



Environmental Resources Section  
**Public Notice**

Alaska District  
U.S. Army Corps of Engineers

Date 2 July 2021 Identification No. ER-19-002  
Please refer to the identification number when replying.

The U.S. Army Corps of Engineers (Corps) has prepared an environmental assessment (EA) and draft Finding of No Significant Impact (FONSI) for the following project:

**Removal Action**  
**CON/HTRW Removal Actions**  
**Tigalda Island Aircraft Warning Station**  
**Formerly Used Defense Site (FUDS) - F10AK0376-01**  
**Tigalda Island, Alaska**

The Corps' proposed actions are authorized under the Department of Defense (DOD) Environmental Restoration Program – Formerly Used Defense Sites (DERP-FUDS), which provides the means to clean up waste materials, contaminated soil, and unsafe structures and debris from areas formerly used by the DOD.

The proposed project and potential environmental impacts are described in the enclosed EA and draft FONSI, which is available for public review and comment for 15 days from the date of this notice. It may also be viewed on the Alaska District's website at: [www.poa.usace.army.mil](http://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.

To obtain a printed copy, please send a request via email to: [Christopher.B.Floyd@usace.army.mil](mailto:Christopher.B.Floyd@usace.army.mil) or send a request to the address below. The FONSI will be signed upon review of comments received and resolution of significant concerns. Please submit comments regarding the proposed action to the above email or to the following address:

U.S. Army Corps of Engineers, Alaska District  
ATTN: CEPOA-PM-C-ER  
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.

Sincerely,

Michael R. Salyer  
Chief, Environmental Resources Section



**US Army Corps  
of Engineers**

Alaska District

# Environmental Assessment and Finding of No Significant Impact

## CON/HTRW Removal Actions **Tigalda Island Aircraft Warning Station** Tigalda Island, Alaska F10AK0376-01

### Formerly Used Defense Sites Program



June 2021

## **FINDING OF NO SIGNIFICANT IMPACT**

In accordance with the National Environmental Policy Act of 1969, as amended, the U.S. Army Corps of Engineers (USACE), Alaska District has assessed the environmental effects of the following action:

**Tigalda Island Aircraft Warning Station  
Formerly Used Defense Site (F10AK0376-01)  
Tigalda Island, Alaska**

This action has been evaluated for its effects on several significant resources, including fish and wildlife, wetlands, threatened or endangered species, marine resources, and cultural resources. No significant short-term or long-term adverse effects were identified.

This Corps action complies with the National Historic Preservation Act, the Endangered Species Act, the Clean Water Act, the Magnuson-Stevens Fishery Conservation and Management Act, and the National Environmental Policy Act. The completed environmental assessment supports the conclusion that the action does not constitute a major Federal action significantly affecting the quality of the human and natural environment. An environmental impact statement is therefore not necessary for the CON/HTRW removal actions at Tigalda Island.

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

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Date

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## Acronyms and Abbreviations (Terms)

°F	Fahrenheit
AAC	Alaska Administration Code
ACCS	Alaska Center for Conservation Science
ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish and Game
AHRS	Alaska Heritage Resources Survey
AMNWR	Alaska Maritime National Wildlife Refuge
ANCSA	Alaska Native Claims Settlement Act
AOC	Area of Concern
APDES	Alaska Pollution Discharge Elimination System
APE	Area of Potential Effect
AWC	Anadromous Waters Catalog
AWS	Aircraft Warning Station
BGEPA	Bald and Golden Eagle Protection Act
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESCL	Certified Erosion and Sediment Control Lead
COC	Contaminant of Concern
CON/HTRW	Containerized/Hazardous, Toxic and/or Radioactive Waste
COPC	Contaminants of Potential Concern
CUL	Clean-up Level
CWA	Clean Water Act
dB	Decibel
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
DPS	Distinct Population Segment
DRO	Diesel Range Organics
EA	Environmental Assessment
EFH	Essential Fish Habitat
E.O.	Executive Order
EPP	Environmental Protection Plan
ESA	Endangered Species Act
FC	Full Compliance
FONSI	Finding of No Significant Impact
FR	Federal Regulation
ft	Feet
FUDS	Formerly Used Defense Sites
GFI	Government Furbished Information

GW	Groundwater
HHRE	Human Health Risk Evaluation
Kaktovik	Kaktovik Environmental, LLC
km	Kilometer
MAC	Maximum Allowable Concentration
MBTA	Migratory Bird Treaty Act
mg/kg	Milligram/Kilogram
MLLW	Mean Lower Low Water
MMPA	Marine Mammal Protection Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act
msl	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NMFS	Nautical Mile
NRHP	National Register of Historic Places
NWP	Nationwide Permit
PAH	Polycyclic aromatic hydrocarbon
PC	Partial Compliance
PCE	Primary Constituents Elements
PCN	Pre-Construction Notification
POL	Petroleum, Oil, and Lubricants
PSO	Protected Species Observers
PTS	Permanent Threshold Shifts
QAR	Quality Assurance Report
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RmA	Removal Action
rms	Root Mean Square
RRO	Residual Range Organics
RVS	Radar Van Shelter
SHPO	State Historic Preservation Officer
SW	Surface Water
SWPPP	Storm Water Pollution Prevention Plan
TTS	Temporary Threshold Shifts
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
WWII	World War II
μPa	Micro Pascal

# Environmental Assessment

Tigalda Island Aircraft Warning Station  
Formerly Used Defense Site (F10AK0376-01)  
Tigalda Island, Alaska

## 1.0 PURPOSE AND NEED

### 1.1 Introduction

The U.S. Army Corps of Engineers (USACE) prepared this environmental assessment (EA) under the National Environmental Policy Act (NEPA) to address the removal of containerized waste and contaminated soil at the Army's former Aircraft Warning Station (AWS) on Tigalda Island, Alaska. The USACE's proposed actions are authorized under the Department of Defense (DOD) Defense Environmental Restoration Program – Formerly Used Defense Sites (DERP-FUDS), which provides the means to clean up waste materials, contaminated soil, and unsafe structures and debris from areas formerly used by the DOD. 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 project involves the excavation and removal of containerized waste and petroleum products, both of which fall outside the purview of CERCLA.

### 1.2 Site Description and History

Tigalda Island and adjacent islands, including Akutan Island to the west and Unimak Island to the northeast, compose the Krenitzin/Fox Islands group of the eastern Aleutian Islands. The island is about 12 miles long and 3 miles wide with gently to steeply sloped mountains that rise more than 1,000 feet (ft) above mean sea level (msl). Cliffs range from several hundred feet to 630 ft above sea level along the coastline. Most of the terrain is covered by tundra.

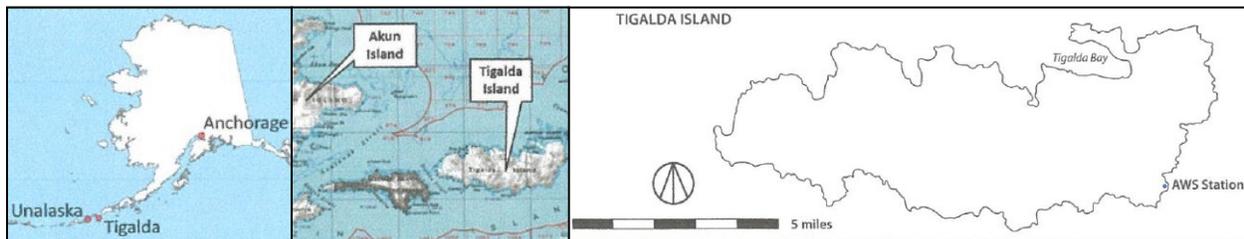


Figure 1. Tigalda Island and AWS Location

The main focus of this proposed cleanup action was the AWS, but investigations were conducted on areas located outside the AWS boundary as well. The U.S. Army began

construction of an AWS on the southeast corner of Tigalda Island on 1 October 1943 (War Department 1943). The AWS became operational in 1944 and was abandoned in place the following year in 1945. All equipment at the AWS, including the SCR-270s, were removed from the site (War Department 1944). The AWS is located on the coast of the southeast corner of Tigalda Island at approximately latitude 54°04'55.2"N, longitude 164°57'22.8"W (Figure 2). It can be reached from the Tigalda Bay beach landing area north of the site at approximately latitude 54°07'03.7"N, longitude 164°58'20.0"W (Figure 2).

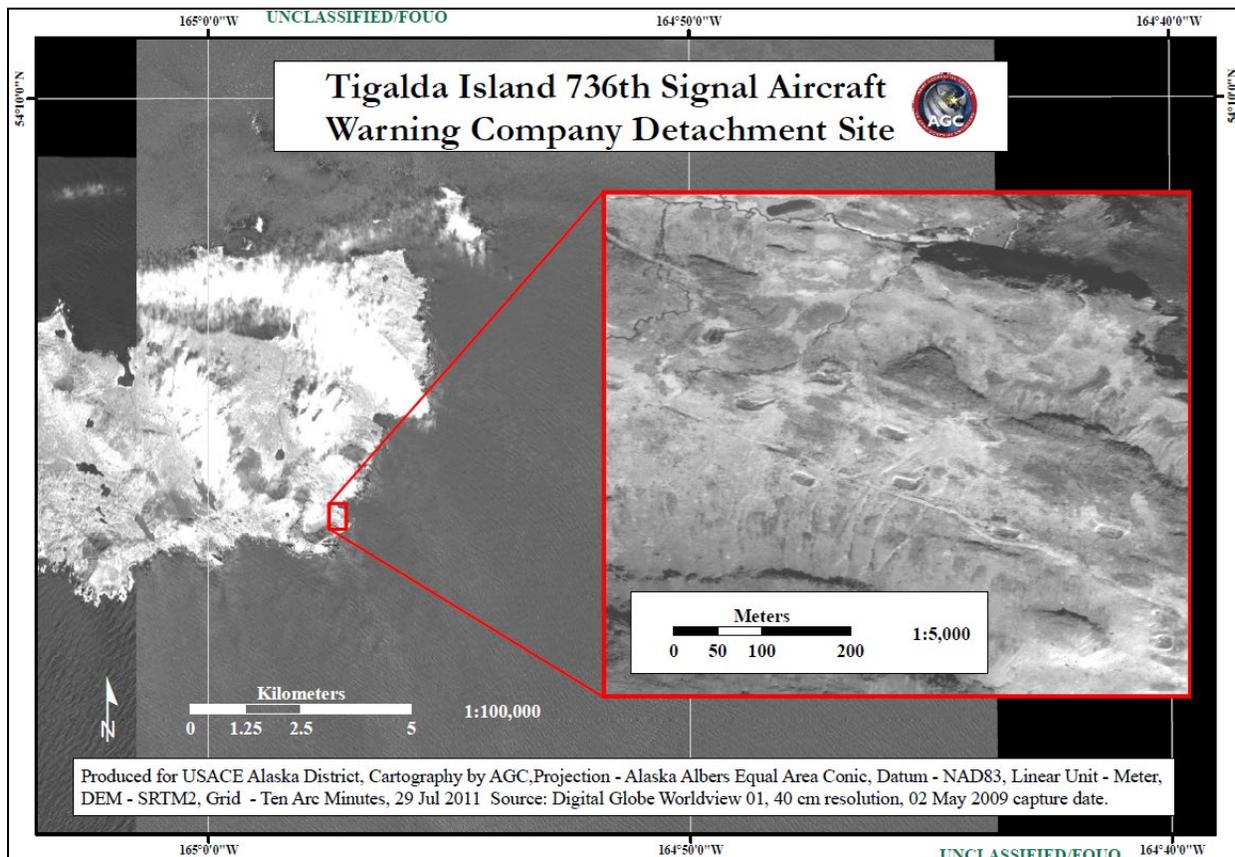


Figure 2. Tigalda Island AWS Location and Vicinity

The purpose of the AWS was to provide navigational and early warning support for military defense of the Aleutian Islands during World War II (WWII). Access to the AWS was initially made via a 2.75-mile road from Tigalda Bay on the north side of the island. The AWS comprised a 14-building arrangement consisting of 6 Quonset hut barracks, a kitchen/mess facility, a storage warehouse, a radio building, a power house, radar van antenna structures, latrines and a suspected pump house (Figure 3a). At the bay area there are a depression of a storage hut (#3), several potential WWII tent/buildings and three radar outpost locations present at the Bay (Figure 3b).

Tigalda Island was owned and managed by the United States Fish and Wildlife Service (USFWS) as part of the Alaska Maritime National Wildlife Refuge (AMNWR). However, aside from a parcel of land around the AWS site, Tigalda Island is now owned and

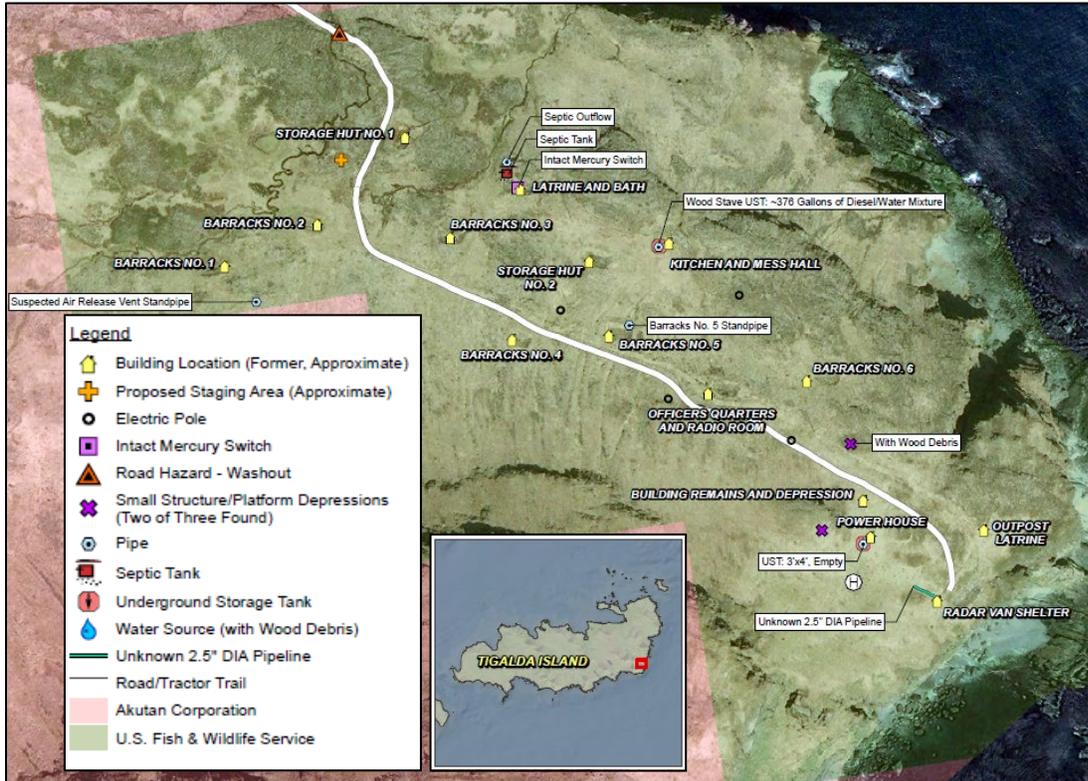


Figure 3a. Tigalda Island AWS Site Features

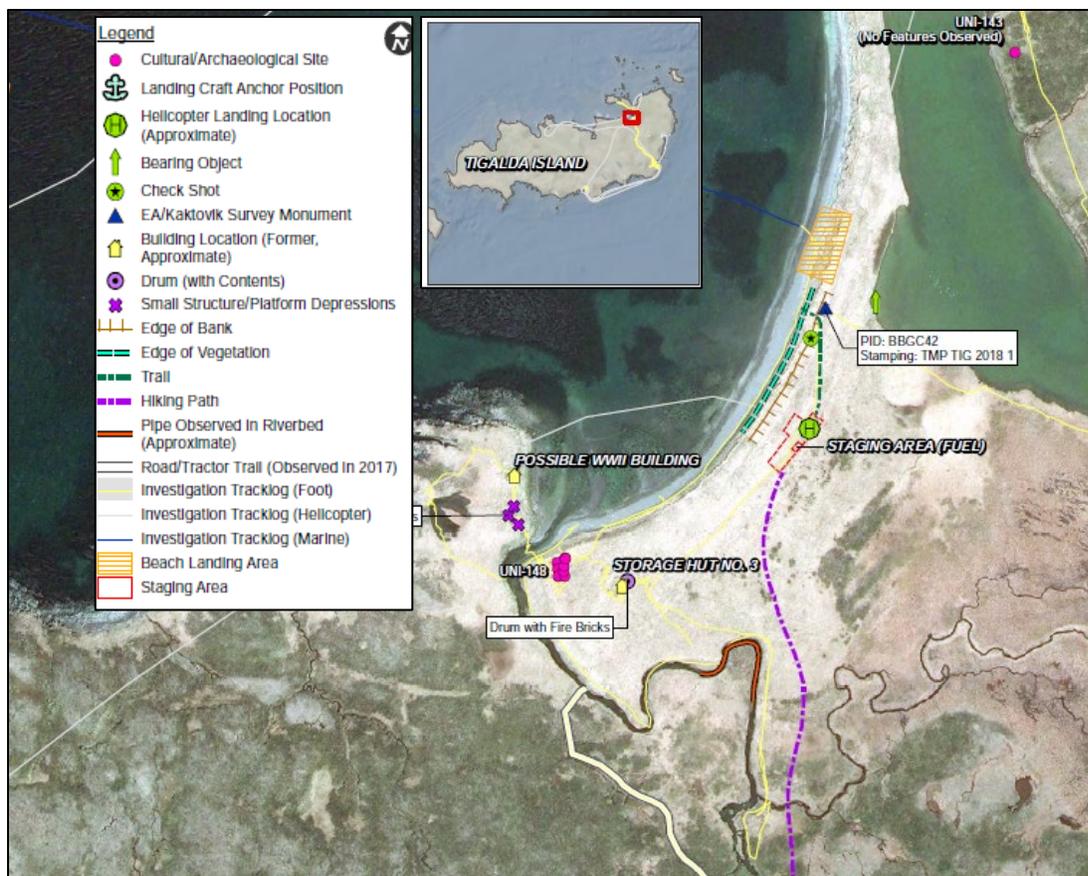


Figure 3b. Tigalda Bay Site Features managed by the Akutan Corporation.

### 1.3 Previous USACE Activity

The USACE contracted Kaktovik Environmental, LLC (Kaktovik) under Contract No. W911KB014-D-0009, Task Order 8 to conduct Removal Action (RmA) and Remedial Investigation (RI) at the Tigalda Island AWS. Kaktovik conducted an initial site visit in August 2017, and performed limited sampling and conducted RmA and RI between 26 July and 15 August 2018. The objective was to remove FUDS-eligible potential sources of contamination, to transport and removed waste streams, and characterize the nature and extent of contaminants of potential concern (COPCs).

During the 2018 RmA/RI activities, all identified CON/HTRW items were removed from the AWS site and treated or recycled off island in accordance with the Work Plan, state and Federal regulations. Environmental sampling confirmed and characterized soil contamination over the Alaska Department of Environmental Conservation (ADEC) Method 2 Human Health Cleanup Levels (CULs) at the RVS, the Kitchen/Mess Hall, and the Latrine/Bath. Full delineation of the contamination was not completed and only a very limited contaminated soil removal action was accomplished due to the location of building revetments, building features, weather delays and the scheduled departure of

the helicopter and project demobilization. Based on results of the RmA/RI activities, the following sites were investigated with subsequent recommendations (USACE 2020):

### **1.3 Need for Action**

The 2018 RmA/RI identified an estimated 11 to 23 cy of chemical contaminated soil above ADEC Method 2 Human Health CULs existed at the AWS site. The chemical contaminated soil, unless removed from the site, will eventually be released into the environment and cause additional contamination. The USACE is required to pursue remedial actions at the former Army AWS site on Tigalda Island under its DERP-FUDS authority and State of Alaska environmental regulations. All activities need to be conducted in compliance with 18 AAC 75 Oil and Other Hazardous Substances Pollution Control, and 18 AAC 78 Underground Storage Tanks procedures, as applicable.

## **2.0 ALTERNATIVES**

### **2.1 No Action Alternative**

The no-action alternative was recommended in the 2018 RmA/RI despite the presence of contaminated soil above the ADEC CULs due to the following:

- Groundwater and surface water (year-round or temporary) could potentially become contaminated upon contact with contaminated soil; however, based on the data collected and the age of the release, migration of contamination will not occur and the site is not having an adverse effect on the surrounding environment.
- Revetments contain the fuel-contaminated soil and prevent migration via surface water or sediment.
- Access to the contaminated soil located within the revetments would require the removal of several feet of overburden material and this disturbance along with removal of contaminated soil would significantly alter the revetments topography, which has historical significance to the AWS site.
- The depth of the DRO contamination within the revetments limits access and exposure to the contaminated soil. The lack of groundwater, good site drainage and proximity to ocean cliffs results in de minimis exposure for any ecological receptors. Natural attenuation will continue to reduce contaminant concentrations and volume with time.
- The Human Health Risk Evaluation (HHRE) results reveal potential cumulative carcinogenic risks for the lifetime resident primarily due to Benzo(a)pyrene in soil at the RVS. Potential exposure scenarios are not anticipated due to the remote nature of Tigalda Island, on island site access challenges, for lack of subsistence activities (particularly at the site), and for the fact the site is situated in the AMNWR, which limits development and requires an act of Congress to change.
- Ecoscoping was completed to Step 4, then the site was off-ramped at Step 4 and no further ecological evaluation was necessary because no endangered

or threatened species were present at the project site and the aquatic environment is not expected to be affected.

The no-action alternative would allow avoidance of local environment disruptions that would be caused by the removal of wastes and excavation of soil, and the waste products and contaminated soil would remain in place. This would potentially allow the migration of chemical contaminants to adjacent wetland and marine habitat. However, RI activities confirmed no environmental concerns are present and no further action is required at the Power House, Barracks # 5, the Suspected Detector Site, WWII Archaeological Sites UNI-141, UNI-142, UNI-143, and UNI-148 (including Storage House #3) located around Tigalda Bay and the pipe in the stream at Tigalda Bay.

## **2.2 Removal Action Alternative**

Excavation of contaminated soil and removal of contaminant sources is the only action alternative presented in this EA. The USACE's experience with environmental cleanup projects in Alaska has shown that *in situ* remediation or natural attenuation strategies tend not to be practicable or economically feasible at small, remote contaminated sites due to cold temperatures and the high costs of maintenance and monitoring. 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 wastes and contaminated soil is the preferred alternative. The project scope (USACE 2021b) includes the following tasks:

- Mobilization to Tigalda Island during July 2021 with fieldwork beginning July 26 and ending approximately August 10/11. Site access will be limited to helicopter/boat with helicopter access for personnel from Dutch Harbor, Alaska. Equipment and materials will arrive to the AWS by Bowhead's landing craft/shallow draft barge along with helicopter sling load operations for supplies and equipment.
- POL-contaminated soil delineation will occur at the RVS for horizontal delineation for PAH to the north and south; at the Kitchen/Mess Hall for horizontal delineation of DRO and PAH to the northwest and southeast of the Kitchen/Mess Hall UST excavation; at the former UST excavation for vertical delineation of DRO/RRO and PAH; and at the Latrine/Bathhouse for horizontal and vertical delineation of DRO at the day tank cradle. PetroFlag will be used with high-range kits to field screen for DRO. 24-hour turnaround time will be requested from analytical lab for all delineation samples with results expected 4-5 days from sample collection.
- POL-contaminated soil removal/disposal of up to a total of 100 tons (associated with the Radar Van Shelter, the Kitchen/Mess Hall, and the Latrine/Bathhouse). Will use PetroFlag with high-range kits to field screen for DRO and a 24-hour turnaround time will be requested from analytical lab for all excavation confirmation samples with results expected 4-5 days from sample collection.

- Screening for pipeline location and conducting soil field screening, removal, and disposal will be conducted. This includes; tracing the 2-inch pipeline at the Radar Van Shelter using a metal detector, field screening soil in accordance with ADEC UST/Field Sampling guidance using PetroFlag, soil sample collection with 24-hour turnaround time will be requested, and contaminated soil removal/disposal, if warranted.
- Piezometer removal and disposal of piezometer RVS-PZ-02 at the Radar Van Shelter. The boring plugged with bentonite and piezometer materials will be disposed of offsite.
- Site restoration will include placement of over-sized rock material at the base of the excavation, selective use of revetment material for backfill, regrading/contouring of excavations and revetments to promote positive drainage, reduce ponding, and blend with the surrounding topography. There will be no re-seeding or backfilling from an external source. However, may “borrow” material from nearby revetments if needed and approved by USACE archaeologist.
- Demobilization from Tigalda in August 2021 once analytical results from final excavation confirmation samples indicate the project goal has been achieved. Equipment/materials/camp returning to Dutch by Bowhead’s landing craft/shallow draft barge then on to Anchorage/Seattle on AML’s mainline barge. Plan to profile and manifest the waste based on analytical results from recent investigations.

#### **2.4 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 (USACE 2021b):

- 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.
- 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, tundra, and historical, archaeological, and cultural resources).
- Procedures to provide the required environmental protection, to comply with the applicable laws and regulations, and to correct pollution due to accident, natural causes, or failure to follow the procedures of the EPP.
- Plan showing the proposed activity in each portion of the work area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas and drawings showing locations of all proposed sampling, excavations, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials
- Methods of protecting surface water and groundwater during construction activities, including spring breakup runoff management.
- Spill prevention and spill cleanup plans.

- Methods to preserve the current historical and archeological setting to the extent practical.
- Known historical, archaeological, and cultural resources within the contractor's work area have been designated by the government. The contractor shall install protection for these resources and shall be responsible for their preservation during the contract. If, during work activities, the contractor observes items that might have historical or archaeological value, such observations shall be reported immediately to the Quality Assurance Representative and Contracting Office and an *USACE Cultural Resource Notification Form* shall be filled out 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 finds should be made. The contractor shall cease all activities that may result in adverse impacts to these resources and shall prevent its employees from trespassing on, removing or otherwise damaging such resources.
- 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 and avoiding marine mammals during operations of project support vessels.
- Watching for possible ground-nesting birds near the work sites and following EPP procedures to protect any nests discovered.

The contractor shall prepare a Waste Management Plan detailing the manner 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 (USACE 2021b).

To reduce the amount of material that needs to be transported to this remote location, and minimize the risk of importing invasive species, excavated areas will not be backfilled. However, the final excavated area will be graded to promote positive drainage, reduce ponding and entrapment hazards to wildlife, and match the existing topography, to the extent practicable. No seeding or fertilizing will be required. Best management practices will be used to control erosion at the site.

### **3.0 AFFECTED ENVIRONMENT**

#### **3.1 Community and Land Use**

The nearest human community to the AWS project site is the City of Akutan, which is roughly 33.5 miles away on Akutan Island. The AWS was abandoned in-place in 1945. Tigalda Island was initially owned and managed by the USFWS as part of the AMNWR. Today, with the exception of a parcel of land that includes the AWS site, the island is owned by the Akutan Corporation. The 2010 census population of Akutan was 1,027; although, the number of residents present may vary greatly. The site can only be

reached via boat or helicopter. Helicopter is the recommended mode of transportation to the site due to the original 2.75 mile access road that transverses Tigalda Island from Tigalda Bay to the AWS site being unsuitable for even foot traffic due to poor condition.

The project area is uninhabited. All of the AWS site is on land managed by the USFWS as part of the AMNWR, but has not been designated as a Wilderness Area. The island has been previously designated as a refuge for avian species as well as marine mammals that live in the Aleutian Islands chain. The island is used and potentially used terrestrial and marine mammals, and avian species (USACE 2020).

### **3.2 Climate**

The closest climate and weather recorded is for Akutan Island. For this reason, Akutan Island climate and weather will be used as a basis for assumptions for Tigalda Island climate and weather. Akutan Island is located in the Bering Sea and characterized as a maritime climate zone with generally cool temperatures, overcast skies, and abundant precipitation. Seasonal changes in temperature are slight with variance between July and January at approximately 10°F. The summers are short, cold, windy, and overcast while winters are long, very cold, wet, extremely windy, and mostly cloudy. Over a course of the year, the temperature typically varies from 31°F to 54°F, and rarely will the temperature go below 21°F or above 60°F (USACE 2020).

In 2018 fieldwork, weather was a major factor due to need for travel by helicopter. Because of weather, 2021 fieldwork shall commence no later than end of July 2021 due to likelihood of less fog and windy weather conditions (USACE 2021b).

### **3.3 Topography, Soils, and Hydrology**

Tigalda Island is part of the larger group of small islands that comprise the Fox Islands, which are volcanic in origin but also have steep, glacially carved, U-shape valleys characteristic of alpine glaciation. The uplands are comprised of steep volcanic rock mountains and valley walls. This leads to very mountainous terrain and sheer sea cliffs throughout the island (USACE 1999).

Soils and bedrock on Tigalda Island are composed of or derived from volcanic or extrusive igneous rocks. The soils are also generally well drained and loamy. The steep up-land terrain is separated by broad low land valleys. Lowlands are generally unconsolidated sediments deposited during the Holocene period from volcanic eruptions, glacial ice, glacial melt water, upland precipitation events, valley stream erosion, and near shore processes. Sediments are typically coarse-grained volcanic sands and gravel. Tectonic uplift formed inland relic beaches that altered surface drainage creating what are now central wetlands and small ponds in many valleys. Sediments are capped with several feet of silty-sand with organics (USACE 2002).

The former AWS facility is located along a geologic bedrock bench. The bench is bounded on the east and south by cliffs that lead several hundred feet to the ocean shoreline below and on the west by the toe of a mountain amphitheater. The bedrock is overlain by unconfined silt/loamy soil that range in depth from several inches to several

feet. Soils are generally well drained due to the steepness of the topography. Most of the porosity and permeability of these igneous rocks are the result of fractures, faults, and the dissolution of minerals within the rock mass. The openings in igneous rocks are volumetrically very small and as a result, rocks of this type are poor sources of groundwater. In addition, the ground water that is available will commonly drain quickly after a period of recharge by infiltration by precipitation. Also, water from these fractures is subject to contamination from the surface where these rocks crop out. A few exceptions include large lava tubes present in some flows, interflow or coarse sedimentary layers between individual flows and deposits of volcanic cinders or ash. As a result, ground water may be present throughout the island but its quantity and quality are not suitable for residential or commercial use (EPA 1990).

Typical to the islands of the area, groundwater (GW) tables are commonly at or near the ground surface, due to abundant seasonal runoff from the upland surface drainage that collects in valley basins during snow melt and spring rain. Isolated or perched shallow freshwater aquifers may exist in some areas and may be separated by a brackish water interface from underlying saltwater (USACE 2002). Additionally, GW may be present in permeable volcanic rocks and fractures but would be isolated and difficult to locate due to the unpredictable nature of the fractures. At the AWS, a minor surface water (SW) drainage channel exists near the toe of the amphitheater. At the head of the minor SW drainage channel is a small spring, which according to historical as-built AWS drawings, served as the water source for the facility when it was in operation. It appears the spring water was pumped into and stored in water tanks located near the spring and then piped along the bench to the AWS. No historical or current water wells are present on Tigalda Island. Evidence of GW was not identified during the 2017 site visit; however, after significant rain events, SW and GW was present as sheet flow during the 2018 field season (USACE 2020).

### **3.4 Air Quality and Noise**

The remote and uninhabited island of Tigalda presumably enjoys excellent air quality, because of the near-absence of pollutant emission sources and persistent winds from the adjacent ocean. The lack of known human activities and presence at the island aside from documented site visits and fieldwork would result in limited sources of emissions. Fieldwork and site visit emissions, include but are not limited to, heavy equipment, helicopters, along with generators and stoves for temporary camps (USACE 2020).

Large volcanic eruptions along the Aleutian Islands may conceivably influence air quality on Tigalda Island. There is no established ambient air quality monitoring program at Tigalda Island 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 would not apply to the proposed project at this time.

No specific noise data exist for Tigalda Island, but man-made background noise would consist solely of that generated by passing ship, boat, and aircraft traffic.

### **3.5 Habitat and Wildlife**

The Aleutian Islands are volcanic islands in the southern Bering Sea with elevations ranging from sea level to 6,200 ft. The islands are free from permafrost, and the rivers are short, fast flowing, and commonly ephemeral (ADEC 1999). Lakes are uncommon on most of the islands, but they are sometimes present within volcanic craters (Gallant et al. 1995). Soils are generally thin and formed from volcanic ash or cinders, although some organic soils have developed in valley bottoms and other bowl-shaped features. Relatively few plant taxa inhabit Tigalda Island. Low shrubs, grasses, and forbs dominate the treeless island. Wet meadows and marshes cover approximately 10 percent of the land surface. The upper elevations are barren and windswept. Downward at more moderate elevations, lichens, ferns, fungi, and scrub communities tend to be present. At lower elevations, moist grassland communities become dominant.

While not designated as wilderness by the USFWS, the island has been previously designated as a refuge for avian species including seabirds, migratory birds, and terrestrial birds, as well as marine mammals, that live in the Aleutian Island chain. The cliffs are located approximately 80 ft from the nearest inland contamination source. Tigalda Island is used by or potentially used by harbor seals, seabirds, sea lions, and sea otters. The AWS site is terrestrial and located atop steep cliffs preventing potential direct contaminant exposure to marine mammals. However, an observed harbor seal haulout location was identified beneath the steep cliffs by the AWS site (Figure 13). Seabirds, migratory birds, and terrestrial birds can access the site as well as the terrestrial mammals via land. The Beach Landing Area is accessible by marine mammals and boat.

Consequently, none of the habitat areas conducive for these marine mammals overlap with the project site boundary, and it is not expected that any of these marine animals would be exposed to site contamination. Voles are the only terrestrial mammals native to Tigalda Island. During the visit to the island in 2018, eight foxes were observed on the island either by air or foot; and were observed over the entire island. In addition, there was evidence of small rodent presence with observations of trails and borrows in the tundra. Salmon and Dolly Varden were observed in the small stream that empties into Tigalda Bay (USACE 2020).

Representative species observed at other nearby islands (Unalaska, Akutan, Aiktak) include Chamisso's lousewort (*Pedicularis chamissonis*), pelt lichens (*Peltigera* spp.), smooth lady's mantle (*Alchemilla glabra*), fireweed (*Chamaenerion angustifolium*), scots lovage (*Ligusticum scoticum*), sea watch (*Angelica lucida*), and common dandelions and buttercups (iNaturalist observations: [www.inaturalist.org/observations](http://www.inaturalist.org/observations)). No signs of stressed vegetation were observed by field team members.

Birds are the dominant fauna on the Aleutian Islands. Generally, seabirds, waterfowl, and shorebirds are common but certain passerines, such as the longspur are often the

most numerous on islands with significant amounts of meadow or tundra habitats. Common seabirds, waterfowl, and shorebirds may include puffins, cormorants, guillemots, loons, gulls, terns, eiders, teal, mallard, pintail, sandpipers, and phalaropes. Typical passerine species may include longspurs, snow buntings, finches, winter wren, and sparrows. A few birds of prey, such as bald eagles, jaegers, and peregrine falcons, also inhabit the islands (ADEC 1999). Numerous birds of different species were observed during the July 2018 site investigation; however, due to the absence of a biologist at the site, no species were specifically identified. No nesting areas were identified in the AWS area, potentially because the field team arrived following the nesting season. No other wildlife observations nor signs of wildlife (fox dens, tracks, etc.) were observed at the AWS site (USACE 2020). It is also possible that habitat within the contaminated areas is not suitable for nesting birds.

**Figure 10. Tigalda Bay Aerial Shot**





Figure 11. Tigalda Island AWS Site



Figure 12. Tigalda Island AWS Site Cliff

### 3.6 Protected Species

Endangered Species Act (ESA). Table 1 below summarizes the species protected under the Endangered Species Act, under the jurisdiction of either the National Marine Fisheries Service (NMFS) or the USFWS that are identified as potentially being in the project activity area. However, there are no endangered or threatened species present at the AWS site. This list was created using NMFS and USFWS on-line resources (NMFS 2021b; USFWS 2021a) and from informal consultation conducted for multiple Aleutian Island sites (NMFS 2017; USFWS 2017; USFWS 2021d).

**Table 1. ESA Species Potentially Present in the Project Area.**

Species	Population	Status	Agency Jurisdiction
Short-tailed albatross <i>Phoebastria (=Diomeadea) albratrus</i>	All	Endangered	USFWS
Northern sea otter <i>Enhydra lutris kenyoni</i>	Southwest Alaska DPS	Threatened	USFWS
Steller sea lion <i>Eumetopias jubatus</i>	Western DPS	Endangered	NMFS
Sperm whale <i>Physeter macrocephalus</i>	All	Endangered	NMFS
North Pacific right whale <i>Eubalaena japonica</i>	All	Endangered	NMFS
Humpback whale <i>Megaptera novaeangliae</i>	Western North Pacific DPS	Endangered	NMFS
	Mexico DPS	Threatened	NMFS
Fin whale <i>Balaenoptera physalus</i>	All	Endangered	NMFS
Gray whale <i>Eschrichtius robustus</i>	Western North Pacific DPS	Endangered	NMFS
Beluga whale, <i>Delphinapterus leucas</i>	Cook Inlet DPS	Endangered	NMFS

DPS: Distinct Population Segment

#### *Western DPS Steller Sea Lion*

The Steller sea lion was listed as a threatened species under the ESA on 26 November 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 4 November 2013, the eastern DPS was removed

NMFS designated critical habitat for Steller sea lions on 27 August 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).

The marine waters within and offshore of Tigalda Island fall within the within the 20-nautical mile (nm) aquatic zones of several major haulouts, but there are no major haulouts, rookeries, or other Steller sea lion use areas in the vicinity of Tigalda Bay or the AWS Site (NMFS 2017). The nearest known Steller sea lion haulouts are depicted in Figure 13 and listed in Table 2 below.

Table 2. Nearest Steller Sea Lion Haulouts to Tigalda Island.

Haulout Name	Critical Habitat Status	Distance from Tigalda Bay / AWS Site	Latitude/ Longitude
Tigalda/Rocks NE	Major Haulout	2.4 miles NE / 4.5 miles NE	N54.15/W164.96
Kaligagan	Other Known Haulout	3 miles NE / 4.5 miles NE	N54.14/W164.91
Tigalda/South Side	Other Known Haulout	6 miles SW / 6 miles W	N54.06/W165.09

With no haulouts or rookeries present within or near Tigalda Bay or the AWS site, it is presumably used by Steller sea lions mainly as a foraging area. 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).

### *Great Whales*

Sperm, Sei, North Pacific right, Humpback, Fin, Gray, and Blue whales are far-ranging species and would be encountered only incidentally by the project vessels. Of these species, the Northern Pacific Right whale, and Humpback whale Western North Pacific DPS and Mexico DPS have critical habitat near or in the waters surrounding Tigalda Island. NMFS designated critical habitat for the Northern Pacific Right whale in 2008 (Figure 17; 73 FR 19000) and Western North Pacific and Mexico Humpback whale in 2021 (Figure 18; 86 FR 21082). The Northern Pacific Right whale has designated critical habitat in the Bering Sea about 75 miles north of Tigalda Island. Tigalda Island is surrounded by designated critical habitat for the Humpback whale Western North Pacific DPS and Mexico DPS. An individual Humpback whale encountered in Aleutian waters 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.

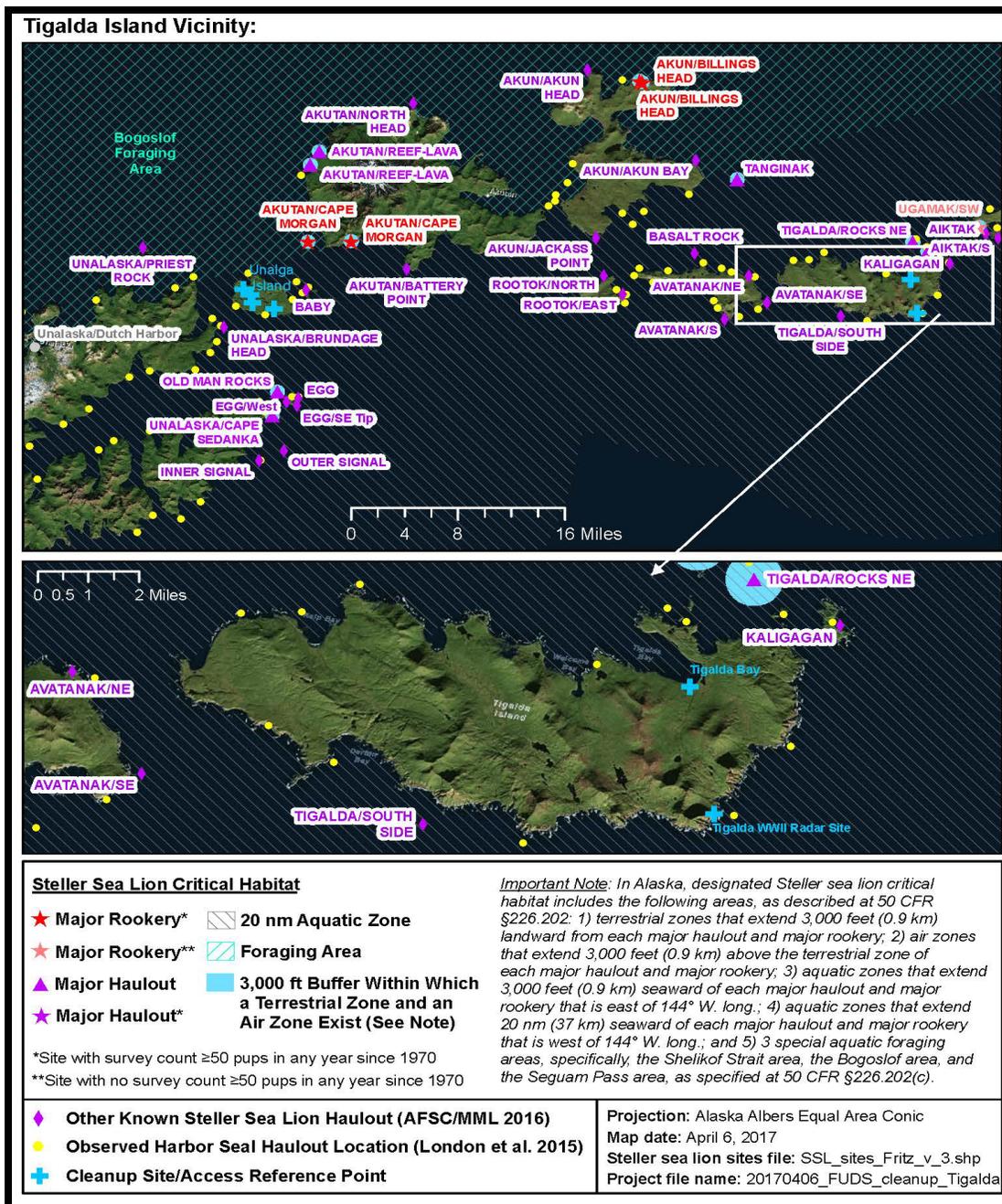


Figure 13. Steller Sea Lion Critical Habitat and Other Use Areas at Tigalda Island (NMFS 2017).

### Cook Inlet Beluga Whale

This species would be encountered by ocean vessels sailing to or from Anchorage 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 under the ESA on 22 October 2008 (73 FR 62919; NMFS 2019).

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 14). 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 (NMFS 2019).

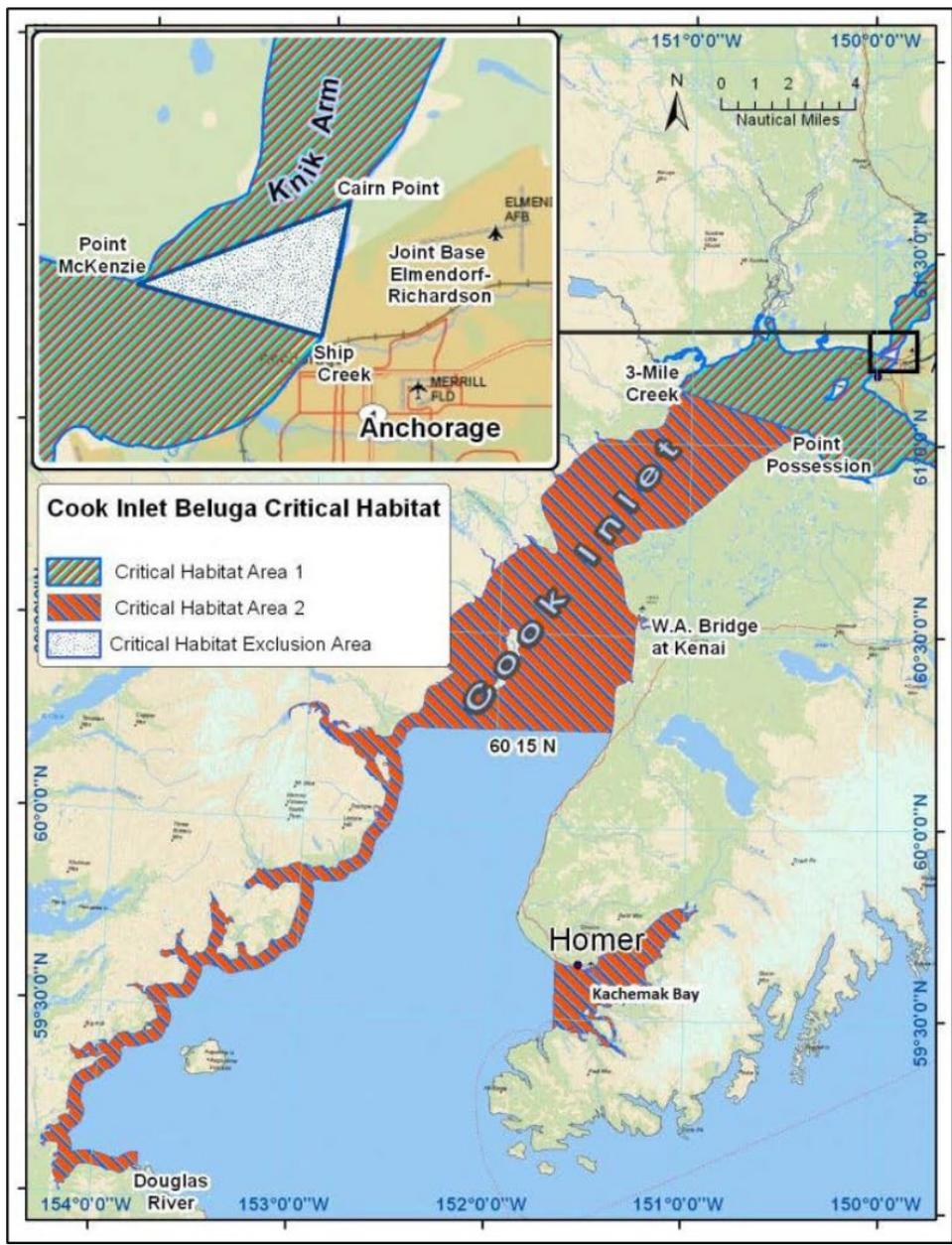


Figure 14. Designated Cook Inlet Beluga Critical Habitat (NMFS 2019).

#### *Northern Sea Otter*

The Southwest Alaska DPS of the Northern sea otter's critical habitat designated by the USFWS includes Tigalda Island, which is part of the Eastern Aleutian Unit critical habitat. The critical habitat final rule found in 73 Federal Regulation (FR) 242 also identified four primary constituent elements (PCEs) for Northern sea otter habitat:

1. Shallow, rocky areas where marine predators are less likely to forage, which are waters less than 2 meters (6.6 ft) in depth.
2. Near-shore waters that may provide protection or escape from marine predators, which are those within 100 meters (328.1 ft) from the mean high tide line.
3. Kelp forests that provide protection from marine predators, which occur in waters less than 20 meters (65.6 ft) in depth.
4. 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.

#### *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 (USFWS 2021b).

Marine Mammal Protection Act (MMPA). 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 2021b) identifies Bairds beaked whale, Cuviers beaked whale, Dalls porpoise, Gray whale, Harbor porpoise, Harbor seal, Killer whale, Minke whale, Northern fur seal, Pacific white sided dolphin, Ribbon seal, and Stejnegers beaked whale as non-ESA marine mammals that potentially may be found offshore Tigalda Island.

Bald and Golden Eagle Protection Act (BGEPA). This Act 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. The Golden eagle was not directly identified at the site in any site visits but has potential to be present whether due to nesting or transient individuals (ACCS 2021). The Bald eagle was present in the 1999 Site Investigation conducted on the site (USACE 1999). Bald eagles in the Aleutian Islands typically nest at the tops of sea-stacks or cliffs, which are present near the project site (Byrd & Williams 2008).

Migratory Bird Treaty Act (MBTA). With the exception of State-managed ptarmigan and grouse species, all native birds in Alaska (including active nests, eggs, and nestlings) are protected under the Migratory Bird Treaty Act (USFWS 2009).

### **3.7 Special Aquatic Sites**

Special aquatic sites, identified as part of the Clean Water Act, 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 project area has not been delineated for wetlands, but the vegetated areas at the project site are presumed to be wetlands, based on similar delineated habitat elsewhere in the Aleutian Islands.

### **3.8 Anadromous Streams and Essential Fish Habitat**

The Alaska Department of Fish and Game (ADFG) identifies in its Anadromous Waters Catalog (AWC; ADFG 2021) zero anadromous waters are present or flowing on Tigalda Island. The closest anadromous water body are streams about 25 miles straight-line distance northwest from the project site and located on Akun Island at Trident Bay. The stream habitats of Trident Bay include Coho salmon rearing and Pink salmon presence.

The marine waters of Tigalda Island are not within areas designated by the NMFS under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) as essential fish habitat (EFH). The waters around Tigalda Island are also not within the NMFS-designated Aleutian Islands Habitat Conservation Area, which restricts certain types of commercial fishing (NMFS 2021c).

### **3.9 Cultural and Historic Resources**

The USACE archaeologists previously surveyed the project site and searched the Alaska Heritage Resources Survey (AHRs) database. There are 21 known cultural resource sites that exist within the project vicinity and 4 sites that are in the area of potential effect (APE). The 4 known sites in the APE are in Table 3 (NMFS 2019).

Table 3. Cultural Resources in Project APE.

AHRS No.	Site Name	NRHP Status
UNI-00138	UNI-00138 (Midden with WWII Overlay)	Eligible
UNI-00139	SCR-270 Radar	Eligible
UNI-00144	SCR-270 Radar Archaeological District	Eligible
UNI-00148	Tigalda Bay Camp	Eligible

NRHP – National Registrar of Historic Places

Consultation between the State Historic Preservation Officer (SHPO) and the USACE archeologist determined that the Tigalda AWS Station SCR-270 Radar Site (UNI-00139) was eligible for the NRHP under criteria A (historic event), C (design/construction), and D (information potential) (NMFS 2019). Therefore, the structural remains and berms of the RVS, Kitchen/Mess Hall and the Latrine/Bathhouse are significant.

## 4.0 ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

### 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 Action Alternative (Preferred)

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 the sections below.

Within each resource category, the magnitude of the effects upon that resource are evaluated using these criteria (where relevant) and best professional judgment, and tiered as follows (Doub 2014):

- 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 project site and surrounding areas are uninhabited. The cleanup of waste and contaminated soil would make the project site somewhat more safe for people and

human activities, but the FUDS remediation project does not include the demolition nor removal of the deteriorating former military structures at the site, and is therefore unlikely to directly encourage further development of the area.

The magnitude of effects of the proposed activities on community and land use would be minor.

#### **4.2.2 Effects on Climate**

The proposed 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 will not significantly alter the area topography or patterns of overland water flow in the area. Since the excavations will not be backfilled, but only contoured to blend with the surrounding land to avoid entrapment hazards, highly localized changes in topography and hydrology may remain after the project is completed, such as shallow depressions that may become small ponds.

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

#### **4.2.4 Effects on Air Quality and Noise**

Air quality may be affected during the project period from the use of heavy equipment, construction 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 project at this time.

The magnitude of effects on air quality from increased airborne noise would be, at worst, 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**

The planned activities would be highly localized in their impacts and affect an area already altered by the former military construction and past cleanup efforts. The activities would have little effect on local wildlife and no long-term negative impact on

their habitat. The project sites are 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, which is near cliffs and a typical location for ground nesting. The destruction of active nests, eggs, or nestlings is a violation of the MBTA and potentially the BGEPA. The fieldworkers will need to check project 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 project activities on habitat and wildlife would be moderate.

#### **4.2.6 Effects on Protected Species**

##### Effects on Endangered Species

All ESA-listed species that may be found in the project “action area” would be expected to be present in the marine environment, whether marine mammals or migratory birds. 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 this proposed action, the major potential adverse effects to marine species would be:

- Underwater noise and disturbance.
- Physical strikes by water vessels.

##### *Noise and Disturbance*

For marine mammals, the distance that potentially disturbing sounds can carry underwater are 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 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 expressed in root mean square<sup>2</sup> (rms), from broadband sounds that cause behavioral disturbance, and referred to as Level B harassment under section 3(18)(A)(ii) of the MMPA:

- Impulsive sound: 160 dB re 1  $\mu$ Pa
- Continuous sound: 120 dB re 1  $\mu$ Pa

In addition, NMFS uses a threshold of 100 dB re 20  $\mu$ Pa 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 site, and the vessel transit route between Anchorage and the project cleanup landing site, 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 1 $\mu$ Pa 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 15a, 15b, and 15c (NMFS 2019).

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. In addition. The route will go through a large part of the designated critical habitat for the Humpback whale Western North Pacific DPS and Mexico DPS. 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 (NMFS 2019).

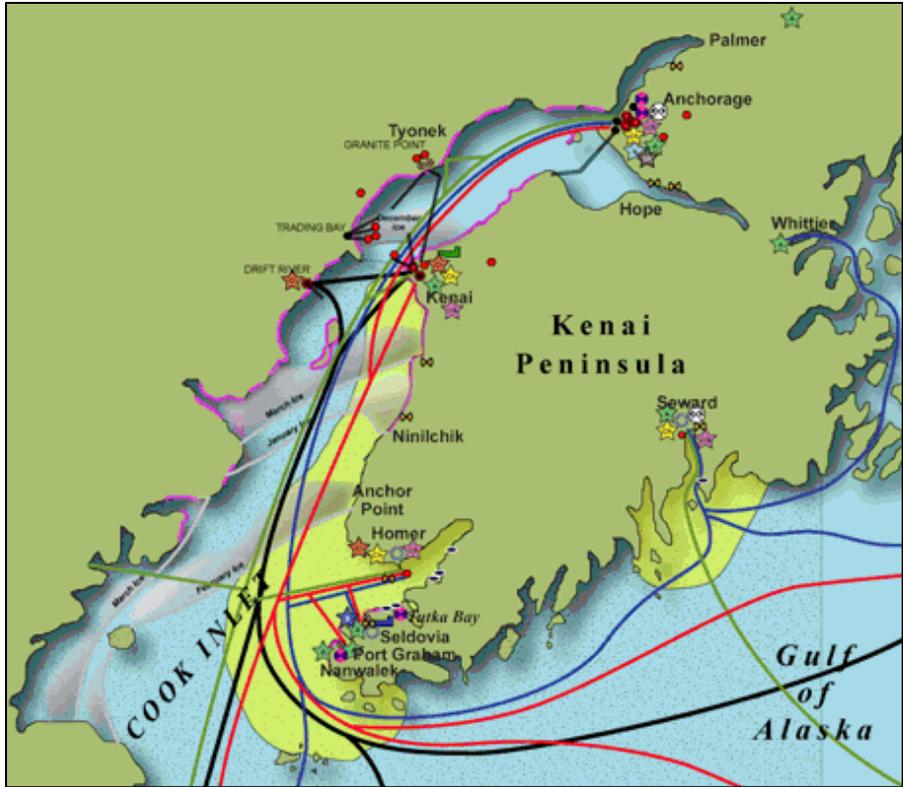


Figure 15a. Typical Feeder Traffic, Tanker, and Freight Carrier Routes through Cook Inlet

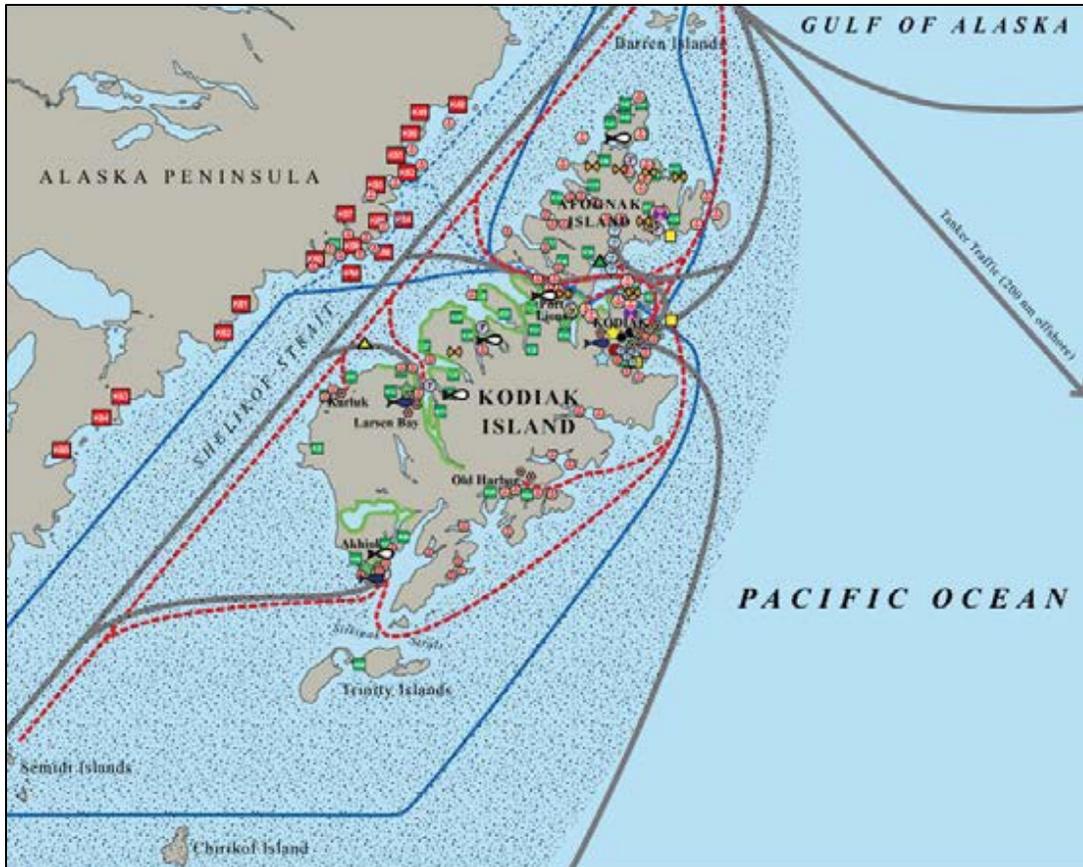


Figure 15b. Commercial Shipping Routes (Gray Line), Feed Traffic (Dashed Red Line), and Cruise Ship/Alaska Marine Highway System Traffic (Blue Line) through Shelikof Strait (NMFS 2019)



Figure 15c. Vessel Transit Routes for Tankers (Red and Black Lines), Cruise Ships, and AMHS Ferry (Blue Lines)

### *Vessel 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% at vessel speeds over 15 knots, but approximately 20% 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.

The NMFS has provided the following avoidance and minimization measures to reduce project impacts on marine mammals:

### *Helicopter Transit*

1. 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.
2. 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.
3. Helicopters will not hover or circle above marine mammals.
4. 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 by terrain from view of the known Steller sea lion use areas, rookeries and haulouts. This is especially important for the major rookeries near the site or between Tigalda Island and Dutch Harbor including: Cape Morgan on Akutan Island, Billings Head on Akun Island, and Ugamak Round and Ugamak North on Ugamak Island. There are additionally numerous major and other known haulouts between Dutch Harbor and Tigalda Island.

### *Vessel Transit*

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

5. 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 major rookeries in the vicinity of 2021 FUDS work on Tigalda Island are Cape Morgan on Akutan Island, Billings Head on Akun Island, and Ugamak Round and North on Ugamak Island. Locations of major rookeries and haulouts are provided in Enclosure 1 to this letter.
6. 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.
7. Vessels and barges will not allow towlines to remain in the water, and no trash or other debris will be thrown overboard, thereby reducing the potential for marine mammal entanglement.
8. The transit route for the vessels will avoid known Steller sea lion biologically important areas and designated critical habitat to the extent practicable.
9. 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.
10. 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.
11. Consistent with NMFS marine mammal viewing guidelines (<https://www.fisheries.noaa.gov/insight/viewing-marine-life#how-your-actions-can-impact-marine-wildlife>), operators of vessel should, at all times, avoid approaching marine mammals within 100 m (100 yards) to avoid disturbance.
12. Vessels should take reasonable steps to alert other vessels in the vicinity of whale(s), and report any stranded, dead, or injured whale or pinniped to the Alaska Marine Mammal Stranding Hotline at 877-925-7773 (Table 1).
13. 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 4).
14. 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 a maximum of 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 460 m (500 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.
- d. A PSO is not required if vessels reduce speed to 5 kts while within North Pacific right whale critical habitat.

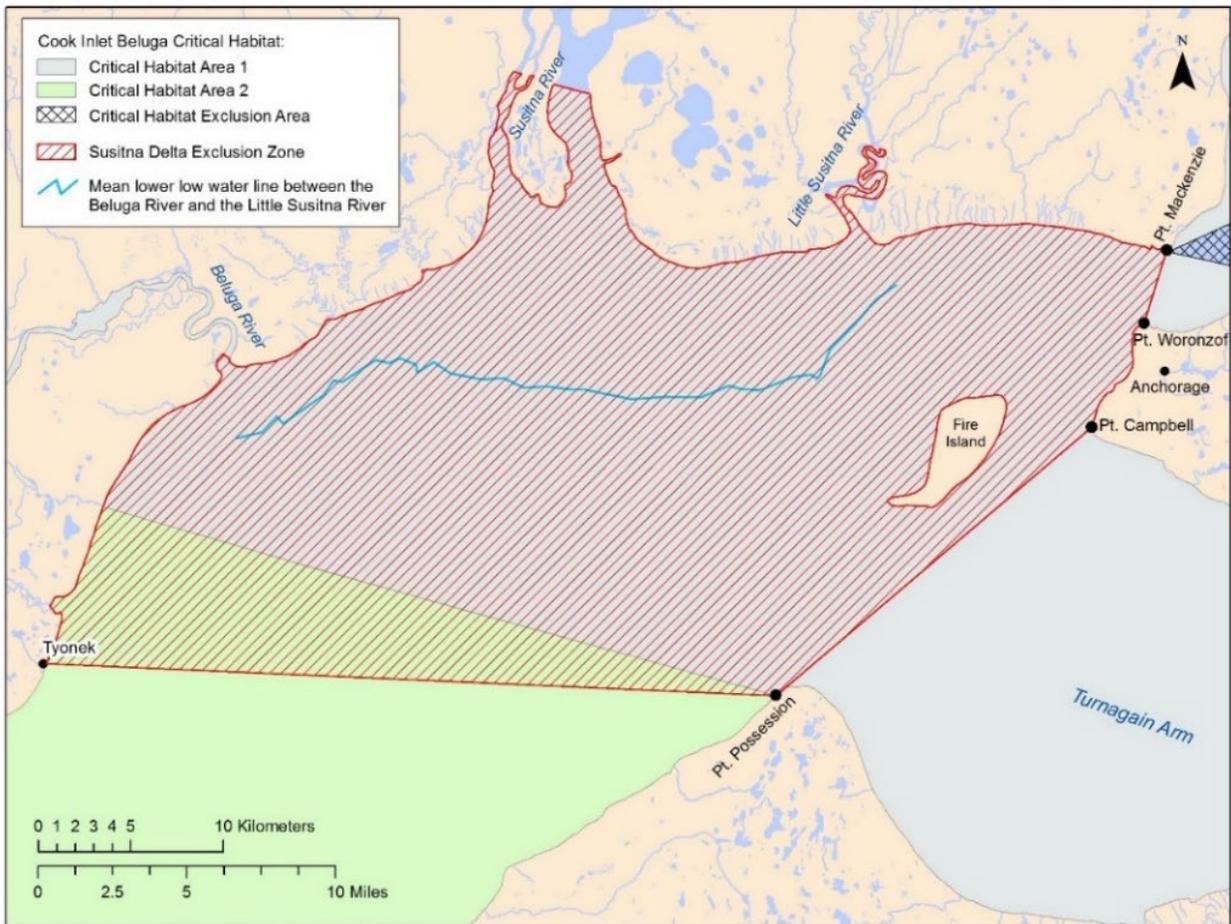


Figure 16. Susitna Delta Exclusion Zone, showing MLLW line between the Beluga and Little Susitna Rivers

15. 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 (Table 4). The following will be included when reporting take of a listed species:

- a. Listed species and number of 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.

Table 4. Summary of agency contact information.

Reason for Contact	Contact Information
Consultation Questions & Unauthorized Take	Greg Balogh: <a href="mailto:greg.balogh@noaa.gov">greg.balogh@noaa.gov</a> & Consultation Biologist ( <a href="mailto:mandy.keogh@noaa.gov">mandy.keogh@noaa.gov</a> )
Reports & Data Submittal	<a href="mailto:AKR.section7@noaa.gov">AKR.section7@noaa.gov</a> (please include NMFS AKRO tracking number in subject line)
Stranded, Injured, or Dead Marine Mammal <i>(not related to project activities)</i>	Stranding Hotline (24/7 coverage) 877-925-7773
Oil Spill & Hazardous Materials Response	U.S. Coast Guard National Response Center: 1-800-424-8802 & <a href="mailto:AKRNMFSspillResponse@noaa.gov">AKRNMFSspillResponse@noaa.gov</a>
Illegal Activities <i>(not related to project activities; e.g., feeding, unauthorized harassment, or disturbance to marine mammals)</i>	NMFS Office of Law Enforcement (AK Hotline): 1-800-853-1964
In the event that this contact information becomes obsolete	NMFS Anchorage Main Office: 907-271-5006 Or NMFS Juneau Main Office: 907-586-7236

### Sea Otters

Small, maneuverable watercraft such as skiffs have a greater risk of harming or disturbing sea otters and other small, nearshore marine mammals than large, slow-moving vessels. If skiffs are used during the Tigalda Island project, the USACE will require its contractors to adopt USFWS guidance for small craft operators, as presented in the USFWS 2009 "Skiff Operation Guidance to Avoid Disturbing Sea Otters":

While operating skiffs in near-shore areas, scan the water surface ahead of the boat vigilantly for otters. In choppy water conditions sea otters are difficult to spot. If you are boating with another person, place them in the bow to help search. You may encounter otters as individuals, a mother and a pup, or rafts of 10 or more.

- When you see an otter(s), alter your course and slow down to avoid disturbance and collision. Once you have spotted an otter(s), you should not assume that the otter(s) will dive and get out of the way. Even if they are alert, capable, and do

dive, your action of knowingly staying your course would be considered harassment.

- Do not operate a skiff at any rate of speed heading directly at the otter(s). A good rule of thumb is that your buffer should be great enough that there is ample room for the otter(s) to swim away without startling them. It is your responsibility to minimize the stimulus and threat of a loud boat approaching quickly.
- The more otters you see, the wider the berth you need to give. Also, do not pass between otters, but rather go around the outside perimeter, plus add a buffer.

With the avoidance and minimization steps outlined above, the USACE determines that the project activities may affect, but are not likely to adversely affect the following ESA-listed species or any designated critical habitat:

- Steller sea lions (Western DPS)
- Humpback whales (Western Pacific and Mexico DPSs)
- North Pacific right whales
- Western North Pacific gray whales
- Fin whales
- Blue whales
- Gray whales
- Sperm whales
- Beluga whales (Cook Inlet DPS)
- Northern sea otter (Southwest Alaska DPS).

The USACE received concurrence with these determinations from the USFWS in 2021 (USFWS 2021d) and from the NMFS in a letter dated 29 June 2021 (NMFS 2021c) Both the NMFS and the USFWS will receive a copy of this EA for review and be notified of the actions at Tigalda Island in 2021.

The USACE assesses the probability of the project vessels encountering, let alone affecting, the rare and widely-dispersed short-tailed albatross to be very low. The USACE determines project activities will have no effect on short-tailed albatross.

Overall, the magnitude of effects of project activities on endangered and threatened species would be minor to moderate.

#### Effects on Marine Mammals

The anticipated effects on cetaceans or pinnipeds not listed under the ESA, are expected to be the same as described above for the ESA-listed marine mammals. The same avoidance and minimization measures as described in Section 2.6.3 would apply for any whales, porpoises, dolphins, sea lions, or seals. The USACE determines the

CON/HTRW removal actions will not result in a taking under the MMPA. The magnitude of effects of project activities would be minor to moderate.

#### Effects on Eagles

Nesting eagles are not expected at the project site, due to no previous observations or evidence at the project site. A few transient adult bald eagles may be seen from the project area, but the USACE anticipates a very low risk of a taking under the BGEPA. Due to the location of the project site near cliffs, precautions will be taken to ensure no nests are within the area that would be disturbed by the fieldwork. The magnitude of effects of project activities would be minor.

#### Effects on Migratory Birds

The USACE determines that the proposed activities are unlikely to result in the killing of a migratory bird, or destruction of an active nest. The magnitude of effects of project activities on migratory birds would be minor.

#### **4.2.7 Effects on Special Aquatic Sites**

The project areas (Figures 3a and 3b) have not been delineated for jurisdictional wetlands, but wetlands are presumed to be present. Much of the area to be excavated to remove contaminated soils consists of fill placed during construction of the facilities, which would not be wetlands. Where backfill is placed in excavations that have extended into wetlands, that fill would constitute a discharge under Section 404 of the Clean Water Act (CWA; 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 project activities on special aquatic sites would be minor.

#### **4.2.8 Effects on Anadromous Streams and Essential Fish Habitat**

The project would not require entry into or alteration of water bodies, including anadromous streams. The intent of the project is to remove sources of contamination from the environment, which should have a net positive effect on local fish habitat. There are no anadromous streams or bodies of water on Tigalda Island and the magnitude of effect on anadromous streams would be no adverse effect.

The only project activity occurring in the local marine environment is the landing of transport barges or landing craft, which will have a negligible impact on EFH. The pre-packaging of waste materials on shore will minimize the risk of discharging contaminants into the marine environment, and the contractor's spill prevention plan will

address potential releases of fuel or other chemicals from the project vessels. The magnitude of effect on EFH would be minor.

#### **4.2.9 Effects on Cultural Resources**

The USACE has determined that the proposed activity will have no adverse effect on historic properties, with the provision that an archaeological monitor be present on site for all activities including, when establishing the temporary beach landing and staging areas, and all activities within 50- to 100-feet around any nearby features associated with UNI-00138, UNI-00144, and UNI-00148. The USACE has proposed that the undertaking will result in no adverse effect to historic properties and will have an archaeologist onsite during fieldwork to monitor the undertaking.

The USACE submitted a finding of effect to the SHPO and landowners on 01 March 2021, and received an email concurrence from the SHPO dated 3 June 2021, and received concurrence from the USFWS Regional Historic Preservation Officer on 29 March 2021 (USFWS 2021a).

The magnitude of the effect of project activities on cultural resources would be no adverse effect given the above stipulations for an archaeological monitor.

#### **4.2.10 Effects on Environmental Justice and Protection of Children**

Executive Order (E.O.) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires Federal agencies to identify and address any disproportionately high and adverse human health effects of its programs and activities on minority and low-income populations. The USACE anticipates no adverse effect effects on minority or low-income populations, as no definable population exists in the project areas.

On 21 April 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 no children in the project area. The USACE anticipates no adverse effect of the agency's preferred alternative.

## **5.0 REGULATORY COMPLIANCE AND AGENCY COORDINATION**

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. Per the NEPA process and USACE regulations and guidance, the EA and unsigned

FONSI are subject to 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 Nationwide Permit No. 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 Nationwide Permits (NWP) issued by the USACE in 2018, so no separate Section 401 Certificate of Reasonable Assurance is required for the Tigalda Island, which falls within the scope and intent of NWP No. 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.

Endangered Species Act: The USACE initiated informal consultation for the Tigalda Island AWS FUDS project under the ESA in 2017, with both the NMFS (USACE 2017a) and the USFWS (USACE 2017b; USFWS 2021d). The USFWS responded with an email concurring with the USACE determinations of “may affect but not likely to adversely affect” on ESA-listed species, as discussed in Section 4.2.6 Effect on Endangered Species above (USFWS 2021d). The USACE is still waiting on concurrence from the NMFS.

Magnuson-Stevens Fisheries Conservation and Management Act: The USACE has reviewed information on EFH in the project area and has made the determination that the planned activities would have no adverse effect on EFH. No further coordination is required, but NMFS Habitat Division will have the opportunity to review this EA.

National Historic Preservation Act: In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR § 800.2(a)(4)], USACE sent a letter notifying USFWS, Native Village of Akutan, Aleutian Pribilof Islands Association, Aleut Corporation, Akutan Corporation, and SHPO of a Federal undertaking and to seek concurrence on an assessment of effect on 1 March 2021 (USACE 2021a). USACE received concurrence from the USFWS Regional Historic Preservation Officer on 29 March 2021 concurring with the finding of no adverse effect with conditions for the project (USFWS 2021a).

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments: E.O. 13175 requirements are not explicitly relevant to this project, as other regulatory venues have been used to address Native Alaskan interests and concerns. The USACE has pursued extensive consultation with one Federally-recognized Tribes (Native Village of Akutan), one Alaska Native Claims Settlement Act (ANCSA) village corporations (Akutan Corporation), and two ANCSA regional corporations (Aleut Corporation, Aleutian Pribilof Islands Association) under Section 106 of the NHPA. In addition, the USACE has obtained rights-of-entry from the USFWS.

Coastal Zone Management Act: Alaska withdrew from the voluntary National Coastal Zone Management Program on 1 July 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.

A checklist of project compliance with relevant Federal, state, and local statutes and regulations is shown in Table 5.

Table 5. Environmental Compliance Checklist

<b>FEDERAL</b>	<b>COMPLIANCE</b>
Archeological & Historical Preservation Act of 1974*	FC
Clean Air Act	FC
Clean Water Act	FC
Coastal Zone Management Act of 1972	NA
Endangered Species Act of 1973	FC
Estuary Protection Act	FC
Federal Water Project Recreation Act	FC
Fish and Wildlife Coordination Act	NA
National Environmental Policy Act	PC*
Land and Water Conservation Fund Act	FC
Marine Protection, Research & Sanctuaries Act of 1972	NA
National Historic Preservation Act of 1972	FC
River and Harbors Act of 1899	FC
Magnuson-Stevens Fishery Conservation & Management Act	FC
Marine Mammal Protection Act	FC
Bald Eagle Protection Act	FC
Watershed Protection and Flood Preservation Act	FC
Wild & Scenic Rivers Act	NA
Executive Order 11593, Protection of Cultural Environment	FC
Executive Order 11988, Flood Plain Management	FC
Executive Order 11990, Protection of Wetlands	FC
Executive Order 12898, Environmental Justice	FC
Executive Order 13045, Protection of Children	FC

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments	FC
<b>STATE AND LOCAL</b>	<b>COMPLIANCE</b>
State Water Quality Certification	FC
Alaska Statute 16.20.500 Critical Habitat Areas	FC
Alaska Coastal Management Program	NA

PC = Partial compliance,

FC = Full compliance

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

## 6.0 CONCLUSION

The continued environmental cleanup efforts at Tigalda Island, as discussed in this document, would have some minor, largely controllable short-term impacts, but in the long term would help improve the overall quality of the ecological environment. This assessment supports the conclusion that the proposed project does not constitute a major federal action significantly affecting the quality of the human environment; therefore, a finding of no significant impact will be prepared.

## 7.0 PREPARERS OF THIS DOCUMENT

This Environmental Assessment was prepared by Chris Floyd and Kayla Campbell of the Environmental Resources Section, Alaska District, U.S. Army Corps of Engineers. USACE of Engineers Project Manager is Richard Ragle.

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