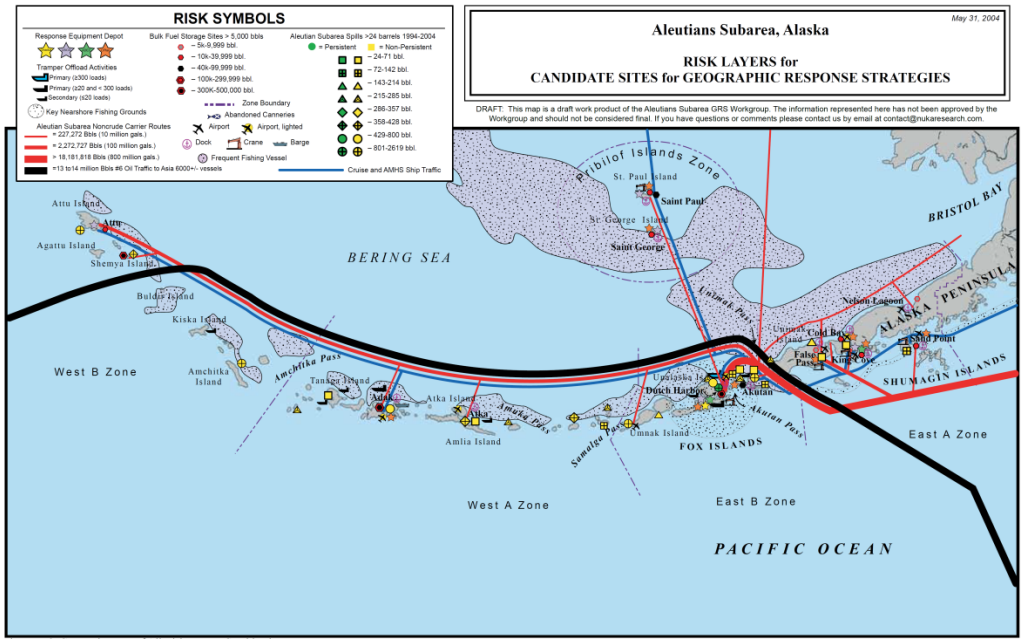


Figure 3. Map showing vessel transit routes for tankers (red and black lines), cruise ships, and the AMHS ferry (blue line).[5] Our analysis assumes that the project vessels will follow a similar route to these.

Mitigation Measures

The USACE informed NMFS that the project would incorporate the following mitigation measures.

General Work Practices and Environmental Protection

The contractor's work plan will include a comprehensive Environmental Protection Plan (EPP), which will detail steps that will be followed to avoid and minimize impacts to the environment. These include:

1. A list of Federal, State, and local laws, regulations, and permits concerning environmental protection, pollution control, and pollution abatement that are applicable to the contractor's proposed operations.
2. Plan showing measures for marking the limits of use areas and locations of all proposed sampling, excavations, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.
3. Methods for protection of features to be preserved within authorized work areas, as applicable (including trees, shrubs, grasses, and ground cover, landscape features, air and water quality, fish and wildlife, soil, tundra, and historical, archaeological, and cultural resources).
4. Daily inspections of vehicles, fuel containers, and other potential contaminant sources for leaks, and maintenance of spill-response equipment and materials in accordance to the project accident prevention plan (appended to the work plan).

[5] https://dec.alaska.gov/spar/ppr/response-resources/ppor/aleutians/

5. Methods of protecting surface water and groundwater during construction activities, including spring breakup runoff management.
6. Watching for possible ground-nesting birds near the work sites and following EPP procedures to protect any nests discovered.
7. Implementing rat prevention and control measures to avoid transporting rats into the project areas, or spreading the existing Adak Island rat population.

Specifically for NMFS concerns, the Corps has agreed to watch for and avoid marine mammals during operations as follows:

Helicopter Transit

8. All aircraft will transit at an altitude of 1,500 feet (ft) or higher, to the extent practical, while maintaining Federal Aviation Administration flight rules (e.g., avoidance of cloud ceiling, etc.), excluding takeoffs and landing.
9. If flights must occur at altitudes less than 1,500 ft due to environmental conditions, aircraft will make course adjustments, as needed, to maintain at least 1,500 ft separation from all observed marine mammals.
10. Helicopters will not hover or circle above marine mammals.
11. Project helicopter(s) transiting to and from the work site will keep a distance of at least 1 mile from Steller sea lion rookeries and haulouts, until final approach. During final approach, the helicopter will remain screened from view of the known Steller sea lion use areas, rookeries and haulouts, by terrain. This is especially important for the major rookery at Adak Lake Point, which is about 4 miles (mi) (6.4 km) from the Adak Island Cape Yakak project site.

Vessel Transit

These procedures apply to all vessels operating under contract for the proposed action.

12. Consistent with safe navigation, project vessels will avoid travelling within 3 nm of any of Steller sea lion rookeries or major haulouts (to reduce the risks of disturbance of Steller sea lions and collision with protected species). The only two major rookeries in the vicinity of 2019 FUDS work are Adak Lake Point rookery, near the Yakak project site, and the Akutan Cape Morgan rookery (in the Bogoslof special foraging area) northwest of the Unalga FUDS site. Locations of major rookeries and haulouts are provided in Enclosure 2 to this letter and in the Excel spreadsheet provided to USACE with the electronic version of this letter.
13. If travel within 3 nm of major rookeries or major haulouts is unavoidable, vessels will reduce speed to 9 knots (10 miles per hour [mph]) or less while within 3 nm of those locations.
14. Vessels and barges will not allow tow lines to remain in the water, and no trash or other debris will be thrown overboard, thereby reducing the potential for marine mammal entanglement.
15. The transit route for the vessels will avoid known Steller sea lion biologically important areas and designated critical habitat to the extent practicable.

16. Vessels may not be operated in such a way as to separate members of a group of marine mammals from other members of the group.[6]
17. If a vessel approaches within 1.6 km (1 mi) of observed whales, except in emergency situations, the vessel operator will take reasonable precautions to avoid potential interaction with the whales by taking one or more of the following actions, as appropriate:
    a. Steering around the whale(s) if possible.
    b. Reducing vessel speed to less than 5 knots (9 km/hour) and avoiding changes in direction and speed within 300 m (1000 ft) of the whale(s).
    c. Checking the waters immediately adjacent to the vessel(s) to ensure that no whales will be injured when the propellers are engaged.
18. Consistent with NMFS marine mammal viewing guidelines (https://alaskafisheries.noaa.gov/pr/mm-viewing-guide), operators of vessel should, at all times, avoid approaching marine mammals within 100 m (100 yards) of whales to avoid whale disturbance.
19. Vessels should take reasonable steps to alert other vessels in the vicinity of whale(s), and report any stranded, dead, or injured listed whale or pinniped to the Alaska Marine Mammal Stranding Hotline at 877-925-7773.
20. When transiting through Cook Inlet, project vessels will maintain a distance of at least 1.5 miles from the mean lower low water (MLLW) line of the Susitna Delta (MLLW line between the Little Susitna River and Beluga River; see Figure 5 below).

[6] A group is defined as three or more whales observed within a 500 m (1641 ft) area and displaying behaviors of directed or coordinated activity (e.g., group feeding).

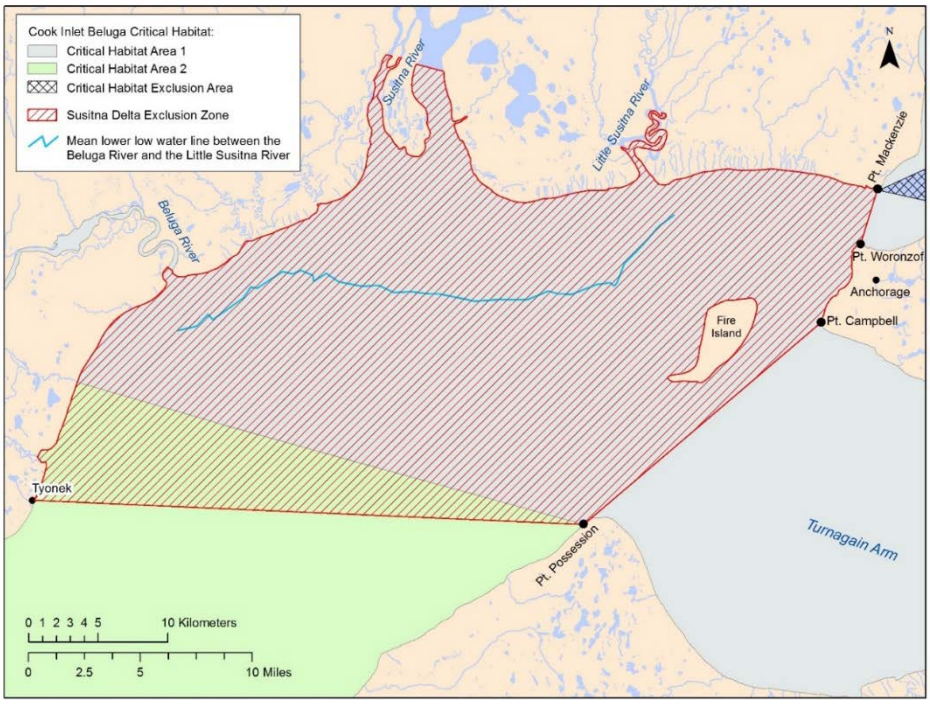


Figure 4. Susitna Delta Exclusion Zone, showing MLLW line between the Beluga and Little Susitna Rivers

21. Vessels will avoid transit within North Pacific right whale critical habitat (Figure 8) to the extent practicable. If transit within North Pacific right whale critical habitat cannot be avoided:

    a. Vessel operators must reduce speed to 10 knots (kts) (19 km/hour) and exercise caution while within North Pacific right whale critical habitat.

    b. Vessels will maneuver to keep at least 800 m (875 yards) away from any observed North Pacific right whale, and avoid approaching whales head-on (consistent with vessel safety).

    c. Vessels transiting through North Pacific right whale critical habitat must have Protected Species Observers (PSOs) actively engaged in sighting marine mammals. PSO requirements and procedures are presented in Enclosure 1 to this letter.

    d. A PSO is not required if vessels reduce speed to 5 kts while within North Pacific right whale critical habitat.

22. Although take is not authorized, if a listed marine mammal is taken (e.g., struck by a vessel), it must be reported to NMFS within 24 hours. The following will be included when reporting take of a listed species:

    a. Number of listed animals taken.

    b. The date, time, and location of the take.

    c. The cause of the take (e.g., vessel strike).

    d. The time the animal(s) was first observed and last seen.

e. Mitigation measures implemented prior to and after the animal was taken.

f. Contact information for PSO, if any, at the time of the collision, ship's Pilot at the time of the collision, or ship's Captain.

Listed Species and Critical Habitat

Cook Inlet Beluga Whales

The best historical abundance estimate of the Cook Inlet beluga whale population is about 1,300 individuals, from a 1979 survey (Calkins 1989). NMFS began conducting comprehensive and systematic aerial surveys of Cook Inlet belugas in 1993. These surveys documented a decline in beluga abundance from 653 whales in 1994 to 347 whales in 1998 (NMFS 2016b). In response to this decline NMFS designated the Cook Inlet beluga whale population as depleted under the Marine Mammal Protection Act in 2000. Despite cooperative efforts between NMFS and Alaska Native subsistence users, which dramatically reduced subsistence hunts, abundance data collected since 1999 indicate that the population has not increased, and the lack of population growth led NMFS to list the Cook Inlet beluga whale as endangered under the ESA on October 22, 2008 (73 FR 62919).

Since the 1970s, the summer range of belugas has contracted to mid and upper Cook Inlet, coincident with their decline in population size (Rugh *et al*. 2010). The range contraction brings animals in a small range close to Anchorage during summer months, where there is increased potential for disturbance from human activities. Information on Cook Inlet beluga whale biology and habitat (including critical habitat) is available at:
http://alaskafisheries.noaa.gov/pr/ci-belugas and
https://www.fisheries.noaa.gov/species/beluga-whale/spotlight

NMFS categorizes Cook Inlet beluga whales in the mid-frequency cetacean functional hearing group, with an applied frequency range between 150 hertz (Hz) and 160 kilohertz (kHz) (NMFS 2016c).

Cook Inlet Beluga Whale Critical Habitat

NMFS designated critical habitat for the Cook Inlet beluga whale on April 1, 2011 (76 FR 20180). NMFS excluded all waters off the Port of Anchorage east of a line connecting Cairn Point and Point MacKenzie and north of a line connecting Point MacKenzie and the north bank of the mouth of Ship Creek (Figure 5). Critical habitat is divided into two areas. Area 1 encompasses 1,909 square kilometers (km^2) (738 square miles [mi^2]) in northern Cook Inlet. The area contains shallow tidal flats and river mouths or estuarine areas, and it is important for foraging and calving and may also provide areas for as molting and escape from predators (Shelden *et al.*, 2003). Area 1 has the highest concentrations of beluga whales from spring through fall, as well as the greatest potential for adverse impact from anthropogenic threats. Area 2 consists of 5,891 km^2 (2,275 mi^2) of less concentrated spring and summer beluga whale use, but known fall and winter use.

Cook Inlet beluga whale critical habitat contains one or more of the following physical or biological features essential to the conservation of this species:

1. Intertidal and subtidal waters of Cook Inlet with depths less than 30 feet MLLW (9.1 m) and within 5 miles (8 km) of high and medium flow anadromous fish streams.
2. Primary prey species consisting of four species of Pacific salmon (Chinook, sockeye, chum, and coho), Pacific eulachon, Pacific cod, walleye pollock, saffron cod, and yellowfin sole.
3. Waters free of toxins or other agents of a type and amount harmful to Cook Inlet beluga whales.
4. Unrestricted passage within or between the critical habitat areas.
5. Waters with in-water noise below levels resulting in the abandonment of critical habitat areas by Cook Inlet beluga whales.

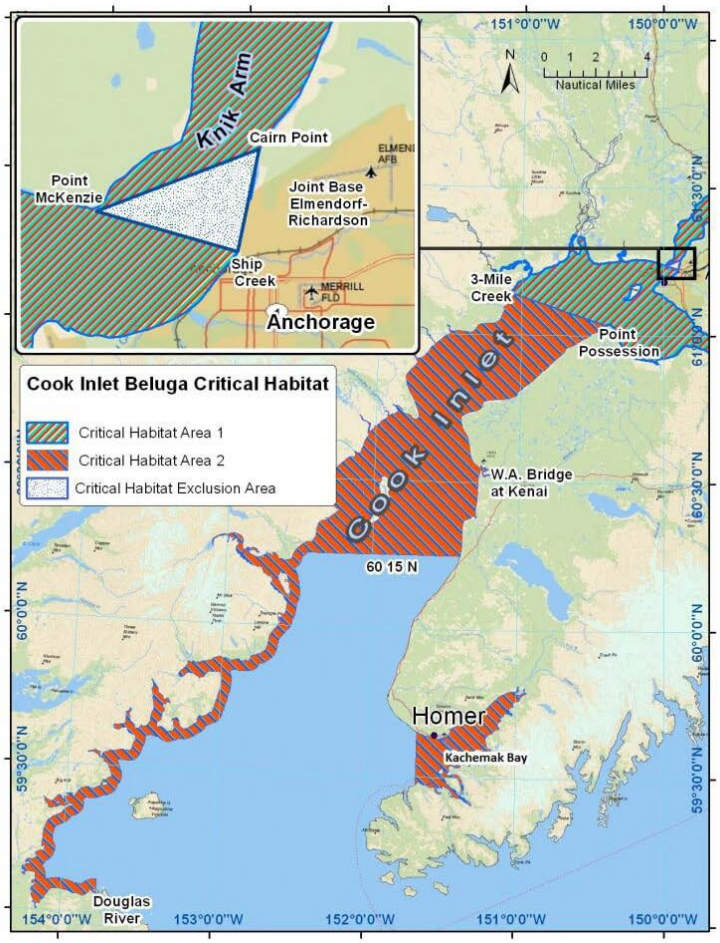


Figure 5. Designated Cook Inlet beluga critical habitat (76 FR 20180). Area 1 has the highest concentrations of beluga whales from spring through fall. Area 2 consists of less concentrated spring and summer beluga whale use, but known fall and winter use.

Western DPS Steller Sea Lions

The Steller sea lion was listed as a threatened species under the ESA on November 26, 1990 (55 FR 49204). In 1997, NMFS reclassified Steller sea lions into two DPSs based on genetic studies and other information (62 FR 24345); at that time the eastern DPS was listed as threatened and the western DPS was listed as endangered. On November 4, 2013, the eastern DPS was removed

from the endangered species list (78 FR 66139). Information on Steller sea lion biology and habitat (including critical habitat) is available at: http://alaskafisheries.noaa.gov/pr/steller-sea-lions

Endangered Western DPS Steller sea lions range throughout the Aleutian Islands. The vessel transit routes for FUDS work in the Aleutians (Figures 2-4) are largely within Steller sea lion critical habitat (Figure 7), or known high use areas (Himes Boor and Small 2012).

During summer Steller sea lions feed mostly over the continental shelf and shelf edge. Females attending pups forage within 20 nm of breeding rookeries (Merrick and Loughlin 1997), which is the basis for designated critical habitat around rookeries and major haulout sites. Maps depicting the relationship between project sites and Steller sea lion haulouts and rookeries are shown in Enclosure 2 to this letter. With this letter, we are also providing a spreadsheet of the coordinates of Steller sea lion rookeries and haulouts in the vicinity of FUDS project sites.

NMFS categorizes Steller sea lions in the otariid pinniped functional hearing group, with an applied frequency range between 60 Hz and 39 kHz in water (NMFS 2016c). The ability to detect sound and communicate underwater is important for a variety of Steller sea lion life functions, including reproduction and predator avoidance. However, the primary conservation concern related to FUDS project work is physical disturbance of Steller sea lions at rookeries and haulouts.

Steller Sea Lion Critical Habitat
NMFS designated critical habitat for Steller sea lions on August 27, 1993 (58 FR 45269). Designated critical habitat includes the following areas, as described at 50 CFR §226.202:

1. Terrestrial zones that extend 3,000 feet (0.9 km) landward from each major haulout and major rookery;
2. Air zones that extend 3,000 feet (0.9 km) above the terrestrial zone of each major haulout and major rookery in Alaska;
3. Aquatic zones that extend 3,000 feet (0.9 km) seaward of each major haulout and major rookery in Alaska that is east of 144° W longitude [not applicable to Aleutians FUDS projects];
4. Aquatic zones that extend 20 nm (37 km) seaward of each major haulout and major rookery in Alaska that is west of 144° W longitude; and
5. Three special aquatic foraging areas: the Shelikof Strait area, the Bogoslof area, and the Seguam Pass area, as specified at 50 CFR §226.202(c).

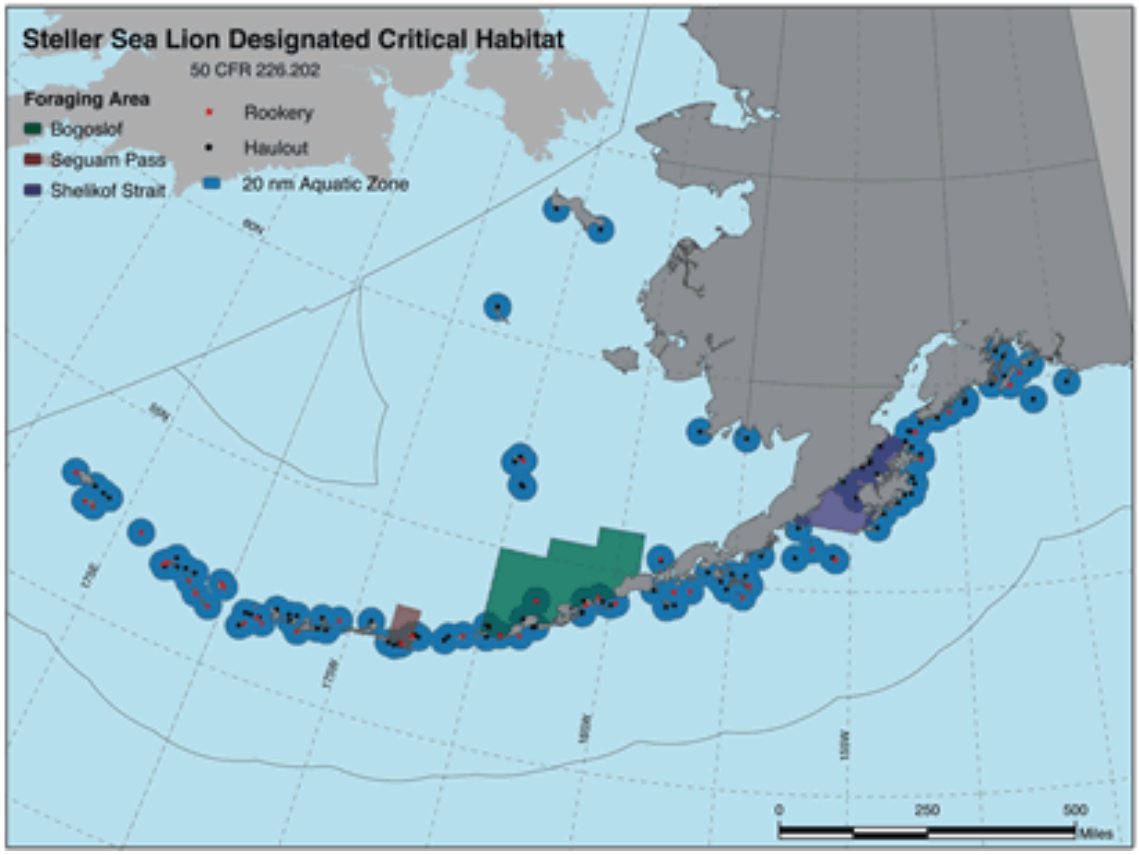


Figure 6. Designated Steller sea lion critical habitat (50 CFR 226.202).

Humpback whales - Western North Pacific DPS and Mexico DPS
In 1970, the humpback whale was listed as endangered worldwide under the Endangered Species Conservation Act of 1969 (ESCA) (35 FR 8491; June 2, 1970), primarily due to decimation from whale harvest. When the ESA was enacted in 1973, humpback whales were included in the List of Endangered and Threatened Wildlife and Plants as endangered and were considered as "depleted" under the MMPA.

Additional information on humpback whale biology and natural history is available at:
http://www.nmfs.noaa.gov/pr/species/mammals/whales/humpback-whale.html
http://alaskafisheries.noaa.gov/pr/humpback
http://www.fisheries.noaa.gov/pr/sars/pdf/stocks/alaska/2015/ak2015_humpback-cnp.pdf

Following the cessation of most legal whale harvest, humpback whale numbers increased. NMFS recently completed a global status review of humpback whales (Bettridge *et al.* 2015) and changed the status of humpback whales under the ESA in 2016 (81 FR 62260; September 8, 2016). The Western North Pacific DPS (which includes a small proportion of humpback whales found in the Aleutian Islands, Bering Sea, and Gulf of Alaska) is listed as endangered; the Mexico DPS (which includes a small proportion of humpback whales found in the Aleutian Islands, Bering Sea, Gulf of Alaska, and Southeast Alaska) is listed as threatened; and the Hawaii DPS (which includes most humpback whales found in the Aleutian Islands, Bering Sea, Gulf of Alaska, and Southeast Alaska) is no longer listed as endangered or threatened. Critical habitat has not been designated for the Western North Pacific or Mexico DPSs.

Based on an analysis of migration between winter mating/calving areas and summer feeding areas using photo-identification, Wade *et al.* (2016) concluded that whales feeding in Alaskan waters belong primarily to the Hawaii DPS (recovered), with small contributions of Western North Pacific DPS (endangered) and Mexico DPS (threatened) individuals. In the action area of the proposed FUDS work (Bering Sea/Aleutian Islands), we consider Hawaii DPS individuals to comprise 86.5 percent of the humpback whales present, Mexico DPS individuals to comprise 11.3 percent, and Western North Pacific DPS individuals to comprise 4.4 percent.

The coastal areas of the Gulf of Alaska and Aleutian Islands/Bering Sea are important foraging areas for humpback whales from June through September (Barlow *et al*. 2011, Friday *et al*. 2013, Ferguson *et al*. 2015). Humpback whales produce a variety of vocalizations ranging from 20 Hz to 10 kHz Richardson *et al*. 1995, Au *et al*. 2006, Vu *et al*. 2012). NMFS categorizes humpback whales in the low-frequency cetacean functional hearing group, with an applied frequency range between 7 Hz and 35 kHz (NMFS 2016c).

North Pacific Right Whales
The northern right whale was listed as an endangered species under the ESCA on June 2, 1970 (35 FR 8491), and continued to be listed as endangered following passage of the ESA. NMFS later divided the listing into two separate endangered species: North Pacific right whales and North Atlantic right whales (73 FR 120424; March 6, 2008). Only the North Pacific right whale occurs in Alaska. Information on biology and habitat of the North Pacific right whale is available at:
https://alaskafisheries.noaa.gov/pr/npr-whale
http://www.adfg.alaska.gov/index.cfm?adfg=rightwhale.main

North Pacific right whales were originally distributed from Baja California to the Bering Sea (Brownell *et al.* 2001). Before right whales in the North Pacific were heavily exploited by commercial whalers, concentrations were found in the Gulf of Alaska, eastern Aleutian Islands, south-central Bering Sea, Sea of Okhotsk, and Sea of Japan (Braham and Rice 1984). Originally, North Pacific right whales numbered at least 11,000 animals and may have been twice that number (AFSC 2010). Currently the population is estimated to number fewer than 100 animals; the minimum population estimate is 24 whales (Wade *et al*. 2011; Muto *et al.* 2017).

In the past 20 years, most right whale sightings during spring and summer feeding seasons (and most survey effort) have occurred in the southeastern Bering Sea, with a few records in the Gulf of Alaska (Muto *et al.* 2017). Of the 184 recent right whale sightings reported north of the Aleutian Islands, 182 occurred within the area designated as critical habitat in the Bering Sea (Goddard and Rugh 1998, Zerbini *et al*. 2009, Rone *et al*. 2012).

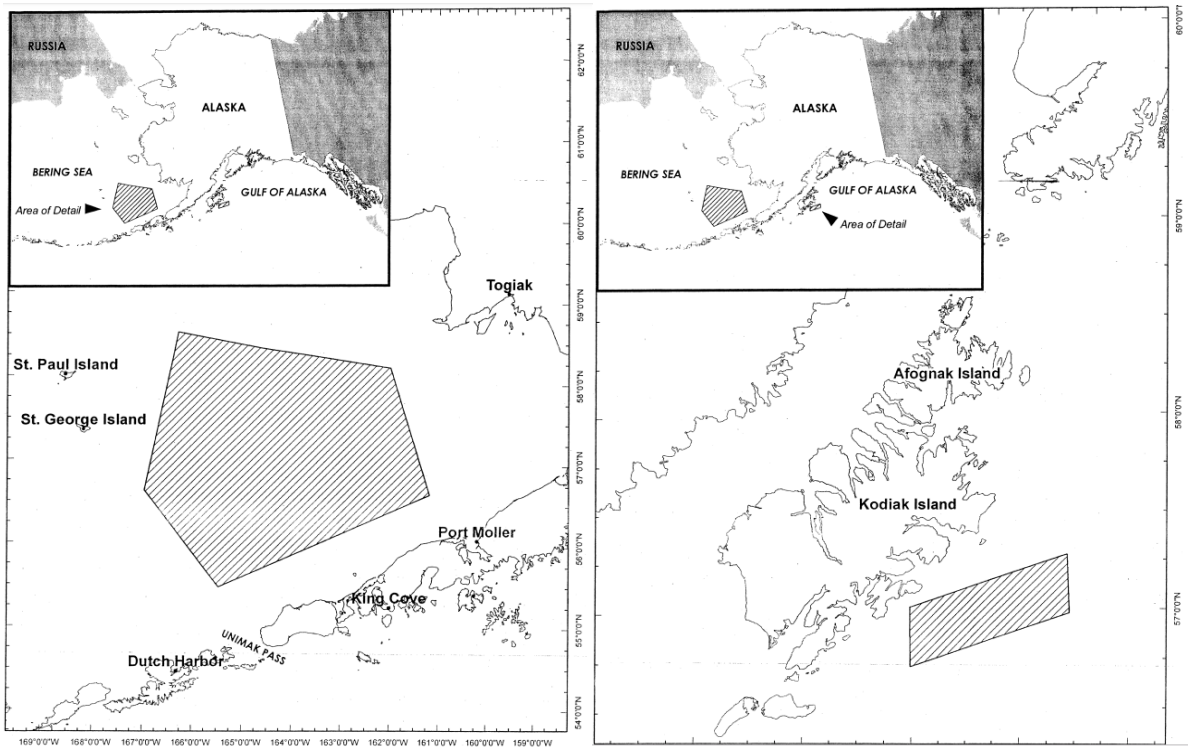
Data from bottom-mounted acoustic recorders deployed in October 2000, January 2006, May 2006, and April 2007 indicate that right whales remain in the southeastern Bering Sea from May through December with peak call detection in September (Munger *et al*. 2008). Additional recorders deployed from 2007 to 2013 indicate the presence of right whales in the southeastern Bering Sea almost year-round, with a peak in August and a sharp decline in detections in early January (Crance *et al*. 2017, Wright *et al*. 2018).

A study of right whale ear anatomy indicates a total possible hearing rage of 10 Hz to 22 kHz (Parks *et al*. 2007). NMFS categorizes right whales in the low-frequency cetacean functional hearing group, with an applied frequency range between 7 Hz and 35 kHz (NMFS 2016c).

North Pacific Right Whale Critical Habitat

The North Pacific right whale has two broad areas of critical habitat, designated by NMFS on April 8, 2008 (73 FR 19000). One of these is in the Gulf of Alaska south of Kodiak Island; the other is within Bristol Bay north of the Alaska Peninsula and eastern Aleutian Islands (Figure 8). The physical or biological features (PBFs) deemed necessary for the conservation of North Pacific right whales include:

- the presence of specific copepods (*Calanus marshallae, Neocalanus cristatus*, and *N. plumchris*), and euphausiids (*Thysanoessa Raschii*) that are primary prey items for the whales; and
- physical and oceanographic forcing that promotes high productivity and aggregation of large copepod patches.



(a) (b)

Figure 7. North Pacific right whale critical habitat in the Bering Sea (a) and Gulf of Alaska (b)

Fin Whales

The fin whale was decimated by commercial whaling in the 1800s and early 1900s. It was listed as an endangered species under the ESCA on June 2, 1970 (35 FR 8491) and continued to be listed as endangered following passage of the ESA. Information on fin whale biology and habitat is available at:
http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/finwhale.htm
http://www.fisheries.noaa.gov/pr/sars/pdf/stocks/alaska/2014/ak2014_finwhale.pdf

Fin whale sightings are common in the Gulf of Alaska during the summer months (Moore *et al*. 2006). In the southeast Bering Sea, fin whale calls were detected year round, with peaks in September through November, and February-March (Stafford *et al*. 2010). Fin whale calls were detected in the northeastern Chukchi Sea from July through October (Delarue *et al*. 2013), and have also recently been observed during summer feeding in the waters of the northern Bering Sea and southern Chukchi Sea. The acoustic data suggest that several fin whale stocks may feed in the Bering Sea, but only one of the putative Bering Sea stocks appears to migrate north into the Chukchi Sea to feed (Delarue *et al*. 2013).

Fin whales produce a variety of low-frequency sounds in the 10 to 200 Hz range (Watkins 1981, Watkins *et al*. 1987, Edds 1988, Thompson *et al*. 1992). While there is no direct data on hearing in low-frequency cetaceans, the applied frequency range is anticipated to be between 7 Hz and 35 kHz (NMFS 2016c). Synthetic audiograms produced by applying models to X-ray computed tomography scans of a fin whale calf skull imply the best hearing for fin whale calves ranges from 20 Hz to 10 kHz, with maximum sensitivities between 1 and 2 kHz (Cranford and Krysl 2015).

Sperm Whales

The sperm whale was listed as an endangered species under the ESCA on June 2, 1970 (35 FR 8491), and continued to be listed as endangered following passage of the ESA. Information on sperm whale biology and habitat is available at:

http://www.fisheries.noaa.gov/pr/species/mammals/whales/sperm-whale.html
http://www.fisheries.noaa.gov/pr/sars/pdf/stocks/alaska/2014/ak2014_spermwhale.pdf

Sperm whales are primarily found in deep waters; sightings of sperm whales in water less than 300 m (984 ft) are uncommon. Sperm whales are unlikely to be present in the shallow waters most potentially affected by proposed 2019 FUDS activities in the Aleutians.

Sperm whales produce a variety of vocalizations ranging from 0.1 to 20 kHz (Weilgart and Whitehead 1993, Goold and Jones 1995, Møhl *et al*. 2003, Weir *et al*. 2007). As odontocetes (toothed whales) sperm whales are considered mid-frequency cetaceans with an applied hearing frequency range of 150 Hz to 160 kHz (NMFS 2016c). The only direct measurement of hearing was from a young stranded individual from which auditory evoked potentials were recorded and indicated a hearing range of 2.5 to 60 kHz (Carder and Ridgway 1990).

Blue Whales

The blue whale was listed as an endangered species under the ESCA on June 2, 1970 (35 FR 8491), and continued to be listed as endangered following passage of the ESA. Critical habitat has not been designated for the blue whale. Blue whales may be present in the action area along the marine transit route from Anchorage to Aleutian project sites. Information on blue whale biology and habitat is available at:

https://www.fisheries.noaa.gov/species/blue-whale
https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock

The eastern North Pacific population of blue whales is believed to range as far north as the Gulf of Alaska (Monnahan *et al*. 2014). Acoustical data of whale calls suggests two populations of North Pacific blue whales found in the eastern and central north Pacific (Stafford 2003, Monnahan *et al*. 2014). The northeastern population feeds during summer off the U.S. West Coast and to a lesser extent in the Gulf of Alaska. Blue whales belonging to the central Pacific stock appear to feed in summer southwest of Kamchatka, south of the Aleutians, and in the Gulf of Alaska (Watkins *et* al. 2000; Muto *et al*. 2017). Individuals from both populations may be present in FUDS 2019 action areas as project vessels transit between Anchorage and the Aleutians.

Blue whales produce a variety of vocalizations, ranging from 16 Hz to 31 kHz (Erbe 2002). While there is no direct data on hearing in low-frequency cetaceans, the applied frequency is anticipated to range from 7 Hz to 35 kHz (NMFS 2016c).

Western North Pacific Gray Whale
The gray whale was listed as an endangered species under the ESCA on June 2, 1970 (35 FR 8491), and continued to be listed as endangered following passage of the ESA. There are two extant populations in the eastern and western North Pacific. The eastern population was delisted in 1994 (59 FR 31094). The western population remains very low, around 200 individuals, and is listed as endangered under the ESA. Critical habitat has not been designated for the gray whale. Gray whales may be present in the action area along the marine transit route from Anchorage to the Aleutian Islands.

Information on gray whale biology and habitat is available at:

https://www.fisheries.noaa.gov/species/gray-whale
https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock

Gray whales produce a variety of vocalizations, which have been reported to range from 20 Hz to 10 kHz (Erbe 2002). While there is no direct data on hearing in low-frequency cetaceans, the applied frequency is anticipated to range from 7 Hz to 35 kHz (NMFS 2016c).

Effects of the Action
For purposes of the ESA, "effects of the action" means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is "not likely to adversely affect" listed species or critical habitat is that all of the effects of the action are expected to be insignificant, discountable, or completely beneficial. Insignificant effects relate to the size of the impact and would not be able to be meaningfully measured or detected, and should never reach the scale where take occurs. Discountable effects are those that are extremely unlikely to occur. Beneficial effects are contemporaneous positive effects without any adverse effects to the species.

This consultation includes recent NMFS guidance on the term "harass," which means to: "create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt

normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering" (Wieting 2016).

The potential effects of the proposed action on listed species and critical habitat include vessel strikes, disturbance from vessels and helicopters, and exposure to potentially harmful materials being removed from the project sites.

Vessel Strike
Vessels transiting the marine environment have the potential to collide with, or strike, marine mammals (Laist *et al*. 2001, Jensen and Silber 2004). From 1978 to 2012, there were at least 108 recorded whale-vessel collisions in Alaska, with the majority occurring in Southeast Alaska (Neilson *et al*. 2012). Among larger whales, humpback whales were found to be the most frequently documented victims of ship strikes in Alaska, accounting for 86 percent of all reported collisions. Fin whales accounted for 2.8 percent of reported collisions, gray whales 0.9 percent, and sperm whale 0.9 percent. The probability of strike depends on the frequency, speed, and route of the marine vessels, as well as distribution and density of marine mammals in the area. Vanderlaan and Taggart (2007) used observations to develop a model of the probability of lethal injury based upon vessel speed. They projected that the chance of lethal injury to a whale struck by a vessel travelling at speeds over 15 kts (27.78 km/hr) is approximately 80 percent while for vessels travelling between 8.6 and 15 kts (15.92 km/hr), the probability of lethal injury drops to about 20 percent.

Although risk of ship strike has not been identified as a significant concern for Steller sea lions (Loughlin and York 2000), the recovery plan for this species (NMFS 2008) states that Steller sea lions may be more susceptible to ship strike mortality or injury in harbors or near rookeries or haulouts, where animals are concentrated. To minimize this risk, project vessels will avoid travelling within 3 nm (5.5 km) of major Steller sea lion haulouts or rookeries where possible. In instances where approaching within 3 nm (5.5 km) of a major Steller sea lion haulout or rookery is unavoidable, vessels will reduce speed to 9 kts (10 mph) or less.

Collision with pinnipeds is not expected to occur due to their speed and maneuverability and the slow velocity of project vessels. Project vessels will either avoid North Pacific right whale designated critical habitat, or they will travel through designated critical habitat at speeds less than 10 kts (18.52 km/h) and will deploy a trained protected species observer (PSO) that will maintain a vigilant watch intended to avoid whale collisions. Project vessels will also adhere to NMFS marine mammal viewing guidelines and NMFS regulations regarding vessels in the vicinity of humpback whales (see Enclosure 1 for details). Given the expected effectiveness of these measures, the low density of listed cetaceans, and the ability of pinnipeds to avoid vessels due to their maneuverability, the probability of a vessel striking a listed marine mammal is very small, and thus adverse effects to these species are extremely unlikely to occur. Therefore, we conclude that the adverse effects from vessel strikes related to 2019 FUDS activities are discountable.

Disturbance from Vessels
Auditory or visual disturbance to listed species could occur during vessel transit from Anchorage to project sites in the Aleutians. The primary underwater noise associated with the proposed vessel operation is the continuous noise produced from propellers and other on-board equipment.

Other noise sources include onboard diesel generators and the main engine, but both are subordinate to propeller harmonics (Gray and Greeley 1980) and cavitation. Sound source levels from vessels were reported to range from 158 ±2 dB (research vessel) to 186 ±2dB (oil tanker), with frequencies between 71 and 141 Hz (Hatch *et al*. 2008).

Whales' reactions to vessel disturbance may include approach or deflection from the noise source, low level avoidance or short-term vigilance behavior, or short-term masking of echolocation or acoustic communication among individuals. Behavioral reactions to vessels can vary depending on the type and speed of the vessel, the spatial relationship between the animal and the vessel, the species, and the behavior of the animal prior exposure. Response also varies between individuals of the same species exposed to the same sound, depending on age and individual whales' past experiences. Vessels moving at slow speeds and avoiding rapid changes in direction or engine speed may be tolerated by some whales. Other individuals may deflect around vessels and continue on their migratory path; these behaviors are not likely to result in significant disruption of normal behavioral patterns. Whales have been known to tolerate slow-moving vessels within several hundred meters, especially when the vessel is not directed toward the animal and when there are no sudden changes in direction or engine speed (Wartzok *et al*. 1989, Richardson *et al*. 1995, Heide-Jørgensen *et al*. 2003).

The presence and movements of vessels in the vicinity of pinnipeds can cause disturbance to their normal behaviors, especially if they are hauled out on land (Jansen *et al*. 2010). The impacts of disturbance on Steller sea lions have not been well studied, but will likely depend on season and their stage in the reproductive cycle (Kucey and Trites 2006). Close approach by humans, boats, or aircraft will cause hauled out sea lions to go into the water, and can cause some animals to move to other haulouts (Calkins *et al*. 1982, Kucey 2005). Vessels that approach rookeries and haulouts at slow speed, and in a manner that sea lions can observe the approach, have less effect than fast approaches and a sudden appearance. Sea lions may become accustomed to repeated slow vessel approaches, resulting in minimal response. Although low levels of occasional disturbance may have little long-term effect, areas subjected to repeated disturbance may be permanently abandoned (Kenyon 1962, Thorsteinson and Lensink 1962).

Although some marine mammals could receive sound levels in exceedance of the acoustic threshold of 120 dB from the vessels during this proposed project, take is unlikely to occur. Vessel transit for this proposed project is not likely to acoustically harass listed species, per the steps to assess harassment in the Interim Guidance on the ESA Term "Harass" (Wieting 2016). While listed marine mammals will likely be exposed to vessel noise from this proposed project, the noise will be low-frequency, with much of the acoustic energy occurring below frequencies associated with best hearing for the marine mammals expected to occur in the area. The duration of the exposure will be temporary (a few minutes), because the vessel will be in transit. The noise from the vessel will be continuous sound as it transits through the area, alerting marine mammals of their presence before the received level of sound exceeds 120 dB. Therefore, a startle response is not expected. Rather, deflection and avoidance are expected to be common responses in those instances where there is any response at all. The implementation of mitigation measures is expected to further reduce the number of times listed marine mammals react to transiting vessels.

With implementation of the mitigation measures incorporated into the project design, vessel transit is not expected to significantly disrupt normal marine mammal behavioral patterns (breeding, feeding, sheltering, resting, migrating, etc.), making acoustic harassment of listed marine mammals very unlikely. Therefore, we have determined that vessel traffic is extremely unlikely to harass listed marine mammals, and such effects are therefore discountable.

Disturbance from Helicopters

The noise and visual presence of aircraft can result in behavioral changes in whales such as diving, altering course, vigorous swimming, and breaching (Patenaude *et al*. 2002). However, helicopter paths to project sites are expected to occur primarily over land, making the probability of disturbance of whales due to helicopters very small. Therefore, we conclude that adverse effects from helicopter disturbance on listed whales are discountable.

Aircraft can also result in disturbance to Steller sea lions, especially if they are hauled out on land. Disturbance on a rookery or haulout could lead to serious injury or death, mainly from trampling. The helicopter paths for 2019 FUDS projects in the Aleutians are expected to occur over primarily land, and with the implementation of the mitigation measures described above, the probability of disturbance to Steller sea lions from helicopters is very small, and thus adverse effects to Steller sea lions are extremely unlikely to occur. Therefore, we conclude that adverse effects from helicopters on Steller sea lions are discountable.

Exposure to Harmful Materials

It is possible marine mammals and their habitats could be exposed to potentially harmful materials (e.g., petroleum products) through leaks or spills during transport of samples and waste materials from shore to a project vessel. Marine mammals could come into contact with toxic materials through skin contact, inhalation of vapors, or ingestion of contaminated food sources, Potential effects can be physical (e.g., oil reducing thermal properties of hair) or physiological (e.g., irritating respiratory membranes, bioaccumulation resulting in reduced reproductive success or direct toxicity (Geraci 2012; Helm *et al*. 2015).

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All waste materials and samples generated during the field work will be appropriately managed and containerized and will be carefully secured while in transit, in accordance with applicable regulations and policies.[7] Therefore, we consider the probability of leaks and spills occurring to be extremely unlikely, and we conclude that adverse effects from exposure to harmful materials to listed marine mammals are discountable.

[7] The U.S. Department of Defense (DoD) has identified the U.S. Army as the executive agent for the FUDS Program. The U.S. Army, in turn, has delegated the FUDS program management and execution to the U.S. Army Corps of Engineers. Regulations governing such activities include:
CERCLA 42 U.S.C. §9601 et seq. (1980)
Safe Drinking Water Act (42 U.S.C. §300f et seq.; 40 CFR §§ 141-149)
Resource Conservation and Recovery Act (42 U.S.C. §6901 et seq.; 40 CFR §§ 240-282)
Clean Water Act (33 U.S.C. §1251; 40 CFR §§ 100-136, 140, 230-233, 401-471, 501-503)
Clean Air Act (42 U.S.C. §§ 7401, 7412(r) and 7603)
State Superfund Laws & RCRA Programs, and State & Tribal hazardous waste management programs

Effects to Critical Habitat

The proposed project occurs within designated critical habitat for Steller sea lions, Cook Inlet beluga whales, and potentially North Pacific right whales. We evaluate effects to each of the physical and biological features of these critical habitats below.

Cook Inlet Beluga Critical Habitat

1. *Intertidal and subtidal waters of Cook Inlet with depths <30 feet (MLLW) and within 5 miles of high and medium flow anadromous fish streams.*

   Effects of this proposed project on Cook Inlet beluga whale critical habitat are expected to be limited to noise from the vessel transiting through critical habitat and the associated risk of fuel or hazardous chemical spills from the vessel itself, or chemicals from the project cleanup site while being transported to Anchorage. All project vessels transiting through Cook Inlet will maintain a distance of greater than 1.5 mi from the MLLW line of the Susitna Delta (MLLW line between the Little Susitna River and Beluga River), thus avoiding some of the most-used critical habitat in the inlet. In addition, project-related vessel presence in these waters will be temporary in nature, and low in impact (transitory acoustic effects that do not likely result in harassment, as established earlier in this document).

   This PBF could be affected by spilled fuel or other petroleum products. However, the likelihood of a spill is low, as documented above. In the unlikely event that a small spill were to occur, the extreme tidal currents in Cook Inlet would act to quickly dissipate spilled product. Small spills would remain on the surface for only a very short time (on the order of hours), and would have a very small effect on this PBF, likely not encountering more than one 5-mile radius zone associated with a single anadromous fish stream. Resulting effects to this PBF would likely be immeasurably small.

   The probability of acoustic impacts from the vessel and/or a small spill of fuel or other toxic chemicals occurring is very small, and thus adverse effects to this PBF are extremely unlikely to occur. We conclude that the effects of proposed project vessel traffic and associated spills on this PBF are insignificant and discountable.

2. *Primary prey species consisting of four species of Pacific salmon (Chinook, sockeye, chum,and coho), Pacific eulachon, Pacific cod, walleye pollock, saffron cod, and yellowfin sole.*

   Fish, which comprise the primary diet of Cook Inlet beluga whales, can also be affected physiologically and behaviorally by noise (Normandeau Associates 2012). Vessel noise is well below the injury threshold for fish (Hastings and Popper 2005). Because there will be no sudden onset of noise from project vessel activity, the impact to fish from vessel noise is expected to be limited to temporary avoidance of waters in the immediate vicinity (within a few meters) of the vessel. Therefore, we expect the acoustic impacts upon this PBF will be immeasurably small.

   Beluga prey species, particularly larval fish, could also be affected by non-acoustic aspects of vessel operation, such as hull shear, entrainment through the propulsion system, exposure to turbulence in the propeller wash, and wake stranding (Odom *et al*. 1992). However, studies have found it difficult to detect vessel-related mortality (Holland

1986, Odom *et al*. 1992), and have found fish larvae to be relatively resilient to such disturbances. Furthermore, such effects would be limited to a *de minimis* proportion of prey within critical habitat.

Prey may also be adversely affected by leaks or spills of toxic chemicals. However, as we previously discussed, the probability of leaks or spills of toxic chemicals is very small, and the effects of small fuel spills in Cook Inlet are expected to be minor. We therefore conclude that the effects of this proposed project on PBF 2 are insignificant (small spills, vessel noise, non-acoustic impacts of vessels on fish) or discountable (large spills).

3. *Waters free of toxins or other agents of a type and amount harmful to Cook Inlet beluga whales.*

   Cook Inlet beluga whale critical habitat could be contaminated if a leak or spill of toxic chemicals from the vessel, or chemicals from the cleanup site occurred during transport back to Anchorage. As discussed above, the risk of a spill is considered to be very low, and if a spill occurs, it is likely to be very small. We therefore conclude that the effects of this proposed project on PBF 3 are insignificant and discountable.

4. *Unrestricted passage within or between the critical habitat areas.*

   Vessel transit is not expected to restrict the passage within or between the critical habitat areas. Cook Inlet is on average 20 to 32 mi (32.2 or 51.5 km) wide in the northern and central regions, respectively (ADFG 2018), allowing beluga whales to move away from or around vessels. Course alterations will be made to avoid marine mammal disturbance in a manner that avoids cutting in front of the direction of travel of marine mammals. Transiting vessels are not novel within Cook Inlet, and we have no information that suggests that belugas are restricted in their movements due to the presence of individual transitory vessels. We have therefore determined that this proposed project is very unlikely to inhibit unrestricted passage of belugas within or between critical habitat areas, and conclude that the proposed project's effects on PBF 4 are discountable.

5. *Waters with in-water noise below levels resulting in the abandonment of critical habitat areas by Cook Inlet beluga whales.*

   Received sound levels associated with project vessels are anticipated to decline to 120 dB re 1µPa rms within 2,000 m (Blackwell and Greene 2003). Although some marine mammals could receive sound levels exceeding 120 dB from project vessels, in-water noise is not expected to cause Cook Inlet beluga whales to abandon critical habitat areas. With the possible exception of waters off of the Kenai River during the summer salmon fishing season, we have no information suggesting that any anthropogenic activities have excluded Cook Inlet belugas from any portion of their critical habitat. The transitory nature of project vessels, the relatively low magnitude of acoustic output from the vessel and the small number of trips (departing and returning) expected to be made by these vessels make it very unlikely that this proposed project will result in any abandonment of critical habitat areas by Cook Inlet Beluga Whales. Therefore, we conclude that the effects of this proposed project on PBF 5 are discountable.

North Pacific Right Whale Critical Habitat
According to the mitigation measures incorporated into the project design, project the vessels will avoid transit through North Pacific right whale critical habitat whenever possible. If the vessels do transit through critical habitat due to unavoidable weather-related conditions, prey species could be affected by spills.

However, given the plethora of laws and policies regulating this activity (see above) the probability of a fuel or chemical spill occurring that would have more than a *de minimis* effect on the right whales planktonic prey is very small. Furthermore, vessel traffic associated with this proposed project represents a very small incremental increase in vessel traffic. We therefore conclude that the effects of this proposed project on North Pacific right whale critical habitat, including the planktonic prey that comprise the PBF for this critical habitat, are discountable.

Steller Sea Lion Critical Habitat

1. *Terrestrial zones that extend 3,000 ft (0.9 km) landward from each major haulout and major rookery in Alaska.*

   Project activities on land will remain outside the 3,000-foot terrestrial zone of Steller sea lion critical habitat. As shown in Enclosure 2 to this letter, major haulouts and rookeries in the vicinity of proposed 2019 FUDS projects include:

   Umnak Island – The Cape Aguliuk haulout is located on the west side of the island, some 40 km distant from the east side Otter Beach FUDS landing site. A large volcano sits directly between these two points (Enclosure 2, Map 2).

   Adak Island – The Lake Point rookery is located on the west side of the peninsula approximately 4 km from the south side Yakak landing site (Enclosure 2, Map 3).

   Unalga Island – FUDs site is some 10 km from the Cape Morgan rookery (which is not on Unalga Island) (Enclosure 2, Map 4).

   Great Sitkin Island – Three major haulouts are located on the north side of the island, all about 12 km from the south-side vessel landing site and separated therefrom by a snow-capped peak (Enclosure 2, Map 6).

   No major haulouts or rookeries occur near the 0.9 km terrestrial buffer. The probability of terrestrial disturbance from project activities is therefore very small, and thus adverse effects on the terrestrial zones are extremely unlikely to occur. We conclude effects on the terrestrial zones are discountable.

2. *Air zones that extend 3,000 ft (0.9 km) above the terrestrial zone of each major haulout and major rookery in Alaska.*

   The implementation of the mitigation measures for the project helicopters will make the probability of disturbance from the helicopter transit very small, thus adverse effects to the air zone of Steller sea lion critical habitat are extremely unlikely to occur. We conclude that adverse effects from the helicopter transit to the air zones above major rookeries and haulouts are discountable.

3. *Aquatic zones that extend 3,000 ft (0.9 km) seaward of each major haulout and major rookery in Alaska that is east of 144ºW longitude.*

The project will not occur east of 144ºW longitude, and there will be no effects to this PBF of Steller sea lion critical habitat.

4. *Aquatic zones that extend 20 nm seaward from each major rookery and major haulout west of 144°W longitude.*

   The project cleanup sites in the Aleutians are located within the 20-nautical mile aquatic zones of Steller sea lion critical habitat, and a large portion of the vessel transit route from Anchorage to Adak is within the 20-nautical mile aquatic zone of Steller sea lion critical habitat. Vessel operations will be transitory and short-term; therefore, we expect the resulting acoustic impacts on these zones to be too small to meaningfully measure or detect. It is possible that potentially harmful materials (e.g., petroleum products) could leak or spill into critical habitat during transport of these materials from shore to a project vessel. However, all waste materials and samples generated during the field work will be appropriately managed and containerized and will be carefully secured while in transit, according to strict regulations, such that leaks or spills are extremely unlikely. Therefore, we conclude that effects of project cleanup activities and vessel transit on this feature are insignificant and discountable.

5. *Three special aquatic foraging areas: the Shelikof Strait area, the Bogoslof area, and the Seguam Pass area, as specified at 50 CFR § 226.202(c).*

   Depending upon vessel routing, it is possible that project vessels may transit near or through the Shelikof Strait, Bogoslof, and/or Seguam Pass special aquatic foraging areas. Vessel operations will be transitory and short-term, and with the implementation of the mitigation measures, we expect that the probability of impacts from vessel noise or vessel strikes is very small. Thus adverse effects from vessel transit through the special aquatic foraging areas are discountable.

Conclusion

Based on this analysis, NMFS concurs with your determination that the proposed action may affect, but is not likely to adversely affect, endangered Western DPS Steller sea lions, endangered Cook Inlet beluga whales, endangered Western Pacific DPS humpback whales, threatened Mexico DPS humpback whales, endangered North Pacific right whales, endangered western North Pacific gray whales, endangered fin whales, endangered blue whales, or endangered sperm whales. NMFS also concurs that the proposed action is not likely to adversely modify or destroy designated critical habitat for the Steller sea lion, Cook Inlet beluga whale, or North Pacific right whale.

Reinitiation of consultation is required where discretionary federal involvement or control over the action has been retained or is authorized by law and if

(1) take of listed species occurs;

(2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;

(3) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter; or

(4) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16).

Please direct any questions regarding this letter to Judy Jacobs at judy.jacobs@noaa.gov or 907-350-3670.

Sincerely,

Jonathan M. Kurland
Assistant regional Administrator
for Protected Resources

cc: Chris Floyd Christopher.B.Floyd@usace.army.mil

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ENCLOSURE 1

REQUIREMENTS FOR PROTECTED SPECIES OBSERVERS WHEN FUDS PROJECT VESSELS MUST PASS THROUGH RIGHT WHALE CRITICAL HABITAT WHEN TRANSITING TO OR FROM PROJECT SITES

To the extent possible, *Vessels will avoid transit within North Pacific right whale critical habitat.*

If transit within North Pacific right whale critical habitat cannot be avoided the following conditions will apply:

1. Vessel operators must exercise caution and reduce speed to 10 knots (19 km/hr) while within North Pacific right whale critical habitat.

2. Vessels will maneuver to keep at least 800 m (875 yards) away from any observed North Pacific right whale, and avoid approaching whales head-on consistent with vessel safety.

3. Vessels transiting through North Pacific right whale critical habitat must have **Protected Species Observers (PSOs)** actively engaged in sighting marine mammals. PSOs will:

a) be trained in marine mammal identification and behaviors.

b) have no other primary duty than to watch for and report on events related to marine mammals.

c) work in shifts lasting no longer than 4 hours with at least a 1-hour break between shifts, and will not perform duties as a PSO for more than 12 hours in a 24-hour period (to reduce PSO fatigue).

d) have the following to aid in determining the location of observed listed species, to take action if listed species enter the exclusion zone, and to record these events:

i) Binoculars; Range finder; GPS; Compass;

ii) Two-way radio communication with construction foreman/superintendent; and

iii) A log book of all activities which will be made available to NMFS upon request.

4. PSOs will record all marine mammals observed within North Pacific right whale critical habitat using NMFS-approved observation forms. Sightings of North Pacific right whales will be transmitted to NMFS within 24 hours. These sighting reports will include:

a) date, time, and geographic coordinates of the sighting(s);species observed, number of animals observed per sighting event; and number of adults/juveniles/calves per sighting event (if determinable);

b) minimum distances between right whales and vessel; and

c) whales' behaviors and movement types versus project activity at time of sighting.Because sightings of North Pacific right whales are uncommon, and photographs that allow for identification of individual whales from markings are extremely valuable, photographs

will be taken if feasible, but in a way that does not involve disturbing the animal (e.g., if vessel speed and course changes are not otherwise warranted, they will not take place for the purpose of positioning a photographer to take better photos. Any photographs taken of North Pacific right whales will be submitted to NMFS.

d) Reports, observation forms, ship logs, and North Pacific right whale sightings will be transmitted to: National Marine Fisheries Service, Protected Resources Division, greg.balogh@noaa.gov, verena.gill@noaa.gov, and alicia.bishop@noaa.gov Individual North Pacific Right Whale sightings may also be called in to (907) 271-3023 or 907-271-1937. In the event that this contact information becomes obsolete, call 907-271-5006 for updated contact information.

Coordinates of North Pacific right whale critical habitat are as follows:

Bering Sea: An area described by a series of straight lines connecting the following coordinates in the order listed: 58° 00′ N/168° 00′ W; 58° 00′ N/163° 00′ W; 56° 30′ N/161° 45′ W; 55° 00′ N/166° 00′ W; 56° 00′ N/168° 00′ W; and 58 °00′ N/168° 00′ W.

Gulf of Alaska: An area described by a series of straight lines connecting the following coordinates in the order listed: 57° 03′ N/153° 00′ W; 57° 18′ N/151° 30′ W; 57° 00′ N/ 151° 30′ W; 56° 45′ N/153° 00′ W; and 57° 03′ N/153° 00′ W.

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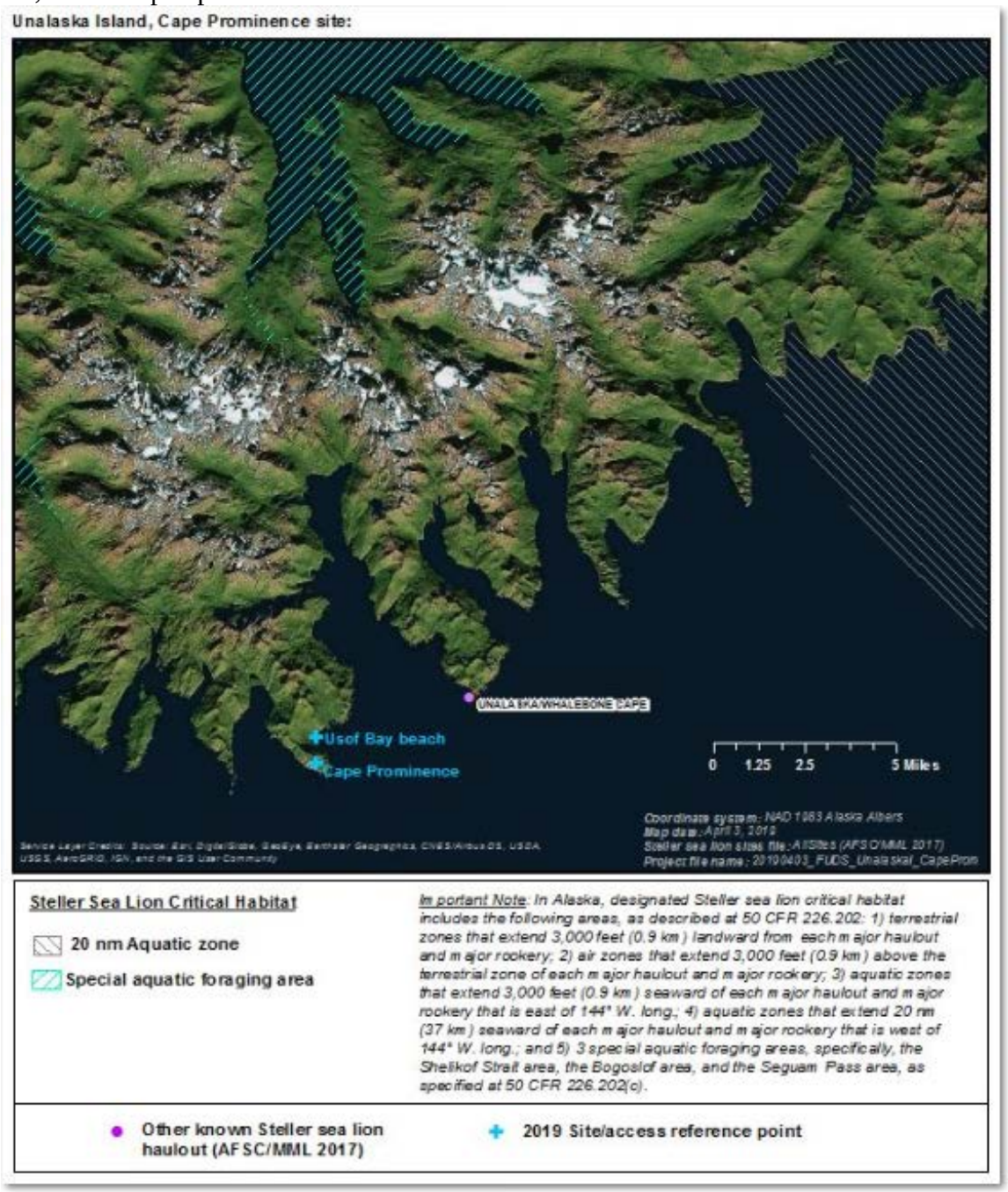
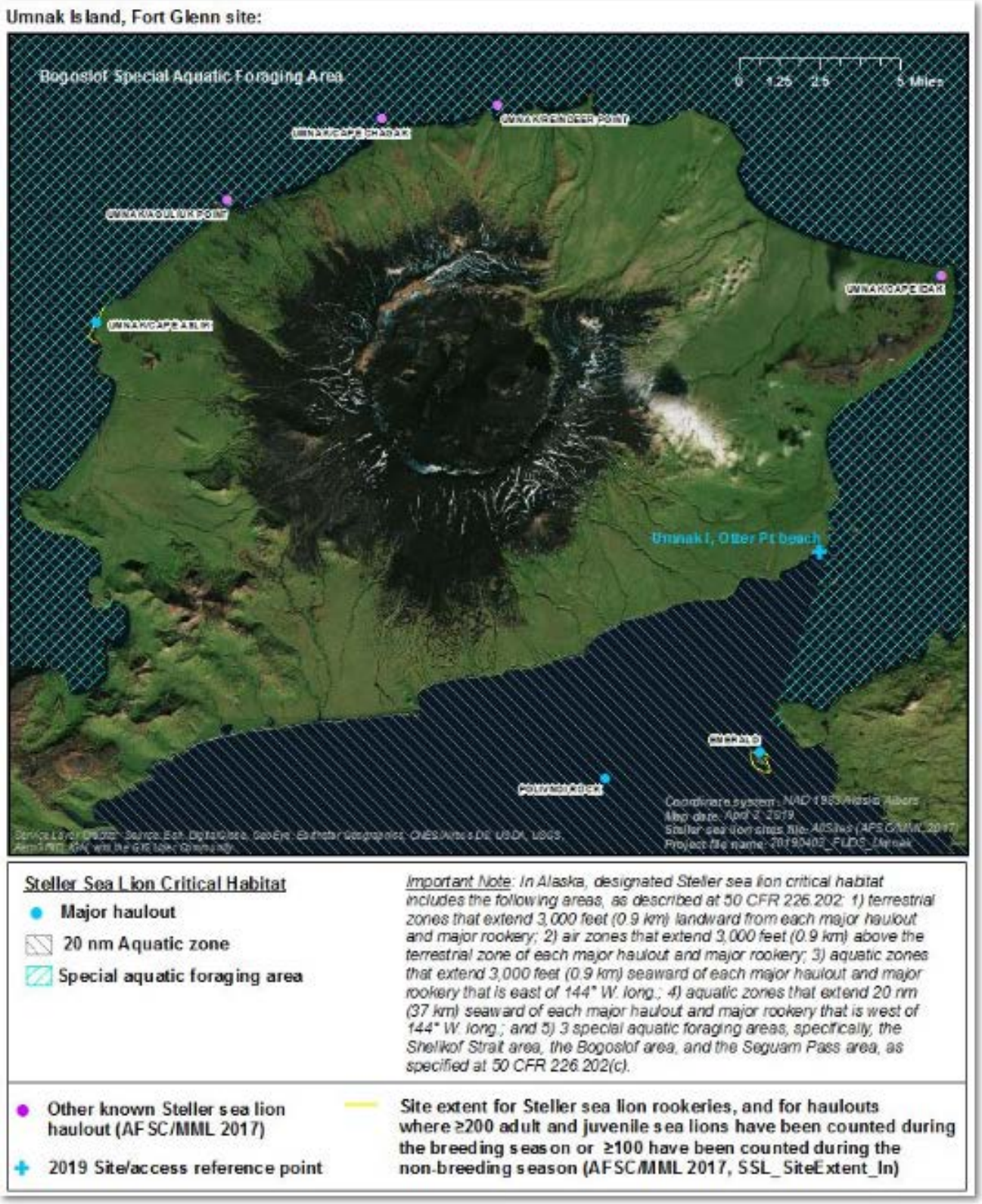
ENCLOSURE 2

LOCATIONS OF IMPORTANT STELLER SEA LION SITES RELATIVE TO FUDS 2019 PROJECT SITES IN THE ALEUTIANS

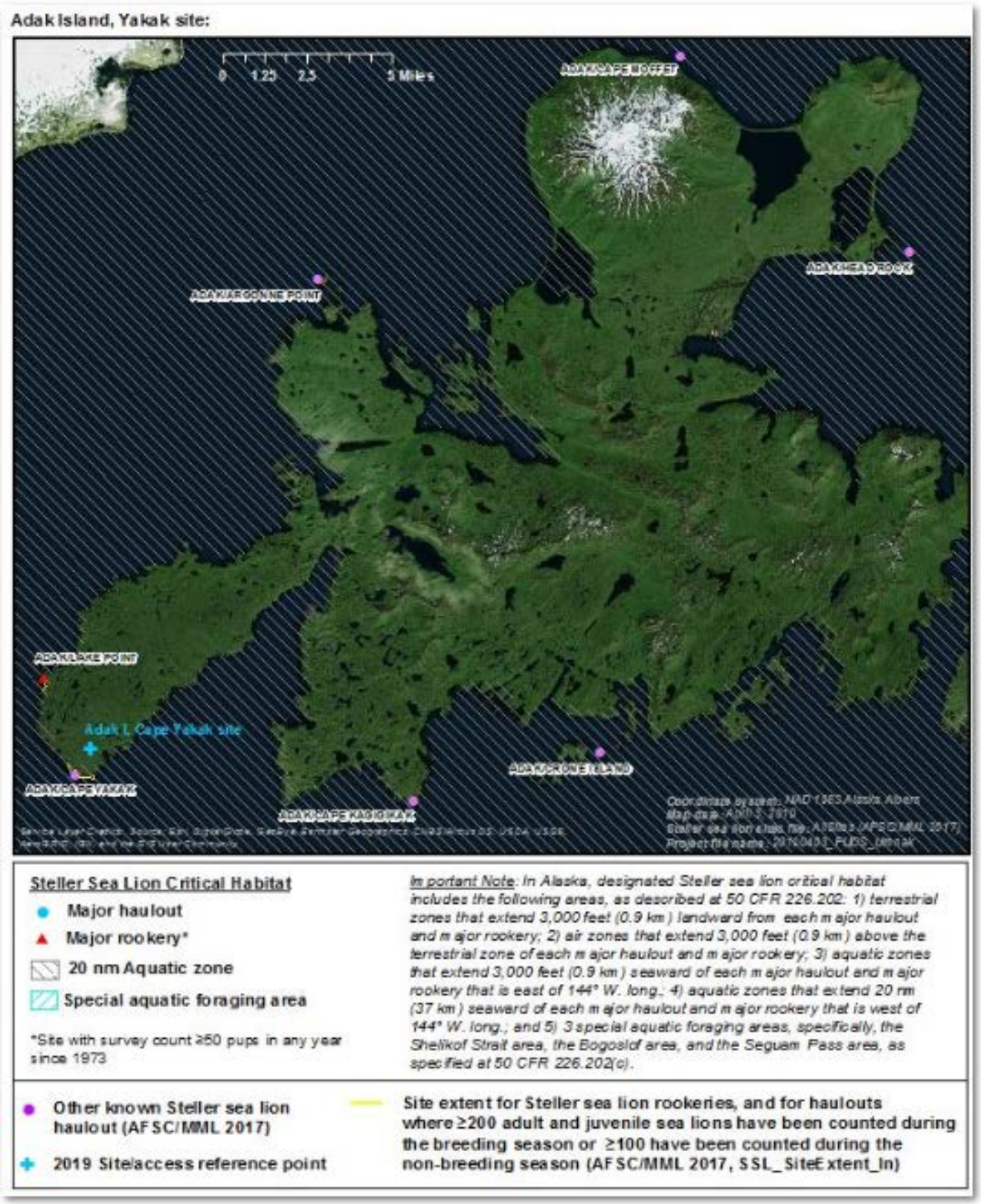
The following maps depict the locations of Steller sea lion (*Eumetopias jubatus*) known haulouts, rookeries, aquatic foraging zone delineations and special foraging areas relative to FUDS 2019 work. No Steller sea lion critical habitat exists in the vicinity of the Port Heiden project, so no map is provided for that site.



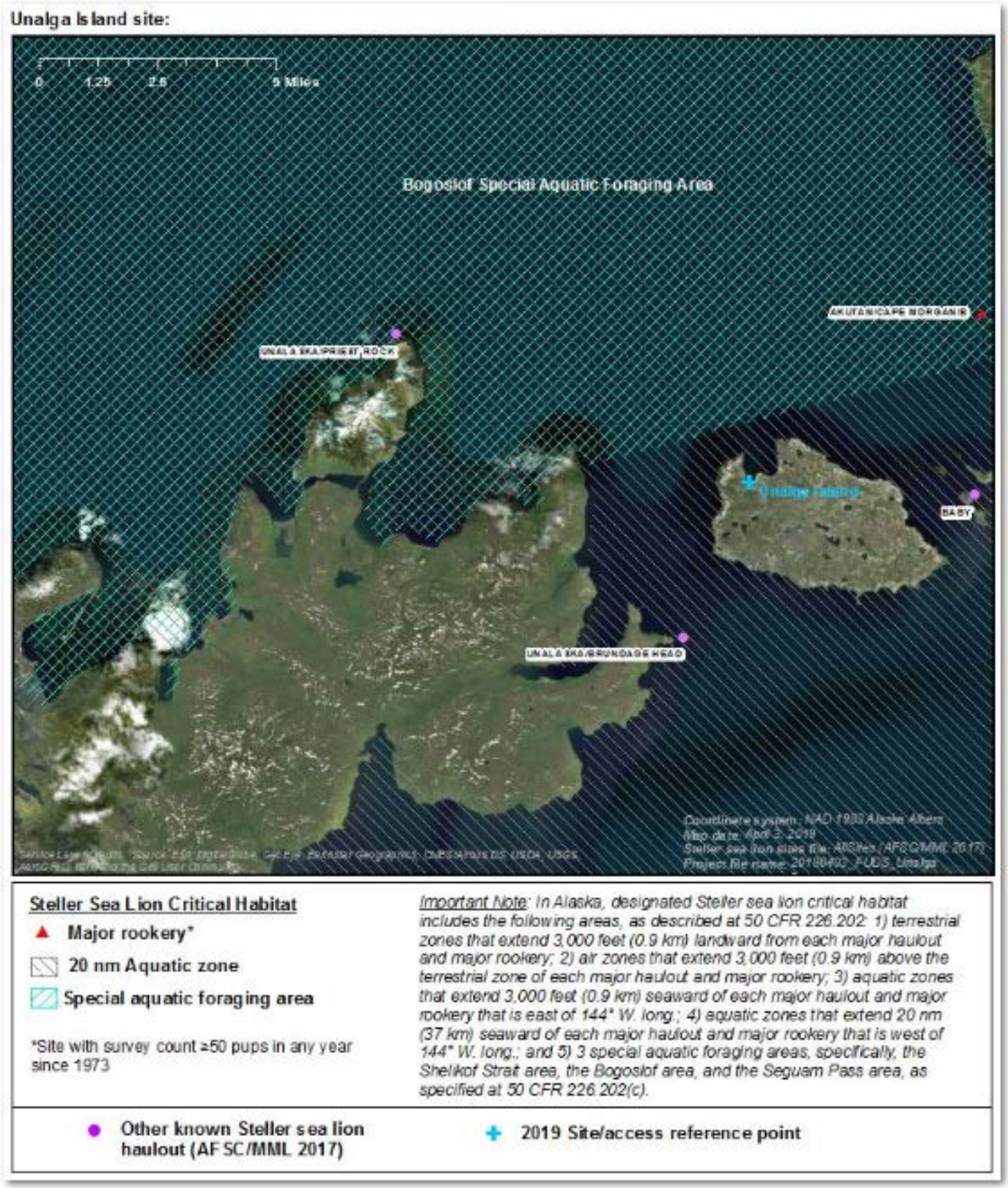
1. Unalaska Island, Cape Prominence Site



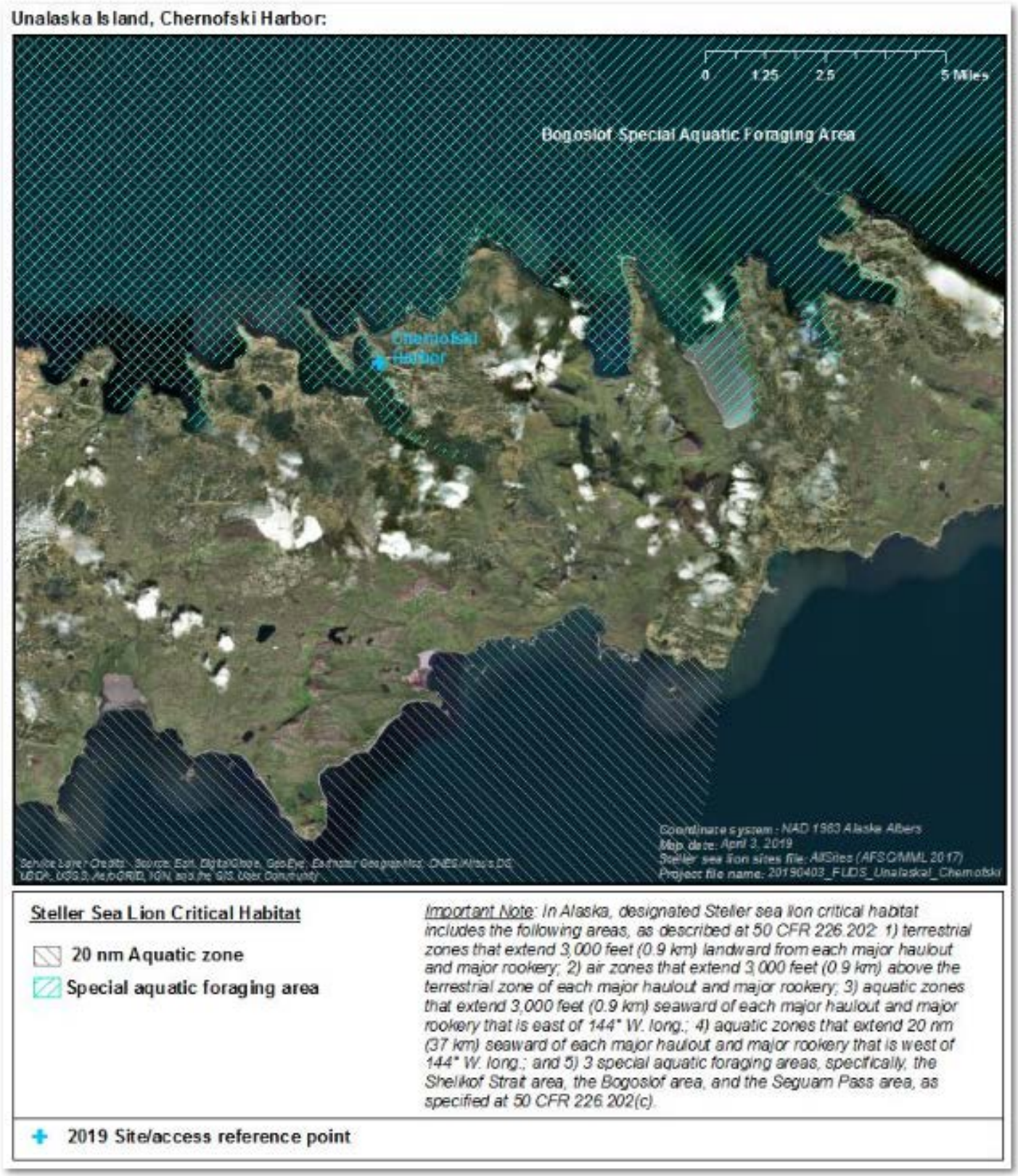
2. Umnak Island, Fort Glenn Site



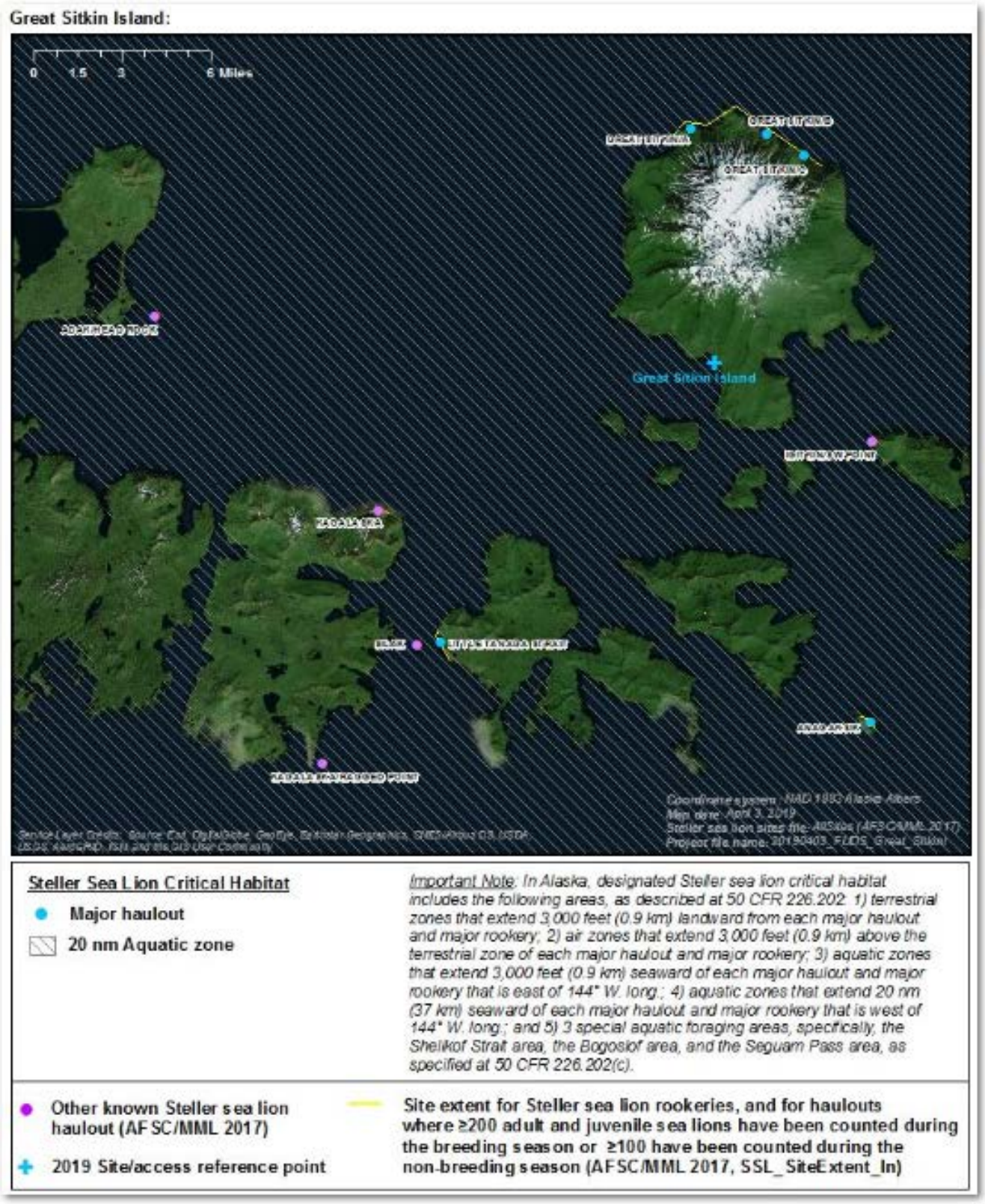
3. Adak Island, Yakak Site



4. Unalga Island Site



5. Chernofski Harbor, Unalaska Island



6. Great Sitka Island