Alaska District
U.S. Army Corps of Engineers

Environmental Resources Section

Public Notice

Date 25 August 2023 Identification No. ER-PN-23-004
Please refer to the identification number when replying.

Operation and Maintenance Activities

St. Paul Harbor, St. Paul Island, Alaska

The U.S. Army Corps of Engineers, Alaska District (USACE) proposes to (1) dredge the main entrance channel, main maneuvering area, small boat harbor entrance channel, small boat harbor mooring and maneuvering area, and sediment management area, (2) repair the main breakwater energy dissipation reefs, and (3) construct channel scour protection in the main entrance channel and small boat harbor entrance channel. The dredged material would be placed in upland locations to be used beneficially by the City of Saint Paul.

USACE collected harbor sediment and placement area soil for chemical testing in August 2023. Pending the results of the chemical testing, USACE will request the Alaska Department of Environmental Conservation issue a Certificate of Reasonable Assurance under Section 401 of the Clean Water Act, Alaska Water Quality Standards, and other applicable state laws.

Information on the proposed action and anticipated environmental effects are discussed in the attached environmental assessment (EA) and unsigned Finding of No Significant Impact (FONSI), which are available for public review and comment at the following the USACE website: https://www.poa.usace.army.mil/Library/Reports-and-Studies/. The EA can be found in "Operations and Maintenance" under "Documents Available for Review". The comment period will be closed 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.

Please send electronic comments on the EA to Matthew.W.Ferguson@usace.army.mil. Written comments may also be sent to the following address:

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

No public meeting is scheduled for this action. If you believe a meeting should be held, please send a written request to the above address during the 30-day review period explaining why you believe a meeting is necessary.

Please contact Mr. Matthew Ferguson of the Environmental Resources Section via his email address (Matthew.W.Ferguson@usace.army.mil, his phone (907-753-2711), or write to him through the Corps' address if you would like additional information concerning the proposed project

Michael B. Rouse
Chief, Environmental Resources Section

US Army Corps of Engineers
Alaska District

Draft Environmental Assessment and Finding of No Significant Impact

Operation and Maintenance Activities
St. Paul Harbor, St. Paul Island, Alaska

August 2023

FINDING OF NO SIGNIFICANT IMPACT

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

Operation and Maintenance Activities
St. Paul Harbor, St. Paul Island, Alaska

The USACE August 2023 *Operation and Maintenance Activities Environmental Assessment and Finding of No Significant Impact, Saint Paul Harbor, Saint Paul Island, Alaska* (EA) defined the proposed action and addressed the environmental effects of that action. The Saint Paul Harbor was authorized in three phases between 1986 and 1999 and the USACE has maintained the Harbor since 1995. Dredging and repair requirements are periodic and determined by storms.

USACE conducts periodic field surveys of its navigation projects to identify any need for constructing repairs and/or maintenance dredging. Recent field surveys revealed the need to address hazards threatening the Federal navigation features at St. Paul Harbor. Specifically, USACE proposes to (1) dredge the main entrance channel, main maneuvering area, small boat harbor entrance channel, small boat harbor mooring and maneuvering area, and sediment management area, (2) repair the main breakwater energy dissipation reefs, and (3) construct channel scour protection in the main entrance channel and small boat harbor entrance channel. The dredged material would be placed in upland locations to be used beneficially by the City of Saint Paul.

To comply with the National Environmental Policy Act and other Federal and State environmental laws and regulations, USACE prepared an environmental assessment (EA), dated August 2023, to address the potential environmental impacts associated with the USACE's proposed action.

The primary environmental issues associated with the proposed action are the potential impacts associated with construction-related petroleum spills and the potential impacts on threatened and endangered species; marine mammals; essential fish habitat; water, sediment, and air quality; benthic habitat and organisms; avifauna; and historic and cultural resources. The major findings and conclusions include:

- The proposed action will have no effect on U.S. Fish and Wildlife Service (USWFS) and National Marine Fisheries Service (NMFS) listed or proposed-for-listing threatened or endangered species or destroy or adversely modify existing or proposed critical habitat
- The proposed action is not expected to "take" migratory birds or any sea/shore birds inhabiting St. Paul Harbor or surrounding the Village Cove area.
- The proposed action will likely result in short-term alterations of essential fish habitat (EFH) for the following EFH species: walleye pollock, Pacific cod, yellowfin sole, rock sole, sculpins, red king crab, and blue king crab. Additional rocky-substrate EFH will be created when the energy dissipation reef and scour hole repairs are completed. Therefore, the proposed action may affect, but is not likely to adversely affect, EFH and EFH-managed species/species complexes for Bering Sea/Aleutian Islands Goundfish and Bering Sea/Aleutian Islands King and Tanner Crabs.
- The proposed action is within the boundaries of the Saint Paul Village Unit of the

Seal Islands Historic District, the Fur Seal Rookeries National Historic Landmark (XPI-00002). In accordance with 36 CFR § 800.5(c) and 36 CFR § 800.10(c), USACE has requested that the Alaska State Historic Preservation Officer (SHPO) and the National Park Service - Alaska Region (NPS), respectively, concur with its determination that the proposed undertaking will result in no adverse effect on the Fur Seal Rookeries National Historic Landmark.

- The areas to be maintenance dredged are expected to be free of petroleum contamination because high-energy, long-shore processes continually transport clean sediment into Village Cove from contaminant–free areas outside Village Cove. In addition, the course-grained nature of the sediment to be dredged is not inclined to accumulate contaminants as fines and silt do. However, petroleum products are known to leak from and be washed off vessels into harbor waters. The USACE has prepared a Tier 1 analysis pursuant to the Inland Testing Manual (EPA/USACE, 1998), which determined that the majority of the St Paul Harbor maintenance dredged material is unlikely to be a carrier of contaminants and therefore exempt from chemical testing.

The following mitigation measures are expected to avoid and minimize potential environmental consequences to the extent practicable and appropriate. The proposed action does not warrant compensatory mitigation measures, as the affected marine habitat is not in limited supply in the St. Paul Island area and the creation of additional subtidal rocky substrate (associated with scour hole and reef repairs) will provide more complex, diverse, and high-value habitat for marine fishery resources.

1. No in-water work will be conducted between September 1 and November 1 to avoid impacting (i.e. taking) juvenile fur seals and pups returning to Village Cove and the Salt Lagoon entrance channel.

2. Project vessels will not travel within 3,000 feet of designated Steller sea lion critical habitat (haulouts or rookeries).

3. USACE will coordinate with the Aleut Community of Saint Paul Island to secure certification that their vessels are rat-free.

4. Project-related activities will not use the Boulder Beach area to access work sites in order to avoid impacting (i.e. taking) least-auklets or their nesting habitat.

5. USACE will prepare an oil spill and prevention plan, in accordance with Federal, State of Alaska, and St. Paul Harbor requirements, and have it reviewed and approved by USACE and St. Paul Harbormaster prior to commencing work.

6. Project vessels must be operated in compliance with State of Alaska marine vessel (air emissions) visibility standards (18 AAC 50.70).

7. Dredging operations will not place dredged material in open water, and instead shall place all dredged material on St. Paul Island uplands for beneficial uses.

8. USACE will take reasonable precautions, per 18 AAC 50.045(d), to prevent the generation of fugitive dust at its rock source and dredged material placement sites.

9. USACE will implement marine mammal mitigation measures in accordance with Chapter 5.0 of the July 2023 *Operation and Maintenance Activities Environmental Assessment and Finding of No Significant Impact, Saint Paul Harbor, Saint Paul Island, Alaska*

USACE has incorporated all appropriate and practicable measures to offset possible impacts caused by St. Paul Harbor O&M activities. The environmental impacts associated with the proposed action are expected to be short-term, with no long-term, significant or cumulative adverse impacts on the area's fish and wildlife resources. Therefore, the USACE has determined that: (1) the EA prepared for this action supports the conclusion that the proposed action at St. Paul Harbor does not constitute a major Federal action significantly affecting the quality of the human environment; (2) preparing an environmental impact statement is not necessary; and (3) signing a Finding of No Significant Impact is appropriate.

Jeffery Palazzini Date
Colonel, USACE
District Commander

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List of Acronyms

ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish and Game
ACMP	Alaska Coastal Management Program
AHRS	Alaska Heritage Resources Survey
APE	Area of Potential Effect
CDF	Confined Disposal Facility
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CWA	Clean Water Act
CY	Cubic Yards
CZMA	Coastal Zone Management Act
dB	Decibel
DPS	Distinct Population Segment
EA	Environmental Assessment
EFH	Essential Fish Habitat
EFHAPF	Essential Fish Habitat Area Protected from Fishing
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ER	Engineer Regulation
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
HPC	Habitat of Particular Concern
Hz	Hertz
IBA	Important Bird Area
Kcy	Thousand cubic yards
kHz	Kilohertz
km	Kilometer
m	Meter
Mcy	Million cubic yards
MHW	Mean High Water
MLLW	Mean Lower Low Water
MMPA	Marine Mammal Protection Act
MOA	Municipality of Anchorage
MPRSA	Marine Protection, Research, and Sanctuaries Act
N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NMML	National Marine Mammal Laboratory
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service, U.S. Department of the Interior

NRHP	National Register of Historic Places
NTU	Nephelometric Turbidity Unit
O&M	Operations and Maintenance
Pa	Pascal
BGEPA	Bald and Golden Eagle Protection Act
PCS	Project Condition Surveys
PM_{10}	Particulate Material smaller than 10 microns
$PM_{2.5}$	Particulate Matter smaller than 2.5 microns
POL	Petroleum, Oils, & Lubricants
PSU	Practical Salinity Units
QDP	Quarry Development Plan
R	Range
RHA	Rivers and Harbors Act of 1899
RL	Received Level
RMS	Root Mean Squared
SBH	Small Boat Harbor
SHPO	State Historic Preservation Officer
SPL	Sound Pressure Level
TL	Transmission Loss
USC	United States Code
USACE	United States Army Corps of Engineers

1.0 Purpose and Need

1.1 Introduction

In accordance with the National Environmental Policy Act (NEPA) of 1969, this environmental assessment (EA) assesses the potential environmental impacts related to the proposed maintenance of the Federal navigation project at Saint Paul Harbor. St. Paul Harbor is an existing U.S. Army USACE of Engineers, Alaska District (USACE) project in the Pribilof Islands, at St. Paul Island, Alaska (Figure 1). The City of St. Paul occupies a narrow peninsula on the southern tip of the island. St. Paul Island is 47 miles north of St. George Island, 240 miles north of the Aleutian Islands, 300 miles west of the Alaska mainland, and 750 air miles west of Anchorage.

St. Paul is the northernmost and largest of the Pribilof Islands. The climate is maritime, resulting in considerable cloudiness, heavy fog, high humidity, and daily temperature fluctuations. Maritime influence in the Pribilofs keeps seasonal temperatures mild and daily variations to a minimum. Summertime temperatures are low, with the highest recorded temperature being 64 °F. Precipitation on St. Paul Island is minimal, with an average annual rainfall of about 24 inches. The island area has periods of high wind throughout the year. Frequent storms occur from October to April, often accompanied by gale-force winds to produce blizzard conditions.

Figure 1. St. Paul Harbor and island location and vicinity

St. Paul Harbor's development occurred in three general phases (Figure 2). Phase I, completed in 1990, included a 1,050-foot-long main breakwater, a 1,000-foot-long inner breakwater, a 2-acre turning basin at a depth of -18 feet mean lower low water (MLLW), a 700-foot-long dock, and a 6-acre mooring basin. Phase II, completed in 1996, addressed an unanticipated demand for harbor services and overtopping problems associated with the main breakwater. Construction during Phase II consisted of the following: (1) the depth of the entrance channel was increased to -30 feet MLLW; (2) a maneuvering basin was enlarged and dredged to -29 feet MLLW; (3) a +4-foot MLLW spending beach was constructed, and a sediment management area was established

on the lee side of the 1,000-foot-long detached breakwater; (4) three offshore reefs 1,300 feet in length at -12 feet MLLW were constructed parallel to the main breakwater; and (5) the natural entrance channel to the Salt Lagoon was realigned to restore the lagoon's water quality and biological productivity. Phase III, completed in 2010, involved: (1) construction of a small boat harbor, (2) an entrance channel dredged to -16 feet MLLW, (3) a maneuvering area dredged to -12 feet MLLW, and (4) the construction of wave protection/flow directing features, such as a 435-foot-long, +10 feet MLLW breakwater and a 530-foot-long, +10 feet MLLW circulation berm.

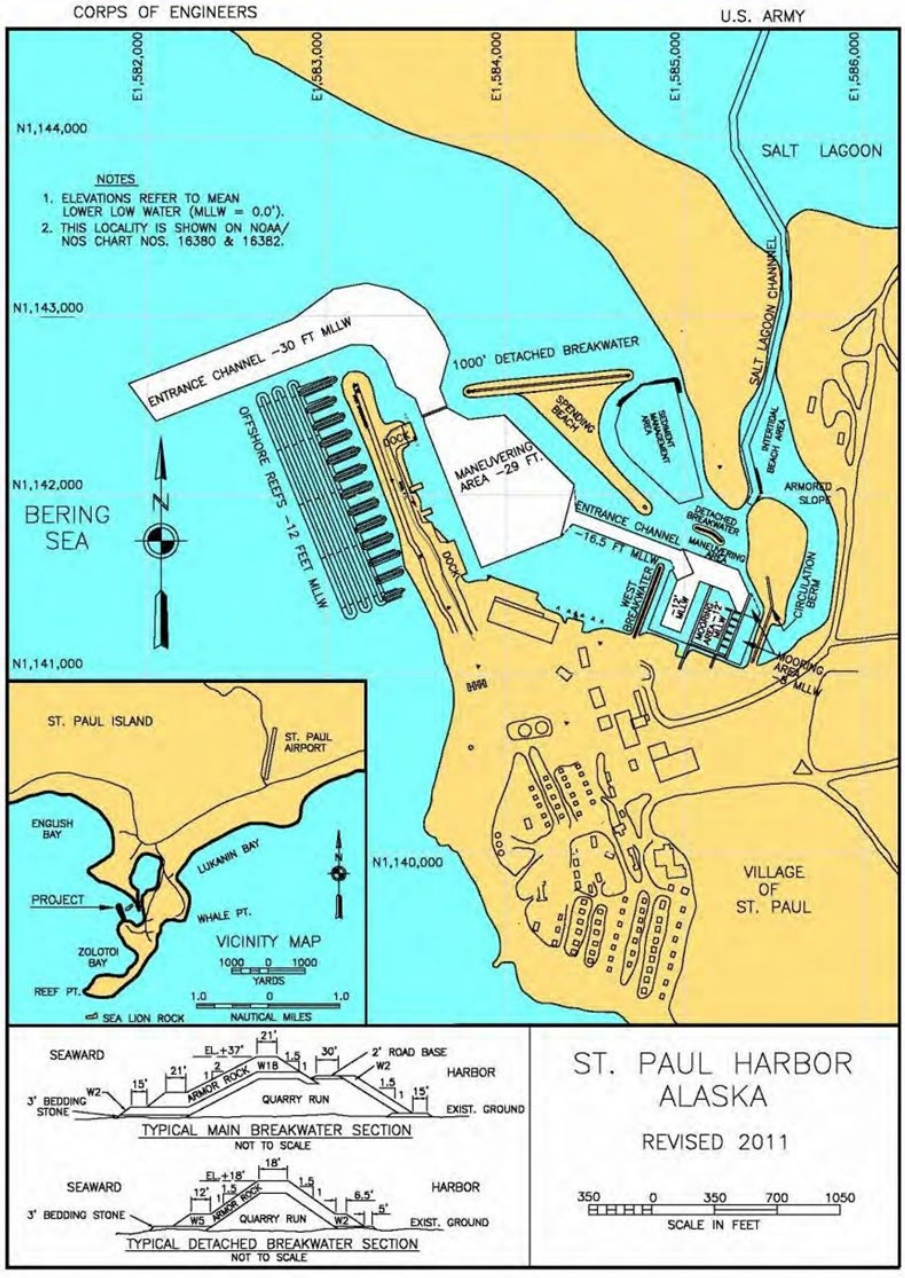

Figure 2. Navigation improvement features, St. Paul Harbor, Alaska (note, the correct depth for the SBH Entrance Channel is -16', not -16.5 as shown in this figure)

1.2 Authority

The Water Resources Development Act, 17 November 1986 (Public Law 99- 662, Section 202) as adopted, provided for an addition to the existing (non-Federal) breakwater of 1050 feet at 37 feet above MLLW, a detached breakwater 1000 feet in length at 18 feet above MLLW protecting Village Cove, and a maneuvering area 200 feet wide at 18 feet below MLLW. The Water Resources Development Act of 1996, (Section 101(b)(3), Public Law 104-303) provided for an entrance channel at -30 feet MLLW, enlarged the maneuvering basin to 415 by 830 feet with a depth of -29 feet MLLW, created a wave spending beach at +4 feet MLLW, a tidal channel into the Salt Lagoon at 40 feet in width at -3 feet MLLW for environmental mitigation, and three off-shore reefs 1,300 feet in length at -12 feet MLLW. The Water Resources Development Act of 1999, 106th Congress, provided for a small boat harbor with an entrance channel at -16 feet MLLW and a maneuvering area at -12 feet MLLW with appropriate wave protection flow directing features consisting of a breakwater of 435 feet at 10 feet above MLLW and a circulation berm of 530 feet at 10 feet above MLLW.

1.3 Purpose of the Action

During the USACE's 2022 periodic project condition surveys (PCS), significant shoaling was detected in the main entrance channel (project depth -30' MLLW) and maneuvering area (project depth -29' MLLW). Lesser shoaling has occurred in the small boat harbor entrance channel (project depth -16' MLLW), small boat harbor mooring/maneuvering area (project depth -12' MLLW), and maneuvering area (project depth -8' MLLW). The 2022 St. Paul Harbor PCS volume computations are shown in Table 1. Additionally, the PCS documented damage to the energy dissipation reefs and scour holes in the main entrance channel and small boat harbor entrance channels.

Maintenance dredging is required to restore the authorized depth in some of these areas because St. Paul has become an important harbor-of-refuge for the bottom-fishing fleet in the Bering Sea and provides crucial economic support for this remote community. Access to the harbor and connected infrastructure would be compromised without maintenance dredging, jeopardizing the harbor's continued functional and economic value to the bottom fish industry and island community. Shoals detected during the 2022 PCS are shown in Figure 3.

Table 1. 2022 Project Condition Survey Volume Computations

Feature	Required Depth		Maximum Pay		Side Slope
	Depth (MLLW)	Volume (cubic yards)	Depth (MLLW)	Volume (cubic yards)	Volume (cubic yards)
Entrance Channel	-30’	30,201	-32’	54,917	5,060
Maneuvering Area	-29’	9,037	-31’	28,889	9,488
SBH Entrance Channel	-16’	4,841	-17’	5,743	1,098
SBH Mooring/Maneuvering Area	-12’	2,818	-13’	4,893	854
SBH Maneuvering Area	-8’	220	-9’	301	82
Sediment Management	-10’	22,248	-11’	27,572	500
Total		*69,365*		*122,316*	*17,081*

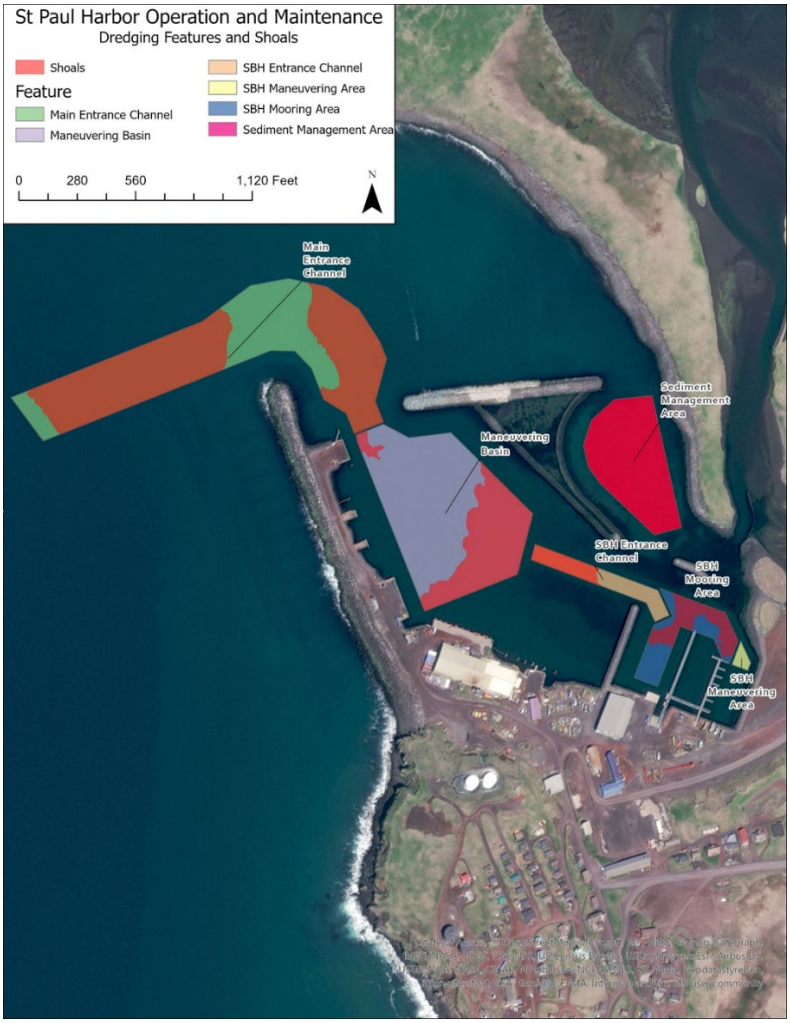

Figure 3. 2022 Saint Paul Harbor Project Condition Survey Shoals

Repairs to the offshore energy dissipation reefs are required to protect the main breakwater, which is critical to the accessibility of the Federal navigation project. The main breakwater is perpendicular to the significant wave axis, so it is exposed to and protects the entrance channel from the largest waves impacting the Saint Paul harbor area. The energy dissipation reefs cause waves to break further offshore, so some of the wave energy is dissipated prior to the wave striking the main breakwater. The scour hole repairs are needed because the scour holes threaten to undercut the main breakwater and small boat harbor breakwater. The undercutting of these breakwaters could destabilize them and lead to their collapse. The location of the damaged energy dissipation reefs and scour holes is shown in Figure 4.

Figure 4. Saint Paul Harbor Scour Holes and Damaged Reefs

1.4 Scope of the Action

The scope of analysis for the National Environmental Policy Act (NEPA) and environmental compliance evaluations is the impacts associated with the maintenance dredging in the Saint Paul Harbor basin, upland placement for beneficial use of all dredged sediment, repairs to the energy dissipation reefs, and repairs to the scour holes.

The NEPA requires that decision-making proceed with full awareness of the environmental consequences that follow from a major Federal action, especially those consequences that could significantly and adversely affect the environment. Provisions for the USACE to comply with and implement NEPA are found in the Council of Environmental Quality Regulations (40 CFR Parts 1500-1508) and USACE-Civil Works Regulations (ER 200-2-2, 33 CFR 230). The USACE' environmental assessment (EA) process leads to determining whether an environmental impact statement (EIS) or a Finding of No Significant Impact (FONSI) should be prepared.

The following EA/FONSI and EIS documents have been prepared by and for previous USACE navigation projects at St. Paul (see section 10.0 for complete reference citations):

- 1982. St. Paul Harbor, Final Feasibility Report and Environmental Impact Statement. Re: the construction and maintenance of a main breakwater and an entrance channel and maneuvering area.
- 1988. St. Paul Island Harbor, Environmental Assessment. Re: the construction of a secondary, detached breakwater.
- 1996. St. Paul Harbor Improvements, Interim Feasibility Report and Environmental Assessment. Re: dredging the entrance channel and maneuvering basin deeper, constructing a spending beach on the lee side of a detached breakwater, and constructing three offshore reefs parallel to the main breakwater.
- 1998. St. Paul Harbor Improvements, Salt Lagoon Entrance Channel. Environmental Assessment and Finding of No Significant Impact. Re: constructing features designed to restore Salt Lagoon's full tidal exchange to its condition prior to the construction of the harbor's breakwaters and reconstructing tidal flats.
- 2002. St. Paul Small Boat Harbor, Emergency Breakwater Repair and Disposal of Dredged Material. Environmental Assessment and Finding of No Significant Impact. Re: the construction of a small boat harbor within the confines of existing breakwaters, the on-going emergency action for the protection of the existing main breakwater and related infrastructure, and the disposal of dredged material.
- 2006. St. Paul Harbor, General Reevaluation Report Environmental Assessment and Finding of No Significant Impact
- 2015. St. Paul Harbor, Operation and Maintenance Activities Environmental Assessment and Finding of No Significant Impact for making repairs to the detached breakwater, repairing scour holes in the entrance channel and adjacent to the breakwaters, dredging to project depth, and upland placement of dredged material.

The applicability of the previous NEPA documents to the 2023 proposed scope of work is shown in Table 2.

Table 2. Extant NEPA document applicability matrix

Previous NEPA Document	Maintenance Dredging	Scour Hole Repair	Reef Repair
1982 EIS	10-year interval, upland/aquatic	N/A	N/A
1988 EA	3-5 year interval, Upland/aquatic	N/A	N/A
1996 EA	10-year interval, 40 kcy upland/aquatic	N/A	10-year interval/2,700 cy
1998 EA	Unknown	Unknown	Unknown
2002 EA	X	Scour protection weirs constructed between reefs and main breakwater	
2006 EA	20-year interval, 28 kcy upland	SBH entrance channel should be armored to prevent scour	USACE proposes to retain reef protection features
2015 EA	Described as O&M activity, 85 kcy upland	Repair scour holes adjacent to breakwaters and in SBH entrance channel	N/A

2.0 Alternatives

2.1 Range of Alternatives

Based on the needs described in Section 1, the objective of the project is to provide safe navigation and access to the St. Paul Harbor. In addition, 40 CFR 1502.14 requires that an environmental assessment evaluate a full range of reasonable alternatives based on the stated project purpose and need, including a No-Action Alternative.

Based on the project purpose, the following suite of alternatives were considered:

- No-Action Alternative
- Preferred Alternative
    - Dredge approximately 140,000 cy of sand from the Main Entrance Channel, Main Maneuvering Area, Small Boat Harbor Entrance Channel, Small Boat Harbor Mooring and Maneuvering Area, and Sediment Management Area
    - Place dredged material from all dredged areas in the uplands for beneficial use by the City of St. Paul.
    - Place approximately 22,000 cy of rock to repair Main Breakwater energy dissipation reefs
    - Place approximately 5,000 cy rock to repair the Main Entrance Channel and 3,000 cy rock to repair the Small Boat Harbor Entrance Channel scour holes

2.2 Alternatives

2.2.1 No-Action Alternative

Section 1502.14(c) of the NEPA regulations requires an analysis of the No-Action Alternative, as does the USACE ER 1105-2-100 and ER 200-2-2.

The USACE would discontinue O&M activities at St. Paul Harbor and no longer budget and/or allocate funds to maintain the federally-authorized navigation features at St. Paul Harbor within its designated limits. The St. Paul Harbor would continue to shoal, access would be restricted and eventually precluded due to draft requirements. The accumulated sediments that currently restrict deep draft navigational access would not be removed, and no window would be provided within which additional materials could accumulate before additional negative impacts to navigational access occurred. Shoaling would likely continue at the current rate and lead to additional shipping restriction in terms of timing and eventually lack of access at all tide stages for larger vessels. Degradation of the energy dissipation reefs would continue, exposing the main breakwater to greater wave energy. Scour holes would grow, potentially undercutting, then leading to collapse of the detached breakwater and small boat harbor breakwater.

2.2.2 Preferred Alternative

Various means of completing the Preferred Alternative were considered by USACE. Details of the measures and the retention/dismissal rationale are discussed in the following subsections.

2.2.2.1 Dredging methods

There are two basic approaches to dredging: mechanical and hydraulic. Mechanical dredging involves removing sediment with machinery, usually with a bucket of some kind (Figure 5). The most common types are an excavator or clamshell bucket. Barge mounted machinery must load material into a hopper barge where the material would dewater. The dewatered material would then be transported to land where it would be offloaded into trucks and hauled to a placement location.

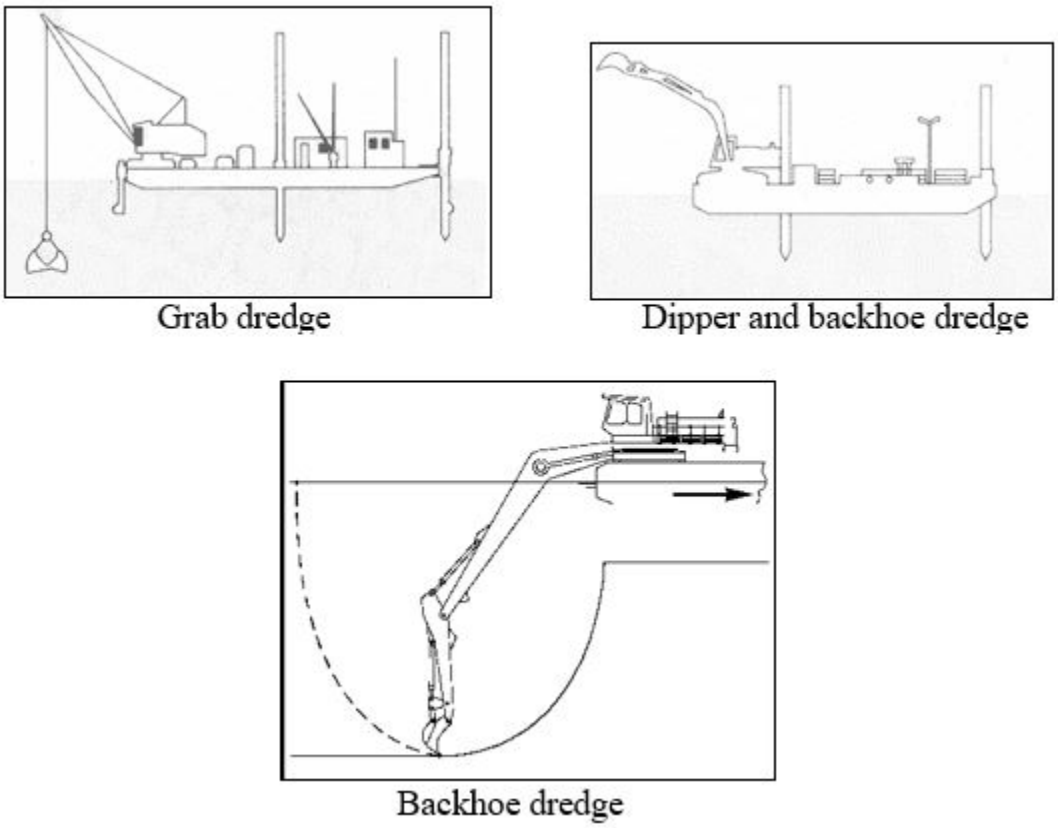

Figure 5. Types of Mechanical Dredges

Hydraulic dredging includes the use of a pump, usually barge mounted, to move material in a slurry via pipeline (Figure 6). The pipeline normally discharges its contents into a dewatering area where sediments would settle out and clean water would discharge. Settled-out and dewatered material would then be loaded into trucks and hauled to a placement site.

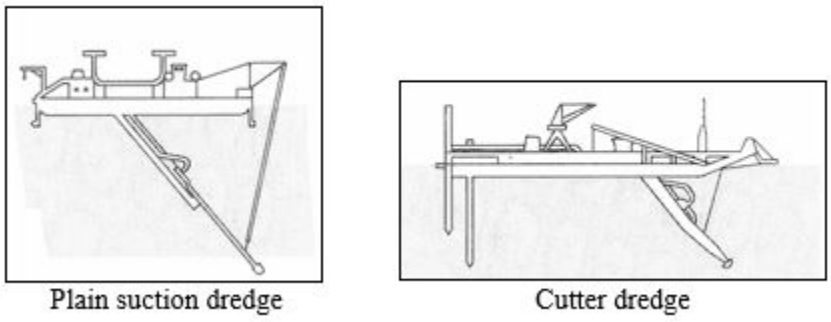

Figure 6. Examples of Hydraulic Dredges

Both mechanical and hydraulic dredges can be very practical and efficient depending on the material type, depth, and location of the material's destination. Hydraulic dredging is very cost effective if the sediment is being placed nearby and there is an area large enough to dewater the slurry and return the clean water. Mechanical dredging is quick and accurate but is often limited to reach from the shoreline or barge. The USACE considered the use of a hydraulic dredge at St. Paul Harbor but determined the wave climate would not allow the operation of a hydraulic dredge in the Main Entrance Channel. It would not be economically feasible to mobilize separate equipment types for the inner and outer dredged areas, so hydraulic dredging was dismissed from further consideration.

Dredging would be performed from a barge or other floating platform and is expected to employ mechanical equipment such as an excavator or crane with clamshell bucket. The dredged material would be dewatered on the barge and then trucked to the upland placement locations. Approximately 50,000 cubic yards (cy) of dredged material would be placed at the Kaminista Subdivision Public Works Lot all remaining material would be placed at the city landfill.

The USACE projected in its February 2006 *St. Paul Harbor, General Reevaluation Report Environmental Assessment and Finding of No Significant Impact* (USACE, 2006) that about 28,000 cubic yards of dredged material (14,000 cubic yards at a 10-year interval) would be disposed of during a 20-year period. However, the USACE anticipates dredging approximately 140,000 cubic yards of fine sand during the upcoming dredging cycle. The storm-driven nature of the St. Paul Harbor shoaling causes the sedimentation rates to be very difficult to predict and the USACE does not expect to be able to project shoaling rates more accurately in the future. Because of its predominantly coarse-grained nature, the dredged material has little retention capacity for contaminants. The USACE evaluated the dredged material in accordance with the Dredged Material Evaluation and Disposal Procedures (DMEDP) User Manual (DMMO, 2021) and determined the potential for contamination to be present is low in material from the Main

Entrance Channel, Main Maneuvering Area, Sediment Management Area, and Small Boat Harbor Entrance Channel. These areas are exempt from testing requirements based on the Tier 1 review of existing information (Appendix A). The Small Boat Harbor Mooring and Maneuvering Area is more quiescent and likely to contain fine-grained sediments, so testing will be required before the final management decision on this small portion of the total volume can be made.

2.2.2.2 Dredged Material Management

The USACE uses a variety of options to manage dredged material, including placing sediment in open water, the near-shore environment, or for contaminated sediment, in a confined disposal facility. Dredged material also has beneficial use applications as well as disposal on uplands.

A confined disposal facility (CDF) is generally associated with an area specifically designed for the containment of contaminated dredged material that provides control of potential releases of contaminants to the environment. CDFs are constructed on land, in water as islands or near-shore using the shoreline as one side of the containment facility. The USACE does not have any reason to believe the dredged material from the St. Paul Harbor is contaminated to the extent that construction of a CDF is justifiable.

Several laws and regulations govern the process of aquatic disposal of dredged material. These statutes and regulations have been designed to protect the marine environment and human health**.** However, the Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA) is the principal statute regulating all ocean disposal, including dredged material. Ocean disposal would require barging dredged material to an environmentally acceptable site and offloading it into the marine environment where it would settle on the ocean bottom.

CFR 40 Part 230, Clean Water Act, Section 404(b)(1) provides guidelines for specification of disposal sites for dredged or fill material in the near-shore environment/waters of the United States. Unless authorized, no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have a less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. Similar to disposing of dredged material in the open ocean, dredged material would be placed on a barge, transported to a near-shore (albeit undefined) area, and bulldozed/placed off the barge into the intertidal/littoral zone.

The USACE considers dredged material to be a valuable resource that is not to be wasted, but instead used for benefits to the ecosystem, economy, and to deliver the USACE mission more effectively and efficiently across the Navigation, Flood Risk Management, and Aquatic Ecosystem Restoration business lines. The USACE has been directed to generate productive and positive uses of dredged material and include beneficial use options in the operational strategy.

The USACE considered the placement of dredged material within the lateral limits of the depth of closure in nearshore waters to mitigate coastal erosion. Nearshore placement of dredged material would be accomplished using a split-hull scow barge to dump material through an articulating hull or a deck scow barge to have material pushed or dropped of the deck using earth moving equipment such as bulldozers or loaders. The placement sites are in bathymetric zones between -15 and -30 feet mean lower-low water (MLLW). Placement in shallower waters is not

possible due to the risk of the scow barge running aground against the seabed or the mounds of material created during placement operations.

Placement operations require the scow to remain stationary or operate at low speeds to stay within the placement zones during disposal. During the St. George Harbor study, conversations with barge operators revealed that the vessels become difficult to control at low speeds; the flat bottom hulls provide little surface for steerage. Maintaining stations and courses are handled through engine thrust. In low-speed conditions, the tugs operate at low thrust and are at high risk of being pushed off course and onto shallow objects by changes in wind speed or direction. In these conditions, the above water area of the vessel acts as a sail and engine thrust is used to push against the wind to hold course or station. Maintaining course or station becomes particularly difficult with a stern wind which essentially pushes the vessel on its course. Countering the wind with reverse thrust and pulling against the mooring lines that connect the tug and barge together were described as a more difficult situation for vessel control.

The potential placement zones identified for St. Paul Harbor are narrow, between 500 and 1000 feet. These zones will require the scow to operate at low speed or remain stationary to stay within the placement zone. Wind data from the St. Paul airport shows that winds exceeding 20 mph can occur from any direction. A change in wind direction, especially from an offshore direction to an onshore direction could be particularly difficult for the scow to control position and poses a significant risk of causing the scow to run aground during material placement operations. To mitigate this risk, beneficial use aquatic placement sites were removed from further consideration for this project.

The USACE recommended in its February 2006 *St. Paul Harbor, General Reevaluation Report Environmental Assessment and Finding of No Significant Impact* (USACE, 2006) that approximately 150,000 cubic yards be stockpiled for use by the non-Federal sponsor. The City of St. Paul has requested the USACE provide the dredged material to be used as landfill cover and clean fill for road and other projects on St. Paul Island.

The City of St. Paul has identified the following sites on the island as stockpile areas for the placement of dredged material (Figure 7):

- Public Works Lot: Kaminista Subdivision, Tract A. Plat 2013-26. Fill lot for future development by City of St Paul. Property Owner City of Saint Paul. Quitclaim 2013-000468-0 9/24/13.
- City Landfill: Ataqan Subdivision. Plat 2001-006. Current landfill and stockpiled dredged material from previous harbor phases. Future development and use of materials on future projects by City of St. Paul. Property Owner City of Saint Paul. Quitclaim Book 53 Page 442 6/29/2001.

Figure 7. Dredged Material Upland Placement Locations

2.2.2.3 Rock Sources

Rock used by contractors to construct previous USACE projects at St. Paul has come from existing quarries at St. Paul Island's Kaminista Quarry, St. George Island, Nome, and the State of Washington. USACE policy is not to designate rock sources for its civil works projects and O&M activities. The selected construction contractor is responsible for (1) identifying its rock source, (2) ensuring that the rock material meets all the specified engineering specifications, (3) following environmental protection measures and stipulations, and (4) submitting a Quarry Development Plan (QDP) to the USACE for review. QDPs that identify rock sources from an operating commercial quarry are not expected to receive an extensive NEPA review by the USACE and State and Federal resource agencies. If the construction contractor chooses to open a new quarry site, including a reclaimed site, the USACE will prepare an amended environmental assessment, in concert with State and Federal resource agencies, to determine the environmental impacts associated with developing and operating the subject quarry and to identify environmental protection measures and mitigation measures.

2.2.2.4 Scour Holes Repair

Scour holes in St. Paul Harbor represent areas where oceanographic processes (e.g. storm events and strong currents) have scoured away enough bottom sediment adjacent to rubble mound breakwaters to jeopardize their structural integrity. The USACE considered using the dredged material to fill the scour holes, but the grain size is too small to be stable and the material would wash out soon after it was placed. Other options considered include installing prefabricated scour blankets/mattresses, constructing on-site rock-filled scour mattresses using local rock sources, and designing and constructing additional rubble mound toe protection features. These measures are unsuitable because it would unnecessarily limit the construction methods in an austere and extreme operational environment.

The USACE intends to fill the scour hole with rock to a designed depth that would not interfere with navigation. The Main Entrance Channel scour hole would be filled primarily with 3,500 pound rock and the Small Boat Harbor Entrance Channel would be filled mostly with smaller rock in the 50-100 pound range. All rock placement is expected to be performed by an excavator, either placing material from a barge or working from the main breakwater.

2.2.2.5 Reef Repair

The USACE would allow the construction contractor to determine how best to repair the energy dissipation reefs. Required reef work would consist of rebuilding reefs 2 and 3 to their original design elevation of -12 feet MLLW. Construction methods for reefs 3 is expected to consist of dumping material along the reef from a barge. Reef 2 is expected to utilize a conveyor belt system established on the inside of the harbor to dump material along the crest of reef 2. Most of the rock used to repair the reefs would in the 3,500 pound class.

3.0 Affected Environment

The affected environment section succinctly describes the existing environmental resources that would be affected in the St. Paul Harbor project area if any of the alternatives were implemented. This section describes only those environmental resources that are relevant to the decision to be made and that would affect or be affected by the alternatives if they were implemented. It does not describe the entire existing environment. This section, in conjunction with the description of the No-Action Alternative, forms the baseline conditions for determining potential environmental impacts of the proposed action and reasonable alternatives.

3.1 Air Quality and Greenhouse Gas

St. Paul is in the middle of the Bering Sea approximately 750-miles from Anchorage. St. Paul Island is subject to high winds throughout the year which would blow any air pollution out of the area. The Trident seafood processing plant is the only industrial-type facility on the island, but it is not believed to be a significant source of criterion pollutants. The operation of the plant may produce offensive smells at times, but fish processing in general is not known to be a producer of criterion pollutants. There is no air quality monitoring data for St. Paul, but air quality is presumed to be good and unimpacted based on the available information.

Greenhouse gasses are gases that trap heat in the atmosphere. The presence of these gasses creates or exaggerates a “greenhouse effect” where solar radiation from the sun enters the earth’s atmosphere and is reflected by the surface of the earth, but a portion of the radiation is reflected back towards the earth by the greenhouse gases. Greenhouse gasses include carbon dioxide (CO2), methane (CH4), nitrous oxide, fluorinated gases, and water vapor (EPA, 2023).

- Carbon dioxide (CO2): Carbon dioxide enters the atmosphere through burning fossil fuels (coal, natural gas, and oil), solid waste, trees and other biological materials, and also as a result of certain chemical reactions (e.g., cement production). Carbon dioxide is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- Methane (CH4): Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices, land use, and by the decay of organic waste in municipal solid waste landfills.
- Nitrous oxide (N2O): Nitrous oxide is emitted during agricultural, land use, and industrial activities; combustion of fossil fuels and solid waste; as well as during treatment of wastewater.
- Fluorinated gases: Hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride are synthetic, powerful greenhouse gases that are emitted from a variety of household, commercial, and industrial applications and processes. Fluorinated gases (especially hydrofluorocarbons) are sometimes used as substitutes for stratospheric ozone-depleting substances (e.g., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). Fluorinated gases are typically emitted in smaller quantities than other greenhouse gases, but they are potent greenhouse gases. With global warming potentials (GWPs) that typically range from thousands to tens of thousands, they are sometimes referred to as high-GWP gases because, for a given amount of mass, they trap

substantially more heat than CO2.

- Water vapor: Water vapor is earth's most abundant greenhouse gas and has significant implications on climate change due to the feedback relationship between temperature and water vapor in the atmosphere; i.e., as temperature increases, so does the amount of water vapor in the atmosphere. Water vapor feedback can also amplify the warming effect of other greenhouse gases, such that the warming brought about by increased carbon dioxide allows more water vapor to enter the atmosphere.

Primary production of greenhouse gases around St. Paul is presumed to be carbon dioxide and nitrous oxide associated with the combustion of fossil fuels for heat, transportation, and electricity production. It is unlikely that substantial quantities of methane are released from the solid waste landfill due to the low temperatures and associated slow rate of decomposition. There are no agricultural activities in the area that would produce large amounts of methane and the discharge of seafood waste is unlikely to produce significant quantities of methane because the outfall discharges into the offshore mixing zone. There are no industrial facilities likely to produce significant quantities of fluorinated gases either.

3.2 Noise

The St. Paul Harbor is an area of relatively high ambient noise levels, a result of both natural and anthropogenic sources. Ice, tides, waves, precipitation, and currents are the main sources of natural ambient noise; while vessels create the bulk of anthropogenic ambient noise. The USACE does not currently have site-specific noise data for the St. Paul Harbor, but presumes the ambient sound pressure level could be between 115-120 decibels (dB) root mean squared (RMS) during the fishing season when fishing boats and tenders call on St. Paul Harbor to deliver seafood to the processing plant.

3.3 Water Quality

The combination of oceanographic processes and neighboring land use practices influence St. Paul Harbor's water quality. The area around the harbor contains fish processing facilities, fuel docks, support services for the commercial fishing industry, and the small boat harbor. The fish processors obtain their water from Village Cove and discharge their wastes through a pipeline where it daylights about 1,000 feet off shore at a water depth of -26 feet MLLW. Commercial fishing boats and users of the small boat harbor are potential sources of oil pollution via refueling operations, discharging oily bilge wastes, and outboard motor use. Fuel docks distribute diesel fuel only; no bunker fuel is available. To date, no minor-to-major fuel spills (i.e. less than 240 barrels to greater than 2,400 barrels) have occurred in St. Paul Harbor.

Tide-generated flow and wave driven currents through the harbor into and out of Salt Lagoon help to maintain St. Paul Harbor's water quality. Subsequently, St. Paul Harbor's waters are mostly exchanged in one tidal cycle. The dominant transport mechanism for the harbor's sediment is the current generated by storm surges. Wave generated currents under more minor storm conditions are also capable of moving sand along the shoreline. Historically, sediment accumulation in the harbor has been limited, but when it did occur, the accumulations were in the Salt Lagoon entrance channel.

3.4 Water Circulation Patterns and Sedimentation

The dominant sediment transport mechanism is the current generated by the storm surges. Wave generated currents under more minor storm conditions are probably also capable of moving sands along the shoreline. Currents in the pocket where the harbor resides are generally in a clockwise direction and prior to harbor construction probably resulted in the harbor area fluctuating between being a sediment sink and a sediment source for down flow beaches.

Prior to Harbor construction, sediment accumulation in the area was limited, and most accumulations were transported after brief periods of storage in the lagoon entrance. Since construction of the breakwaters, the currents have been modified, and the sediments reaching the harbor are mostly accumulated in Main Entrance Channel and Main Maneuvering Area. Much of the sediment approaching the harbor is diverted westward along the detached breakwater and recirculated to the ocean about 1,000 feet offshore of its previous to existing project circulation path. This likely results in some deficit of sediments along the headlands to the west and may extend into Zolotoi Bay.

Prior to construction of the Harbor, USACE estimated that sediment would accumulate at rates of 2-4 kcy per year and maintenance dredging would be required every 10-20 years. Since phase III was constructed in 2010, the USACE has been forced to dredge approximately 85 kcy in 2016 and estimates another 140 kcy will be dredged in 2024 under the subject undertaking.

3.5 Cultural Resources

3.5.1 Historical Background

Saint Paul Island was formed approximately 400,000 years ago and based on geological evidence was never glaciated (Veltre and McCartney 1994). It has been speculated that, with the lowering of sea levels during the last ice age, the Pribilof Islands would have been hills towering over the Beringian plain and may have attracted ancient hunters. The first archaeological survey of St. Paul Island was an unsuccessful attempt to find this early occupation (Bryan 1966). To date, no prehistoric sites have been identified on St. Paul Island (Pipkin 2007).

3.5.1.1 Previous Archaeological Investigations

There have been a number of archaeological surveys of St. Paul Island that identified historic properties. The earliest survey was conducted by Alan Bryan of the University of Alberta in the early 1960s (Bryan 1966). While unsuccessful in his objective to discover early prehistoric sites, he did identify many Russian Period sites on the island. In 1979, Julia Steele and Lizette Boyer, archaeologists with USACE, documented several historic features during a survey in advance of the proposed construction of a boat harbor (USACE 1979). In 1994, Douglas Veltre of the University of Alaska and Allen McCartney of the University of Arkansas conducted an archaeological survey of St. Paul Island on behalf of the Tanadgusix Corporation (Veltre and McCartney 1994). In 1996, Edward Tyler and Gregory Biddle, archaeologists with the Bureau of Indian Affairs, surveyed the road system in advance of an effort to repair the roads on St. Paul

Island (BIA 1996). In 2000 and 2001, Veltre and McCartney conducted an archaeological field school on the island in cooperation with Tanadgusix Corporation (Veltre and McCartney 2000, 2001). Additional archaeological investigations have been conducted in association with cultural resources management studies (e.g., Mobley 2006, 2008, 2010; Pipkin 2007).

3.5.1.2 Russian Period

In 1786, Gavriil Loginovich Pribylov of the Russian Lebedev-Lastochkin Company encountered the uninhabited St. George Island and noted its large northern fur seal rookeries. Pribylov left a party of 40 men to winter there: 20 Unangax̂ and 20 Russians led by Efim Ivanov Popov (Veniaminov 1984). Within two years both St. George and St. Paul Islands were occupied by multiple Russian fur-hunting companies who forcibly colonized their camps with Unangax̂ from the Aleutian Islands (Orth 1967). This began two centuries of commercial sealing at the Pribilof lslands. An estimated 2.5 million pelts were taken from the islands during Russian control (Bower 1945). Small communities on each island were maintained by fur-hunting companies, including the Northern Company and the Predtechenskaia Company. In 1799, the Golikov-Shelikhov and Myl'nikov companies joined to create the Russian American Company. The Russian American Company became the predominant fur-hunting company on the island, lasting until the transfer of Alaska to the United States in 1867 (Black 2004; Elliott 1882).

3.5.1.3 American Period

In 1870, the U.S. Congress awarded a twenty-year concession to hunt fur seals in the Pribilof Islands to the Alaska Commercial Company of San Francisco. The rental for this concession was $55,000 a year. The company was obligated to pay the government a duty of $2.65 per seal skin taken, and to annually provide the islands' Unangax̂ inhabitants with 2,500 dried salmon, 60 cords of firewood, a sufficient quantity of salt and barrels to preserve meat, and to maintain a school on each island. The company was also ordered to treat the Unangax̂ with respect and kindness. They made efforts to improve their housing by replacing the traditional earthen barabaras with wood frame houses covered with tar paper. A physician was stationed on each island, and a hospital was built at St. Paul (Bower 1945; Hanna 2008).

After the Alaska Commercial Company's tenure, the North American Commercial Company operated the fur seal industry on the Pribilof Islands from 1890 to 1910. The Federal government took over direct management in 1910 through the Bureau of Fisheries under the Commerce Department, then through the U.S. Fish and Wildlife Service under the Interior Department. Throughout, the Pribilof Unangax̂ were restricted to their villages to serve as seasonal laborers when the seal harvest began each summer. Government ships including Navy vessels supplied the two islands, and Federal agents held considerable control over the villagers and their actions. In 1911, a Naval radio station was built on a 19-acre site just south of St. Paul village in conjunction with similar stations on Kodiak Island and the eastern Aleutian Islands (Baker 1957).

The Japanese attack on Pearl Harbor in December 1941 was followed approximately 6 months later by the bombing of U.S. military bases at Dutch Harbor and the capture and fortification of Kiska and Attu islands in the western Aleutian Islands. The capture of U.S. soil by the invading

Japanese prompted the forced evacuation of Unangax̂ villages to camps in Southeast Alaska. U.S. troops soon took over both Pribilof lslands, with 875 men stationed on St. Paul Island to build an airfield (Kohlhoff 1995). By September of 1943 the military contingent at St. Paul was reduced to ten men, and in 1944, most Pribilof villagers returned home. The Federal government forced the resumption of commercial sealing operations during World War II.

Dwindling fur seal populations and the provisions in international fur seal treaties prompted the Federal government to suspend commercial sealing on St. George Island in 1972 (Thomas 1990). Commercial sealing was stopped on St. Paul Island in the 1980s (Herz 2019).

3.5.1 Known Cultural Resources

The proposed undertaking's Area of Potential Effect (APE) consists of the Federal navigation channels and maneuvering areas within the Saint Paul Harbor, the artificial reefs outside of the harbor, the two proposed upland dredged materials disposal areas, and the public roads that connect the harbor and upland areas. There is one existing historic property within the APE (Table 3). The Alaska Heritage Resources Survey (AHRS) Mapper shows that the boundary for the Saint Paul Village unit of the Seal Islands Historic District (Fur Seal Rookeries National Historic Landmark [NHL]) (XPI-00002) encompasses the previously-used dredged materials disposal area at the Public Works Lot and extends into the waters at the Saint Paul Harbor. The mammoth tusk (XPI-00201) that was discovered during harbor construction efforts in 2005 was removed and remanded to State custody in 2006.

Table 3. Known cultural resources within general vicinity of the APE (AHRS 2023).

AHRS No.	Site Name	NRHP Status	In APE
XPI-00002	Seal Islands Historic District (Fur Seal Rookeries NHL)	Listed	**Yes**
XPI-00034	Municipal Garage, Building R	[Destroyed in 2006]	No
XPI-00035	Decommissioned Power Plant	Not Evaluated	No
XPI-00046	Site of Small Frame Building T	Not Evaluated	No
XPI-00201	PA, Harbor Cove Mammoth	[Removed in 2005]	**Yes**
XPI-00218	Alaska Dormitory	Not Evaluated	No
XPI-00219	Equipment Garage	Not Evaluated	No
XPI-00220	Receiving Warehouse	Not Evaluated	No
XPI-00225	Fish Plant	Not Evaluated	No

The NOAA Wrecks and Obstructions database shows two known shipwrecks in the vicinity of Saint Paul or Saint Paul Harbor (NOAA 2023). However, one is at the end of Reef Point to the south of the harbor and the other is to the north of the harbor near Tolstoi Point. Both wrecks are categorized as visible and "always dry." They are both outside of the APE. The BOEM Shipwreck database notes eight historical shipwreck events at St. Paul Island (BOEM 2011); however, none of these shipwrecks are known to be in the APE (Table 4).

Table 4. Shipwrecks in the greater St. Paul Island area (BOEM 2011).

Vessel Name	Year	Location	Narrative
Simeon I Amma	1799	On St. Paul Island	Wrecked
Napolean III	1858	At St. Paul Island	Stove by ice and lost

Alexander	1892	Northwest end of St. Paul Island	Stranded on reef and lost
[Unknown]	1909	On St. Paul Island	A British steamer reported wreckage of a Japanese sealer on shore
L.J. Perry	1910	Tonki Point Reef, St. Paul Island	Wrecked and became a total loss
Klyuchevsky	1962	West of St. Paul Island	Went missing; never found
Vagabond	1964	At St. Paul Harbor	Destroyed by hurricane
P.S. No. 76	1966	At East Landing, St. Paul Island	Destroyed in a storm

3.6 Vegetation

Grasses, sedges, and other vascular plants in the estuarine St. Paul Harbor area do not survive at elevations much below the upper tidal range. Dune grass (likely *Leymus mollis*) and members of the parsley family (likely *Heracleum lanatum*) grow around the Harbor, but much of the supratidal area around the Harbor is developed with marine infrastructure and unvegetated.

Marine phytoplankton (unattached algae) are present throughout marine waters and certainly would be found in the St. Paul Harbor. Phytoplankton are plankton, primary producers, and an important part of the marine food web. Their abundance is seasonally cyclical, increasing in the summer and decreasing in the winter.

Seaweed (macrophytic algae) is diverse and widespread in appropriate marine settings. Kelp and other seaweed beds are often productive habitat areas because they provide food and refugia for low-trophic level organisms, which attracts mid and high level predators. No surveys have been done to delineate the extent of seaweed coverage in the project area, but the USACE presumes colonization of Federal navigation features in the St. Paul Harbor is limited due to the high energy level and transient substrate.

3.7 Marine Invertebrates

Marine invertebrates include forms like polychaete worms that burrow into the bottom, snails, and bottom-dwelling crustaceans that live on the top of the seafloor, and the many forms of sea life in the water column like shrimp, smaller crustaceans, and the sub-adults forms of bottom-living species. The quality of all subtidal areas within the proposed footprint of the proposed O&M activities have habitat previously altered by various navigation improvement projects, most recently by dredging and repairs of the harbor in 2016. Those areas where the entrance channel has shoaled in and where scour holes have developed are not likely to have well established benthic communities because of the high-energy oceanic processes that form them; i.e. the substrate is neither sedentary nor stable enough to allow dense communities of infauna to become established in such a short time. Those communities that somehow were capable of establishing themselves probably include polychaete worms, crustaceans (crabs and shrimp), and echinoderms. Communities of mollusk, however, would not have had enough time to reestablish themselves to any large degree.

3.8 Fish and Essential Fish Habitat

Essential fish habitat (EFH) means those waters and substrate necessary to fish for spawning,

breeding, feeding, or growth to maturity. Any Federal agency taking an action that could adversely affect EFH by reducing the quantity or quality of habitat must coordinate with the NMFS to identify impacts and steps for conserving the habitat and reducing the impact of the action.

Based on the NMFS Alaska Region Essential Fish Habitat (EFH) mapper, five species of Pacific salmon, 17 species of groundfish, three species of crab, and one species of mollusc may be present in the St. Paul Harbor area (Table 5). No freshwater EFH (anadromous waters) exist in the USACE' project area. Village Cove's water depths range from 12 to 32 feet, which fall into EFH's "life history requirements" category of "1-50 meters water depth." Village Cove also has the "sand/gravel substrate, life history requirement" for supporting different life stages.

Table 5. EFH Species in the St. Paul Harbor Area

Common name	Species name
Alaska plaice	*Pleuronectes quadrituberculatus*
Alaska skate	Multiple
Arrowtooth flounder	*Atheresthes stomas*
Blue king crab	*Paralithodes platypus*
Flathead sole	*Hippoglossoides elassodon*
Great sculpin	*Myoxocephalus polyacanthocephalus*
Greenland turbot	*Reinhardtius hippoglossoides*
Pacific halibut	*Hippoglossus stenolepis*
Kamchatka flounder	*Atheresthes evermanni*
Northern rock sole	*Lepidopsetta polyxystra*
Octopus	Multiple
Pacific cod	*Gadus macrocephalus*
Pacific ocean perch	*Sebastes alutus*
Red king crab	*Paralithodes camtschaticus*
Rougheye rockfish	*Sebastes aleutianus*
Sablefish	*Anoplopoma fimbria*
Snow crab	*Chionoecetes opilio*
Southern rock sole	*Lepidopsetta bilineata*
Walleye pollock	*Gadus chalcogrammus*
Yellow Irish lord	*Hemilepidotus jordani*
Yellowfin sole	*Limanda aspera*
Sockeye salmon	*Oncorhynchus nerka*
Chinook salmon	*Oncorhynchus tshawytscha*
Chum salmon	*Oncorhynchus keta*
Coho salmon	*Oncorhynchus kisutch*
Pink salmon	*Oncorhynchus gorbuscha*

The USACE believes the following fish and crab species are most likely to occur in the St. Paul Harbor area:

- Walleye pollock: adults more likely in deeper water outside Village Cove but juveniles likely use the area pelagically and feed on the bottom.

- Pacific cod: adults more likely in deeper water outside Village Cove but late juveniles likely use the area pelagically and feed on the bottom.

- Yellowfin sole: adults and late juveniles exhibit a benthic lifestyle in Village Cove, where they spawn and feed on the bottom.
- Rock sole: adults and late juveniles exhibit a benthic lifestyle in Village Cove, where they spawn and feed on the bottom.

- Sculpin: adults and late juveniles inhabit a wide range of habitats but are mainly associated with a benthic lifestyle and a sandy/rocky substrate, which Village Cove has.

- Red king crab: Shallow inshore areas (less than 50 meters) support mating and molting individuals. Larvae generally occupy the upper 30 meters of the water column. Village Cove's shallow depth (5 meters and less) is poor habitat for supporting red crab life stages.

- Blue king crab: Shallow inshore areas (less than 50 meters) support mating and molting individuals. Larvae generally occupy the upper 30 meters of the water column. Village Cove's shallow depth (5 meters and less) is poor habitat for supporting red crab life stages.

No NMFS-designated "Habitat Areas of Particular Concern (HAPC)" are within or in proximity to the USACE' project area. HAPCs are discrete subsets of EFH that provide extremely important ecological functions or are especially vulnerable to degradation.

No NMFS-designated "EFH Area(s) Protected from Fishing" (EAPF) are within or in proximity to the USACE' project area. An EAPF is an area in which the NMFS and the regional fishery management council have used EFH provisions, established in Section 303(a)(7) of the Magnuson-Stevens Fishery Conservation and Management Act, to prevent or mitigate adverse effects from fishing on EFH.

3.9 Birds

Avifauna is a collective term for all birds in a particular region, in this case, St. Paul Island. No fewer than 287 species of birds have been recorded on the island. Eleven species return to the Pribilof Islands annually to nest and rear young. Salt Lagoon, the only salt estuary in the Bering Sea, is important habitat for migrating sandpipers and turnstones as well as migratory Eurasian species. Harlequin ducks are present year round and frequent the Salt Lagoon entrance channel. Several small ponds near Salt Lagoon occasionally harbor small numbers of waterfowl, including northern pintail, mallards, and green-winged teal.

A least auklet colony of several thousand birds extends the length of Village Cove's Boulder

Beach in proximity to the USACE' project area (Figure 8). Nearly half of the auklets on Boulder Beach use the beach enclosed by the detached breakwaters and harbor.

St. Paul Island, like all of the Pribilof Islands, is part of the Alaska Maritime National Wildlife Refuge. Its seabird cliffs were purchased in 1982 for inclusion in the refuge. The island has also been designated as an Important Bird Area (IBA). An IBA is an area internationally recognized as being globally important habitat for the conservation of bird populations. In the U.S. the program is administered by the National Audubon Society.

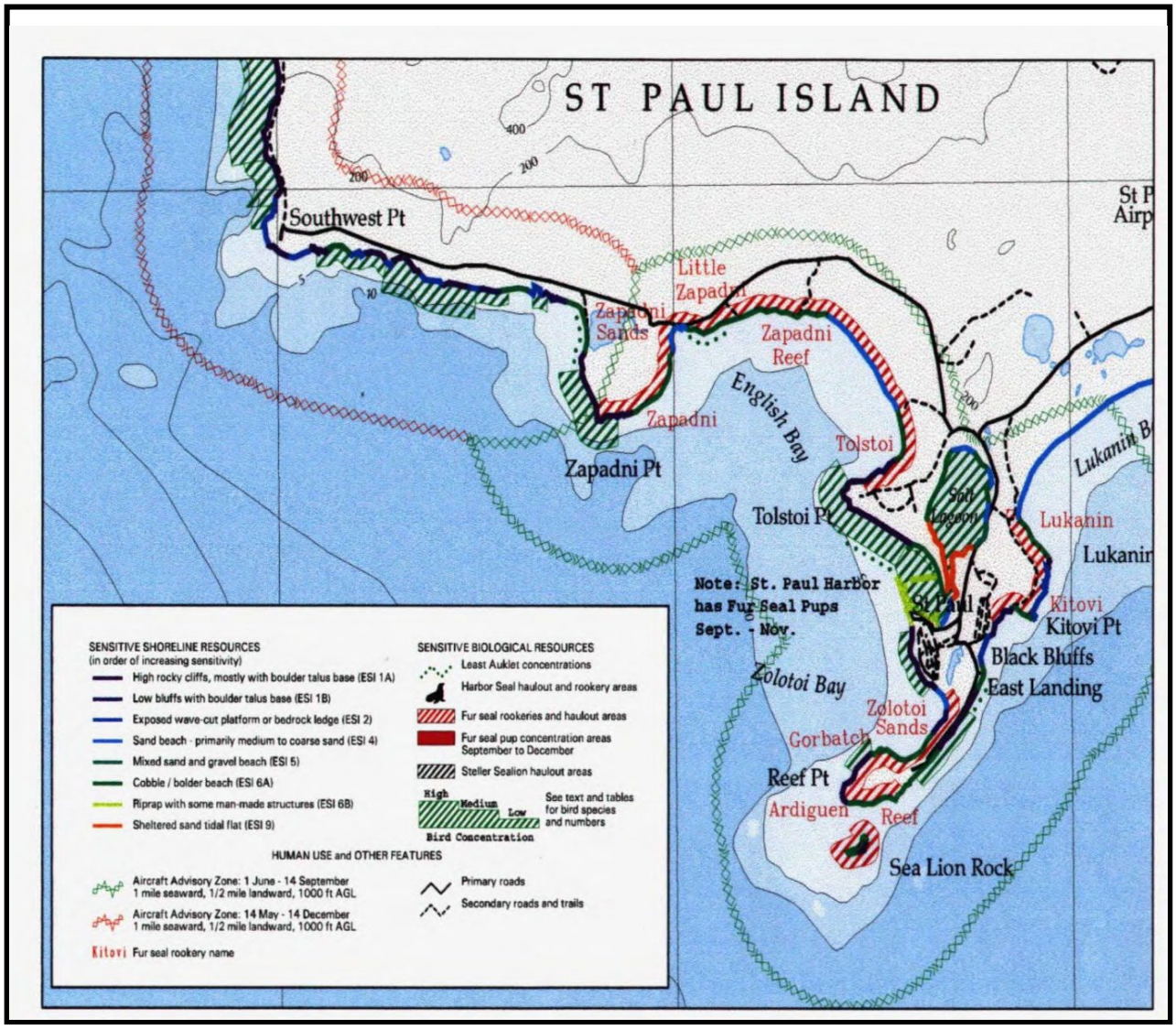

Figure 8. Sensitive shoreline and biological resources in the vicinity of St. Paul Harbor, St. Paul Island, Alaska (Gundlach *et al*., 1999)

3.10 Marine Mammals

All marine mammals are protected under the Marine Mammal Protection Act (MMPA); some

marine mammals may also be designated as “depleted” under the MMPA. Non-ESA marine mammals having St. Paul Island within their range are listed below (http://www.nmfs.noaa.gov/pr/species/mammals):

- Harbor seal (*Phoca vitulina*)
- Spotted seal (*Phoca largha*)
- Pacific walrus (*Odobenus rosmarus divergens*)
- Northern fur seal (*Callorhinus ursinus*): Pribilof Island/Eastern Pacific stock, Depleted
- Dall’s porpoise (*Phocoenoides dalli*)
- Harbor purpose (*Phocoena phocoena*)
- Gray whale (*Eschrichtius robustus*): Western North Pacific DPS, Depleted
- Beluga whale (*Delphinapterus leucas*)
- Killer whale (*Orcinus orca*)
- Minke whale (*Balaenoptera acutorostrata*)
- Stejneger’s beaked whale (*Mesoplodon stejnegeri*)

The Northern fur seal was afforded protection in United States waters under the Fur Seal Treaty of 1911 and was designated as “depleted” under the MMPA in 1986. The NMFS issued a “Conservation Plan for the Eastern Pacific Stock of Northern Fur Seals” in 2007. The conservation plan focuses on identifying and lessening impacts from human related threats such as marine debris and incidental take in commercial fishing gear.

Co-management agreements of Northern fur seals with the tribal governments of St. Paul and St. George (Pribilof Islands), especially regarding subsistence harvest, are another aspect of NMFS’s conservation plan. Through this arrangement, the United States and tribal governments are implementing programs that promote full utilization of edible and inedible parts of Northern fur seals, promote community outreach and education efforts, monitor shorelines and rookeries through the Island Sentinel Program, and monitor and remove marine debris. The tribal governments of St. Paul and St. George also maintain and repair research infrastructure on fur seal rookeries.

The Northern fur seal has habitat close to the USACE’ project area. Although no fur seal rookeries or haul-out areas exist within the project area, fur seal pups and juveniles are known to occupy areas around the Salt Lagoon outlet beginning in late-August into December (Figure 8).

Male fur seals establish territories early in the breeding season in May. Female fur seals arrive around mid-June to early July and give birth to one pup. The peak of pupping is usually in early July. During the breeding season, females alternate between feeding at sea and nursing on shore. While females are foraging, pups congregate into “puppy pods." Pups are weaned at 4 to 5 months (late October-early November). When the breeding season ends, animals travel south and remain "pelagic" for the winter migration period (from October- November to May-June).

3.11 Threatened and Endangered Species

The following Endangered Species Act (ESA) threatened and endangered species have reported ranges and/or critical habitat within the vicinity of St. Paul Island

United States Fish and Wildlife Service (USFWS) managed species (Appendix D):

- Short-tailed albatross [*Phoebastrai(=diomedea) albatrus*]: Endangered
  No critical habitat rules have been published.
- Steller's eider (*Polysticia stelleri*), Alaska breeding population: Threatened
  Designated critical habitat does not exist in the St. Paul Harbor area.
  May be present in small to moderate numbers near the Pribilofs in winter and spring.
- Northern sea otter (*Enhydralutris kenyoni*), Southwest Alaska Distinct Population Segment: Threatened
  Designated critical habitat does not exist in the St. Paul Harbor area.

National Marine Fisheries Service (NMFS) managed species:
(http://www.nmfs.noaa.gov/pr/species/esa/)

- Steller Sea Lion (*Eumetopias jubatus*) Western Distinct Population Segment: Endangered
  Critical Habitat: Northeast Point and Sea Lion Rock. A 20-nautical-mile critical habitat aquatic zone surrounds St. Paul Island, and some 10 miles northeast of St. Paul is a rookery on Walrus Island.
- Humpback Whale (*Megaptera novaeangliae*) Western North Pacific DPS: Endangered
  Critical habitat does not exist around St. Paul Harbor.
- Humpback Whale (*Megaptera novaeangliae*) Mexico DPS: Threatened
  Critical habitat does not exist around St. Paul Harbor.
- North Pacific Right Whale (*Eubalaena japonica*): Endangered
  Critical habitat does not exist around St. Paul Harbor.
- Western North Pacific Gray Whale (*Eschrichtius robustus*): Endangered
  No critical habitat has been promulgated by the NMFS for this species.
- Fin Whale (*Balaenoptera physalus*): Endangered
  No critical habitat has been promulgated by the NMFS for this species.
- Sperm Whale (*Physeter catodon* (=*macrocephalus*)]: Endangered
  No critical habitat has been promulgated by the NMFS for this species.
- Bearded seal (*Erignathus barbatus)*: Threatened
  Critical habitat does not exist around St. Paul Harbor.
- Ringed seal (*Phoca (pusa) hispida*): Threatened
  Critical habitat does not exist around St. Paul Harbor.

4.0 Environmental Consequences

The marine mammals, essential fish habitat, threatened and endangered species, and cultural resources 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:

- No Effect: the proposed action would not affect the resource
- 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.

4.1 Air Quality and Greenhouse Gas

Preferred Alternative. The operation of construction equipment and support vessels emit air pollutants; however, the vessels or equipment would not contribute to a violation of Federal or State ambient air quality standards and would not be distinguishable from other vessel emissions in the project area. The St. Paul Harbor has supported commercial fishing operations for decades, and there are no indications St. Paul has anything other than very good air quality. Marine construction emissions would be indistinguishable from other commercial vessel emissions using the harbor.

The operation of marine construction equipment would temporarily increase the amount of greenhouse gases emitted in the area, primarily carbon dioxide and nitrous oxide. The marine construction equipment would be powered by diesel engines and burn the same type of fuel as the fishing fleet, so the type of greenhouse gases emitted during construction would resemble the existing condition. There would be a minor, temporary increase in greenhouse gas emissions during construction and the maintenance would allow the current rate of greenhouse gas production to continue. The production of greenhouse gases associated with the maintenance of the Harbor is unavoidable because there are no alternative means of completing the maintenance. The potential impact of the Preferred Alternative on air quality and greenhouse gas is assessed as **minor**.

No-Action Alternative. Under the No-Action Alternative, the USACE would not maintain the area. St. Paul Harbor would be unable to accommodate deep draft vessels, and large vessel activity in the harbor would be impacted. Shoaling in the entrance channel would prevent deeper draft vessels from accessing the Harbor, continued degradation of the reefs would allow the Main Breakwater to be damaged by large waves and reduce the effectiveness of the Main Breakwater on reducing the wave height in the Main Entrance Channel, and neglect of the scour hole repairs would threaten and lead to the collapse of the Detached Breakwater and Small Boat Harbor Breakwater. The No-Action Alternative would likely reduce the ability of vessels across all size classes to safely navigate in the St. Paul Harbor, which would lead to direct and indirect reductions in air emissions and a beneficial impact on air quality. No-Action Alternative is assessed as having a **minor** potential beneficial impact on air quality and greenhouse gas.

4.2 Noise

Preferred Alternative. Marine construction can produce sound pressure levels high enough to

injure and drive marine organisms away from the project area, reducing their ability to use resources and potentially increasing mortality. The high levels of ambient noise (both natural and man-made noise) in the St. Paul Harbor and the recurring nature of maintenance indicate that any biological resources present in the project area are habituated or adapted to the levels of noise produced by maintenance operations.

The Preferred Alternative would not generate sub-surface noise levels exceeding those produced by natural and anthropogenic sources and would not appreciably increase above surface noise levels. Noise impacts would be temporary and substantially similar to ongoing harbor uses. The potential impact on noise from the Preferred Alternative is assessed as **minor**.

No-Action Alternative. Under the No-Action Alternative, the USACE would not maintain the area. St. Paul Harbor would be unable to accommodate deep draft vessels and anthropogenic activity in the harbor would decline. The presence of small craft may increase in order to support offload but would likely represent a reduction in noise and lower impact on noise levels. The potential impact on noise from the No-Action Alternative is assessed as **minor**, and likely would be beneficial.

4.3 Water Quality

Preferred Alternative. Dredging in the St. Paul Harbor could temporarily increase turbidity by suspending additional sediments in the water column and could mobilize contaminants and establish additional pathways for harmful chemicals to impact biological resources. The St. Paul Harbor periodically experiences elevated suspended sediment concentrations due to natural events (storms) and the USACE's tier 1 evaluation concluded that most of the dredged material (~126 kcy from the Main Entrance Channel, Maneuvering Area, Sediment Management Area, and Small Boat Harbor Entrance Channel) is not a carrier of contaminants. Sediment testing will be completed in 2023 to fully characterize the sediment, including the ~13 kcy in the Small Boat Harbor Mooring and Maneuvering Area that is not exempt from testing. The Small Boat Harbor Mooring and Maneuvering Area is not expected to contain contaminated sediments, but if the chemical testing of the sediment indicates contamination is present in concentrations above applicable screening levels the USACE will remove the Small Boat Harbor Mooring and Maneuvering Area from the dredging project or develop mitigations to protect water quality.

The placement of rock for the scour hole and reef repairs would have the potential to temporarily increase turbidity by disturbing and suspending bottom sediments. Small amounts of fine-grained sediment adhering to the rock may also temporarily increase suspended sediment, but the high current velocities in the area would quickly disperse the suspended sediment.

Considering the high current velocity, rapid flushing, and low silt content of the dredged material, maintenance dredging potential impact on water quality is assessed as **minor**. The placement of rock for scour hole repairs and reef repairs would likewise represent a **minor** impact to water quality because the rock is predominantly large (over 50 lbs) and fine sediments would be rapidly dispersed by currents.

No-Action Alternative. Under the No-Action Alternative, the USACE would not maintain the

area. There would be no water quality impacts from construction-related sediment suspension, but the mitigation features constructed to facilitate the Salt Lagoon's flushing action (e.g. sediment management area and small detached breakwater), would deteriorate, and over time, the Salt Lagoon channel would cease functioning as designed and water quality in Salt Lagoon would likely deteriorate. The No-Action Alternative potential impact on water quality is assessed as **minor**.

4.4 Water Circulation Patterns and Sedimentation

Preferred Alternative. Repairs to the reefs and scour holes are not expected to have appreciable impacts on water circulation patterns and sedimentation. Maintenance dredging is expected to improve water circulation patterns and sedimentation by restoring the designed flow pattern and function of the relocated Salt Lagoon Channel. Dredging the sediment management area would reduce the amount of sediment that is distributed throughout the Navigation Project area and promote flushing, and is assessed as having **minor,** likely beneficial, potential impacts on water circulation patterns and sedimentation.

No-Action Alternative. The mitigation features constructed to facilitate the Salt Lagoon's flushing action (e.g. sediment management area and small detached breakwater), would deteriorate, and over time, the lagoon's fish and wildlife resources would be adversely impacted by a degradation in water quality. Neglect of the reefs and scour holes could eventually contribute to the collapse of multiple breakwaters, which would have an unpredictable impact on water circulation by altering the hydrodynamic environment. The No-Action Alternative is assessed as having a **minor** impact on water circulation patterns and sedimentation.

4.5 Cultural Resources

Preferred Alternative. There are nine known cultural resources in the general vicinity of the project area; however, there is only one historic property within the APE (Table 1). The Alaska Heritage Resources Survey (AHRS) Mapper shows that the boundary for the Saint Paul Village Unit of the Seal Islands Historic District (Fur Seal Rookeries National Historic Landmark [NHL]) (XPI-00002) encompasses the previously-used dredged materials disposal area at the Public Works Lot and extends into the waters at the Saint Paul Harbor.

The Saint Paul Village Unit of Fur Seal Rookeries NHL (XPI-00002) contains "the commercial processing structures of the industry as well as significant beaches, killing grounds, and old village sites" (NPS 1986:2). The NHL boundaries on St. Paul Island have been drawn to exclude a section of the coastline along Lukanin Bay "so overwhelmed by development as to have lost visual integrity" (NPS 1986:2). The contributing features of the Saint Paul Village Unit include five fur seal rookeries, the Holy Martyrs Saints Peter and Paul Orthodox Church, the former Administrative Buildings and Staff Quarters, the former Seal Processing Buildings, and the "orderly rows of housing" originally built for the Unangax̂ laborers that "visually reinforce the company town character of the District" (NPS 1986:10).

USACE has applied the criteria of adverse effect to historic properties within the APE. The in-water and upland aspects of the proposed undertaking will not alter, directly or indirectly, any of

the contributing properties or significant characteristics of Saint Paul Village Unit of the Fur Seal Rookeries NHL (XPI-00002). There are no known cultural resources within the APE that could be impacted by the proposed maintenance dredging or repair activities. Because the in-water APE has been previously disturbed, and the proposed undertaking will not impact any intact, previously undredged native soils, there is a low probability of disturbing previously unknown submerged cultural resources. Limited soil sampling at the proposed upland dredged materials disposal areas and placement of the dredged materials are not anticipated to affect any previously unknown cultural resources. As such, USACE has determined that the proposed undertaking will result in **no adverse effect** on historic properties in accordance with 36 CFR § 800.5(b).

No-Action Alternative. Under the No-Action Alternative, the USACE would not dredge the area or repair the scour holes or reefs. There would be **no effect** on historic properties.

4.6 Vegetation

Preferred Alternative. Dredging would be confined to recently shoaled areas without attached vegetation. Planktonic algae (diatoms) would likely drift in and out of the Harbor during dredging, but it would not be particularly susceptible to dredging impacts due to the transient nature of plankton. The dredging would not produce any persistent effects to planktonic algae. The scour hole repairs would be constructed in areas without attached vegetation, so the impacts would be similar to that of dredging.

The energy dissipation reefs may contain some attached algae, but it isn't likely to be densely colonized due to the extremely high wave energy level. The placement of new rock on the existing reef rock would re-establish the design elevation and provide some energy dissipation to the landward reefs and breakwater, potentially promoting the temporary establishment of attached algae until the reefs erode and require further maintenance. The Preferred Alternative potential impact on vegetation is assessed as **minor**.

No-Action Alternative. Under the No-Action Alternative, the USACE would not dredge the area and sediment accumulation would continue until the area reached equilibrium. Neglect of the reefs and scour holes would eventually lead to the collapse of multiple breakwaters and disruption of the hydrodynamic environment. Shoaling and breakwater collapse could partially close off the existing Harbor and create conditions appropriate for the establishment of aquatic vegetation. The No-Action Alternative potential impact for vegetation is assessed as **minor,** and likely beneficial.

4.7 Marine Invertebrates

Preferred Alternative. Marine invertebrates in the St. Paul Harbor area are discussed in section 3.7. Benthic infauna and epifauna could be excavated along with bottom material in a clamshell dredge. Habitat would also be modified as the shoaled material is removed, but the dynamic benthic environment is not expected to contain valuable or dense populations of epifaunal invertebrates due to the rapid deposition rate. There is no indication that infaunal invertebrates are present in substantial numbers in bottom material that would be dredged. The scour hole repair project areas are likewise presumed to be relatively devoid on infauna due to the scouring

that rapidly removes sediment from these areas. The placement of rock in the scour holes would result in a beneficial impact to marine invertebrates because it would convert an area of uniform fine sand to a more complex rocky bottom.

Rock placement for the reefs could directly impact marine invertebrates and habitat because the rocky existing reef contains more suitable attachment substrate for sessile invertebrates and macrophytes. The reefs also contain crevices and interstitial voids for invertebrates to colonize, whereas the shoals and scour holes are exposed and uniform. The rock placement would replace the existing rocky subtidal habitat with new rock, causing temporary direct impacts by crushing invertebrates and covering up previously colonized habitat. The new rock would be substantially similar to the existing rock and the USACE expects recolonization to commence immediately.

Habitat impacts from reef repair would be temporary, while impacts from scour hole repair would be beneficial. The dredging would only result in negligible impacts to marine invertebrates because the shoals are not expected to support many benthic invertebrates and the bottom type would remain sandy after the dredging. The potential impact of the Preferred Alternative on marine invertebrates is assessed as **minor**.

No-Action Alternative. Under the No-Action Alternative, the USACE would not maintain the St. Paul Harbor. Benthic organisms would not be displaced by dredging or smothered by rock placement and could eventually become established if the sedimentation reaches equilibrium. The No-Action Alternative potential impact on marine invertebrates is assessed as **minor** and likely beneficial.

4.8 Fish and Essential Fish Habitat

Preferred Alternative. Maintenance dredging-generated turbidity would have a short-term impact on Village Cove's fish and EFH, as plumes of suspended sediment would temporarily displace individuals from using affected open water areas and as settleable solids accumulate on benthic habitat. The EFH substrate remaining after dredging would be the same type of EFH substrate dredged. After dredging, therefore, adjacent benthic communities of similar composition, distribution, and abundance would be capable of expanding into the affected area.

Approximately 7,200 cubic yards of rock, used to fill scour holes, would replace approximately 1 acre of "sand and gravel EFH" which is not in limited supply in Village Cove or nearby subtidal areas. The additional rocky-substrate would provide additional protective habitat for juvenile and larval EFH species and other fishery resources (e.g. invertebrates), as well as provide points of attachment for marine algae and kelp.

Up to 21,631 cubic yards of rock would be placed to repair the energy dissipation reefs. The placement of this rock would cause immediate temporary impacts to EFH, but would replace the existing rocky habitat with new rocky habitat built to the design elevation. The habitat in this area is likely of low value due to the extremely high wave energy and constant erosion.

Vessels associated with the USACE' O&M activities use fuels and lubricants and are potential sources of spills into Village Cove's EFH environment. The USACE' contractor would be

required to prepare a spill prevention and response plan and have appropriate spill response materials at the work site.

Overall, the USACE' O&M activities at St. Paul Harbor would result in alterations of EFH for the following species: walleye Pollock, Pacific cod, yellowfin sole, rock sole, sculpin, red king crab, and blue king crab. Rocky EFH substrate would replace soft-bottom EFH substrate when scour holes are filled. Existing rocky EFH substrate would be replaced with new rocky substrate when the reefs are repaired Therefore, the USACE believes that its project may adversely affect EFH and EFH-managed species/species complexes for Bering Sea/Aleutian Islands Groundfish and Bering Sea/Aleutian Islands king and Tanner crabs. The Preferred Alternative potential impact on fish and EFH would be temporary and localized. The placement of rock for scour hole protection would increase the complexity of the bottom in those area and offer opportunities for vertical relief, algal growth, invertebrate colonization, and refugia. The impacts of the Preferred action on Fish and EFH is assessed a **minor adverse effect** and can be minimized by the use of BMPs. Specific BMPs included in the proposed project include:

- Prevent project vessels from grounding or going dry during tide changes to minimize impacts to marine habitat.
- Rock fill should be limited to the work area and precautions should be taken to avoid the inadvertent placement of rock outside the project limits; i.e., accidental placement or loss of rock in areas where it is not required and could impact habitat or fish movement.
- Fill materials should be tested and be within the neutral range of 7.5 to 8.4 pH

No-Action Alternative. Under the No-Action Alternative, the USACE would not maintain the area. The St. Paul Harbor would be unable to accommodate deep draft vessels and anthropogenic activity in the harbor would be impacted. The navigation features of the Harbor would eventually deteriorate to the point of preventing access and the substrate would reach a state of equilibrium, allowing the establishment of EFH and reducing perturbations that currently drive some fish from the area. The No-Action Alternative potential impact on fish and EFH is assessed as **minor** and likely beneficial.

4.9 Birds

Preferred Alternative. No O&M activities would occur on Village Cove's Boulder Beach where half the least auklet population resides; however, vessel activity and noise associated with dredging the sediment management area has the potential to sporadically disturb the nearby colony. The USACE' does not, however, expect any of its operations to take migratory birds or any sea/shore birds inhabiting St. Paul Harbor or surrounding Village Cove area. Per 50 CFR 10.12, take means to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect.

The Preferred Alternative potential impact on birds is assessed as **minor,** because individuals will avoid maintenance operations and the areas affected by maintenance are not heavily used or of particular value to avifauna.

No-Action Alternative. Under the No-Action Alternative, the USACE would not maintain the

area. The St. Paul Harbor would be unable to accommodate deep draft vessels and anthropogenic activity in the harbor would be impacted. The No-Action Alternative would likely reduce the ability of vessels across all size classes to safely navigate in the St. Paul Harbor, which would lead to direct and indirect reductions in vessel traffic and anthropogenic activity in general, which would be a beneficial impact on birds. As a result, the No-Action Alternative potential impact on bird is assessed as **minor** and likely beneficial.

4.10 Marine Mammals

Preferred Alternative.

Marine mammal coordination occurred with the NMFS in 2015 for the previous O&M activities in St. Paul Harbor (See Appendix C). The components of the current proposed action are substantially similar to the previous action, so consultation was not initiated and the conclusions from the 2015 iteration were carried forward. No USFWS non-ESA-managed marine mammals occur in St. Paul Harbor. Any marine mammals in the Village Cove area could be temporarily and indirectly disturbed due to construction-generated turbidity, construction vessel traffic, and construction noise; however, the potential impacts are not expected to produce any long-term harm because marine mammals have the ability to avoid such perturbations.

Two marine mammal species (harbor and fur seals) regularly occur in the Village Cove area and are commonly exposed to harbor-related activities. The St. Paul Harbormaster (personal communication, Jason Merculief) reports approximately four harbor seals inhabit the harbor area year round and swim among transiting fishing boats and other vessels. St. Paul Island's northern fur seal population, designated as "depleted" under the MMPA, regularly transits through Village Cove and Salt Lagoon entrance channel areas between late August and October when juvenile fur seals and pups return to haul out on the coast. Unless the USACE concludes its O&M activities before juvenile fur seals and pups arrive in late August, a MMPA-related "harassment take" (take) violation would likely occur.

Take is defined under the MMPA as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal" (16 U.S.C. 1362) and further defined by regulation (50 CFR 216.3) as "to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal. The MMPA, with certain exceptions permitted by NMFS and USFWS, allows the take of marine mammals in U.S. waters.

Under the 1994 Amendments to the MMPA, harassment is statutorily defined as any act of pursuit, torment, or annoyance that has the potential to: (1) unintentionally injure a marine mammal or marine mammal stock in the wild (Level A Harassment); or, (2) has the potential to unintentionally disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but which does not have the potential to injure a marine mammal or marine mammal stock in the wild (Level B Harassment).

The USACE believes that its O&M activities would be conducted over one construction season and could be successfully conducted outside the September 1 – November 1 timeframe to

minimize the potential to affect marine mammals.

In addition to the seasonal timing restriction to avoid impacting marine mammals, the USACE would implement a marine mammal observation and shutdown protocol described in Chapter 5 of this EA.

The proposed activity would have no effect on marine mammals because marine mammals in the St. Paul Harbor are apparently habituated to anthropogenic disturbances such as vessel traffic and the USACE's mitigation would prevent marine mammals from being exposed to underwater noise exceeding the background level, and the areas affected by maintenance are not of particular importance for marine mammals in any life stage. The potential impact of the Preferred Alternative on marine mammals is assessed as **no effect**.

No-Action Alternative. The St. Paul Harbor would be unable to accommodate deep draft vessels and anthropogenic activity in the harbor would be impacted. The No-Action Alternative would likely reduce the ability of vessels across all size classes to safely navigate in the St. Paul Harbor, which would lead to direct and indirect reductions in vessel traffic and anthropogenic activity in general, which would be a beneficial impact on marine mammals. As a result, the No-Action Alternative potential impact on marine mammals is assessed as **minor** and likely beneficial.

4.11 Threatened and Endangered Species

Preferred Alternative. ESA threatened and endangered species coordination occurred with the USFWS and NMFS in 2015 for the previous O&M activities in St. Paul Harbor (See Appendix C). The components of the current proposed action are substantially similar to the previous action, so consultation was not initiated and the conclusions from the 2015 iteration were carried forward. The USACE coordinated informally with NMFS in June 2023 to confirm the appropriateness of retaining the conclusions.

Although several species of endangered whales are present in the Bering Sea, none are known to inhabit the near shore waters of Village Cove. The threatened Steller sea lion hauls out on Walrus Island, some 10 nautical miles northeast of St. Paul Island. Steller sea lion critical habitat (50 CFR 226.202) includes a 20-nautical-mile buffer zone around all major haul outs and rookeries, as well as associated terrestrial, air and aquatic zones, and three large offshore foraging areas. St. Paul Island is within the 20-nautical-mile buffer zone around Walrus Island. According to the St. Paul Harbormaster (personal communication, Jason Merculief), Steller sea lions and Northern sea otters do not inhabit Village Cove; however, in reportedly rare circumstances, a Steller sea lion has been observed feeding in the harbor area among transiting vessels.

Endangered Steller's eiders have been observed in the Pribilof Islands area but no sightings of the species have been recorded in the Village Cove area. The short-tailed albatross and Eskimo curlew ranges include the Pribilof Islands but, as the Steller's eider, no individuals have been reported in the Village Cove area. The USFWS's "Observer Protocols for Pile Driving, Dredging and Placement of Fill, dated August 7, 2012" provides procedures for protecting Northern sea otters and Steller's eiders from being adversely impacted from such activities.

The USACE has determined that its O&M activities at St. Paul Island Harbor would have no effect on USFWS and NMFS listed or proposed-for-listing threatened or endangered species or destroy or adversely modify existing or proposed critical habitat, as the USACE' action area (i.e. Village Cove) is not inhabited by the subject species or has any designated critical habitat. The Preferred Alternative, including applicable mitigation, is assessed as having **no effect** on ESA species.

No-Action Alternative. The St. Paul Harbor would be unable to accommodate deep draft vessels and anthropogenic activity in the harbor would be impacted. The No-Action Alternative would likely reduce the ability of vessels across all size classes to safely navigate in the St. Paul Harbor, which would lead to direct and indirect reductions in vessel traffic and anthropogenic activity in general, which would be a beneficial impact on marine mammals. As a result, the No-Action Alternative potential impact on ESA-listed species is assessed as **not likely to adversely affect** and likely beneficial.

5.0 Mitigation

The USACE would incorporate the following mitigation measures into the project design:

1. The USACE will continue to collect project specific and background noise data throughout the dredging season to enhance the understanding of project-related effects.
2. The USACE will establish exclusion (i.e., shutdown) zones as follows:
    a. For stationary dredging operations, the shutdown (exclusion) zone will include all marine waters within 164 ft. (50 m) of the noise source;
    b. For moving vessels, the shutdown (exclusion) zone will include all marine waters within 328 ft. (100 m) of the noise source.
3. The USACE will stop work when a marine mammal is observed approaching or within the 164 ft. (50 m) exclusion zone of the stationary dredging operations by:
    a. Ensuring that the exclusion zone is continuously scanned during in-water work to help ensure that marine mammals do not enter the exclusion zone;
    b. Ensuring that stationary dredge operations may resume when marine mammals have been observed leaving the exclusion zone of their own accord. If one or more marine mammals are not observed leaving the exclusion zone, in-water work may begin 30 minutes after the animal was last observed in that exclusion zone;
    c. When circumstances make it impossible to immediately stop construction activities, work will be stopped as soon as practicable in order to prevent exposing marine mammals to sounds capable of causing harassment.
4. The USACE will ensure that stationary dredging activities will not be initiated or resumed after a shutdown of 30 or more minutes until observations indicate that marine mammals have not been present in the exclusion zone for at least 30 minutes prior to commencing dredging activities.
5. The USACE will stop work when a marine mammal is observed approaching or within the 328 ft. (100 m) exclusion zone of a moving vessel by:

a. Ensuring that the exclusion zone is continuously scanned when a vessel is underway to help ensure that marine mammals do not enter the exclusion zone;
b. Ensuring that moving vessels take appropriate avoidance measures, which include but are not limited to delay of vessel departure and alteration of vessel speed and/or heading provided doing so does not compromise human safety;
c. Ensuring that barges will not travel at speeds exceeding 6 knots (7 mph);
d. Ensuring that support and survey vessels will not operate at speeds exceeding 13 knots (15 mph).

6. If a marine mammal enters the exclusion zone before the sound producing activity can be safely shut-down (e.g., a marine mammal surfaces inside the 164 ft. [50 m] exclusion zone radius for stationary dredge activities or occurs within 328 ft. [100 m] of a moving vessel), it will be reported to the USACE at within one business day and an investigation will be conducted to determine the appropriate corrective action.
7. The USACE will ensure that pilots of the dredge and barge, and pilots of the support vessels will have clear views of the exclusion zones around each vessel to facilitate effective monitoring for all protected species. These pilots will enforce the established exclusion zones for both stationary and moving vessels. The exclusion zone for stationary dredging operations will include all marine waters within 164 ft. (50 m) of the noise source. The exclusion zone for all moving vessels will include all marine waters within 328 ft. (100 m) of the noise source.
8. The USACE will ensure that dredging crews maintain radio communication with support boats, when present, so that information on marine mammal observations can be exchanged.
9. The USACE will prepare a memorandum for record by the 15th day of each month following a month during which dredging occurred. The report will detail the dredging activities, and marine mammal observations and interactions that occurred during that month. The report will contain the following information:
    a. Number of marine mammals observed in or near the exclusion zones (ex., 164 ft. [50 m] exclusion zone radius for stationary dredge activities and the 328 ft. [100 m] exclusion zone radius for moving vessels), or report the absence of sightings;
    b. The date, duration, and time of each marine mammal observation;
    c. The closest approach distance of the marine mammal(s) to the noise source (vessels);
    d. Vessel operations that occurred at the time of the marine mammal(s) observation;
    e. Whether marine mammal(s) entered the exclusion zone(s);
    f. Mitigation measures taken to avoid marine mammal(s);
    g. Dredge and barge location for each observation of a marine mammal within 164 ft. (50 m) of a stationary dredge activities and within 328 ft. (100 m) exclusion zone radius for moving vessels;
    h. In addition, the contractor will complete a “Marine Mammal Sighting Form” each day that dredging or vessel movements occur.
10. The USACE will prepare an annual report that summarize sightings of marine mammals (or confirmed absence of sightings), estimated distance from dredging operations when each marine mammal was first observed, the closest point of approach to the in-water sound source, and any shutdowns during in-water work that was due to marine mammals approaching or occurring within the exclusion zone(s). This report will be prepared

within 90 days of the completion of field operations each year and added to the project file.

6.0 Regulatory Compliance and Agency Coordination

The Preferred Alternative was considered in relation to compliance with Federal environmental review and consultation requirements. The following paragraphs document compliance with applicable Federal statutes, Executive Orders, and policies.

BALD AND GOLDEN EAGLE PROTECTION ACT, (BGEPA) AS AMENDED
This act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Disturbance of eagles can include any action causing interference with normal breeding, nesting, or feeding activities.

There is no indication that the project would have an impact on eagles or their habitat. The project is in compliance with the BGEPA.

CLEAN WATER ACT OF 1972, AS AMENDED
The objective of the Federal Water Pollution Control Act of 1972, as amended by the CWA of 1977 (Public Law 92-500), is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Specific sections of the CWA control the discharge of pollutants and wastes into aquatic and marine environments.

Dredging and disposal in waters of the United States is an activity regulated by the CWA and analysis under Section 404(b)(1) was performed in conjunction with the 2015 USACE EA evaluating the harbor expansion project. The maintenance project description is substantially similar to the 2015 project description and the 2015 Section 404(b)(1) analysis is incorporated by reference. The majority of the dredged material is exempt from testing and no dredging would occur prior to receiving the 2023 sediment chemistry data results.

The USACE will request a Water Quality Certificate of Reasonable Assurance from the Alaska Department of Environmental Conservation (ADEC) under Section 401 of the CWA as soon as sediment chemistry data are available.

COASTAL BARRIER RESOURCES ACT
This Act is not applicable. The study area is not in a designated Coastal Barrier Resources Act unit.

COASTAL ZONE MANAGEMENT ACT OF 1972, AS AMENDED
As of July 1, 2011, the Coastal Zone Management Act (CZMA) Federal consistency provision no longer applied in Alaska. Federal agencies shall no longer provide the State of Alaska with CZMA Consistency Determinations or Negative Determinations pursuant to 16 United States Code (USC) 1456(c)(1) and (2), and 15 CFR part 930, subpart C. Persons or applicant agencies for Federal authorizations or funding shall no longer provide to the State of Alaska CZMA

Consistency Certifications pursuant to 16 USC 1456(c)(3)(A), (B) and (d), and 15 CFR part 930, subparts D, E and F.

ENDANGERED SPECIES ACT OF 1973, AS AMENDED
The proposed project was assessed to have no effect on ESA species and thus no consultation was required. The project is in compliance with the ESA.

MARINE MAMMAL PROTECTION ACT OF 1972
The MMPA of 1972 prohibits the "taking" of marine mammals and enacts a mortarium on the import, export, and sale of any marine mammal, along with any marine mammal part or product in the United States. The proposed project was assessed to have no effect on marine mammals, and there should be zero incidental takings of marine mammals. No consultation was required due to the no effect determination. The project is in compliance with the MMPA.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT
The NOAA NMFS works with the regional fishery management councils to identify the essential habitat for every life stage of each federally managed species using the best available scientific information. EFH has been described for approximately 1,000 managed species to date. The project is not likely to adversely affect waters and substrate required for federally managed fish species' spawning, breeding, feeding, or growth to maturity; known as EFH. The USACE coordinated informally with NMFS regarding the proposed project's impacts to EFH in June 2023, and NMFS agreed the impacts to EFH would be temporary and localized. The USACE provided a draft EFH assessment on June 30, 2023 (Appendix C). The project is in compliance with the Magnuson-Stevens Act.

MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT OF 1972, AS AMENDED
Titles I and II of the Marine Protection, Research, and Sanctuaries Act (MPRSA), also referred to as the Ocean Dumping Act, generally prohibits (1) transportation of material from the United States for the purpose of ocean dumping, (2) transportation of material from anywhere for the purpose of ocean dumping by U.S. agencies or U.S.-flagged vessels, and (3) dumping of material transported from outside the United States into the U.S. territorial sea. The St. Paul Harbor dredged material would be transported to uplands for beneficial reuse, so the MPRSA does not apply to this project.

MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT
Under the Migratory Bird Treaty Act, project construction shall not destroy migratory birds, their active nests, their eggs, or their hatchlings. The preferred alternative would have a less than significant impact on migratory birds because individuals would avoid dredging operations and the areas affected by dredging are not heavily used or of particular value to avifauna. The project is in compliance.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) OF 1969, AS AMENDED
This Act requires that environmental consequences and project alternatives be considered before a decision is made to implement a Federal project. NEPA established the requirements for

preparation of an Environmental Impact Statement (EIS) for projects potentially having significant environmental impacts and an EA for projects with no significant environmental impacts. This EA has been prepared to address impacts and propose avoidance and minimization steps for the proposed project, as discussed in the CEQ regulations on implementing NEPA (40 CFR 1500 et seq.). This document presents sufficient information regarding the generic impacts of the proposed construction activities at the proposed project to guide future studies and is intended to satisfy all NEPA requirements.

NATIONAL HISTORIC PRESERVATION ACT OF 1966

The purpose of the National Historic Preservation Act (NHPA) is to preserve and protect historic properties that may be impacted by a Federal undertaking. Under this Act, Federal agencies are required to identify historic properties that may be affected by an undertaking and assess that effect in consultation with the SHPO, Federally-recognized Tribes, and any other interested parties. The APE has been identified and USACE has determined that, while historic properties exist within the APE, the undertaking will have no adverse effect on them in accordance with 36 CFR § 800.5(b). USACE invited consultation on this determination from the City of St. Paul, the Aleut Community of St. Paul Island, Tanadgusix Corporation, Aleut Corporation, and Aleutian Pribilof Islands Association on June 17, 2023. USACE requested concurrence with this determination from the SHPO and the NPS on June 17, 2023. On June 30, 2023, the NPS concurred with the assessment of no adverse effect on historic properties. On July 12, 2023, the SHPO concurred with the assessment of no adverse effect on historic properties.

RIVER AND HARBOR APPROPRIATION ACT OF 1899

The St. Paul Harbor maintenance project consists of work within navigable waters of the United States, and correspondingly falls within the purview of the RHA. The project purpose is to provide safe navigation, authorized by the Water Resource Development Act. The preferred alternative would allow for safe navigation required by legislation. The proposed work would not obstruct navigable waters of the United States. The project is in compliance.

UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970 (PUBLIC LAW 91-646)

The Preferred Alternative does not require the procurement of private lands for public use. The provisions of this Act do not apply to the project.

WILD AND SCENIC RIVER ACT OF 1968, AS AMENDED

No rivers designated under the Act are in the project area. This Act is not applicable.

EXECUTIVE ORDER (EO) 11990, PROTECTION OF WETLANDS

The Preferred Alternative would not result in impacts to wetlands. The EA is in compliance with the goals of this EO.

EXECUTIVE ORDER 12898, ENVIRONMENTAL JUSTICE

EO 12898 requires agencies of the Federal Government to review the effects of their programs and actions on minorities and low-income communities. Maintenance at St. Paul Harbor currently allows the delivery of seafood to the seafood processing plant, which is an important economic activity providing employment opportunities and revenue from fish tax. Fuel and

cargo also flows into St. Paul through the Harbor, so impacts to navigation associated with the no-action alternative would lead to higher prices for fuel and other goods. The selection of the no-action alternative would likely reduce the employment opportunities and local revenue, and would disproportionately affect low-income communities because those communities are most sensitive to price increases on basic goods.

The USACE has analyzed environmental effects on minority communities and low-income communities, including human health, social, and economic effect. The only alternative that has the potential for significant and adverse effects on minority and low-income communities is the No-Action Alternative. The preferred alternative is not expected to have disproportionately high impacts on minority or low-income populations. The project complies with EO 12898.

EXECUTIVE ORDER 13045, PROTECTION OF CHILDREN

EO 13045, requires each Federal agency to "identify and assess environmental risks and safety risks [that] may disproportionately affect children" and ensure that its "policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." This project has no environmental or safety risks that may disproportionately affect children. The project is in compliance.

EXECUTIVE ORDER 13653, CLIMATE CHANGE CONSIDERATIONS

EO 13653 requires Federal agencies to review the effect of climate change on their programs. Warming ocean water reduces the temporal duration and lateral extents of sea ice, which exposes coastal areas to storm energy for a larger portion of the year as time passes and ocean water temperatures continue to rise. The severity of storms also increases as oceans warm, contributing to coastal erosion and additional maintenance requirements for coastal structures. Climate change is likely increasing the cost and frequency of St. Paul Harbor maintenance activities. The maintenance of the St. Paul Harbor is affected by climate change but does not have appreciable impacts on climate change. The project is in compliance.

7.0 Public and Stakeholder Involvement

The Alaska District issued a Public Notice on August X, XXXX, for the 2023 *Operation and Maintenance Activities, St. Paul Harbor, St. Paul Island, Alaska, Environmental Assessment* in order to elicit input from the public and resource agencies. Public Notice ##### was available on the Alaska District's website for 30 days, expiring on September XX, XXXX, in "Operations and Maintenance" under "Documents Available for Review" on the USACE Website at:

https://www.poa.usace.army.mil/Library/Reports-and-Studies/

A media release was also prepared and provided to local media. During the Public Notice period, the USACE received (if no comments received) no comments / (if comments received) description of comments.

The Alaska District requested Agency comments on the draft EA and FONSI concurrently with the public notice. The Agencies contacted are listed below:

- Alaska Department of Environmental Conservation, Division of Air Quality
- Alaska Department of Environmental Conservation, Division of Spill Response and Prevention
- Alaska Department of Environmental Conservation, Division of Water
- Alaska Department of Fish and Game, Division of Wildlife Conservation
- Alaska Department of Natural Resources, Division of Land, Mining, and Water
- Alaska Department of Natural Resources, State Historic Preservation Office
- National Marine Fisheries, Protected Resource Division
- National Marine Fisheries, Habitat Conservation Division
- United States Environmental Protection Agency, Aquatic Resource Unit
- United States Fish and Wildlife Service, Ecological Services Branch

Copies of the public notice, media release, notice of availability, comments, and responses can be found in Appendix E.

Government to government coordination was initiated with Federally-recognized Tribes and Tribal entities on May 25, 2023. An example of the invitation to consult is included in Appendix E. No responses were received.

The Tribal entities USACE invited to consult are:

- Aleut Community of Saint Paul Island
- Tanadgusix Corporation
- Aleut Corporation
- Aleutian Pribilof Islands Association

The USACE determined the proposed undertaking would result in **no historic properties affected** and requested concurrence from the SHPO on June 17, 2023. Concurrence was received on XXX, XX XXXX.

Copies of the public notice, media release, comments, and responses can be found in Appendix E.

8.0 Preparers and Acknowledgements

This Environmental Assessment was prepared by Matt Ferguson of the Environmental Resources Section at the Alaska District, United States Army Corps of Engineers. Additional USACE personnel, including Kelly Eldridge, archaeologist; Nathan Epps, hydraulic engineer; and Monica Velasco, project manager, were also involved in contributing content to this EA.

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CEPOA-PM-C-ER **13 April 2023**

Memorandum for Record

Subject: Tier 1 Dredged Material Evaluation for Saint Paul Harbor Maintenance Dredging

Introduction

This memorandum documents the Tier 1 evaluation conducted by the Environmental Resources Section (CEPOA-PM-C-ER) of the U.S. Army Corps of Engineers Alaska District for consultation with the applicable agencies: U.S. Environmental Protection Agency (EPA) and Alaska Department of Environmental Conservation (ADEC).

Project Description and Background

St. Paul Harbor is an existing U.S. Army Corps of Engineers, Alaska District (USACE) project in the Pribilof Islands, at St. Paul Island, Alaska (Figure 1). The City of St. Paul occupies a narrow peninsula on the southern tip of the island and the harbor is located in Village Cove. St. Paul Island is 47 miles north of St. George Island, 240 miles north of the Aleutian Islands, 300 miles west of the Alaska mainland, and 750 air miles west of Anchorage.

St. Paul Harbor's development occurred in three general phases (Figure 2) Phase I, completed in 1990, included a 1,050-foot-long main breakwater, a 1,000-foot-long inner breakwater, a 2-acre turning basin at a depth of -18 feet mean lower low water (MLLW), a 700-foot-long dock, and a 6-acre mooring basin. Phase II, completed in 1996, addressed an unanticipated demand for harbor services and overtopping problems associated with the main breakwater. Construction during Phase II consisted of the following: (1) the depth of the entrance channel was increased to -30 feet MLLW; (2) a maneuvering basin was enlarged and dredged to -29 feet MLLW; (3) a spending beach was constructed to reduce wave heights in the harbor and induce targeted sedimentation, and a sediment sump was established on the lee side of the 1,000-foot-long detached breakwater adjacent to the spending beach to collect sediment entering the Harbor from the west; (4) three offshore energy dissipation reefs 1,300 feet in length at -12 feet MLLW were constructed parallel to the main breakwater; and (5) the natural entrance channel to the Salt Lagoon was realigned to restore the lagoon's water quality and biological productivity. Phase III, completed in 2010, involved: (1) construction of a small boat harbor, (2) an entrance channel dredged to -16-feet MLLW, (3) a maneuvering area dredged to -12 feet MLLW, and (4) the construction of wave protection/flow directing features, such as a 435-foot-long, +10 feet MLLW breakwater and a 530-foot-long, +10 feet MLLW circulation berm.

During the USACE's 2022 periodic project condition surveys (PCS), significant shoaling was detected in the main entrance channel (Area A: project depth -30' MLLW) and

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maneuvering area (Area B: project depth -29’ MLLW). Lesser shoaling has occurred in the small boat harbor entrance channel (Area C: project depth -16’ MLLW), small boat harbor mooring/maneuvering area (Area D: project depth -12’ MLLW), and maneuvering area (Area E: project depth -8’ MLLW). The 2022 St. Paul Harbor PCS volume computations are shown in Table 1. Maintenance dredging is required to restore the authorized depth in some of these areas because St. Paul has become an important harbor-of-refuge for the bottom-fishing fleet in the Bering Sea and provides crucial economic support for this remote community. Access to the harbor and connected infrastructure would be compromised without maintenance dredging, jeopardizing the harbor’s continued functional and economic value to the bottom fish industry and island community. Shoals detected during the 2022 are shown in Figure 3.

Previous Testing

The Alaska District most recently conducted St. Paul Harbor maintenance dredging in 2016 during a combined maintenance dredging and breakwater repair project awarded to Kiewit Infrastructure West Company. Approximately 85,000 cy of sand was dredged and placed at an upland location on St. Paul Island (Figure 4). The USACE coordinated with ADEC (Wastewater Discharge, Contaminated Sites, and Solid Waste) to determine testing requirements. Dredged material was expected to be below the applicable ADEC Cleanup Criteria listed in Alaska Administrative Code (AAC) 75.341 – Tables B1 and B2, Method 2, Migration to Groundwater values criteria because of the dynamic oceanographic nature of the coastline and short time frame since the areas were first dredged in 2010. The Agencies agreed that the Corps’ dredged material sampling plan should include at least 8 individual (not composite) dredged material and disposal area background samples and they should be analyzed for metals and diesel range organics (DRO). The 2016 boring locations are shown in Figure 5.

Kiewit subcontracted the environmental soils and sediment assessment to BGES, Inc Environmental Consultants. BGES collected soil and sediment in April 2016 and submitted the final Environmental Soils and Sediment Assessment Report to the USACE in May 2016. The DRO concentrations in the soils and sediment samples were all non-detect except for two samples (plus a duplicate sample detection) collected from the upland (background) soils, which exhibited DRO concentrations well below ADEC cleanup criterion. Chromium and nickel were detected above ADEC cleanup criteria in all disposal area background samples. Chromium, nickel, and arsenic were detected above ADEC cleanup criteria in most of the harbor sediment samples. No other analytes were detected above ADEC cleanup criteria. The statistical comparison of analytical results from the 2016 Environmental Soils and Sediment Assessment Report is shown in Figure 5.

Chromium and nickel concentrations were lower in the harbor sediments than the disposal area, so the cleanup criteria exceedance for those constituents is dismissed from further consideration because the disposal of dredged material at the upland site would not increase the existing chromium and nickel concentrations. Arsenic

concentrations were higher in the harbor sediments than the disposal location, but 95% upper confidence limit (UCL) for sediment arsenic concentrations was below the arithmetic and geometric means of arsenic concentrations in Alaska soils (U.S. Geological Study, “Element Concentration of Soils and Other Surficial Materials of Alaska” published in 1988). Additionally, pursuant to the 2018 ADEC Technical Memorandum for Evaluating Metals at Contaminated Sites, at sites where no known or suspected source of a metal has been identified, the presence of a metal will be considered naturally occurring.

A milky bubble was observed rising and spreading into a milky sheen across the water surface during the 2010 phase III construction. The USACE conducted a limited chemical investigation to determine whether specific constituents were present in sediment samples collected near the milky sheen. Four samples were analyzed from gasoline range organics (GRO), residual range organics (RRO), DRO, polyaromatic hydrocarbons (PAHs), benzene, toluene, ethylbenzene, and xylenes. There were no chemicals of concern detected near or above ADEC cleanup criteria in the samples submitted to the laboratory. The white blobs that rose to the surface are presumed to be of organic origin, most likely from old seal hunting activities (USACE, 2010).

The 2006 General Re-evaluation Report (GRR) describes a minor geotechnical investigation in 1998 that encountered DRO in one of the seven samples collected in the site of the future small boat harbor. The concentration was estimated to be between 30 mg/kg and 50 kg/mg, well below the ADEC migration to groundwater cleanup criteria of 250 mg/kg. The GRR further indicated: “The material in the proposed boat harbor site contains minimal amount of particles of silt or smaller. The borings indicated less than 5 percent fines while the material taken for the DRO sampling indicated fine grained material was either absent or only trace amounts were present. Applying the exclusion[ary] criteria, the proposed dredged material is suitable for open water disposal as per MPRSA.” Ocean disposal of approximately 400,000 cy of dredged material occurred about 10 miles north of St. Paul Island.

The maintenance dredged material has been previously placed in uplands on St. Paul Island and adequate upland capacity remains for the dredged material subject to this Tier 1 evaluation. The USACE is also contemplating beneficial use options with aquatic placement measures, specifically the use of a portion of the dredged material to fill scour holes within the Federal project near the end of the main breakwater, and off the south end of the spending beach. The final decision regarding the dredged material disposition will be informed by environmental, constructability, cost, logistics, and operations and maintenance.

Evaluation

The Alaska District applies the Dredged Material Evaluation and Disposal Procedures (DMEDP) User Manual to the evaluation of dredging projects with in-water placement options (DMMO, 2021). This User Manual was developed by the cooperating agencies of Region 10 of the EPA, the USACE Seattle District, and the State of Washington.

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Since the State of Alaska resides in Region 10 of the EPA, the basic concepts of the User Manual is feasible for use as a guidance document in conjunction with guidance from ADEC while Alaska is in the process of formalizing agreements with the EPA regarding the long-term implementation of the User Manual, including modifications to the implementation of the manual to fit Alaska's unique circumstances.

The DMEDP User Manual, CWA Section 404(b)(1) Guidelines, and Inland Testing Manual include provisions for determining that the dredged material is not a carrier of contaminants and testing is not required. Primary considerations from all three references include: (1) the dredged material be composed primarily of sand, gravel and/or inert materials; (2) the sediments are from locations far removed from sources of contaminants; (3) the sediments are from depths deposited in preindustrial times and not exposed to modern sources of pollution. The User Manual and 404(b)(1) Guidelines also provide for the consideration of hydrodynamic conditions such as being subject to (4) strong current and/or tidal energy.

The maximum volume proposed for dredging is about 140,000 cy. There is no project-specific ranking for this area in the DMMP User Manual. Much of the sediment to be extracted from the St. Paul Harbor is consistent with three of the considerations of the applicable references for determining that no testing is required. Information supporting each of the three considerations is described below.

1. *The dredged material is composed primarily of sand, gravel, and/or inert materials.*

Based on the available information, the dredged material appears to be primarily composed of sand and inert materials.

The Alaska District's contractor collected sediment samples for chemical analysis in April of 2016. The core sampler collected seven samples from the main entrance channel, one sample from the small boat harbor entrance channel, and four samples from the sediment management area. The bore logs described the physical characteristics of all sediment samples as "Sand, fine; trace silt; black; wet; no odor". A representative photo of the harbor sediment coring is shown in Figure 8. No samples were collected in the Small Boat Harbor Mooring Area or Maneuvering Area.

The 2015 St Paul Harbor Operations and Maintenance EA stated: "the Corps anticipates dredging approximately 85,000 cubic yards of material that is composed of well-to-poorly sorted sand/cobble, with less than 15 percent fines". The dredged material was placed in the Kaminista Subdivision Public Works Lot and appears to be primarily fine sand (Figure 9)

The 2010 limited chemical investigation did not describe the physical characteristic of the sediment, but the photos indicate a grain size consistent with the other sources. The sediment appears to be fine sand with weathered shell fragments.

2. *The sediments are from locations far removed from sources of contamination.*

Saint Paul Harbor is on the remote island of Saint Paul and there is no history of manufacturing or industrial activities that would produce or use hazardous waste or

hazardous materials (Figure 11). Tide-generated flow and wave driven currents through the harbor into and out of Salt Lagoon help to maintain St. Paul Harbor's water quality. Subsequently, St. Paul Harbor's waters are mostly exchanged in one tidal cycle. Wave generated currents under more minor storm conditions are also capable of moving sand along the shoreline. Currents outside the harbor generally circulate in a clockwise direction. Sediment mainly enters through the gap between the detached breakwater and boulder spit, where it encounters an eddy created by the inverted shape of the spending beach. The sediment that enters the harbor originates in the undeveloped area north of Village Cove and is driven into the harbor between the detached breakwater and boulder spit by waves striking the beach at an oblique angle.

The following potential sources of contamination are present near the harbor, but there are no known sources of contamination proximal to the origin of the sediments.

- The Trident Seafood Plant is the largest crab processing plant in the world and is located adjacent to the maneuvering area. The plant is highly automated and optimized for snow crab, but it also processes king crab and Tanner crab, halibut, and groundfish delivered by the local fleet of small vessels. It is considered the most remote seafood plant owned and operated by Trident. The seafood waste outfall discharges into the Bering Sea, near Whale Point. A fuel farm is located about 500 feet from the harbor, but there is no evidence of active fuel leaks or ongoing cleanup actions.
- Some areas in the Salt Lagoon have been associated with possible sediment contamination; however, no maintenance dredging would occur in proximity to the 2004 corrective action at the Salt Lagoon Channel Diesel Seep Site (also known as Two Party Agreement Sites 13a and 13b). A National Oceanic and Atmospheric Administration (NOAA) characterization of the subject diesel seep did not indicate contaminant levels of concern in the sediment, i.e. diesel-range organic compounds (DRO) above ADEC Method One soil cleanup criteria for DRO, 200 mg/kg, used as a benchmark. NOAA concluded that biological harm was not likely occurring in the marine environment in proximity to the Diesel Seep Site due to petroleum contamination (Souik *et al.*, 2005).
- In 1998, the ADEC requested the sampling and analysis of intertidal and subtidal sediments at Village Cove to determine the levels of DRO in a 27.5-acre area proposed for dredging. The information was requested as part of ADEC's processing of a Water Quality Certification of Reasonable Assurance application for Corps Permit Application "Bering Sea 62, NPACP No. 071-OYD-U-870522, State I.D. No. AK 9712-03AA. The results indicated that the sediments underlying the proposed dredging area were generally free of non-biogenic DRO, although very low concentrations (slightly above background levels but below the ADEC Level A soil cleanup criteria of 100 mg/kg) of petroleum-derived DRO were present in a small portion of the proposed dredged material near the mouth of the Salt Lagoon (Golder Associates Inc., 1998).

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- On May 6th, 2022, approximately 4,500 gallons of diesel was released near the truck rack below the fuel farm. Cleanup began on May 10th and the groundwater wells adjacent to the harbor were sampled between May 24-26. Further groundwater sampling occurred in October 2022. DRO was not measured in the groundwater but measured petroleum constituents (TAH and TAqH) concentrations did not increase significantly after the release and all concentrations remain below the respective cleanup criteria. The groundwater gradient flows towards the SBH Mooring Area.

The St. Paul Harbor is surrounded by uplands and marine infrastructure, including a fish processing plant and marine support facilities. There are 25 reported Contaminated Sites in the ADEC database (Figure 12), the status of all 25 sites is “Cleanup Complete”, with or without institutional controls. A series of groundwater monitoring wells between the sources of contamination and harbor shoreline are tested on a semiannual basis and the wells closest to the water’s edge do not contain contaminants of concern above ADEC cleanup criteria.

3. The site is subject to strong currents and/or tidal energy.

The outer depth of closure (DOC) is the theoretical maximum depth where waves will cause little sediment transport and is generally used to delineate the offshore zone from the littoral zone. In typical morphological settings (normal coastlines where contours are parallel, and depth decreases linearly) the outer DOC is where wave shoaling is the dominant process. The most proximate Wave Information System (WIS) stations to the project location are at Stony Point (2.8 miles east) and Otter Island (7.9 miles west). The theoretical outer depths of closure for 0.15-millimeter particles, based on the Hallermeier equation, is 59.2 meters (194.2 feet or 32.4 fathoms) and 58.8 meters (192.9 feet or 32.2 fathoms), respectively. The Otter Island WIS station DOC estimate may be more applicable to the project because it is aligned with the project location, i.e., the same southerly and westerly swells measured by the Otter Island station will blow into the St Paul Harbor.

Inner DOC is the seaward limit of the littoral zone where waves break and the bed experiences extreme activity. The simplified Birkemeier equation is the most conservation tool for estimating inner DOC. The inner DOC at the Otter Island WIS is 14.9 meters (48.9 feet or 8.15 fathoms). The deepest portion of the St. Paul Harbor (-30 feet or -5 fathoms) MLLW is within the inner DOC using the most conservative method of estimation, so it is subject to powerful hydrodynamic energy. The theoretical effects of the waves on the shoal sediments are supported by findings described in the 2016 bore logs, which described fine sand with very little silt, very poor sample recovery, and rapid penetration (1’/blow). The rapid penetration and poor recovery are likely due to constant hydrodynamic energy in the harbor preventing the consolidation of the fine sand material.

Additional evidence of strong currents is presented by the persistent development of scour in the harbor. The November 2022 Project Condition Survey (Figure 6) indicates three scour holes are present in the Federal Project; Main Entrance Channel, SBH Entrance Channel, and Detached Breakwater. Current fill volumes (the volume of material required to raise the bottom elevation of the scour area to the max pay depth

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are 12,545 cy, 6,168 cy, and 1,784 cy respectively. The most problematic scour holes are in the SBH Entrance Channel because they reach -34’ MLLW (17 feet deeper than max pay) and threaten the integrity of the breakwater. The USACE placed 1550 cy of rock in the SBH Entrance Channel scour hole in 2016, but the hole continues to grow. The SBH Entrance Channel scour hole is near the back of the Harbor; so if currents strong enough to cause significant erosion are present there, they are presumed to be present throughout the harbor.

Determination

Due to the powerful hydrodynamic energy, coarse native material, and distance from sources of contamination, the potential for contamination to be present is low in the Main Entrance Channel, Maneuvering Area, Sediment Management Area, and Small Boat Harbor Entrance Channel. The Small Boat Harbor Mooring Area and Maneuvering Areas are less exposed to hydrodynamic energy and there are no extant data on grain size for these areas, so there is a moderate potential for contamination.

The Alaska dredged material evaluation stakeholder agencies have determined that no further testing is required for the Saint Paul Harbor Main Entrance Channel, Maneuvering Area, Sediment Management Area, and Small Boat Harbor Entrance Channel. The combined volume of material in these areas is approximately 126,427 cy. The Small Boat Harbor Mooring Area and Maneuvering Areas contain approximately 12,971 cy and this material will require testing before it is dredged. This limited No Test determination does not constitute final agency approval of the project. During the public comment period that follows a public notice, resource agencies will provide input on the overall project. A final decision will be made after full consideration of agency input, and after an alternatives analysis is done under section 404(b)(1) of the Clean Water Act.

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Agency Signatures

SUBJECT: Tier 1 Determination Regarding Testing Requirements for the Dredged Material from the Saint Paul Harbor Maintenance Dredging

Concur:

_____ _____

Date Matt Ferguson – Alaska District Corps of Engineers

_____ _____

Date Betsy McCracken – Region 10 Environmental Protection Agency

_____ _____

Date James Rypkema – Alaska Department of Environmental Conservation

CEPOA-PM-C-ER
Subject: Tier 1 Dredged Material Evaluation for Saint Paul Harbor Maintenance Dredging

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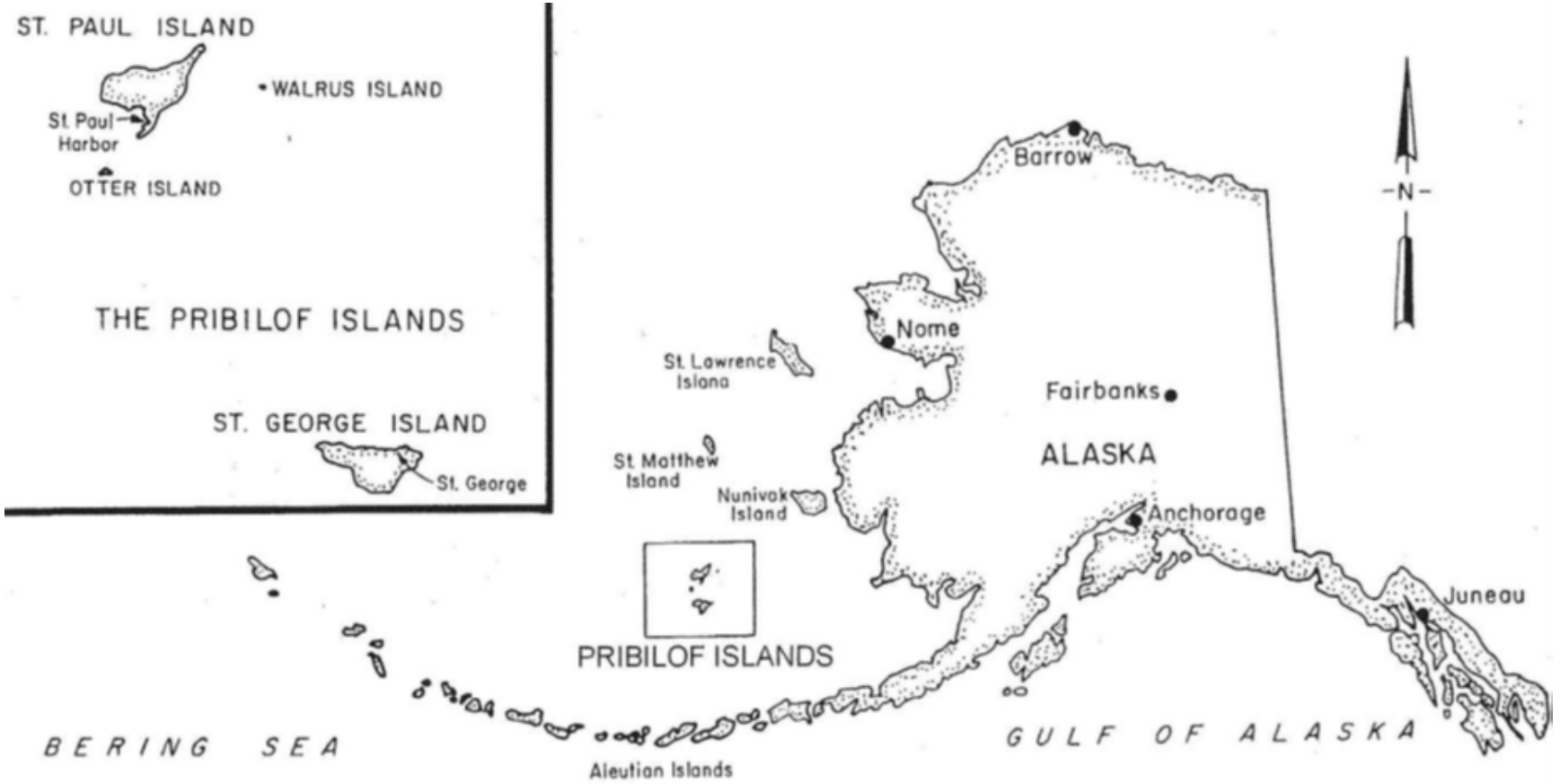

Figure 1. St. Paul Harbor and island location and vicinity

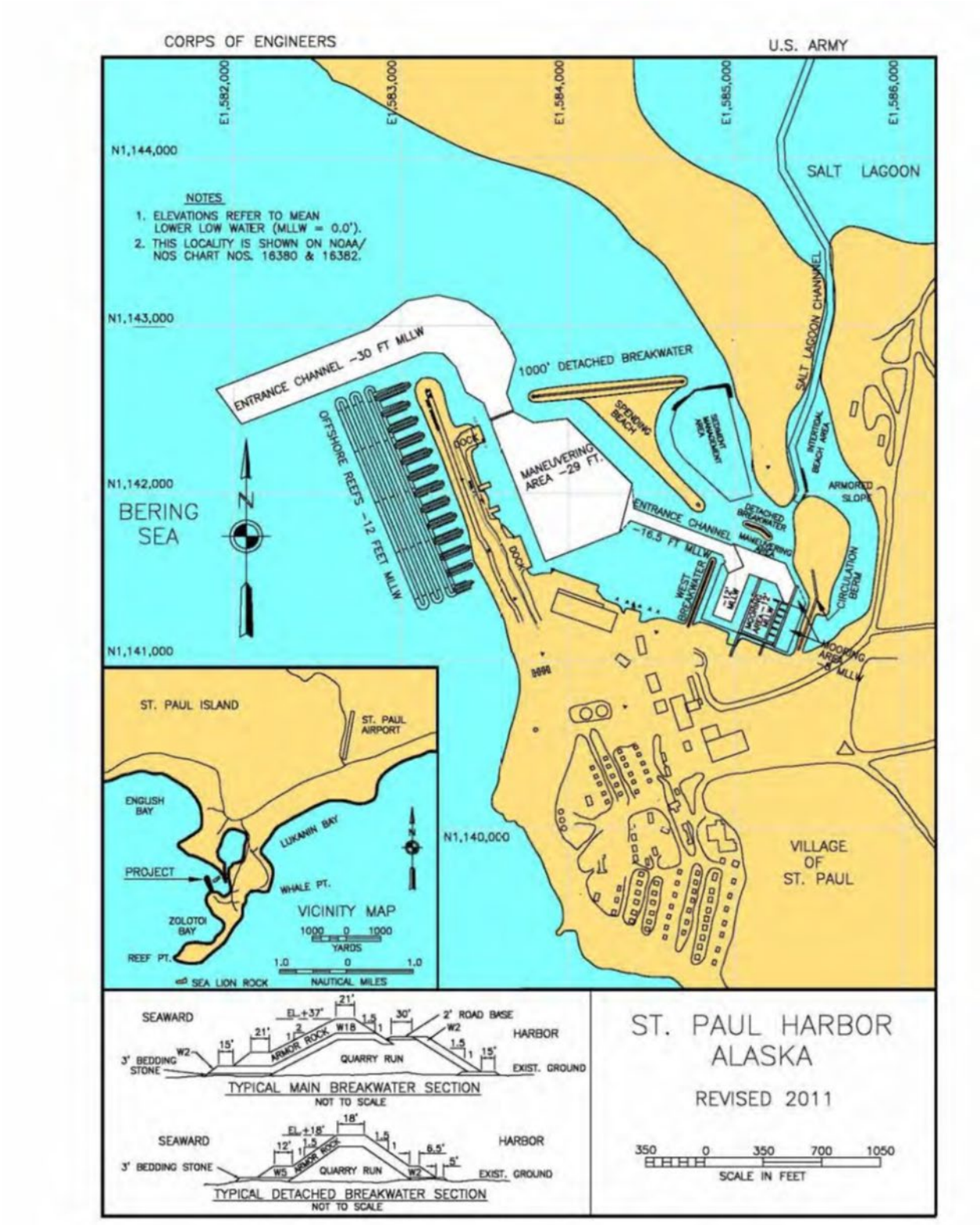

Figure 2. St. Paul Harbor navigation improvement features (note, the correct depth for the SBH Entrance Channel is -16', not -16.5' as shown in this figure

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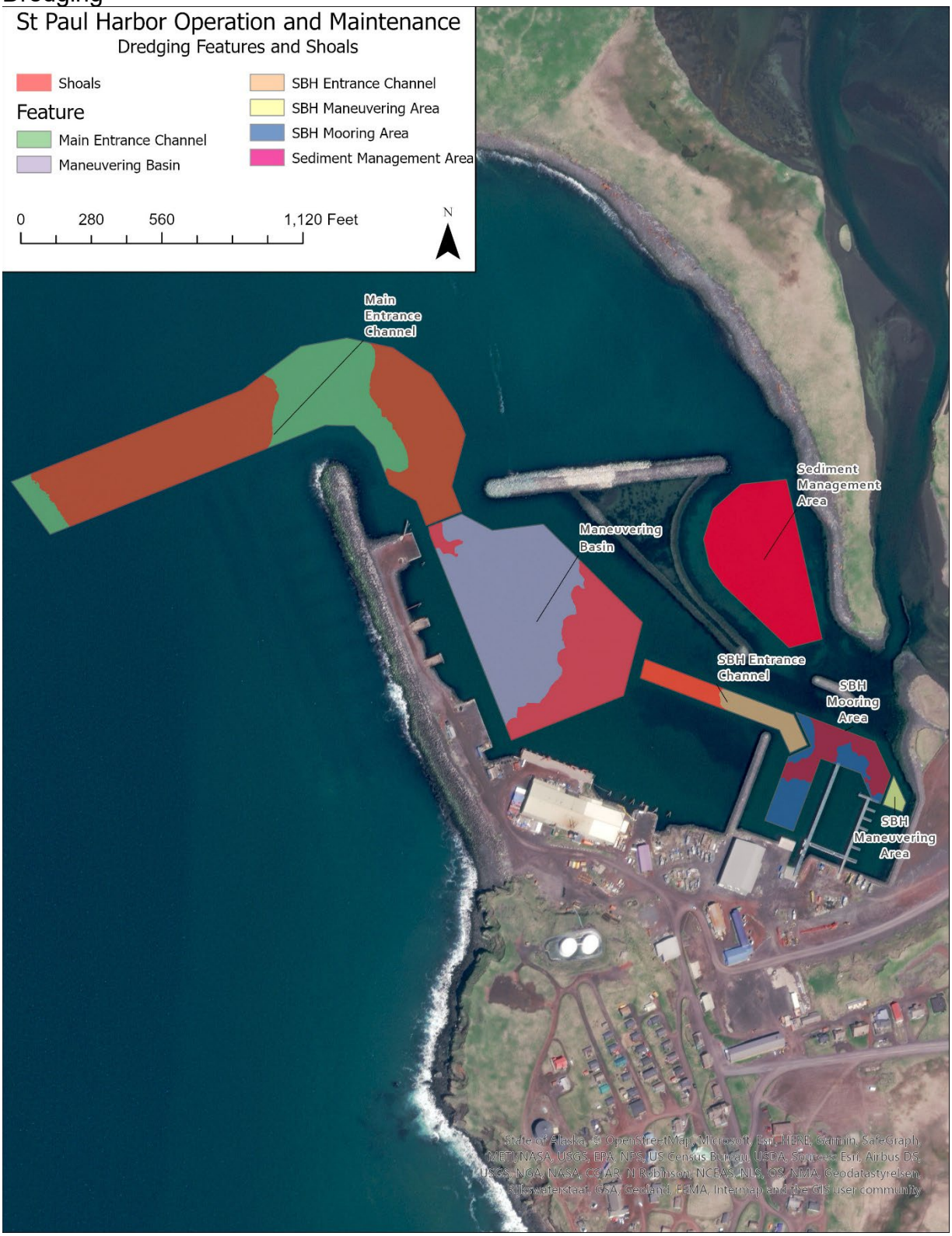

Figure 3 St. Paul Harbor dredging features and shoals

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Figure 4 St. Paul Harbor dredging features and 2016 upland placement location

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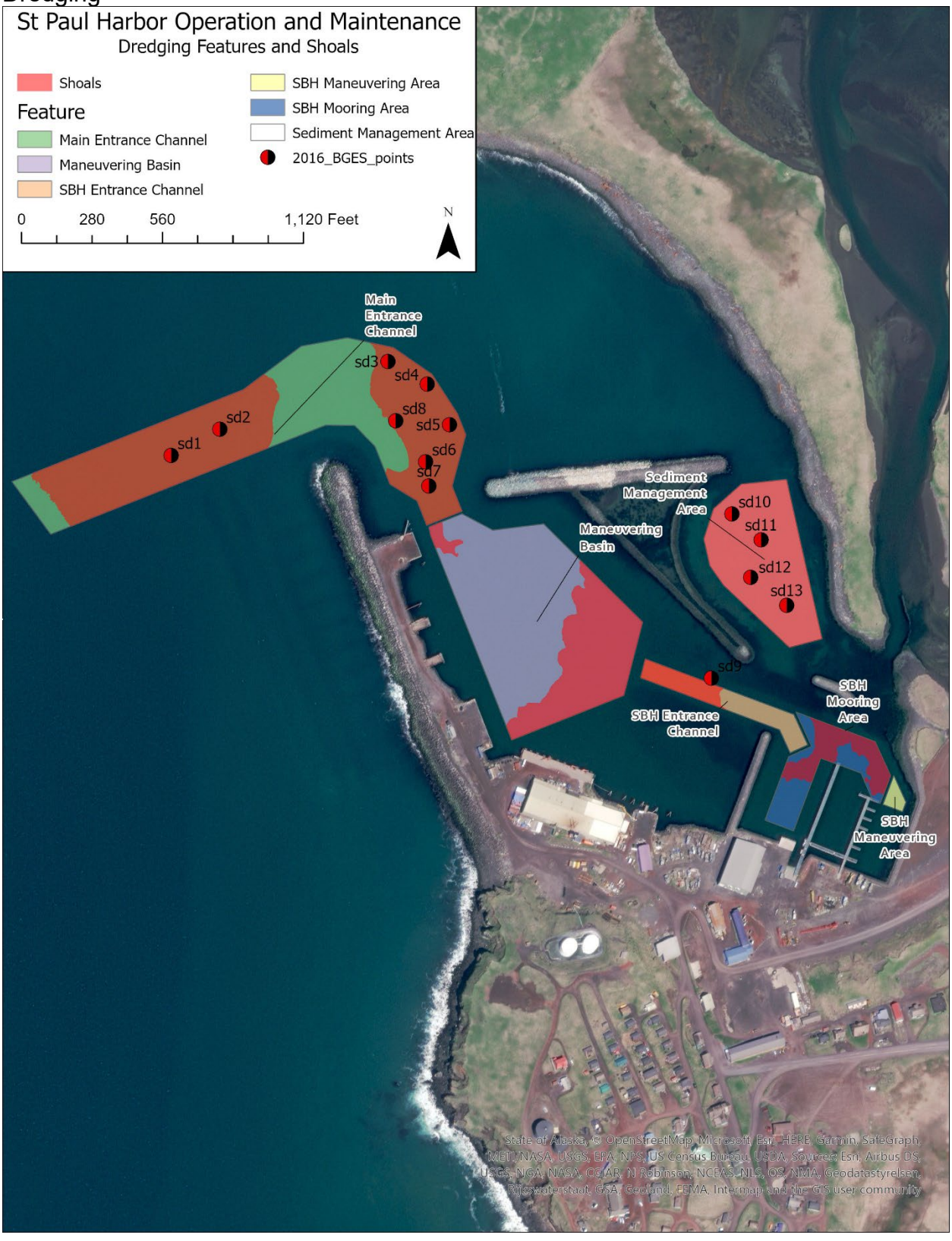

Figure 5 St. Paul Harbor 2016 BGES limited chemical investigation boring locations

Table 1. 2022 Project Condition Survey volume computations

Feature	Required Depth		Maximum Pay		Side Slope
	Depth (MLLW)	Volume (cubic yards)	Depth (MLLW)	Volume (cubic yards)	Volume (cubic yards)
Entrance Channel	-30’	30,201	-32’	54,917	5,060
Maneuvering Area	-29’	9,037	-31’	28,889	9,488
SBH Entrance Channel	-16’	4,841	-17’	5,743	1,098
SBH Mooring/Maneuvering Area	-12’	2,818	-13’	4,893	854
SBH Maneuvering Area	-8’	220	-9’	301	82
Sediment Management	-10’	22,248	-11’	27,572	500
Total		*69,365*		*122,316*	*17,081*

Figure 6. 2022 Project Condition Survey

TABLE 3
ST. PAUL ISLAND, ALASKA
STATISTICAL COMPARISON OF ANALYTICAL RESULTS (APRIL 2016)

Proposed Upland Disposal Area Background Soil Samples	Analyte	Mean Concentration (mg/Kg)	STD Dev	Relative STD Dev (%)	Student's T Value (1 Sided)	95% UCL (mg/Kg)	ADEC Cleanup Criteria (mg/Kg)*
Using lowest value among duplicates (most conservative approach)	Arsenic	3.10	0.28	9.10	1.895	3.29	3.9
	Barium	33.18	6.30	19.00	1.895	37.40	1,100
	Cadmium	--	--	--	--	--	5.0
	Chromium	63.65	8.62	13.55	1.895	69.43	25
	Lead	1.83	0.39	21.55	1.895	2.09	400
	Mercury	--	--	--	--	--	1.4
	Nickel	381.00	69.57	18.26	1.895	427.61	86
	Selenium	--	--	--	--	--	3.4
	Silver	--	--	--	--	--	11.2
	Vanadium	55.00	4.02	7.31	1.895	57.69	710

Sediment Samples	Analyte	Mean Concentration (mg/Kg)	STD Dev	Relative STD Dev (%)	Student's T Value (1 Sided)	95% UCL (mg/Kg)	ADEC Cleanup Criteria (mg/Kg)*
Using highest values among duplicates (most conservative approach)	Arsenic	6.26	0.68	10.85	1.734	6.53	3.9
	Barium	62.47	10.60	16.97	1.734	66.69	1,100
	Cadmium	--	--	--	--	--	5.0
	Chromium	43.87	6.45	14.71	1.734	46.44	25
	Lead	8.53	14.87	174.35	1.734	14.44	400
	Mercury	--	--	--	--	--	1.4
	Nickel	134.41	59.58	44.33	1.734	158.11	86
	Selenium	--	--	--	--	--	3.4
	Silver	--	--	--	--	--	11.2
	Vanadium	76.70	8.99	11.73	1.734	80.28	710

Note: ADEC = Alaska Department of Environmental Conservation, mg/Kg = milligrams per kilogram, STD Dev = standard deviation, UCL = upper confidence limit

RED = Sediment samples 95% UCL exceeds proposed upland disposal area background soil samples 95% UCL, and ADEC cleanup criterion.

YELLOW = Sediment samples 95% UCL exceeds proposed upland disposal area background soil samples 95% UCL, but not ADEC cleanup criterion.

GREEN = Sediment samples 95% UCL is less than proposed upland disposal area background soil samples 95% UCL; both values exceed ADEC cleanup criterion.

*Soil cleanup criteria obtained from ADEC 18 AAC 75.341, Table B1, Method 2, Migration to Groundwater (January 1, 2016); except for vanadium, which was obtained from the more stringent Under 40-Inch Zone (in relation to annual precipitation) Direct Contact Pathway; and DRO, which was obtained from Table B2, Method 2, Under 40-Inch Zone Migration to Groundwater Pathway. The cleanup criterion for chromium is for total chromium.

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Figure 7. Statistical Comparison of Analytical Results (April 2016)

Figure 8. Split-spoon sampler with full recovery of sediment at Sediment Sampling Location 6

Figure 9. 2016 Upland disposal location native soil (top) with dredged sediment (bottom)

Figure 10. Sediment with milky sheen from 2010 chemical investigation

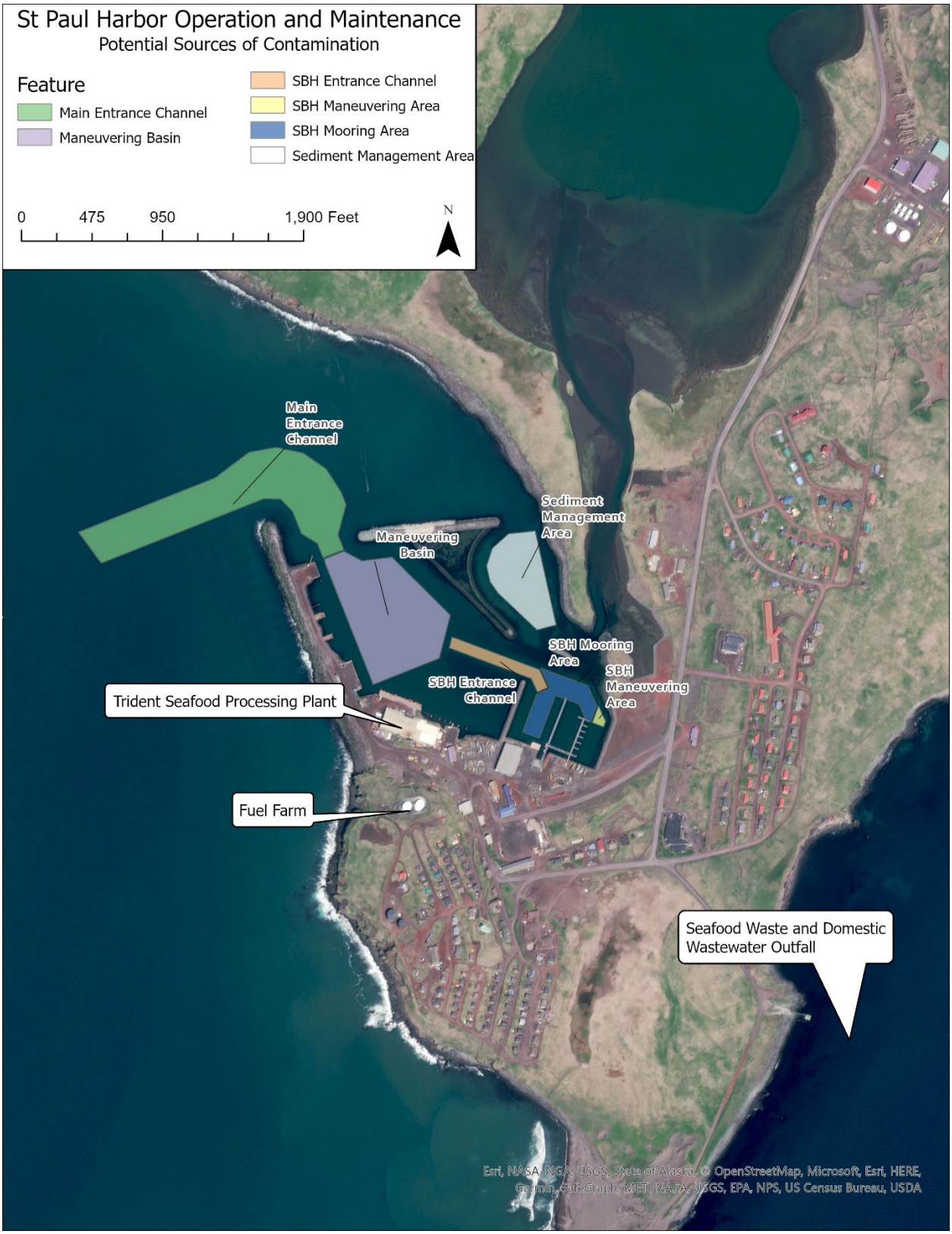

Figure 11. Potential Sources of Contamination

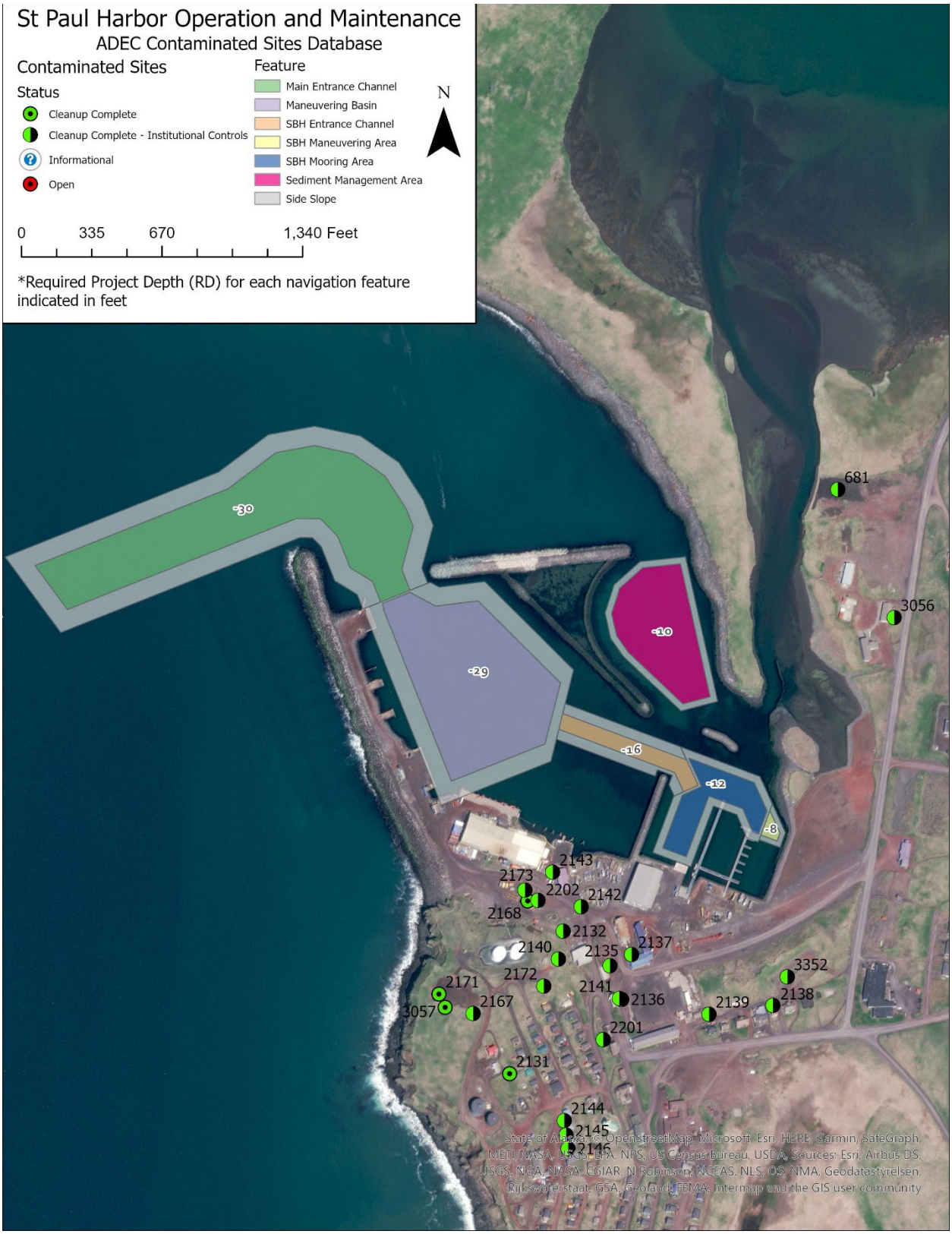

Figure 12. St Paul Harbor Contaminated Sites status map

US Army Corps of Engineers
Alaska District

Essential Fish Habitat Assessment

Operation and Maintenance Activities St. Paul Harbor, St. Paul Island, Alaska

July 2023

Prepared by:

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, ALASKA
P.O. BOX 6898
ELMENDORF AFB, ALASKA 99506-0898

July 2023

Contents

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Acronyms

EFH	Essential Fish Habitat
NMFS	National Marine Fisheries Service
USACE	United States Army Corps of Engineers
CFR	Code of Federal Regulations
WRDA	Water Resources Development Act
PED	Preconstruction Engineering and Design
USC	United States Code
MLLW	Mean Lower Low Water
CY	Cubic Yards
MPRSA	Marine Preservation, Research, and Sanctuaries Act
BKC	Blue King Crab
NOAA	National Oceanic and Atmospheric Administration
USFWS	United States Fish and Wildlife Service
AMNWR	Alaska Maritime National Wildlife Refuge
SL	Source Level
hp	Horsepower
dB	decibel
ADFG	Alaska Department of Fish and Game
IFR	Integrated Feasibility Report
WOUS	Waters of the United States
FMP	Fishery Management Plan
kW	kilowatt

1.0 INTRODUCTION

The USACE conducts periodic field surveys of its navigation projects to identify any need for constructing repairs and/or maintenance dredging. Recent field surveys revealed the need to address hazards threatening the Federal navigation features at St. Paul Harbor. Specifically, the USACE proposes to (1) dredge the main entrance channel, main maneuvering area, small boat harbor entrance channel, small boat harbor mooring and maneuvering area, and sediment management area, (2) repair the main breakwater energy dissipation reefs, and (3) construct channel scour protection in the main entrance channel and small boat harbor entrance channel. The dredged material would be placed in upland locations to be used beneficially by the City of Saint Paul.

The 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act set forth the essential fish habitat (EFH) provision to identify and protect important habitats of federally-managed marine and anadromous fish species. Federal agencies that fund, permit or undertake activities that may adversely affect EFH are required to consult with the National Marine Fisheries Service (NMFS) regarding the potential effects of their actions on EFH and respond in writing to NMFS recommendations.

EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. “Waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate. “Substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities.

Upon completing the U.S. Army Corps of Engineers’ (Corps’) EFH-coordination with the NMFS, the Corps will incorporate its EFH evaluation and findings and NMFS conservation recommendations (if any) into the project’s environmental assessment.

2.0 PROJECT PURPOSE

During the USACE’s 2022 periodic project condition surveys (PCS), significant shoaling was detected in the main entrance channel (project depth -30’ MLLW) and maneuvering area (project depth -29’ MLLW). Lesser shoaling has occurred in the small boat harbor entrance channel (project depth -16’ MLLW), small boat harbor mooring/maneuvering area (project depth -12’ MLLW), and maneuvering area (project depth -8’ MLLW). The 2022 St. Paul Harbor PCS volume computations are shown in Table 1. Additionally, the PCS documented damage to the energy dissipation reefs and scour holes in the main entrance channel and small boat harbor entrance channels.

Maintenance dredging is required to restore the authorized depth in some of these areas because St. Paul has become an important harbor-of-refuge for the bottom-fishing fleet in the Bering Sea and provides crucial economic support for this remote community. Access to the harbor and

connected infrastructure would be compromised without maintenance dredging, jeopardizing the harbor's continued functional and economic value to the bottom fish industry and island community. Shoals detected during the 2022 are shown in Figure 1.

Repairs to the offshore energy dissipation reefs is required to protect the main breakwater, which is critical to the accessibility of the Federal navigation project. The main breakwater is perpendicular to the significant wave axis, so it is exposed to and protects the entrance channel from the largest waves impacting the Saint Paul harbor area. The energy dissipation reefs cause waves to break further offshore, so some of the wave energy is dissipated prior to the wave striking the main breakwater. The scour hole repairs are needed because the scour holes threaten to undercut the main breakwater and small boat harbor breakwater. The undercutting of these breakwaters could destabilize them and lead to their collapse. The location of the damaged energy dissipation reefs and scour holes is shown in Figure 2

3.0 PROJECT AUTHORITY

The Water Resources Development Act, 17 November 1986 (Public Law 99- 662, Section 202) as adopted, provided for an addition to the existing (non-Federal) breakwater of 1050 feet at 37 feet above MLLW, a detached breakwater 1000 feet in length at 18 feet above MLLW protecting Village Cove, and a maneuvering area 200 feet wide at 18 feet below MLLW. The Water Resources Development Act of 1996, (Section 101(b)(3), Public Law 104-303) provided for an entrance channel at -30 feet MLLW, enlarged the maneuvering basin to 415 by 830 feet with a depth of -29 feet MLLW, created a wave spending beach at +4 feet MLLW, a tidal channel into the Salt Lagoon at 40 feet in width at -3 feet MLLW for environmental mitigation, and three off-shore reefs 1,300 feet in length at -12 feet MLLW. The Water Resources Development Act of 1999, 106th Congress, provided for a small boat harbor with an entrance channel at -16 feet MLLW and a maneuvering area at -12 feet MLLW with appropriate wave protection flow directing features consisting of a breakwater of 435 feet at 10 feet above MLLW and a circulation berm of 530 feet at 10 feet above MLLW.

4.0 PROJECT AREA

St. Paul is the northernmost and largest of the Pribilof Islands (Figure 3). The climate is maritime, resulting in considerable cloudiness, heavy fog, high humidity, and daily temperature fluctuations. Maritime influence in the Pribilofs keeps seasonal temperatures mild and daily variations to a minimum. Summertime temperatures are low, with the highest recorded temperature being 64 °F. Precipitation on St. Paul Island is minimal, with an average annual rainfall of about 24 inches. The island area has periods of high wind throughout the year. Frequent storms occur from October to April, often accompanied by gale-force winds to produce blizzard conditions.

St. Paul Harbor's development occurred in three general phases (Figure 4). Phase I, completed in 1990, included a 1,050-foot-long main breakwater, a 1,000-foot-long inner breakwater, a 2-acre

turning basin at a depth of -18 feet mean lower low water (MLLW), a 700-foot-long dock, and a 6-acre mooring basin. Phase II, completed in 1996, addressed an unanticipated demand for harbor services and overtopping problems associated with the main breakwater. Construction during Phase II consisted of the following: (1) the depth of the entrance channel was increased to -30 feet MLLW; (2) a maneuvering basin was enlarged and dredged to -29 feet MLLW; (3) a +4-foot MLLW spending beach was constructed, and a sediment management area was established on the lee side of the 1,000-foot-long detached breakwater; (4) three offshore reefs 1,300 feet in length at -12 feet MLLW were constructed parallel to the main breakwater; and (5) the natural entrance channel to the Salt Lagoon was realigned to restore the lagoon's water quality and biological productivity. Phase III, completed in 2010, involved: (1) construction of a small boat harbor, (2) an entrance channel dredged to -16 feet MLLW, (3) a maneuvering area dredged to -12 feet MLLW, and (4) the construction of wave protection/flow directing features, such as a 435-foot-long, +10 feet MLLW breakwater and a 530-foot-long, +10 feet MLLW circulation berm.

5.0 PROJECT DESCRIPTION

The Alaska District proposes to

- Dredge approximately 140,000 cy of sand from the Main Entrance Channel, Main Maneuvering Area, Small Boat Harbor Entrance Channel, Small Boat Harbor Mooring and Maneuvering Area, and Sediment Management Area (Figure 1)
- Place dredged material from all dredged areas in the uplands for beneficial use by the City of St. Paul (Figure 5)
- Place approximately 32,000 cy of rock to repair Main Breakwater energy dissipation reefs (Figure 2)
- Place approximately 5,000 cy rock to repair the Main Entrance Channel and 3,000 cy rock to repair the Small Boat Harbor Entrance Channel scour holes (Figure 2)

Dredging will be performed from a barge or other floating platform and is expected to employ mechanical equipment such as an excavator or crane with clamshell bucket. The dredged material will be dewatered and then trucked to the upland disposal locations. Approximately 50K CY of dredged material will be placed at the Kaminista Subdivision Public Works Lot all remaining material will be placed at the city landfill.

Reef work shall consist of repairs completed to reef 3 and repairs completed to reef 2 or new construction of reef 4. Construction methods for reefs 3 and 4 are expected to consist of dumping material along the reef from a barge. Reef 2 is expected to utilize a conveyor belt system established on the inside of the harbor to dump material along the crest of reef 2. The contract includes the new construction of reef 4 or the repairs of reef 2 as an either/or option. Rock would be sourced from on the Island.

Scour hole repairs will be performed by an excavator dumping rock into the holes. The excavator would either operate from a barge or one of the breakwaters. Rock would be sourced from on the Island

The weather would strongly influence timing of the dredging and marine construction. The exposure of the site and Pribilof Islands in general places seasonal constraints on constructability. Winter construction is currently considered infeasible due to weather, leaving the summer and shoulder seasons as the only realistic times of the year for marine construction.

No in-water work shall be conducted between September 1 and November 1 to avoid impacting (i.e. taking) juvenile fur seals and pups returning to Village Cove and the Salt Lagoon entrance channel.

6.0 ESSENTIAL FISH HABITAT

Essential fish habitat (EFH) means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. Any Federal agency taking an action that could adversely affect EFH by reducing the quantity or quality of habitat must coordinate with the NMFS to identify impacts and steps for conserving the habitat and reducing the impact of the action.

Based on the NMFS Alaska Region Essential Fish Habitat (EFH) mapper, five species of Pacific salmon, 17 species of groundfish, three species of crab, and one species of mollusc may be present in the St. Paul Harbor area (Table 2). No freshwater EFH (anadromous waters) exist in the USACE' project area. Village Cove's water depths range from 12 to 32 feet, which fall into EFH's "life history requirements" category of "1-50 meters water depth." Village Cove also has the "sand/gravel substrate, life history requirement" for supporting different life stages.

The USACE believes the following fish and crab species are most likely to occur in the St. Paul Harbor area:

- Walleye pollock: adults more likely in deeper water outside Village Cove but juveniles likely use the area pelagically and feed on the bottom.
- Pacific cod: adults more likely in deeper water outside Village Cove but late juveniles likely use the area pelagically and feed on the bottom.
- Yellowfin sole: adults and late juveniles exhibit a benthic lifestyle in Village Cove, where they spawn and feed on the bottom.
- Rock sole: adults and late juveniles exhibit a benthic lifestyle in Village Cove, where they spawn and feed on the bottom.
- Sculpin: adults and late juveniles inhabit a wide range of habitats but are mainly associated with a benthic lifestyle and a sandy/rocky substrate, which Village Cove

has.

- Red king crab: Shallow inshore areas (less than 50 meters) support mating and molting individuals. Larvae generally occupy the upper 30 meters of the water column. Village Cove's shallow depth (5 meters and less) is poor habitat for supporting red crab life stages.

- Blue king crab: Shallow inshore areas (less than 50 meters) support mating and molting individuals. Larvae generally occupy the upper 30 meters of the water column. Village Cove's shallow depth (5 meters and less) is poor habitat for supporting red crab life stages.

No NMFS-designated "Habitat Areas of Particular Concern (HAPC)" are within or in proximity to the USACE' project area. HAPCs are discrete subsets of EFH that provide extremely important ecological functions or are especially vulnerable to degradation.

No NMFS-designated "EFH Area(s) Protected from Fishing" (EAPF) are within or in proximity to the USACE' project area. An EAPF is an area in which the NMFS and the regional fishery management council have used EFH provisions, established in Section 303(a)(7) of the Magnuson-Stevens Fishery Conservation and Management Act, to prevent or mitigate adverse effects from fishing on EFH.

Per the 1996 amendments to the MSFCMA, USACE has initiated consultation and coordination with the NMFS regarding the potential effects of the recommended plan action on EFH. Impacts from implementation of project alternatives would result in short-term or minor alterations of EFH for marine species and species such as rockfish, flatfish, gadids, salmonids, and crabs. These alterations would include temporary increases in turbidity in the future harbor location during dredging and in the placement area during discharge, as well as noise and elevated anthropogenic activity levels related to construction.

Substantial permanent impacts would also be realized from the dredging and placement of dredged material in the placement area. The bottom composition in the placement area would become more complex due to the placement of cobble and boulders, creating refuge and additional habitat for forage species. The bottom composition in the harbor area would become homogenized as the dredging creates uniform basins at the project design depth. The construction of the breakwaters would alter hydrodynamic conditions and increase the vertical surface area.

The types of impacts that would possibly affect EFH species/species complexes (five Pacific salmon species, the sculpin complex, flatfish, rockfish, crabs, and forage fish) known or highly likely to occur within the project area are described as discrete project components and separated into short-term and long- term impacts.

7.0 ASSESSMENT OF POTENTIAL PROJECT IMPACT ON ESSENTIAL FISH HABITAT

Per the 1996 amendments to the MSFCMA, USACE has initiated consultation and coordination with the NMFS regarding the potential effects of the recommended plan action on EFH. Impacts from implementation of project alternatives would result in short-term or minor alterations of EFH for marine species and species such as rockfish, flatfish, gadids, salmonids, and crabs. These alterations would include temporary increases in turbidity in the harbor location during dredging and in the rock placement area during discharge, as well as noise and elevated anthropogenic activity levels related to construction.

The types of impacts that would possibly affect EFH species/species complexes (five Pacific salmon species, the sculpin complex, flatfish, rockfish, crabs, and forage fish) known or highly likely to occur within the project area are described as discrete project components and separated into short-term and long- term impacts.

7.1 Maintenance Dredging

Maintenance dredging would have little direct effect on mature fish inhabiting the project area, as their mobility allows them to avoid construction activities (e.g., mechanical dredging, generated turbidity, vessel movements, and underwater construction noise). No long-shore movements of juvenile fish would be disrupted by maintenance dredging.

7.1.1 Short-term impacts

Short-term impacts include: direct mortality to some sessile organisms, or those without the means to evade, through smothering or crushing; water quality impacts in the form of temporarily increased levels of turbidity resulting from dredging; noise disturbance from operation of heavy equipment, cranes, or barges; disturbance from increased construction-related workboat traffic in the project area and along supply routes; and a temporary increase in waterborne noise from the excavation of harbor sediments and operation of equipment including boats, barges, and support vessels.

Direct Mortality. Maintenance dredging has the potential to entrain, displace, injure, smother, and kill demersal and benthic organisms. The probability of injury, impact, or death is inversely related to the affected taxon's mobility; i.e., a sessile animal is more likely to be impacted than a motile organism because the sessile organism lacks the ability to move away from the dredge or placement area as the disturbance occurs. Crabs and, to a lesser extent, shrimp would be more susceptible to impact than flatfishes, which would, in turn, be more vulnerable than demersal fishes like sculpin and cod.

The construction project area is likely sparsely populated with marine invertebrates, which would almost certainly be killed by the dredge; but otherwise mostly devoid of marine life. The project area is presumed to be very poor in terms of fish/shellfish productivity. The immediate direct impact on FMP species from dredging is negligible, but there would likely be a short term impact on the forage taxa of FMP species.

Water Quality Impacts. Maintenance dredging would result in temporarily elevated concentrations of suspended sediment as fine-grained particles are disturbed by the dredge and released as the bucket is drawn up through the water column. The sediment in the project area is believed to be uncontaminated by anthropogenic pollutants based on the site history and physical characteristics of the material. The substrate is not considered to be a carrier of contaminants because it is predominantly coarse and contains little to no organic material.

The sole water quality consideration is the temporary elevation of turbidity in the immediate project area, but the water velocity in the area is great enough that any increases in turbidity would be quickly diluted to below perceptible levels. There are no vegetated shallows or other sensitive habitat areas in the vicinity that would be negatively impacted by the ephemeral increase in localized apparent turbidity.

Juvenile salmon have been shown to avoid areas of high turbidities (Servizi 1988), although they may seek out areas of moderate turbidity (10 to 80 NTU), presumably as refuge against predation (Cyrus and Blaber 1987a and 1987b). Feeding efficiency of juveniles is impaired by turbidities in excess of 70 NTU, well below sublethal stress levels (Bisson and Bilby 1982). Reduced preference by adult salmon homing to spawning areas has been demonstrated where turbidities exceed 30 NTU (20 mg/L suspended sediments). However, Chinook salmon exposed to 650 mg/L of suspended volcanic ash were still able to find their natal water (Whitman et al. 1982).

Based on these data, it is unlikely that short-term (measured in hours based on tidal exchange frequency), and localized elevated turbidities generated by the proposed action would directly affect EFH juvenile or adult salmonids and EFH groundfish, such as flatfish, sculpins, and rockfish that may be present. Potential impacts would be further minimized by conducting all in-water work within approved regulatory.

Elevated Activity and Noise. Maintenance dredging would result in temporary increases in the amount of anthropogenic activity and underwater noise in the project area during construction.

The USACE would employ a mechanical dredge, likely a clamshell dredge, to excavate virgin sediment to the project depth. The dredged material from these navigation features would be placed in the uplands on St. Paul Island to be used as landfill cover and construction fill.

Mechanical dredges are relatively stationary, so the noise source would not move around during dredging. The dredge plant would excavate sediment and place the material on a barge for transportation to the placement location. The barge would only be capable of traveling about 8 knots, which would produce a relatively constant, low-frequency noise.

Bucket dredging noise can be delineated into six distinct events to complete a single cycle. These events are repeated every time the bucket is deployed and retrieved. The first event is winch noise as the boom and bucket are swung into position, and the bucket is lowered. The bucket striking the water surface creates a splash noise detectable at short distances. The second event is the noise of the bucket striking the sediment surface. This is followed by the noise of the bucket closing and capturing the dredged material. The fourth event is the noise of the bucket jaws

contacting each other. The bucket is raised by the winch, creating the fifth noise. The sixth and final noise of the cycle is the sound of the material being dumped into the scow. The amplitude of the second, third, and sixth event are strongly influenced by the granularity of the sediment that is being excavated. Coarse material produces for powerful sounds than fine material. Winching noise is produced at a higher frequency than the other event noises, so it attenuates more quickly. Bucket dredging is classified as a repetitive class of sound, rather than continuous.

Clark, et al., recorded the clamshell dredge Viking dredging sand and gravel from Cook Inlet in 2001. The Viking is a 1,475 hp clamshell dredge with an 11.5-cubic meter bucket. Clark recorded sounds digging sounds between 113-107 dB at distances of 158-464 meters from the source, respectively. Assuming a transmission loss coefficient of 15 for the practical spreading calculation, a received level of 113 dB at a range of 158 meters indicates an SL of 146 dB. The same calculation using a received level of 107 dB at a range of 464 meters indicates an SL of 147 dB.

The equipment used to dredge the St. Paul Harbor would be similar in scale to the Viking and could be assumed to generate noise of a similar amplitude. The St. Paul dredging would likely produce more powerful sounds due to the coarser grain-size sediment that would be excavated, but it would be difficult to predict how much more powerful the sounds would be. Therefore, it is appropriate to state that the amplitude of the sounds produced by dredging near St. Paul would be equal to or greater than the amplitude of the sounds produced by the Viking dredging in Cook Inlet.

Assuming a source level (SL) of between 146-147 dB, the dredging noise would be below 180 dB at the source, which is below the Alaska Department of Fish and Game (ADFG) reporting threshold for hydroacoustic monitoring in fish-bearing waters. The sound would attenuate to 120 dB between 54-63 meters from the source. The area inside the 120 dB isopleth is thought to be of low-quality fish habitat, and the impacts of underwater noise on FMP species from dredging is negligible. The transportation of dredged material to the placement location would produce sounds of similar amplitude and would also result in negligible impacts on FMP species.

7.1.2 Long-term impacts

The dredging of the entrance channel and turning basin would create a relatively uniform depth within the dredge prism and uncover more sand. This would alter the depth of the area, but not the physical characteristics of the substrate. The dredging would facilitate consistent vessel access to the harbor and sustain the amount of anthropogenic activity in the area.

Substrate Alteration. The dredging would remove shoaled material and expose more of the same type of fine sand that would be removed by dredging.

Sustained Activity. The maintenance of the St. Paul Harbor allow the continued use of the harbor and sustain the level of anthropogenic activity would increase the amount of general disturbance to the aquatic environment due to an increase in the number and size of the vessels that call on the area. There would continue to be refueling and boat maintenance activities in the harbor area as well, which would sustain the potential for fuel, oil, and other hazardous material spills. There are no known sensitive habitat areas that would be exposed to the impacts of

sustained activity in the immediate vicinity. The operation of the harbor would be subject to best management practices associated with spill prevention and cleanup, reducing the likelihood and impacts of a potential spill.

7.2 Marine Construction

The repair of the scour holes and energy dissipation reefs would create new rocky subtidal habitat. There would be short term impacts from the construction and long-term impacts from the habitat alteration.

7.2.1 Short Term Impacts

Direct Mortality. The placement of rock for the repair of the reefs and scour holes the potential to crush, smother, kill, or injure aquatic organisms in the project area. The potential for harm is inversely related to mobility; i.e., animals with greater mobility (such as finfish) are less likely to be harmed by the construction than animals with lower mobility (like anemones or urchins).

Water Quality Impacts. The marine construction would have the potential to increase the turbidity in the immediate project area by introducing entrained fine-grained sediments into the water column from the rock used for construction. The placement of rock on the seafloor may also suspend local sediments, contributing to temporarily elevated turbidity. The sediment that may be suspended by construction is not a carrier of contaminants due to the site history and physical characteristics of the material, and the only negative water quality impact that may be caused by the marine construction is temporarily elevated turbidity. The turbidity would return to ambient levels within a short radius of the construction activities due to the large size of the particles and the great hydrodynamic energy.

Increased Activity and Noise Levels. The placement of rock for the repair of the reefs and scour holes would increase the amount of noise and human activity in the project area for a construction season. The amplitude of the noise is not expected to be great enough to cause damage to fish or other aquatic resources, but the presence of additional humans may cause disturbance. The project area is naturally energetic, and the action of the surf may act to mask the additional disturbance.

7.2.2 Long-Term Impacts

Habitat Alteration. Approximately 7,200 cubic yards of rock, used to fill scour holes, would replace approximately 1 acre of “sand and gravel EFH” which is not in limited supply in Village Cove or nearby subtidal areas. The additional rocky-substrate would provide additional protective habitat for juvenile and larval EFH species and other fishery resources (e.g. invertebrates), as well as provide points of attachment for marine algae and kelp.

Up to 32,195 cubic yards of rock would be placed to repair the energy dissipation reefs. The placement of this rock would cause immediate temporary impacts to EFH, but would replace the existing rocky habitat with new rocky habitat built to the design elevation. The habitat in this

area is likely of low value due to the extremely high wave energy and constant erosion. The conversion of these habitats would be a permanent increase in the complexity of the area.

Sustained Activity and Noise Levels. The continued presence of a harbor facility would sustain the amount of human activity in the area, by design. The amplitude of the noise is not expected to present meaningful impacts to EFH. The sustained human activity in the area increases the amount of fuel, oil, and other hazardous material usage, which presents a corresponding increase in the potential for hazardous material spills.

8.0 MITIGATION

Mitigation Measures. "Mitigation" is the process used to avoid, minimize, and compensate for the environmental consequences of an action. Incorporating the following mitigation measures and conservation measures into the recommended corrective action will help to ensure that no significant adverse impacts would occur to EFH and EFH-managed species/species complexes and other fish and wildlife resources in the project area.

1. No in-water work will be conducted between September 1 and November 1 to avoid impacting (i.e. taking) juvenile fur seals and pups returning to Village Cove and the Salt Lagoon entrance channel.

2. Project vessels will not travel within 3,000 feet of designated Steller sea lion critical habitat (haulouts or rookeries).

3. The USACE will coordinate with the Tribal Government of Saint Paul Island to secure certification that their vessels are rat-free.

4. Project-related activities will not use the Boulder Beach area to access work sites in order to avoid impacting (i.e. taking) least-auklets or their nesting habitat.

5. The USACE will prepare an oil spill and prevention plan, in accordance with Federal, State of Alaska, and St. Paul Harbor requirements, and have it reviewed and approved by the USACE and St. Paul Harbormaster prior to commencing work.Project vessels must be operated in compliance with State of Alaska marine vessel (air emissions) visibility standards (18 AAC 50.70).

6. Dredging operations will not place dredged material in open water, and instead shall place all dredged material on St. Paul Island uplands for beneficial uses.

7. The USACE will take reasonable precautions, per 18 AAC 50.045(d), to prevent the generation of fugitive dust at its rock source and dredged material placement sites.

8. The USACE will prevent project vessels from grounding or going dry during tide changes to minimize impacts to marine habitat

9. Rock fill should be limited to the work area and precautions should be taken to avoid the inadvertent placement of rock outside the project limits; i.e., accidental placement or loss of rock in areas where it is not required and could impact habitat or fish movement

10. Fill materials should be tested and be within the neutral range of 7.5 to 8.4 pH

9.0 CONCLUSIONS AND DETERMINATION OF EFFECT

The project actions described above have the potential to affect the EFH for several BSAI groundfish species (e.g., rockfish, sculpin, and flatfish), crab, and for Alaska stocks of Pacific salmon.

Some FMP species individuals and forage base for FMP species would be temporarily lost through direct mortality from dredging and marine construction but these effects would be localized and temporary. Short-term effects in the form of avoidance because of noise disturbances, boat traffic, and turbidity would be intermittent and low level. No significant negative long-term effects are expected.

The potential effects of turbidity would be intermittent and low level. No adverse impacts related to circulation and harbor-flushing is expected. Year-round resident EFH species such as rockfish, flatfish, and sculpins would likely respond by temporarily moving out of work areas during construction.

The proposed construction would likely occur in a single construction season and within an anticipated in-water work window. Seasonal work restrictions would minimize any impacts to nesting birds and marine mammals.

Potential impacts to EFH and EFH-managed species/species complexes are likely to be highly localized, temporary, and minimal, and not reduce the overall value of EFH in the Bering Sea. The aforementioned mitigation measures would be implemented to offset the potential unavoidable impacts of the Corps' activity. Therefore, the Corps concludes that its Federal action may have a minor adverse effect on EFH and EFH-managed species/species complexes for BSAI groundfish, crab, and Alaska stocks of Pacific salmon. The adverse effect is minimized to the extent practicable by mitigation and best management practices.

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Table 1. 2022 Project Condition Survey Volume Computations

Feature	Required Depth		Maximum Pay		Side Slope
	Depth (MLLW)	Volume (cubic yards)	Depth (MLLW)	Volume (cubic yards)	Volume (cubic yards)
Entrance Channel	-30’	30,201	-32’	54,917	5,060
Maneuvering Area	-29’	9,037	-31’	28,889	9,488
SBH Entrance Channel	-16’	4,841	-17’	5,743	1,098
SBH Mooring/Maneuvering Area	-12’	2,818	-13’	4,893	854
SBH Maneuvering Area	-8’	220	-9’	301	82
Sediment Management	-10’	22,248	-11’	27,572	500
Total		*69,365*		*122,316*	*17,081*

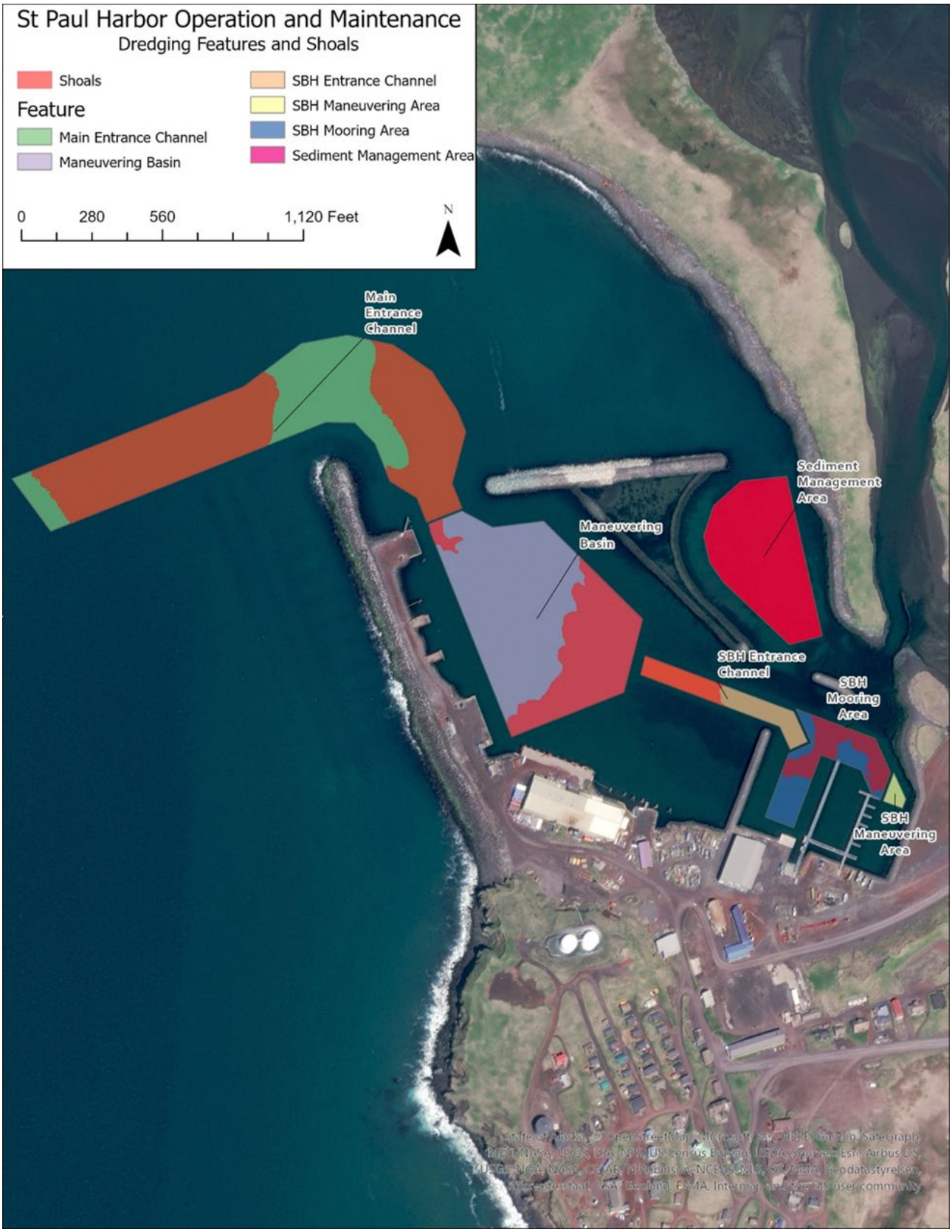

Figure 1. 2022 Saint Paul Harbor Project Condition Survey Shoals

Figure 2. Saint Paul Harbor Scour Holes and Damaged Reefs

Figure 3. St. Paul Harbor and island location

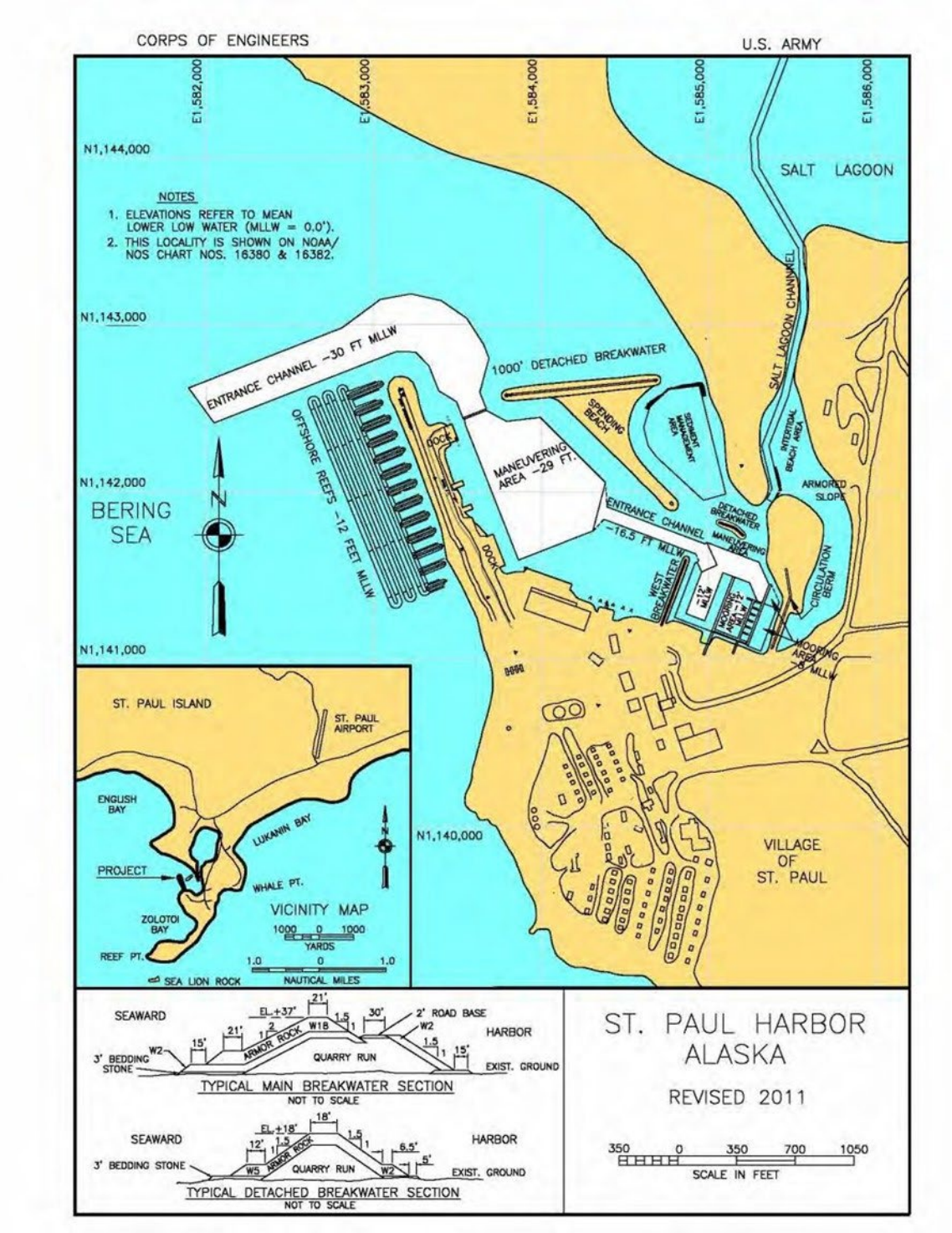

Figure 4. St. Paul Harbor Navigation Project Features

Figure 5. St. Paul Harbor upland placement locations

Table 2. EFH Species in the St. Paul Harbor Area

Common name	Species name
Alaska plaice	*Pleuronectes quadrituberculatus*
Alaska skate	Multiple
Arrowtooth flounder	*Atheresthes stomas*
Blue king crab	*Paralithodes platypus*
Flathead sole	*Hippoglossoides elassodon*
Great sculpin	*Myoxocephalus polyacanthocephalus*
Greenland turbot	*Reinhardtius hippoglossoides*
Pacific halibut	*Hippoglossus stenolepis*
Kamchatka flounder	*Atheresthes evermanni*
Northern rock sole	*Lepidopsetta polyxystra*
Octopus	Multiple
Pacific cod	*Gadus macrocephalus*
Pacific ocean perch	*Sebastes alutus*
Red king crab	*Paralithodes camtschaticus*
Rougheye rockfish	*Sebastes aleutianus*
Sablefish	*Anoplopoma fimbria*
Snow crab	*Chionoecetes opilio*
Southern rock sole	*Lepidopsetta bilineata*
Walleye pollock	*Gadus chalcogrammus*
Yellow Irish lord	*Hemilepidotus jordani*
Yellowfin sole	*Limanda aspera*
Sockeye salmon	*Oncorhynchus nerka*
Chinook salmon	*Oncorhynchus tshawytscha*
Chum salmon	*Oncorhynchus keta*
Coho salmon	*Oncorhynchus kisutch*
Pink salmon	*Oncorhynchus gorbuscha*

ATTACHMENT 1

Description of Essential Fish Habitat (EFH) for the Groundfish Resources of the Bering Sea-Aleutian Island Management Area

Walleye Pollock

Eggs: EFH for walleye pollock eggs is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m), upper slope (200 to 500 m), and intermediate slope (500 to 1,000 m) throughout the BSAI

Larvae: EFH for larval walleye pollock is the general distribution area for this life stage, located in epipelagic waters along the entire shelf (0 to 200 m), upper slope (200 to 500 m), and intermediate slope (500 to 1,000 m) throughout the BSAI

Early Juveniles: EFH for early juvenile walleye pollock is the habitat-related density area for this life stage, located in the lower and middle portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI. Relative abundance of age 1 pollock is used as an early indicator of year-class strength and is highly variable (presumably due to survival factors and differential availability between years).

Late Juveniles: EFH for late juvenile walleye pollock is the habitat-related density area for this life stage, located in the lower and middle portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI. Substrate preferences, if they exist, are unknown.

Adults: EFH for adult walleye pollock is the habitat-related density area for this life stage, located in the lower and middle portion of the water column along the entire shelf (~10 to 200 m) and slope (200 to 1,000 m) throughout the BSAI. Substrate preferences, if they exist, are unknown.

Pacific Cod

Eggs: No EFH description determined. Insufficient information is available. Pacific cod eggs, which are demersal, are rarely encountered during surveys in the BSAI.

Larvae: EFH for larval Pacific cod is the habitat-related density area for this life stage, located in epipelagic waters along much of the middle (50 to 100 m) and outer (100 to 200 m) Eastern Bering Sea (EBS) shelf, with hotspots in the vicinity of the middle shelf north of Unimak Pass and the Pribilof Islands. The habitat-related density area of larval Pacific cod in the Aleutian Islands (AI) is unknown.

Early Juveniles: EFH for early juvenile Pacific cod is the habitat-related density area for this life stage, centered over the middle (50 to 100 m) EBS shelf between the Pribilof Islands and the Alaska Peninsula and broadly similar to the habitat-related density area for larval Pacific cod, but

not extending as far north. The habitat-related density area of early juvenile Pacific cod in the AI is unknown.

Late Juveniles: EFH for late juvenile Pacific cod is the habitat-related density area for this life stage, including nearly all of the EBS shelf (0 to 200 m) and upper slope (200 to 500 m), with highest abundances in the inshore portions of the central and southern domains of the EBS shelf, and broadly throughout the AI at depths up to 500 m.

Adults: EFH for adult Pacific cod is the habitat-related density area for this life stage, including nearly all of the EBS shelf and slope, with highest abundances in the central and northern domains over the middle (50 to 100 m) and outer (100 to 200 m) shelf, and broadly throughout the AI at depths up to 500 m.

Sablefish

Eggs: No EFH description determined. Insufficient information is available. Scientific information notes the rare occurrence of sablefish eggs in the BSAI.

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: No EFH description determined. Information is insufficient. Early juveniles have generally been observed in inshore water, bays, and passes, and on shallow shelf pelagic and demersal habitat.

Late Juveniles: EFH for late juvenile sablefish is the general distribution area for this life stage, located in the lower portion of the water column, varied habitats, generally softer substrates, and deep shelf gulleys along the slope (200 to 1,000 m) throughout the BSAI.

Adults: EFH for adult sablefish is the general distribution area for this life stage, located in the lower portion of the water column, varied habitats, generally softer substrates, and deep shelf gulleys along the slope (200 to 1,000 m) throughout the BSAI.

Yellowfin Sole

Eggs: EFH for yellowfin sole eggs is the general distribution area for this life stage, found to the limits of inshore ichthyoplankton sampling over a widespread area, to at least as far north as Nunivak Island.

Larvae: EFH for yellowfin sole larvae is the general distribution area for this life stage. Larvae have been found to the limits of inshore ichthyoplankton sampling over a widespread area, to at least as far north as Nunivak Island.

Early Juveniles: EFH for early juvenile yellowfin sole is the general distribution area for this life stage, located in the lower portion of the water column within nearshore bays and along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are soft substrates consisting mainly of sand. Upon settlement in nearshore areas,

juveniles preferentially select sediment suitable for feeding on meiofaunal prey and burrowing for protection. Juveniles are separate from the adult population, remaining in shallow areas until they reach approximately 15 cm. Most likely are habitat generalists on abundant physical habitat.

Late Juveniles: EFH for late juvenile yellowfin sole is the general distribution area for this life stage, located in the lower portion of the water column within nearshore bays and along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are soft substrates consisting mainly of sand.

Adults: EFH for adult yellowfin sole is the general distribution area for this life stage, located in the lower portion of the water column within nearshore bays and along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are soft substrates consisting mainly of sand.

Greenland Turbot

Eggs: No EFH description determined. Insufficient information is available.
Larvae: EFH for larval Greenland turbot is the general distribution area for this life stage, located principally in benthypelagic waters along the outer shelf (100 to 200 m) and slope (200 to 3,000 m) throughout the BSAI and seasonally abundant in the spring.

Early Juveniles: EFH for early juvenile Greenland turbot is the general distribution area for this life stage, located in the lower and middle portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf and upper slope (200 to 500 m) throughout the BSAI wherever there are softer substrates consisting of mud and sandy mud.

Late Juveniles: EFH for late juvenile Greenland turbot is the habitat-related density area for this life stage, located in the lower and middle portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf and upper slope (200 to 500 m) throughout the BSAI wherever there are softer substrates consisting of mud and sandy mud.

Adults: EFH for late adult Greenland turbot is the habitat-related density area for this life stage, located in the lower and middle portion of the water column along the outer shelf (100 to 200 m), upper slope (200 to 500 m), and lower slope (500 to 1,000 m) throughout the BSAI wherever there are softer substrates consisting of mud and sandy mud,.

Arrowtooth Flounder

Eggs: No EFH description determined. Insufficient information is available.

Larvae: EFH for larval arrowtooth flounder is the general distribution area for this life stage, found in epipelagic waters located in a demersal habitat throughout the shelf (0 to 200 m) and upper slope (200 to 500 m).

Early Juveniles: EFH for early juvenile arrowtooth flounder is the general distribution area for this life stage, located in a demersal habitat of the inner (0 to 50 m) and middle (50 to 100 m) shelf.

Late Juveniles: EFH for late juvenile arrowtooth flounder is the habitat-related density area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf and upper slope (200 to 500 m) throughout the BSAI wherever there are softer substrates consisting of gravel, sand, and mud.

Adults: EFH for adult arrowtooth flounder is the habitat-related density area for this life stage, located in the lower portion of the water column along the inner (0 to 50), middle (50 to 100 m), and outer (100 to 200 m) shelf and upper slope (200 to 500 m) throughout the BSAI wherever there are softer substrates consisting of gravel, sand, and mud.

Kamchatka Flounder

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: EFH for early juvenile Kamchatka flounder is the general distribution area for this life stage, located in a demersal habitat of the middle (50 to 100 m) and outer (100 to 200 m) shelf.

Late Juveniles: EFH for late juvenile Kamchatka flounder is the general distribution area for this life stage, located in the lower portion of the water column along the middle (50 to 100 m), and outer (100 to 200 m) shelf and upper slope (200 to 500 m) throughout the BSAI wherever there are softer substrates consisting of gravel, sand, and mud.

Adults: EFH for adult Kamchatka flounder is the general distribution area for this life stage, located in the lower portion of the water column along the middle (50 to 100 m), and outer (100 to 200 m) shelf and slope waters down to 600 m throughout the BSAI wherever there are softer substrates consisting of gravel, sand, and mud.

Northern Rock Sole

Eggs: No EFH description determined. Insufficient information is available.

Larvae: EFH for larval northern rock sole is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and upper slope (200 to 1,000 m) throughout the BSAI.

Early Juveniles: EFH for early juvenile northern rock sole is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are softer substrates consisting of sand, gravel, and cobble. Upon settlement in nearshore areas from

1-40 m deep, juveniles preferentially select sediment suitable for feeding on meiofaunal prey and burrowing for protection but may be prevented from settling inshore by the seasonal inner front. Juveniles are separate from the adult population, remaining in shallow areas until they reach approximately 15-20 cm. Most likely are habitat generalists on abundant physical habitat.

Late Juveniles: EFH for late juvenile northern rock sole is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are softer substrates consisting of sand, gravel, and cobble.

Adults: EFH for adult northern rock sole is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are softer substrates consisting of sand, gravel, and cobble.

Southern Rock Sole

Eggs: No EFH description determined. Insufficient information is available.

Larvae: EFH for Southern rock sole larvae is the general distribution area for this life stage. Larvae are located in the pelagic waters along the entire shelf (0 to 200m) and upper slope (200 to 1,000m) throughout the BSAI.

Early Juveniles: EFH for early juvenile Southern rock sole is the general distribution area for this life stage, located in the lower portion of the water column within nearshore bays and along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are soft substrates consisting mainly of sand.

Late Juveniles: EFH for late juvenile Southern rock sole is the general distribution area for this life stage, located in the lower portion of the water column within nearshore bays and along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are soft substrates consisting mainly of sand.

Adults: EFH for adult Southern rock sole is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are soft substrates consisting mainly of sand, gravel, and cobble.

Alaska Plaice

Eggs: EFH for Alaska plaice eggs is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and upper slope (200 to 500 m) throughout the BSAI in the spring.

Larvae: EFH for Alaska plaice larvae is the general distribution area for this life stage. Pelagic larvae are primarily collected from depths greater than 200 m, with the majority occurring over

bottom depths ranging from 50 to 100 m. Densities of preflexion stage larvae are concentrated at depths 10 to 20 m.

Early Juveniles: No EFH description determined. Insufficient information is available.

Late Juveniles: No EFH description determined. Insufficient information is available.

Adults: EFH for adult Alaska plaice is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are softer substrates consisting of sand and mud.

Rex Sole

Eggs: EFH for rex sole eggs is the general distribution area for this life stage, located in epipelagic waters throughout the shelf (0 to 200 m) and upper slope (200 to 300 m).

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: EFH for early juvenile rex sole is the general distribution area for this life stage, located in a demersal habitat of the inner (0 to 50 m) and middle (50 to 100 m) shelf.

Late Juveniles: EFH for late juvenile rex sole is the habitat-related density area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are substrates consisting of gravel, sand, and mud.

Adults: EFH for adult rex sole is the habitat-related density area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are substrates consisting of gravel, sand, and mud.

Dover Sole

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: EFH for early juvenile Dover sole is the general distribution area for this life stage, located in a demersal habitat of the inner (0 to 50 m) and middle (50 to 100 m) shelf.

Late Juveniles: EFH for late juvenile Dover sole is the habitat-related density area for this life stage, located in the lower portion of the water column along the middle (50 to 100 m), and outer (100 to 200 m) shelf and upper slope (200 to 500 m) throughout the BSAI wherever there are substrates consisting of sand and mud.

Adults: EFH for adult Dover sole is the habitat-related density area for this life stage, located in the lower portion of the water column along the middle (50 to 100 m) and outer (100 to 200 m) shelf, and upper (200 to 500 m) and intermediate (500 to 1000 m) slope throughout the BSAI wherever there are substrates consisting of sand and mud.

Flathead Sole

Eggs: EFH for flathead sole eggs is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the BSAI in the spring.

Larvae: EFH for larval flathead sole is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the BSAI.

Early Juveniles: EFH for early juvenile flathead sole is the habitat-related density area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m) and middle (50 to 100 m) shelf throughout the BSAI wherever there are softer substrates consisting of sand and mud.

Late Juveniles: EFH for late juvenile flathead sole is the habitat-related density area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are softer substrates consisting of sand and mud.

Adults: EFH for adult flathead sole is the habitat-related density area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are softer substrates consisting of sand and mud.

Pacific Ocean Perch

Eggs: No EFH description determined. Insufficient information is available.

Larvae: EFH for larval Pacific ocean perch is the general distribution area for this life stage, located in pelagic waters along the middle and outer shelf (50 to 200 m) and slope (200 to 3,000 m) throughout the BSAI.

Early Juveniles: EFH for early juvenile Pacific ocean perch is the general distribution area for this life stage, located throughout the water column along the entire shelf (0 to 200 m).

Late Juveniles: EFH for late juvenile Pacific ocean perch is the habitat-related density area for this life stage, located in the middle to lower portion of the water column along middle shelf (50 to 100 m), outer shelf (100 to 200 m), and upper slope (200 to 500 m) throughout the BSAI wherever there are substrates consisting of boulders, cobble, gravel, mud, sandy mud, or muddy sand.

Adults: EFH for adult Pacific ocean perch is the habitat-related density area for this life stage, located in the lower portion of the water column along the outer shelf (100 to 200 m) and upper slope (200 to 500 m) throughout the BSAI wherever there are substrates consisting of cobble, gravel, mud, sandy mud, or muddy sand.

Northern Rockfish

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: EFH for early juvenile northern rockfish is the general distribution area for this life stage, located throughout the water column along the entire shelf (0 to 200 m.

Late Juveniles: EFH for late juvenile northern rockfish is the habitat-related density area for this life stage, located in the middle and lower portions of the water column along the outer shelf (100 to 200 m) throughout the BSAI.

Adults: EFH for adult northern rockfish is the habitat-related density area for this life stage, located in the middle and lower portions of the water column along the outer shelf (100 to 200 m) throughout the BSAI wherever there are substrates of cobble and rock.

Shortraker Rockfish

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: EFH for early juvenile shortraker rockfish is the general distribution area for this life stage, located in pelagic waters throughout the middle and outer (50 to 200 m) shelf and slope (200 to 3,000 m).

Late Juveniles: EFH for late juvenile shortraker rockfish is the habitat-related density area for this life stage, located in the lower portion of the water column along the outer shelf (100 to 200 m) and upper slope (200 to 500 m) regions throughout the BSAI wherever there are substrates consisting of mud, sand, sandy mud, muddy sand, rock, cobble, and gravel.

Adults: EFH for adult shortraker rockfish is the habitat-related density area for this life stage, located in the lower portion of the water column along the outer shelf (100 to 200 m) and upper slope (200 to 500 m) regions throughout the BSAI wherever there are substrates consisting of mud, sand, sandy mud, muddy sand, rock, cobble, and gravel.

Blackspotted Rockfishes

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: EFH for early juvenile blackspotted/rougheye rockfish is the general distribution area for this life stage, located in pelagic waters throughout the middle and outer (50 to 200 m) shelf and slope (200 to 3,000 m).

Late Juveniles: EFH for late juvenile blackspotted/rougheye rockfish is the general distribution area for this life stage, located in the lower portion of the water column along the upper slope (200 to 500 m) regions throughout the BSAI wherever there are substrates consisting of mud, sand, sandy mud, muddy sand, rock, cobble, and gravel.

Adults: EFH for adult blackspotted/rougheye rockfish is the habitat-related density area for this life stage, located in the lower portion of the water column along the upper slope (200 to 500 m) regions throughout the BSAI wherever there are substrates consisting of mud, sand, sandy mud, muddy sand, rock, cobble, and gravel.

Rougheye Rockfishes

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: EFH for early juvenile blackspotted/rougheye rockfish is the general distribution area for this life stage, located in pelagic waters throughout the middle and outer (50 to 200 m) shelf and slope (200 to 3,000 m).

Late Juveniles: EFH for late juvenile blackspotted/rougheye rockfish is the general distribution area for this life stage, located in the lower portion of the water column along the upper slope (200 to 500 m) regions throughout the BSAI wherever there are substrates consisting of mud, sand, sandy mud, muddy sand, rock, cobble, and gravel.

Adults: EFH for adult blackspotted/rougheye rockfish is the habitat-related density area for this life stage, located in the lower portion of the water column along the upper slope (200 to 500 m) regions throughout the BSAI wherever there are substrates consisting of mud, sand, sandy mud, muddy sand, rock, cobble, and gravel.

Yelloweye Rockfish

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: No EFH description determined. Insufficient information is available.

Late Juveniles: No EFH description determined. Insufficient information is available.

Adults: No EFH description determined. Insufficient information is available.

Dusky Rockfish

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: EFH for early juvenile dusky rockfish is the general distribution area for this life stage, located in the pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the BSAI.

Late Juveniles: EFH for late juvenile dusky rockfish is the habitat-related density area for this life stage, located in the middle and lower portions of the water column along the outer shelf (100 to 200 m) and upper slope (200 to 500 m) throughout the BSAI wherever there are substrates of cobble, rock, and gravel.

Adults: EFH for adult dusky rockfish is the habitat-related density area for this life stage, located in the middle and lower portions of the water column along the outer shelf (100 to 200 m) and upper slope (200 to 500 m) throughout the BSAI wherever there are substrates of cobble, rock, and gravel.

Thornyhead Rockfish (Shortspine)

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: EFH for early juvenile thornyhead rockfish is the habitat-related density area for this life stage, located in epipelagic waters along the middle and outer shelf (50 to 200 m) and upper to lower slope (200 to 1,000 m) throughout the BSAI.

Late Juveniles: EFH for late juvenile thornyhead rockfish is the habitat-related density area for this life stage, located in the lower portion of the water column along the middle and outer shelf (50 to 200 m) and upper to lower slope (200 to 1,000 m) throughout the BSAI wherever there are substrates of mud, sand, rock, sandy mud, muddy sand, cobble, and gravel.

Adults: EFH for adult thornyhead rockfish is the habitat-related density area for this life stage, located in the lower portion of the water column along the middle and outer shelf (50 to 200 m) and upper to lower slope (200 to 1,000 m) throughout the BSAI wherever there are substrates of mud, sand, rock, sandy mud, muddy sand, cobble, and gravel.

Atka Mackerel

Eggs: EFH for Atka mackerel eggs is the general distribution area for this life stage, located in a demersal habitat along the shelf (0 to 200 m). There are widespread observations of nesting sites throughout the Aleutian Islands; however, observations are not complete for the entire area.

Larvae: EFH for larval Atka mackerel is the general distribution area for this life stage, located in epipelagic waters along the shelf (0 to 200 m), upper slope (200 to 500 m), and intermediate slope (500 to 1000 m) throughout the BSAI.

Early Juveniles: No EFH description determined. Insufficient information is available.

Late Juveniles: EFH for late juvenile Atka mackerel is the general distribution area for this life stage, located in the entire water column, from sea surface to the sea floor, along the inner (0 to 50 m), middle (50 to 100 m), and outer shelf (100 to 200 m) throughout the BSAI wherever there are substrates of gravel and rock and in vegetated areas of kelp.

Adults: EFH for adult Atka mackerel is the habitat-related density area for this life stage, located in the entire water column, from sea surface to the sea floor, along the inner (0 to 50 m), middle (50 to 100 m), and outer shelf (100 to 200 m) throughout the BSAI wherever there are substrates of gravel and rock and in vegetated areas of kelp. Habitat related densities of Atka mackerel are available, usually at depths less than 200 m and generally over rough, rocky, and uneven bottom near areas where tidal currents are swift.

Bigmouth Sculpins

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Juveniles: EFH for juvenile bigmouth sculpin is the habitat-related density area for this life stage, located in the deeper waters offshore (100 and 300m) in the Bering Sea and Aleutian Islands.

Adults: EFH for adult bigmouth sculpins is the habitat-related density area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m, and outer shelf (100 to 200 m) and portions of the upper slope (200 to 500 m) throughout the BSAI wherever there are substrates of rock, sand, mud, cobble, and sandy mud.

Great Sculpins

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Juveniles: EFH for juvenile great sculpin is the habitat-related density area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) wherever there are substrates of sand and muddy/sand bottoms.

Adults: EFH for adult great sculpins is the habitat-related density area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m, and outer shelf (100 to 200 m) and portions of the upper slope (200 to 500 m) throughout the BSAI wherever there are substrates of rock, sand, mud, cobble, and sandy mud.

Alaska Skate

Eggs: No EFH description determined. Insufficient information is available.

Larvae: Not applicable, skates emerge from egg fully formed.

Early Juveniles: EFH for early juvenile skates is the general distribution area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Late Juveniles: EFH for late juvenile skates is the habitat-related density area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Adults: EFH for adult skates is the habitat-related density area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Aleutian Skate

Eggs: No EFH description determined. Insufficient information is available.

Larvae: Not applicable, skates emerge from egg fully formed.

Early Juveniles: EFH for early juvenile skates is the general distribution area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Late Juveniles: EFH for late juvenile skates is the habitat-related density area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Adults: EFH for adult skates is the habitat-related density area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Bering Skate

Eggs: No EFH description determined. Insufficient information is available.

Larvae: Not applicable, skates emerge from egg fully formed.

Early Juveniles: EFH for early juvenile skates is the general distribution area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Late Juveniles: EFH for late juvenile skates is the habitat-related density area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Adults: EFH for adult skates is the habitat-related density area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Mud Skate

Eggs: No EFH description determined. Insufficient information is available.

Larvae: Not applicable, skates emerge from egg fully formed.

Early Juveniles: EFH for early juvenile skates is the general distribution area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Late Juveniles: EFH for late juvenile skates is the habitat-related density area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Adults: EFH for adult skates is the habitat-related density area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the BSAI wherever there are of substrates of mud, sand, gravel, and rock.

Octopus

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Early Juveniles: No EFH description determined. Insufficient information is available.

Late Juveniles: No EFH description determined. Insufficient information is available.

Adults: EFH for adult octopus is the habitat-related density area for this life stage, located in demersal habitat throughout the intertidal, subtidal, shelf (0 to 200 m), and slope (200 to 2,000 m).

Yellow Irish Lord

Eggs: No EFH description determined. Insufficient information is available.

Larvae: No EFH description determined. Insufficient information is available.

Juveniles: EFH for juvenile yellow Irish lord is the habitat-related density area for this life stage, located from the subtidal areas near shore to the edge of the continental shelf (0 to 200 m) throughout the BSAI.

Adults: EFH for adult yellow Irish lord is the habitat-related density area for this life stage, located from the subtidal areas near shore to the edge of the continental shelf (0 to 200 m) throughout the BSAI.

ATTACHMENT 2

Description of Essential Fish Habitat (EFH) for the Crab Resources of the Bering Sea-Aleutian Island Management Area

Red King Crab

Eggs: Essential fish habitat of the red king crab eggs is inferred from the general distribution of egg-bearing female crab. (See also Adults.)

Larvae: No EFH Description Determined. Insufficient information is available.

Early Juveniles: No EFH Description Determined. Insufficient information is available.

Late Juveniles: EFH for late juvenile red king crab is the general distribution area for this life stage, located in bottom habitats along the inner (0 to 50 m), middle (50 to 100 m), and outer shelf (100 to 200 m) throughout the BSAI wherever there are substrates consisting of rock, cobble, and gravel and biogenic structures such as boltenia, bryozoans, ascidians, and shell hash.

Adults: EFH for adult red king crab is the general distribution area for this life stage, located in bottom habitats along the nearshore (spawning aggregations) and the inner (0 to 50 m), middle (50 to 100 m), and outer shelf (100 to 200 m) throughout the BSAI wherever there are substrates consisting of sand, mud, cobble, and gravel.

Blue King Crab

Eggs: Essential fish habitat of the blue king crab eggs is inferred from the general distribution of egg-bearing female crab. (See also Adults.)

Larvae: No EFH Description Determined. Insufficient information is available.

Early Juveniles: No EFH Description Determined. Insufficient information is available.

Late Juveniles: EFH for late juvenile blue king crab is the general distribution area for this life stage, located in bottom habitats along the nearshore where there are rocky areas with shell hash and the inner (0 to 50), middle (50 to 100 m), and outer shelf (100 to 200 m) throughout the BSAI wherever there are substrates consisting of rock, cobble, and gravel.
Adults: EFH for adult blue king crab is the general distribution area for this life stage, located in bottom habitats along the inner (0 to 50 m), middle (50 to 100 m), and outer shelf (100 to 200 m) throughout the BSAI wherever there are substrates consisting of sand and mud adjacent to rockier areas and areas of shell hash.

Golden King Crab

Eggs: Essential fish habitat of golden king crab eggs is inferred from the general distribution of egg-bearing female crab. (See also Adults.)

Larvae: No EFH Description Determined. Insufficient information is available.

Early Juveniles: No EFH Description Determined. Insufficient information is available.

Late Juveniles: EFH for late juvenile golden king crab is the general distribution area for this life stage, located in bottom habitats along the along the upper slope (200 to 500 m), intermediate slope (500 to 1,000 m), lower slope (1,000 to 3,000 m), and basins (more than 3,000 m) of the BSAI where there are high-relief living habitats, such as coral, and vertical substrates, such as boulders, vertical walls, ledges, and deep water pinnacles.

Adults: EFH for adult golden king crab is the general distribution area for this life stage, located in bottom habitats along the along the outer shelf (100 to 200 m), upper slope (200 to 500 m), intermediate slope (500 to 1,000 m), lower slope (1,000 to 3,000 m), and basins (more than 3,000 m) of the BSAI where there are high relief living habitats, such as coral, and vertical substrates such as boulders, vertical walls, ledges, and deep water pinnacles.

Tanner Crab

Eggs: Essential fish habitat of Tanner crab eggs is inferred from the general distribution of egg-bearing female crab. (See also Adults.)

Larvae: No EFH Description Determined. Insufficient information is available.

Early Juveniles: No EFH Description Determined. Insufficient information is available.

Late Juveniles: EFH for late juvenile Tanner crab is the general distribution area for this life stage, located in bottom habitats along the inner (0 to 50 m), middle (50 to 100 m), and outer shelf (100 to 200 m) throughout the BSAI wherever there are substrates consisting mainly of mud.

Adults: EFH for adult Tanner crab is the general distribution area for this life stage, located in bottom habitats along the inner (0 to 50 m), middle (50 to 100 m), and outer shelf (100 to 200 m) throughout the BSAI wherever there are substrates consisting mainly of mud.

Snow Crab

Eggs: Essential fish habitat of snow crab eggs is inferred from the general distribution of egg-bearing female crab. (See also Adults.)

Larvae: No EFH Description Determined. Insufficient information is available.

Early Juveniles: No EFH Description Determined. Insufficient information is available.
Late Juveniles: EFH for late juvenile snow crab is the general distribution area for this life stage, located in bottom habitats along the inner (0 to 50 m), middle (50 to 100 m), and outer

shelf (100 to 200 m) throughout the BSAI wherever there are substrates consisting mainly of mud.

Adults: EFH for adult snow crab is the general distribution area for this life stage, located in bottom habitats along the inner (0 to 50 m), middle (50 to 100 m), and outer shelf (100 to 200 m) throughout the BSAI wherever there are substrates consisting mainly of mud.

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ALASKA DISTRICT
P.O. BOX 6898
JBER, AK 99506-0898

June 17, 2023

CEPOA-PMC-E

Janet Clemens
Regional Historian
National Park Service
240 W 5th Avenue, Room 114
Anchorage, Alaska 99501

--Official Electronic Mail Sent Via Email. No Hard Copy To Follow--

Dear Ms. Clemens:

The U.S. Army Corps of Engineers, Alaska District (USACE) Operations Branch is planning to conduct sediment sampling, maintenance dredging, and rock reef and scour repair at St. Paul Harbor on Saint Paul Island, Alaska. In compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 [36 CFR § 800.2(a)(4)], the purpose of this letter is to notify your organization of a Federal undertaking and consult on an assessment of "no adverse effect" on historic properties.

You are receiving this letter because part of the proposed undertaking's Area of Potential Effect includes the Saint Paul Village Unit of the Fur Seal Rookeries National Historic Landmark (XPI-00002). In accordance with 36 CFR § 800.10(c), we invite you to bring any concerns or relevant information regarding the National Historic Landmark to our attention. A letter addressed to the Alaska State Historic Preservation Officer is enclosed. It describes the known cultural resources in the area and evaluates the impact that the undertaking may have on those resources.

If you have questions or concerns about this project, please call me at 907-753-2672 or email me at kelly.a.eldridge@usace.army.mil.

Sincerely,

Kelly A. Eldridge
Archaeologist
Environmental Resources Section

DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

June 17, 2023

CEPOA-PMC-E

Judith Bittner
State Historic Preservation Officer
Office of History and Archaeology
550 West 7th Avenue, Suite 1310
Anchorage, AK 99501-3565

Dear Ms. Bittner:

The U.S. Army Corps of Engineers (USACE), Alaska District, Civil Works Operations and Maintenance Program, is planning to conduct geotechnical investigations, maintenance dredging, and repair work at Saint Paul Harbor on St. Paul Island, Alaska (Sections 13 and 25, T35S, R132W; Section 17, T35S, R131W; Seward Meridian; USGS Quad Pribilof Islands C-4; Figure 1). In compliance with Section 106 of the National Historic Preservation Act of 1966, the purpose of this letter is to notify you of a Federal undertaking [36 CFR § 800.3(c)(3)] and to seek your concurrence on an assessment of effect [36 CFR § 800.5(b)].

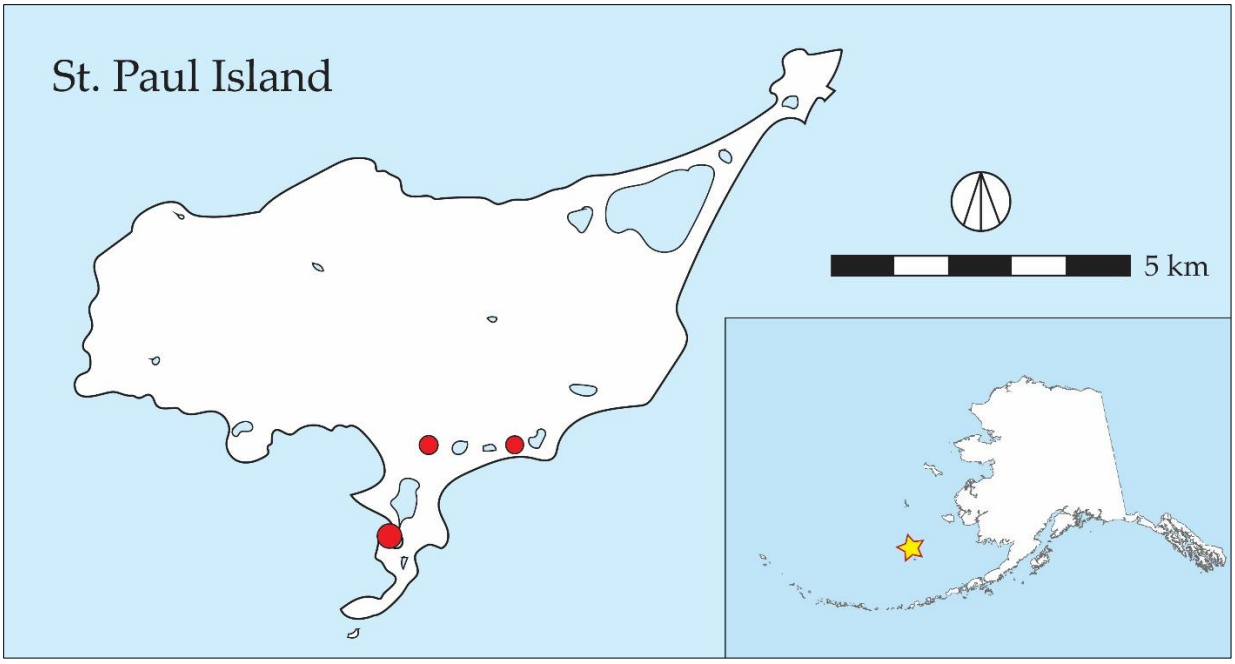

Figure 1. General project location; project areas indicated by red dots.

Historical Background

Saint Paul Island was formed approximately 400,000 years ago and based on geological evidence was never glaciated (Veltre and McCartney 1994). It has been speculated that, with the lowering of sea levels during the last ice age, the Pribilof Islands would have been hills towering over the Beringian plain and may have attracted ancient hunters. The first archaeological survey of St. Paul Island was an unsuccessful attempt to find this early occupation (Bryan 1966). To date, no prehistoric sites have been identified on St. Paul Island (Pipkin 2007).

Previous Archaeological Investigations

There have been a number of archaeological surveys of St. Paul Island that identified historic properties. The earliest survey was conducted by Alan Bryan of the University of Alberta in the early 1960s (Bryan 1966). While unsuccessful in his objective to discover early prehistoric sites, he did identify many Russian Period sites on the island. In 1979, Julia Steele and Lizette Boyer, archaeologists with USACE, documented several historic features during a survey in advance of the proposed construction of a boat harbor (USACE 1979). In 1994, Douglas Veltre of the University of Alaska and Allen McCartney of the University of Arkansas conducted an archaeological survey of St. Paul Island on behalf of the Tanadgusix Corporation (Veltre and McCartney 1994). In 1996, Edward Tyler and Gregory Biddle, archaeologists with the Bureau of Indian Affairs, surveyed the road system in advance of an effort to repair the roads on St. Paul Island (BIA 1996). In 2000 and 2001, Veltre and McCartney conducted an archaeological field school on the island in cooperation with Tanadgusix Corporation (Veltre and McCartney 2000, 2001). Additional archaeological investigations have been conducted in association with cultural resources management studies (e.g., Mobley 2006, 2008, 2010; Pipkin 2007).

Russian Period

In 1786, Gavriil Loginovich Pribylov of the Russian Lebedev-Lastochkin Company encountered the uninhabited St. George Island and noted its large northern fur seal rookeries. Pribylov left a party fo 40 men to winter there: 20 Unangax̂ and 20 Russians led by Efim Ivanov Popov (Veniaminov 1984). Within two years both St. George and St. Paul Islands were occupied by multiple Russian fur-hunting companies who forcibly colonized their camps with Unangax̂ from the Aleutian Islands (Orth 1967). This began two centuries of commercial sealing at the Pribilof lslands. An estimated 2.5 million pelts were taken from the islands during Russian control (Bower 1945). Small communities on each island were maintained by fur-hunting companies, including the Northern Company and the Predtechenskaia Company. In 1799, the Golikov-Shelikhov and Myl’nikov companies joined to create the Russian American Company. The Russian American Company became the predominant fur-hunting company on the island, lasting until the transfer of Alaska to the United States in 1867 (Black 2004; Elliott 1882).

In 1870, the U.S. Congress awarded a twenty-year concession to hunt fur seals in the Pribilof Islands to the Alaska Commercial Company of San Francisco. The rental for this concession was $55,000 a year. The company was obligated to pay the government a duty of $2.65 per seal skin taken, and to annually provide the islands' Unangax̂ inhabitants with 2,500 dried salmon, 60 cords of firewood, a sufficient quantity of salt and barrels to preserve meat, and to maintain a school on each island. The company was also ordered to treat the Unangax̂ with respect and kindness. They made efforts to improve their housing by replacing the traditional earthen barabaras with wood frame houses covered with tar paper. A physician was stationed on each island, and a hospital was built at St. Paul (Bower 1945; Hanna 2008).

After the Alaska Commercial Company's tenure, the North American Commercial Company operated the fur seal industry on the Pribilof Islands from 1890 to 1910. The Federal government took over direct management in 1910 through the Bureau of Fisheries under the Commerce Department, then through the U.S. Fish and Wildlife Service under the Interior Department. Throughout, the Pribilof Unangax̂ were restricted to their villages to serve as seasonal laborers when the seal harvest began each summer. Government ships including Navy vessels supplied the two islands, and Federal agents held considerable control over the villagers and their actions. In 1911 a Naval radio station was built on a 19-acre site just south of St. Paul village in conjunction with similar stations on Kodiak Island and the eastern Aleutian Islands (Baker 1957).

The Japanese attack on Pearl Harbor in December 1941 was followed approximately 6 months later by the bombing of U.S. military bases at Dutch Harbor and the capture and fortification of Kiska and Attu islands in the western Aleutian Islands. The capture of U.S. soil by the invading Japanese prompted the forced evacuation of Unangax̂ villages to camps in Southeast Alaska. U.S. troops soon took over both Pribilof lslands, with 875 men stationed on St. Paul Island to build an airfield (Kohlhoff 1995). By September of 1943 the military contingent at St. Paul was reduced to ten men, and in 1944, most Pribilof villagers returned home. The Federal government resumed commercial sealing operations during World War II.

Dwindling fur seal populations and the provisions in international fur seal treaties prompted the Federal government to suspend commercial sealing on St. George Island in 1972 (Thomas 1990). Commercial sealing was stopped on St. Paul Island in the 1980s (Herz 2019). Since then, the primary economies of the two islands have shifted to fishing and tourism, along with investments made by their respective village corporations founded under the Alaska Native Claims Settlement Act.

Saint Paul Harbor

The existing Saint Paul Harbor is on the outer end of Village Cove, near the City of St. Paul (Figure 2). Saint Paul Harbor's development occurred in three general phases. Phase I, completed in 1990, included a 1,050-foot-long main breakwater, a 1,000-foot-long inner breakwater, a 2-acre turning basin at a depth of -10 feet mean lower low

water (MLLW), a 700-foot-long dock, and a 6-acre mooring basin. Phase II, completed in 1996, addressed an unanticipated demand for harbor services and overtopping problems associated with the main breakwater. During Phase II, the depth of the entrance channel was increased to -30 feet MLLW, the turning basin was enlarged and dredged to -29 feet MLLW, a +4 feet MLLW spending beach was constructed, a sediment management area was established on the lee side of the 1,000-foot-long detached breakwater, three offshore reefs 1,300 feet in length at -12 feet MLLW were constructed parallel to the main breakwater, and the natural entrance channel to Salt Lagoon was realigned to restore the lagoon's water quality and biological diversity. Phase III, completed in 2010, involved the construction of an additional small boat harbor, dredging an entrance channel to -16.5 feet MLLW, and constructing a maneuvering +10-foot MLLW circular berm.

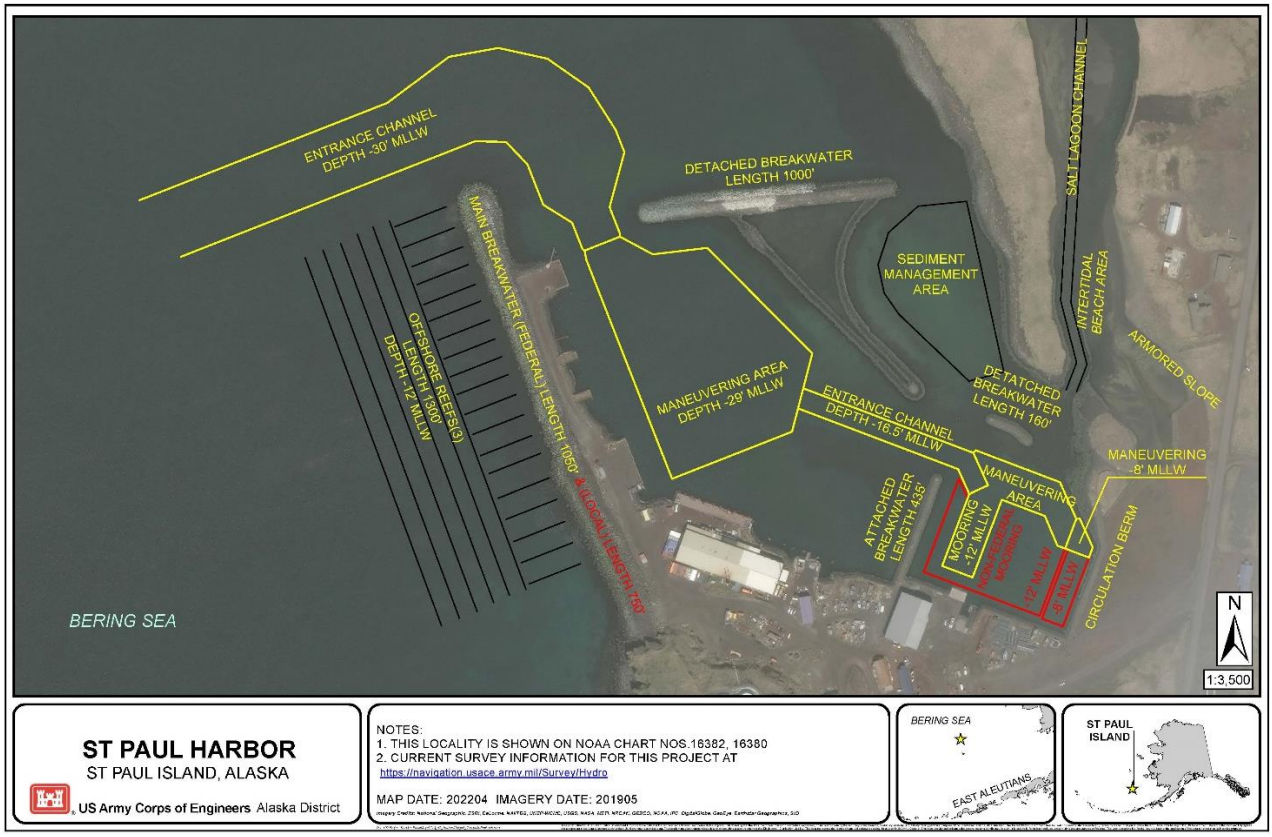

Figure 2. Navigation features at Saint Paul Harbor.

Project Description

Sampling

USACE is planning to collect marine sediments in Saint Paul Harbor with a barrel sampler for chemical and physical analyses. The stainless steel barrel sampler is 30 inches long and 8 inches in diameter, with a capacity of about 2 gallons (Figure 3). To collect materials, the sampler is lowered from a small vessel and dragged along the sea floor, open end first, in a tight arc until full. The design allows it to collect a large

representative sample of roughly the upper 6 inches of marine sediment, while collecting a broader range of sediment particle sizes than are possible with most clamshell-style sampling dredges. Sediment will only be collected from shoaled formations that have been deposited since 2016 (Figure 4).

Figure 3. Barrel sampler used to collect sediments.

Additional soil samples will be collected at the proposed upland dredged materials disposal areas. Dredged materials were placed on the Public Works Lot in 2016; up to 8 soil samples will be collected with hand tools at this location (Figure 5). Another potential dredged materials placement area is at the City Landfill, where stockpiled materials may be stored before use as cover. Up to 8 soil samples will be collected with hand tools from this location. All upland soil samples will be collected at a depth of up to 2 feet below ground surface.

Maintenance Dredging

USACE is responsible for maintaining the entrance channels, turning basin, and maneuvering areas at Saint Paul Harbor, with authorized depths ranging up to -30 feet MLLW (see Figure 4). Littoral transport and storms cause shoaling of marine sediments to form within these locations. The last time that maintenance dredging was conducted at Saint Paul Harbor was in May–August of 2016. Sediments are typically dredged from the Federal maintence dredging locations with a cutterhead suction pipeline dredge; however, they may be removed with a clamshell dredge instead.

The results of the marine and upland sampling efforts described above will determine whether dredged materials are suitable for placement at the previously-used Public Works Lot (also known as the Kaminista Subdivision) and if they are suitable for use as cover at the City Landfill (also known as the Ataqan Subdivision).

Figure 4. Proposed in-water sampling and dredging locations.

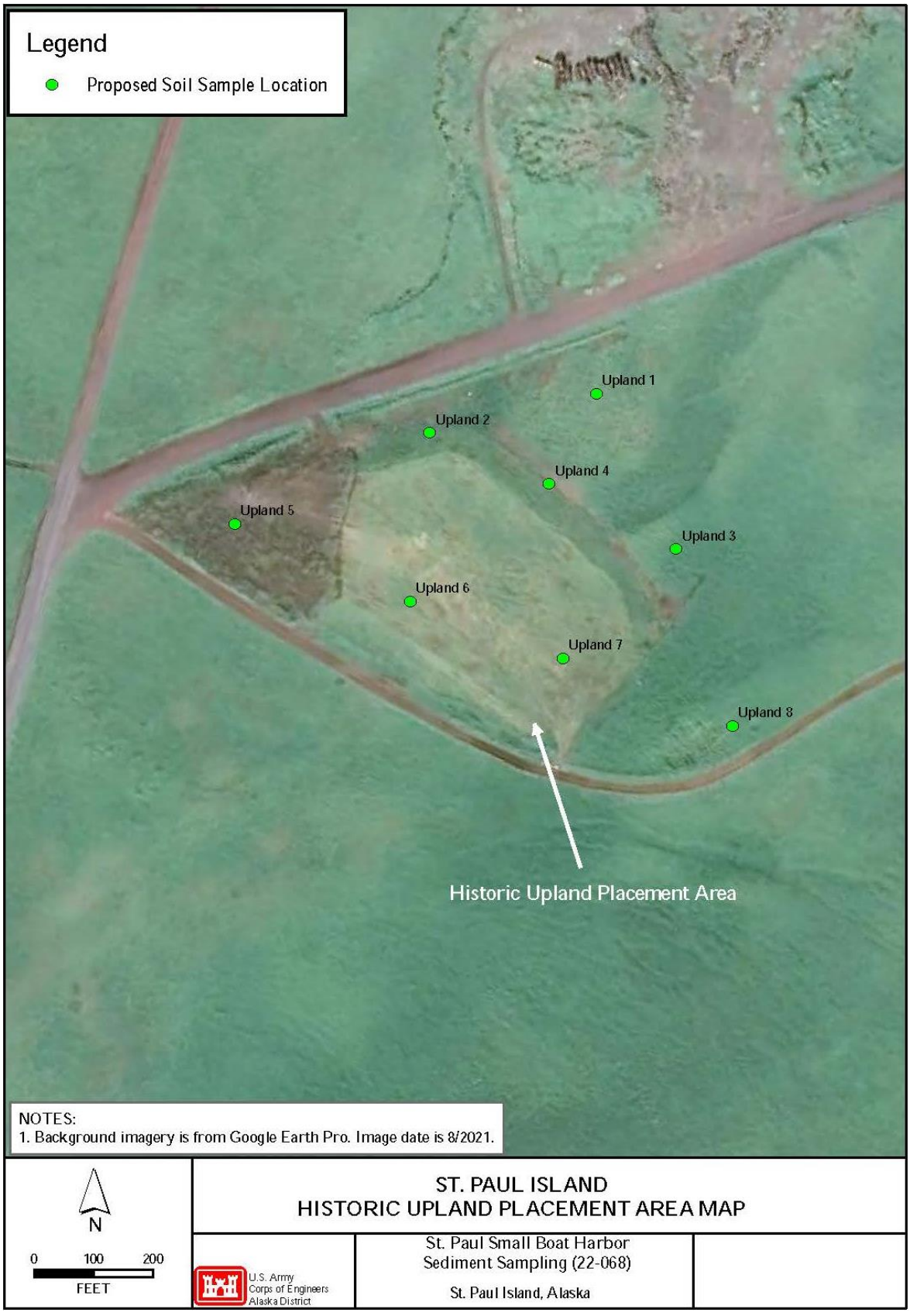

Figure 5. Proposed sampling at the Public Works Lot dredged materials disposal area.

Repair and Construction

USACE is also responsible for maintaining many of the constructed navigation features at Saint Paul Harbor, including the breakwaters and offshore reefs (see Figure 2 above). Since their construction in 1996, storm damage has impacted the offshore reefs to the point that they now require repair. USACE proposes to repair Reef 2 and Reef 3 by placing additional rock onto the existing structures, and to potentially construct a new reef (Reef 4) by placing rock west of Reef 3. Additionally, USACE will add rock to scour holes that have developed just north of the main breakwater and within the entrance channel to the small boat harbor (Figure 6). These repair efforts will bring the channel depths back up to their authorized limits and will promote the longevity of Saint Paul Harbor. All rock will be placed on the reefs and in the scour holes from a barge. Rock will be acquired from commercial quarries, either on St. Paul Island or elsewhere, and will be moved by truck on public roads to the harbor or barged to the project area.

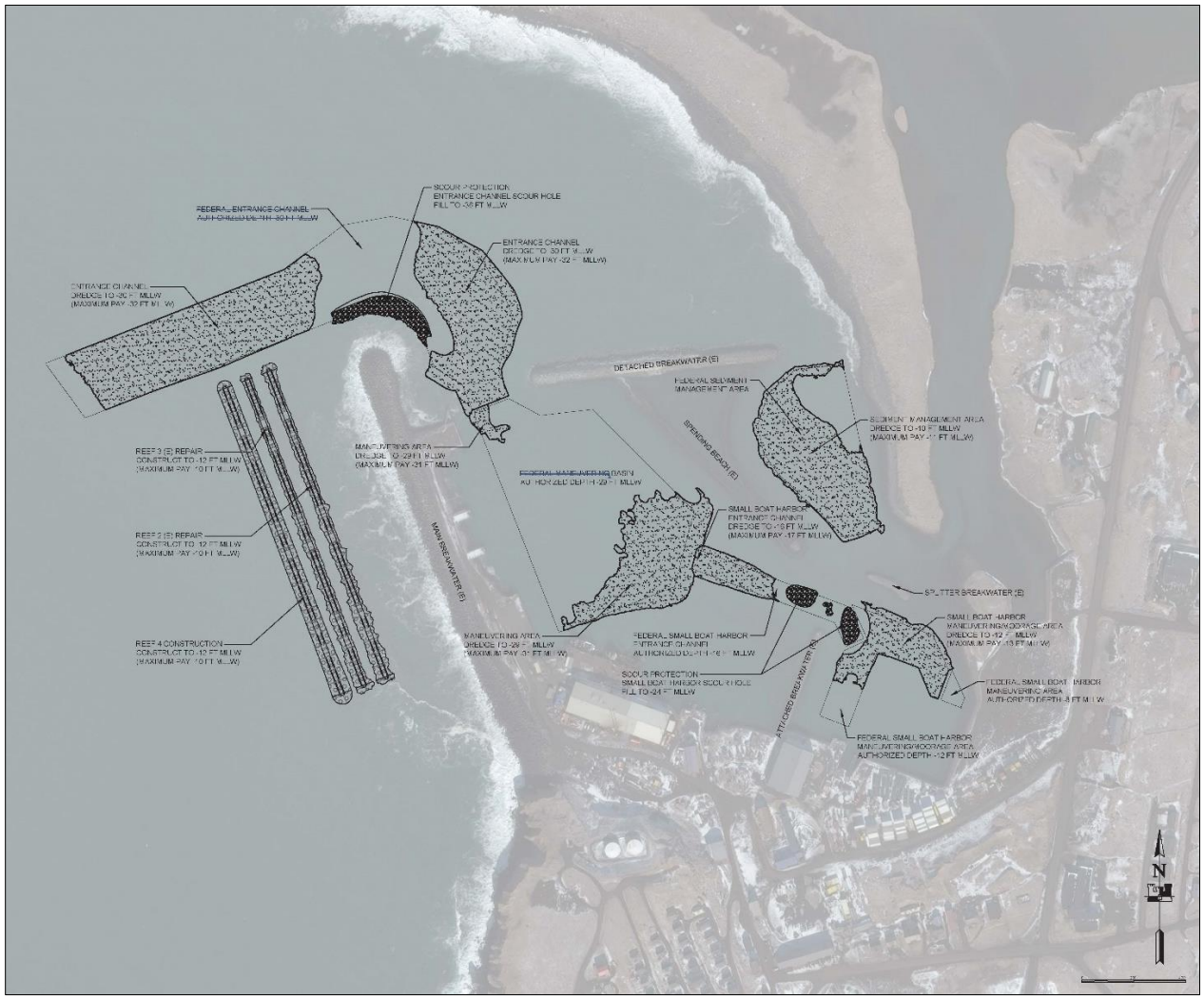

Figure 6. Locations of proposed dredging, reef repair and construction, and scour repair.

Assessment of Effect

The proposed undertaking's Area of Potential Effect (APE) consists of the Federal navigation channels and manuevering areas within the Saint Paul Harbor, the artificial reefs outside of the harbor, the two proposed upland dredged materials disposal areas, and the public roads that connect the harbor and upland areas. Sediment sampling will be conducted from a small vessel docked at the harbor. Personnel will access the vessel with their limited equipment via public roads. Soil sampling will be conducted on foot after accessing the Public Works Lot and City Landfill via public roads. Maintenance dredging will be conducted from a barge, and dredged materials will be transported from the harbor to the disposal areas via public roads. Reef and scour hole repair will be conducted from a barge, and rocks will be transported from commercial quarries either via public roads or a barge, depending on which quarry the materials are sourced from.

There is one existing historic property within the APE (Table 1). The Alaska Heritage Resources Survey (AHRS) Mapper shows that the boundary for the Saint Paul Village unit of the Seal Islands Historic District (Fur Seal Rookeries National Historic Landmark [NHL]) (XPI-00002) encompasses the previously-used dredged materials disposal area at the Public Works Lot and extends into the waters at the Saint Paul Harbor (Figures 7 and 8). The mammoth tusk (XPI-00201) that was discoved during harbor construction efforts in 2005 was removed and remanded to State custody in 2006.

Table 1. Known cultural resources within general vicinity of the APE (AHRS 2023).

AHRS No.	Site Name	NRHP Status	In APE
XPI-00002	Seal Islands Historic District (Fur Seal Rookeries NHL)	Listed	Yes
XPI-00034	Municipal Garage, Building R	[Destroyed in 2006]	No
XPI-00035	Decommissioned Power Plant	Not Evaluated	No
XPI-00046	Site of Small Frame Building T	Not Evaluated	No
XPI-00201	PA, Harbor Cove Mammoth	[Removed in 2005]	**Yes**
XPI-00218	Alaska Dormitory	Not Evaluated	No
XPI-00219	Equipment Garage	Not Evaluated	No
XPI-00220	Receiving Warehouse	Not Evaluated	No
XPI-00225	Fish Plant	Not Evaluated	No

The NOAA Wrecks and Obstructions database shows two known shipwrecks in the vicinity of Saint Paul or Saint Paul Harbor (NOAA 2023). However, one is at the end of Reef Point to the south of the harbor and the other is to the north of the harbor near Tolstoi Point. Both wrecks are categorized as visible and "always dry." They are both outside of the APE. The BOEM Shipwreck database notes eight historical shipwreck events at St. Paul Island (BOEM 2011); however, none of these shipwrecks are known to be in the APE (Table 2).

Table 2. Shipwrecks in the greater St. Paul Island area (BOEM 2011).

Vessel Name	Year	Location	Narrative
Simeon I Amma	1799	On St. Paul Island	Wrecked
Napolean III	1858	At St. Paul Island	Stove by ice and lost
Alexander	1892	Northwest end of St. Paul Island	Stranded on reef and lost

[Unknown]	1909	On St. Paul Island	A British steamer reported wreckage of a Japanese sealer on shore
L.J. Perry	1910	Tonki Point Reef, St. Paul Island	Wrecked and became a total loss
Klyuchevsky	1962	West of St. Paul Island	Went missing; never found
Vagabond	1964	At St. Paul Harbor	Destroyed by hurricane
P.S. No. 76	1966	At East Landing, St. Paul Island	Destroyed in a storm

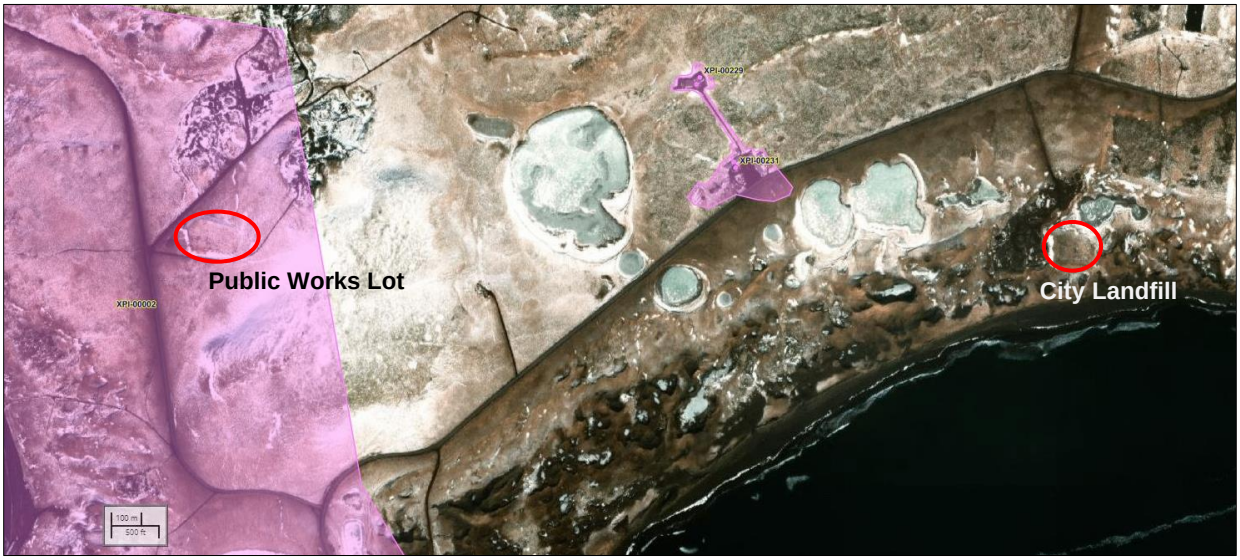

Figure 7. Cultural resources (pink polygons) recorded on the AHRS Mapper near the upland portion of the undertaking; Public Works Lot and City Landfill circled in red.

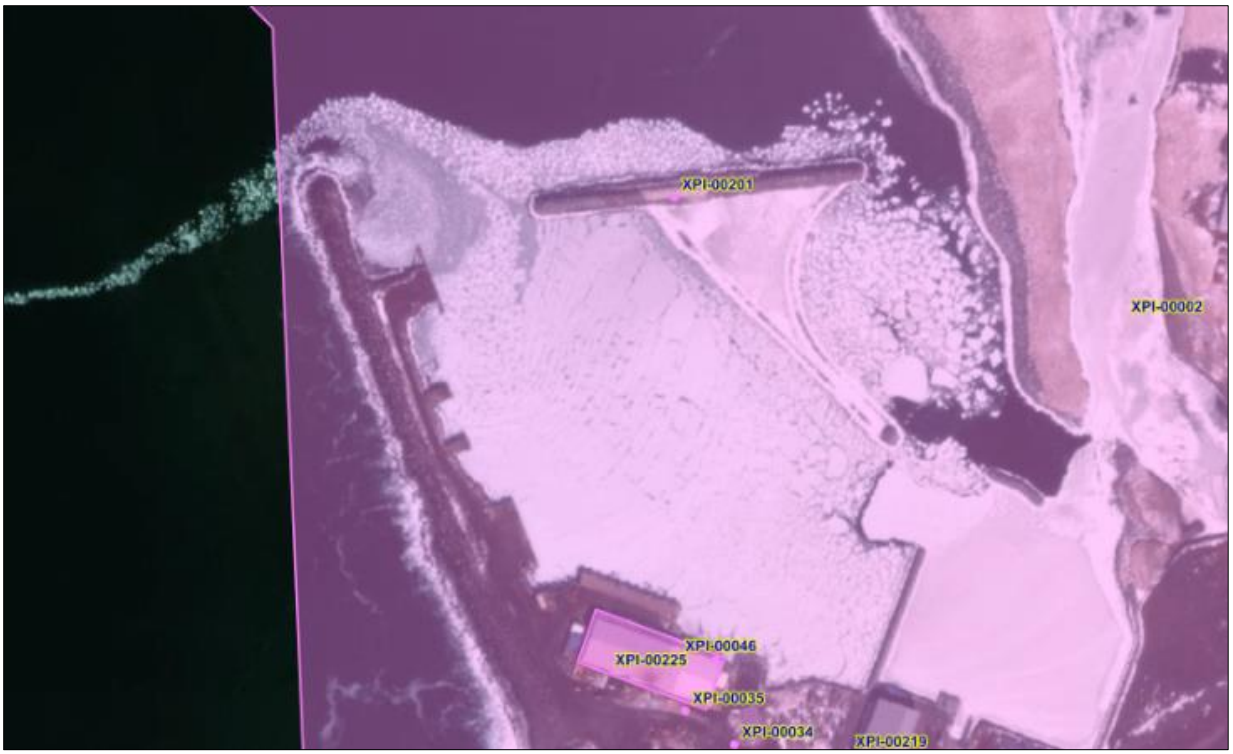

Figure 8. Cultural resources recorded on the AHRS Mapper near the in-water portion of the undertaking.

The Saint Paul Village unit of Fur Seal Rookeries NHL (XPI-00002) contains “the commercial processing structures of the industry as well as significant beaches, killing grounds, and old village sites” (NPS 1986:2). The NHL boundaries on St. Paul Island have been drawn to exclude a section of the coastline along Lukanin Bay “so overwhelmed by development as to have lost visual integrity” (NPS 1986:2). The contributing features of the Saint Paul Village unit include five fur seal rookeries, the Holy Martyrs Saints Peter and Paul Orthodox Church, the former Administrative Buildings and Staff Quarters, the former Seal Processing Buildings, and the “orderly rows of housing” originally built for the Unangax̂ laborers that “visually reinforce the company town character of the District” (NPS 1986:10).

USACE has applied the criteria of adverse effect to historic properties within the APE. The in-water and upland aspects of the proposed undertaking will not alter, directly or indirectly, any of the contributing properties or significant characteristics of Saint Paul Village Unit of the Fur Seal Rookeries NHL (XPI-00002). There are no known cultural resources within the APE that could be impacted by the proposed sampling, maintenance dredging, or repair activities. Because the in-water APE has been previously disturbed, and the proposed undertaking will not impact any intact, previously undredged native soils, there is a low probability of disturbing previously unknown submerged cultural resources. Limited soil sampling at the proposed upland dredged materials disposal areas and placement of the dredged materials are not anticipated to affect any previously unknown cultural resources.

Conclusion

Although part of the proposed undertaking’s APE is encompassed within the boundaries of the Seal Islands Historic District (Fur Seal Rookeries NHL; XPI-00002), the sampling, maintence dredging, and repair efforts will not effect any of the contributing properties or characteristics that qualify this historic property as a National Historic Landmark. Additionally, the likelihood of finding previously unknown submerged cultural resources in recently shoaled sediments is very low. As such, the USACE seeks your concurrence on the determination that the proposed undertaking will result in **no adverse effect** in accordance with 36 CFR § 800.5(b). If you have any questions about this project, please contact me by phone at 907-753-2672 or email kelly.a.eldridge@usace.army.mil

Sincerely,

Kelly A. Eldridge
Archaeologist
Environmental Resources Section

cc:
Janet Clemens, Regional Historian, National Park Service
Jacob Merculief, Mayor, City of St. Paul

Amost Philemonoff, Sr., President, Aleut Community of St. Paul Island
Constance Bergo, Vice President and Lands Chair, Tanadgusix Corporation
Ben Leon-Guerrero, Lands Manager, Aleut Corporation
Karen Pletnkioff, Environmental & Safety Program Manager, Aleutian Pribilof Islands Association

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United States Department of the Interior
NATIONAL PARK SERVICE
Interior Region 11 • Alaska
240 West 5th Avenue, Room 114
Anchorage, Alaska 99501

IN REPLY REFER TO:
1.B (AKRO-CR)

June 30, 2023

VIA ELECTRONIC MAIL – NO HARD COPY TO FOLLOW

Kelly A. Eldridge
Archaeologist
Environmental Resources Section
US Department of the Army
U.S. Army Corps of Engineers, Alaska District
P.O. Box 6898
JBER, AK 99506-0898
kelly.a.eldridge@usace.army.mil

Subject: St. Paul Harbor sediment sampling, dredging, and repairs - Seal Islands NHL

Dear Ms. Eldridge:

Thank you for the opportunity to review the U.S. Army Corps of Engineers, Alaska District (USACE) Operations Branch proposed project referenced above as outlined in your letter dated 06.17.2023. According to your correspondence, the proposed project is within the Seal Islands National Historic Landmark (NHL; XPI-00002).

The National Park Service (NPS) administers the National Historic Landmark program for the Secretary of the Interior. Federal agencies undertaking a project within a Landmark must be in compliance with Section 106 of the National Historic Preservation Act of 1966. NPS serves as an interested party throughout the Section 106 process to ensure the integrity of the NHL.

We understand that the project includes sampling, maintenance dredging, and/or repair activities within the harbor. Since there are no known cultural resources and that work will occur within previously disturbed in-water areas there will be low potential for previously unknown submerged cultural resources. We also understand that dredged materials will be transported on already established roads and disposed of at the previously used Public Works Lot, located north of the Salt Lagoon and west of Telegraph Hill.

Based on the project activities that will take place, we have no concerns with potential affects to the NHL and agree with your assessment of “no adverse effect” on historic properties.

If you have any questions about our comments, please feel free to contact Janet Clemens, Historian, at janet_clemens@nps.gov .

Sincerely,

Jennifer Pederson Weinberger
Cultural Resources Program Manager

cc:
Janet Clemens, Regional Historian (janet_clemens@nps.gov)
Sarah Meitl, SHPO Review and Compliance Coordinator (sarah.meitl@alaska.gov)

From: Hellmich, Amy S (DNR)
To: Eldridge, Kelly A CIV USARMY CEPOA (USA)
Cc: Velasco, Monica J CIV USARMY CEPOA (USA)
Subject: [Non-DoD Source] RE: St. Paul Harbor Maintenance Section 106 Letter for Review
Date: Wednesday, July 12, 2023 11:04:26 AM

3130-1R COE-E / 2023-00745

Good morning,

The Alaska State Historic Preservation Office (AK SHPO) received your correspondence (dated June 17, 2023) concerning the subject project on June 23, 2023. Following our review of the documentation provided, we concur with the finding of No Historic Properties Adversely Affected. Please note that our office may need to re-evaluate our concurrence if changes are made to the project's scope or design.

As stipulated in 36 CFR 800.3, other consulting parties such as the local government and Tribes are required to be notified of the undertaking. Additional information provided by the local government, Tribes, or other consulting parties may cause our office to re-evaluate our comments and recommendations. Please note that our response does not end the 30-day review period provided to other consulting parties.

Should unidentified historical or archaeological resources be discovered in the course of the project, work must be interrupted until the resources have been evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.4), in consultation with our office. Please note that some resources can be deeply buried or underwater, and that fossils are considered cultural resources subject to the Alaska Historic Preservation Act.

This email serves as our office's official correspondence for the purposes of Section 106. Thank you for the opportunity to review and comment. Please contact me at (907) 269-8724 or amy.hellmich@alaska.gov if you have any questions or we can be of further assistance.

Best regards,
Amy Hellmich

Amy Hellmich
Review and Compliance – Architectural Historian
Alaska State Historic Preservation Office
Office of History and Archaeology
907-269-8724
amy.hellmich@alaska.gov
Teleworking – email is the best form of communication.

From: DNR, Parks OHA Review Compliance (DNR sponsored) <oha.revcomp@alaska.gov>
Sent: Friday, June 23, 2023 12:01
To: Eldridge, Kelly A CIV USARMY CEPOA (USA) <Kelly.A.Eldridge@usace.army.mil>

Cc: Velasco, Monica J CIV USARMY CEPOA (USA) <Monica.J.Velasco@usace.army.mil>; Hellmich, Amy S (DNR) <amy.hellmich@alaska.gov>
Subject: Re: St. Paul Harbor Maintenance Section 106 Letter for Review

Good afternoon,

The Office of History and Archaeology/Alaska State Historic Preservation Office received your documentation, and its review has been logged in with Amy Hellmich under 2023-00745. Our office has 30 calendar days after receipt to complete our review and may contact you if we require additional information. Please contact the project reviewer or me by email if you have any questions or concerns.

Best,
Sarah

Sarah Meitl
Review and Compliance Coordinator
Alaska State Historic Preservation Office
Office of History and Archaeology
907-269-8720

From: Eldridge, Kelly A CIV USARMY CEPOA (USA) <Kelly.A.Eldridge@usace.army.mil>
Sent: Saturday, June 17, 2023 2:25 PM
To: DNR, Parks OHA Review Compliance (DNR sponsored) <oha.revcomp@alaska.gov>
Cc: Velasco, Monica J CIV USARMY CEPOA (USA) <Monica.J.Velasco@usace.army.mil>
Subject: St. Paul Harbor Maintenance Section 106 Letter for Review

Dear SHPO,

Please find attached a letter regarding proposed sediment sampling, maintenance dredging, and rock reef and scour repair at Saint Paul Harbor, Alaska. The purpose of this letter is to notify you of a Federal undertaking and to seek your concurrence on an assessment of “no adverse effect” in accordance with 36 CFR 800.5(b).

Per OHA’s recent communications, no hard copy of the attached digital letter will be sent to your offices.

Please let us know if you have any questions.

Thank you!

Kelly

Kelly A. Eldridge, MA
Senior Archaeologist, Alaska District
U.S. Army Corps of Engineers
Email: kelly.a.eldridge@usace.army.mil
Phone: 907-753-2672

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, ALASKA
P.O. BOX 6898
JOINT BASE ELMENDORF-RICHARDSON, ALASKA 99506-0898

Environmental Resources Section

MAR 09 2015

Mr. Greg Balogh
Protected Resources Division
National Marine Fisheries Service
222 W. 7th Ave., #43
Anchorage, Alaska 99513-7577

Dear Mr. Balogh

The U.S. Army Corps of Engineers, Alaska District (Corps) is preparing an environmental assessment addressing repairs to Federal navigation features at St. Paul Harbor, St. Paul Island, Alaska. Specifically, the Corps proposes to: (1) repair detached rubble mound breakwater, (2) repair scour holes in the harbor's entrance channels and adjacent to a rubble mound breakwater, (3) dredge to project depth selected shoaled areas of the main and small boat harbor entrance channels, (4) dredge to project depth a sediment management area, and (5) dispose of dredged material in upland locations (enclosure). Without such repairs, the structural integrity of the harbor's navigation features would be compromised, therefore jeopardizing the harbor's continued functional and economic value to the bottom fish industry and island community. The Corps' environmental assessment will describe the maintenance activities in more detail and their potential environmental impacts, as well as include environmental protection measures designed to mitigate any foreseeable adverse effects.

Section 7 of the Endangered Species Act (ESA) requires Federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of critical habitat. To comply with Section 7 of the ESA and to facilitate the environmental assessment's development, the Corps wishes to initiate informal consultation with the NMFS under Section 7 of the ESA.

According to NMFS's web site (http://alaskafisheries.noaa.gov/mapping/esa/), the Corps believes that the threatened/endangered species listed below, along with designated critical habitat, have the potential to be present in the St. Paul Harbor area. The Corps asks that NMFS verify the accuracy of our species list and, if necessary, add any species that are missing.

- Western Distinct population Steller Sea Lion
  Critical Habitat: Northeast Point and Sea Lion Rock.
- Humpback Whale
  No critical habitat has been promulgated by the NMFS for this species.
- North Pacific Right Whale
  Critical habitat does not exist around St. Paul Harbor.

- Western North Pacific Gray Whale
  No critical habitat has been promulgated by the NMFS for this species.

NMFS feedback will facilitate the Corps' evaluation of the maintenance activities according to their potential for effects on the listed species and critical habitat. No formal consultation with the NMFS will be sought if the Corps determines that its maintenance activities will have no effect on the listed species or critical habitat. The Corps will seek NMFS concurrence if its maintenance activities may affect, but are not likely to adversely affect, listed species or critical habitat. Formal consultation with the NMFS will be required if the Corps determines that its activities are likely to adversely affect the listed species or critical habitat.

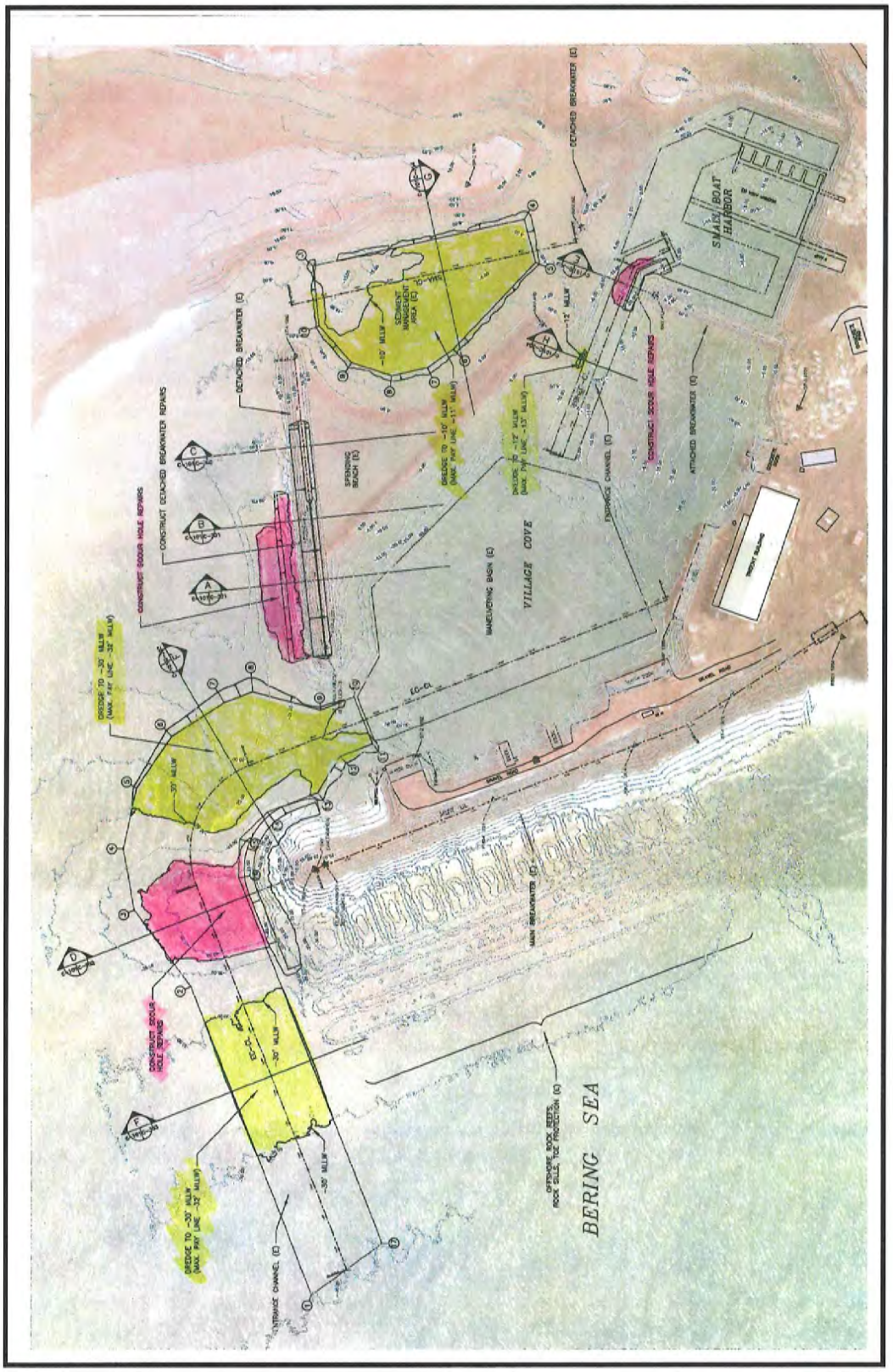
Thank you for your assistance. If you have any questions regarding the Corps' request or require additional information, please contact Wayne M. Crayton of my staff at (907) 753-2656 or at Wayne.M.Crayton@usace.army.mil.

Sincerely,

Michael D. Noah
Chief, Environmental Resources Section

Enclosure

Cc: Jeanne Hanson, NMFS Assistant Regional Administrator, Anchorage, AK



Enclosure: Proposed operation and maintenance activities at St. Paul Harbor, St. Paul Island, Alaska.

DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JOINT BASE ELMENDORF-RICHARDSON, AK 99506-0898

MEMORANDUM FOR THE RECORD (MFR) 16 March 2015
CEPOA-P-C-ER

SUBJECT: St. Paul Island Small Boat Harbor Operation and Maintenance (O&M) activities.

PURPOSE: To document Endangered Species Act (ESA), Section 7 coordination with the National Marine Fisheries Service (NMFS), Alaska Region.

1. A March 12, 2015, phone call was received from:

Ms. Bridget Crokus
Endangered Species Act Consultation Biologist
Contractor with Ocean Associates, Inc.
NMFS Anchorage Field Office
222 West 7th Ave, Box 43
Anchorage, AK 99513
Phone: 907-271-1937

regarding the U.S. Army Corps of Engineers, Alaska District's (Corps) March 9, 2015, ESA/Section 7 letter of coordination.

2. Ms. Crokus called to inform me that it would be many weeks before the Corps would receive a written reply from her office and gave me the option of receiving a reply via her phone call. I informed her that the Corps would prefer a written reply for the project's administrative record but given the circumstances of needing to complete the project's environmental assessment (EA) in a timely manner, her feedback via the phone call was appreciated.

3. This MFR officially serves as documentation of ESA Section 7 coordination between the Corps and NMFS regarding the Corps' proposed O&M activities on St. Paul Island.

4. Ms. Crokus stated that two species [Finback Whale (*Balaenoptera physalus*) and Sperm Whale (*Physeter catodon* (=*macrocephalus*)] should be included on the list of ESA species the Corps identified as potentially being present in the St. Paul Harbor area.

5. Ms. Crokus also mentioned that an Alaska federal court vacated a NMFS rule declaring a population (Beringia distinct population) of bearded seals (*Erignathus barbatus*) in the state "threatened" under the ESA. Should the ruling be successfully appealed (albeit undefined as to if and/or when), the Corps would have to include the species in future St. Paul Harbor Section 7 consultations.

6. Regarding the Steller Sea Lion western distinct population, I was informed that there is a 20 nautical miles critical habitat aquatic zone surrounding St. Paul Island and that a rookery is on Walrus Island, some 10 miles northeast of St. Paul.

7. The feedback provided by Ms. Crokus will be used to determine the potential impacts, if any, on NMFS-managed ESA species…the findings of which will be incorporated in the St. Paul Harbor O&M EA.

8. This MFR was prepared by Wayne Crayton, Staff Project Biologist. Questions should be addressed to him at 907-753-2656 or at Wayne.M.Crayton@usace.army.mil.

DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JOINT BASE ELMENDORF-RICHARDSON, AK 99506-0898

MEMORANDUM FOR THE RECORD (MFR) 3 April 2015
CEPOA-P-C-ER

SUBJECT: St. Paul Island Small Boat Harbor Operation and Maintenance (O&M) activities.

PURPOSE: To document Marine Mammal Protection Act (MMPA) coordination with the National Marine Fisheries Service (NMFS), Alaska Region.

1. A March 23, 2015, voice-mail message was received from Mr. Mike Williams (Mike)
Pribilof Islands Program Manager
NMFS Anchorage Field Office
Protected Resources Division
222 West 7th Ave, Box 43
Anchorage, AK 99513
Phone: 907-271-5117

2. Mike called regarding the U.S. Army Corps of Engineers, Alaska District's (Corps) March 9, 2015, ESA/Section 7 letter of coordination with the NMFS. I returned the call on March 31, 2015, and this MFR is a record of that conversation.

3. Mike is the Pribilof Islands Program Manager and coordinates MMPA issues on St. Paul and St. George islands. Mike has 20-plus years of Pribilof Island work experience with the NMFS. I mentioned that I had a previous conversation with another NMFS staff person in his office, Bridget Crokus, regarding ESA/Section 7 issues and that he could obtain a copy of the MFR I prepared of that conversation from her.

4. Mike wanted to inform the Corps of NMFS's concern about how the Corps' O&M activities in St. Paul Harbor might impact the MMPA-protected and depleted St. Paul Island fur seal population. NMFS's concern is that beginning in late-August/September 1 through October young juvenile fur seals and pups begin to move into the Village Cove area, especially in the Salt Lagoon area and should the Corps be still working on its O&M activities at that time, a MMPA-related "harassment take" (take) violation would likely occur. Mike though that it would virtually impossible avoid a take of fur seals after September 1. Fur seals are present on St. Paul Island from May through December, though their presence within and near the harbor are rare or intermittent until September. In some years, hundreds of young fur seals daily enter and exit the harbor and can be found in the Salt Lagoon channel and hauled out on the coast. Fur seals are common transiting the waters of Village Cove throughout this period.

5. Take is defined under the MMPA as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal" (16 U.S.C. 1362) and further defined by regulation (50 CFR 216.3) as "to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal. The MMPA, with certain exceptions, allows the take of marine mammals in U.S. waters.

6. Under the 1994 Amendments to the MMPA, harassment is statutorily defined as, any act of pursuit, torment, or annoyance which has the potential to: (1) unintentionally injure a marine mammal or marine mammal stock in the wild (Level A Harassment); or, (2) has the potential to unintentionally disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but which does not have the potential to injure a marine mammal or marine mammal stock in the wild (Level B Harassment).

7. Mike suggested that a take might be avoided if the Corps' O&M activities were concluded by September 1, at the latest. If the Corps wants to keep working work after September 1, Mike suggested that the Corps and NMFS coordinate the development of a fur seal monitoring program designed to avoid a take of fur seals, that is, work would temporarily shut down until the observed fur seal(s) left a predetermined area for a specified time.

8. Mike also suggested that the Corps could apply for an Incidental Harassment Authorization (IHA) from NMFS, which can be viewed as an "insurance policy" to authorize an NMFS-acceptable number of unintentional fur seal harassment takes. Applying for an IHA is a defined process, requiring the applicant to provide a project description, technical effects analyses, and an estimate of take by the project activities. A mitigation, monitoring, and reporting plan is also developed by the applicant as part of the process. See http://www.nmfs.noaa.gov/pr/permits/incidental/ for details.

9. It was my expressed opinion, which needs to be confirmed by the Corps' Project Manager (Ms. Julie Anderson) and Project Team, that the subject work would be conducted over two or more construction seasons and could be successfully conducted each construction year outside the late-August/September 1 - November 1 time frame. I inquired about if working on the outer harbor features (dredging the main entrance channel and scour hole protection which is furthest away from Salt Lagoon), after September 1 would avoid taking fur seals. Mike answered fur seals transit through the waters offshore of Village Cove area and would be present, but whether those passing fur seals would be affected at a level considered taking is less certain.

10. Here's what I concluded from my conversation with Mike

    - Corps O&M activities conducted between late-August/September 1 – November 1 in St. Paul Harbor (Village Cove area) would likely result in a MMPA harassment-take of the St. Paul Island depleted fur seal population, as fur seal juveniles and pups enter the harbor and can be found hauled out onshore in the Salt Lagoon entrance and channel during that period, though in some years they have limited or no presence on land within the Village Cove area.

    - There is a very small chance of avoiding a fur seal "take" if the Corps' O&M activities were conducted within the late-August/September 1 – November 1 timeframe when fur seals are known to enter the harbor area regularly.

    - Three options exist if the Corps wishes to perform O&M activities within the late-August/September 1 – November 1 timeframe:

        a. Option 1: Develop a fur seal monitoring program with the NMFS so that a temporary shutdown of O&M activities would occur until such time a fur seal(s) exits a predetermined exclusion zone for a specified time period.

b. Option 2: Apply for an IHA from NMFS, which if granted, would permit the Corp to unintentionally-take, via harassment, a predetermined number of fur seals.

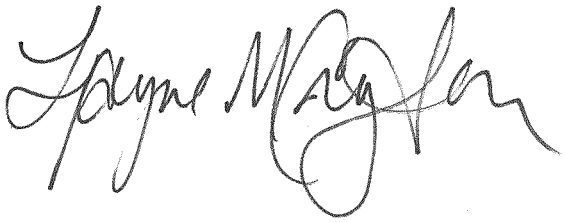
c. Option 3: Proceed with the subject O&M activities within the late-August/September 1 – November 1 timeframe, hoping not to violate the MMPA by "taking" fur seals.

11. The feedback and information provided by Mike will be used to determine the potential impacts on fur seals, develop mitigation measures, and be incorporated in the St. Paul Harbor O&M environmental assessment. The information will also be shared with the Corps' Project team, as it will be very important to make a decision about how the timing restriction will or will not affect project design and contracting specifications.

12. This MFR was prepared by Wayne Crayton, Staff Project Biologist. Questions should be addressed to him at 907-753-2656 or at Wayne.M.Crayton@usace.army.mil.

POSTSCRIPT: A short follow-up discussion, via email, with Mike occurred on April 2, 2015, regarding a question posed by the Corps Project Manager, Julie Anderson: "Does the time frame restriction apply to work above the water line, such as completing the rock work on the detached breakwater?" For clarification, I stated that a barge previously loaded outside the restricted timeframe with source rock, would tie up next to the detached breakwater. The machinery on the top of the breakwater would pluck rock off the barge and place it on the breakwater. All the in-water breakwater work would have been completed within the restricted timeframe...it is the top work/finishing touches above the waterline that Julie is referring to.

Mike suggested in his reply that if work were confined to the top of the breakwater, it would be difficult to associate an effect from an upland activity to harassing a fur seal swimming by or hauled out at another location. Mike also added that regardless of harassment from the project, NMFS is always concerned about oil spills in the harbor, because fur seals are as sensitive to oiling as otters. I stated that the oil spill issue would be addressed in the project's "Plans and Specifications", as an oil spill prevention and cleanup plan is required of the contractor. In addition, potential environmental impacts from oil spills will be addressed in the environmental assessment.



4.6.15 3130-1RCOE

Appendix C
Agency Correspondence

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, ALASKA
P.O. BOX 6898
Joint Base Elmendorf-Richardson, ALASKA 99506-0898

REPLY TO
ATTENTION OF:

Environmental Resources Section

Ms. Judith Bittner
State Historic Preservation Officer
Alaska Department of Natural Resources
Office of History and Archaeology
550 West 7th Avenue, Suite 1310
Anchorage, AK 99501-3565

Dear Ms. Bittner:

The U.S. Army Corps of Engineers (Corps) is planning to perform harbor related operation and maintenance activities at Saint Paul, Island, Alaska (Sec. 25, T35S, R132W; and Sec. 26, T35S, T131W; Seward Meridian; USGS Quad Pribilof Islands C-4, D-4; Figure 1). In compliance with Section 106 of the National Historic Preservation Act of 1966 [36 CFR 800.3(a)(1)], the purpose of this letter is to inform your office of a Federal undertaking with a determination of no adverse effect to historic properties and to seek your concurrence on the assessment of effect.

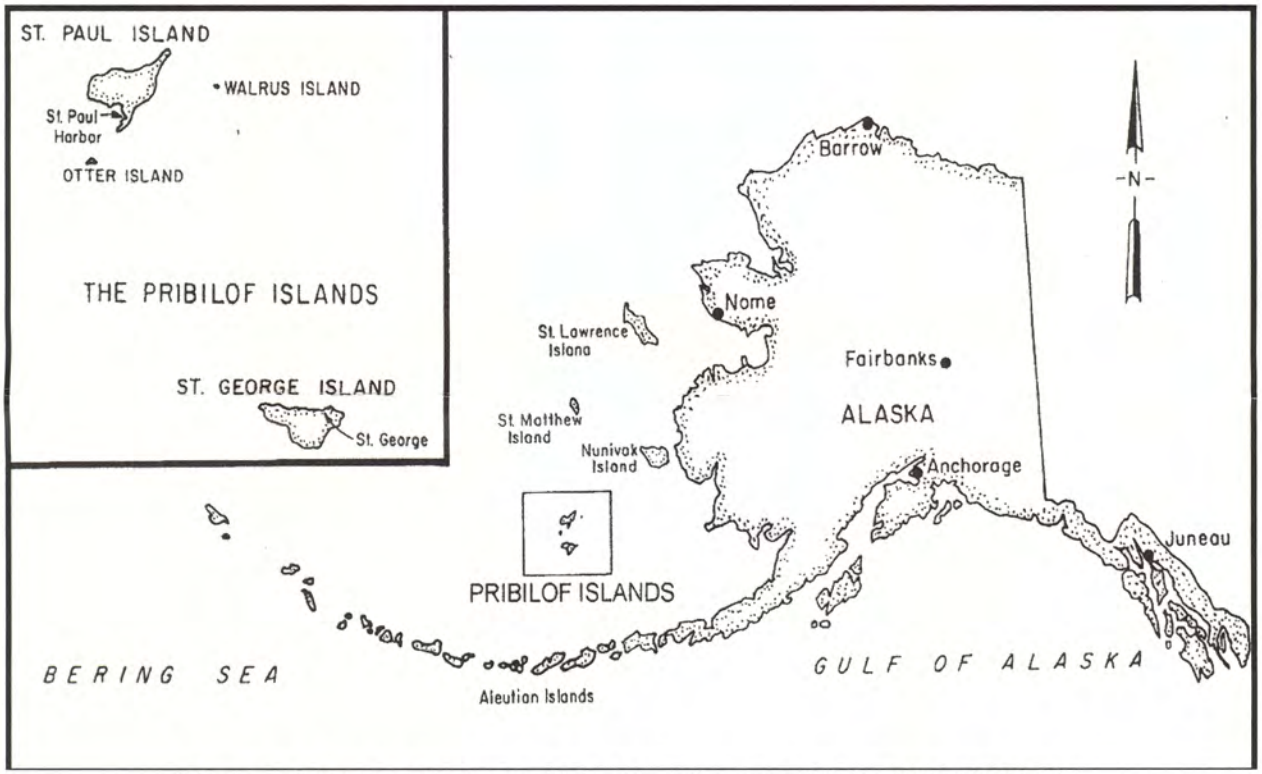


Figure 1. Saint Paul Harbor and Island location and vicinity (USACE 2015).

2015-00539

Description of Undertaking and the Area of Potential Effect (APE):

The existing Saint Paul Harbor is on the outer end of Village Cove. The history of Saint Paul Harbor's development occurred in three general phases (Figure 2). Phase I, completed in 1990, included a 1,050- foot-long main breakwater, a 1,000- foot-long inner breakwater, a 2-acre turning basin at a depth of 18 feet mean lower low water (MLLW), a 700-foot-long dock, and a 6-acre mooring basin. Phase II, completed in 1996, addressed an unanticipated demand for harbor services and overtopping problems associated with the main breakwater: (1) the depth of the entrance channel was increased to -30 feet MLLW, (2) a maneuvering basin was enlarged and dredged to -29 feet MLLW, (3) a +4 feet MLLW spending beach was constructed and a sediment management area was established on the lee side of the 1,000- foot-long detached breakwater, (4) three offshore reefs 1,300 feet in length at -12 feet MLLW were constructed parallel to the main breakwater, and (5) the natural entrance channel to the Salt Lagoon was realigned to restore the lagoon's water quality and biological productivity. Phase III, completed in 2010, involved: (1) the construction of a small boat harbor,; (2) an entrance channel dredged to -16.5 feet MLLW, (3) a maneuvering area dredged to -12 feet MLLW, and (4) construction of wave protection/flow directing features, such as a 435-foot-long, +10- foot MLLW breakwater, and a 530-foot-long, +10-foot MLLW circulation berm.

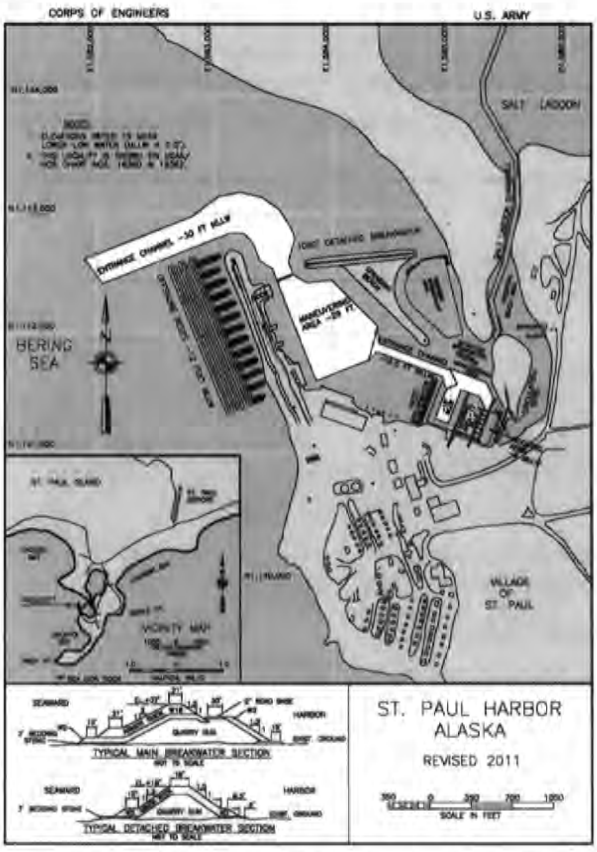


Figure 2. Navigation improvement features, Saint Paul Harbor, Alaska (USACE 2011).

Field surveys in 2006, 2011, and 2014 revealed the development of scour holes in the harbor's two entrance channels and adjacent to a rubble mound breakwater and shoaled-in areas (Figure 3). The purpose of the Corps' proposed undertaking is to repair federal navigation features

at St. Paul Harbor. Specifically, the Corps will: (1) repair a 1,000- foot- long detached rubble mound breakwater, (2) repair scour holes in the harbor's entrance channels and adjacent to a rubble mound breakwater, (3) dredge to project depth selected shoaled areas of the main and small boat harbor entrance channels, (4) dredge to project depth a sediment management area, and (5) dispose of dredged material in upland locations.

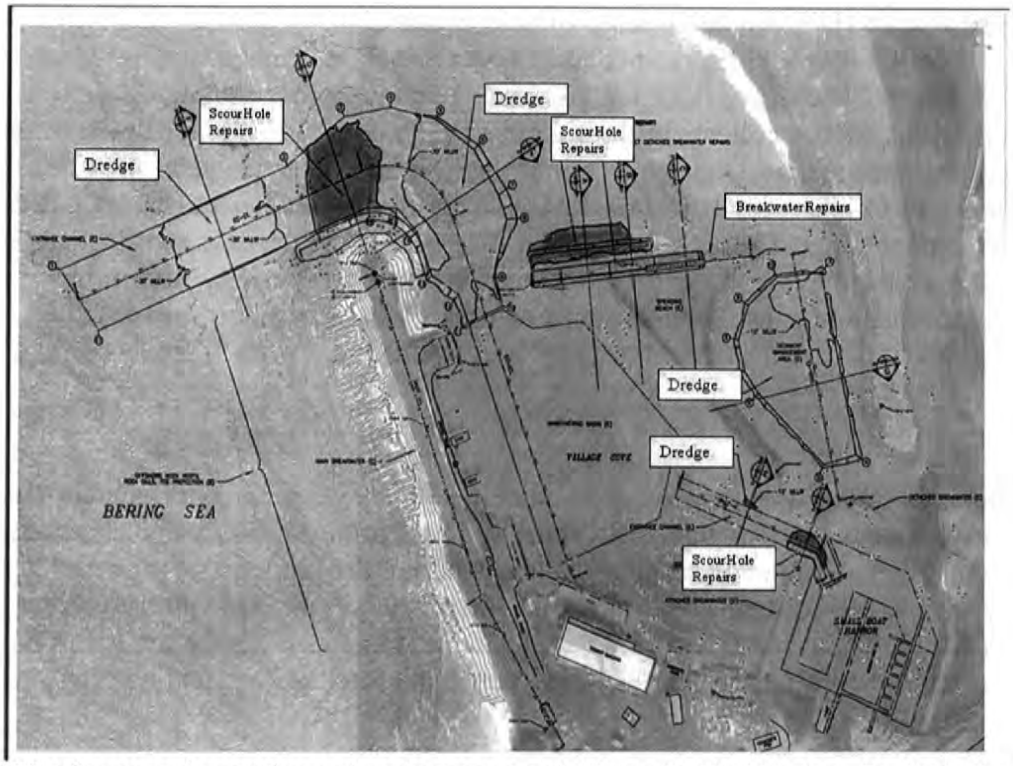


Figure 3. APE of proposed operation and maintenance activities at St. Paul Harbor, St. Paul Island, Alaska.

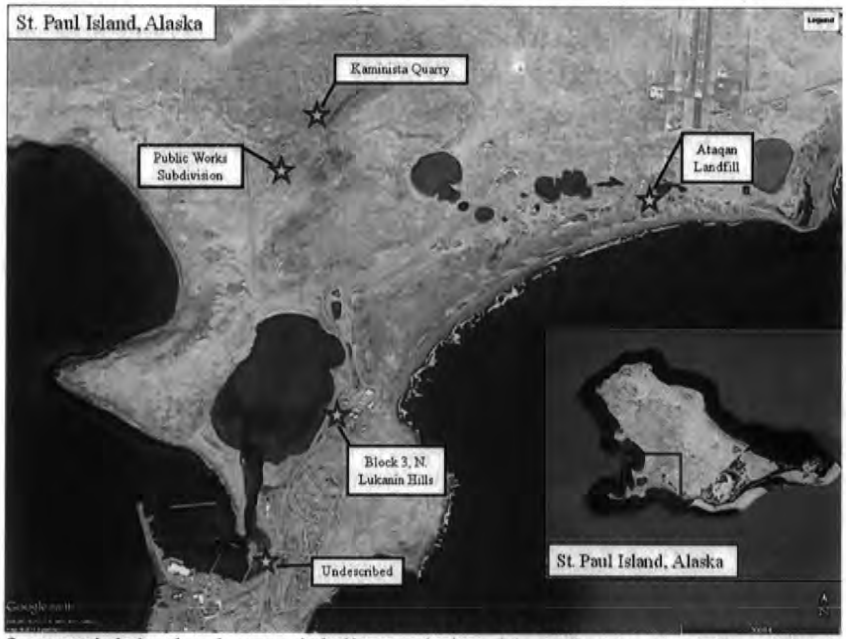


Figure 4. APE of potential dredged material disposal sites identified by the City of St. Paul and the U.S. Army Corps of Engineers.

The proposed project will take place inside the existing harbor. The area of potential effect (APE) includes the Saint Paul Harbor basin, western portions of the Seal Island Historic District National Historic Landmark (XPI-002), the dock facilities on St. Paul Harbor's eastern shoreline, five potential barrow sites, and existing roads leading from the harbor's loading dock to the barrow sites.

Dredged materials will be disposed of at five potential locations: an undescribed landfill, Block 3 in North Lukanin Hills, the public works subdivision, Kaminista Quarry, and the Ataqan landfill (Figure 4). The Corps does not designate rock sources for its projects; however, the Corps believes that rock will be collected from Kaminista Quarry and used to repair the rubble mound breakwater and scour holes. Barrow locations on Saint Paul Island have been utilized in the past for Corps and city projects and are already disturbed. Sediment from the harbor will be dredged and loaded onto a barge. Dredged materials will be taken to the dock and offloaded onto trucks, which will only use the island's existing roadway system to dispose the materials at one or more of the designated disposal sites. Maintenance operations will prohibit off road activities.

History

Saint Paul Island was formed approximately 400,000 years ago, and as interpreted from geologic evidence, was never glaciated (Veltre and McCartney 1994:2). It has been speculated by archaeologists that with the lowering of sea levels during the last ice age, the Pribilof Islands would have been hills towering over the Beringian plain that may have attracted ancient hunters. The first archaeological survey of Saint Paul Island was an unsuccessful attempt to find this early occupation (Bryan 1966), but no prehistoric settlements were located, and no prehistoric sites have since been identified (Pipkin 2007).

There have been a number of archaeological surveys on Saint Paul Island that have identified many historic properties. The earliest survey was conducted by Bryan in the early 1960's. While unsuccessful in his objective to discover early prehistoric sites, he did find many of the historic era sites located on the island. An archaeological survey in the Pribilofs during the early 1980s also recorded several early historic settlements on St. George and St. Paul Islands, with over a dozen AHRS numbers assigned (Bryan 1966). In 1986 Douglas and Mary Veltre conducted a survey at St. George Island (Veltre and Veltre 1986), and subsequent field efforts have been organized by Douglas Veltre through the University of Alaska. Otherwise, the archaeological record is known from survey and monitoring studies conducted for specific cultural resource purposes (Yarborough 1986; Reynolds 1985; Mobley 1992, 1993, 1999, 2006, 2008, 2010). Thus far, archaeological investigations have supported early historic accounts indicating that the Pribilof Islands had no prehistoric occupation prior to Russian resettlement of Aleut workers and their families to harvest seal pelts in the late 1700s.

In 1786 Gerassim Pribilof of the Russian Lebedev-Lastochkin Fur Company encountered uninhabited St. George Island and eagerly noted its large seal rookeries. Within two years both St. George and St. Paul Islands were forcibly colonized with Aleuts from the Aleutian Islands (Orth 1967:826, 828), beginning two centuries of commercial sealing at the Pribilof Islands. An estimated 2.5 million pelts were taken from the islands during Russian control (Bower 1945:1-2).

Small communities on each island were maintained by the Russian American Company through three successive charters beginning in 1799 and lasting until the transfer of Alaska's administration to the United States in 1867. The Pribilofs passed into American hands in 1867 with the purchase of Alaska. In 1970, Congress awarded a twenty-year concession to hunt seals in the Pribilofs to the Alaska Commercial Company of San Francisco. The rental for this concession was $55,000 a year. The company was also obligated to pay the government a duty of $2.625 per seal skin taken, and to annually provide the islands' Aleut inhabitants with 2,500 dried salmon, 60 cords of firewood, a sufficient quantity of slat and barrels to preserve meat, and to maintain a school on each island. The company was also ordered to treat the Aleuts with respect and kindness. They made efforts to improve their housing by replacing the traditional earthen barabaras with wood frame houses covered with tar paper. A physician was stationed on each island, and a hospital was built at St. Paul.

From 1870 to 1890 the fur seal industry in the Pribilofs was operated as a franchise from the Federal government to the Alaska Commercial Company, followed by two decades under the North American Commercial Company (Baker 1957:7). The Federal government took over direct management in 1910 through the Bureau of Fisheries under the Commerce Department, then through the U.S. Fish and Wildlife Service under the Interior Department. Throughout, the Pribilof Aleuts were maintained at their island villages to serve as seasonal laborers when the seal harvest began each summer. Government ships including Navy vessels supplied the two islands, and Federal agents held considerable control over the villagers and their actions. In 1911 a Navy radio station was built on a 19-acre site just south of St. Paul village in conjunction with similar stations at Kodiak and Dutch Harbor.

The Japanese attack on Pearl Harbor in December 1941 was followed soon thereafter by the bombing of U.S. bases at Dutch Harbor and the capture and fortification of Kiska and Attu Islands in the Aleutians, prompting the forced evacuation of Aleutian villages to camps in southeast Alaska (Kohlhoff 1995:71-72). U.S. troops soon took over both Pribilof Islands, with 875 men building an airstrip at St. Paul and 41 men stationed at St. George (Kohlhoff 1995:137-138). By September of 1943 the military contingent consisted of only ten men at St. Paul, and during the following year, most Pribilof villagers returned home. The Federal government resumed commercial sealing operations. Dwindling fur seal populations and the provisions in international fur seal treaties prompted the Federal government to suspend commercial sealing at St. George in 1972 (Thomas 1990:9-12). Commercial sealing was stopped at St. Paul in 1984. Telephone service in the 1970s made the Navy radio station unnecessary, and the facility was closed. The primary economies of the two islands have shifted to fishing and tourism, along with investments made by their respective village corporations founded under the Alaska Native Claims Settlement Act (ANCSA). Harbor improvements continued at St. Paul in an effort to develop a fishing service industry.

Previous Consultation for the Saint Paul Boat Harbor

The following documents are a list of EA/FONSI and EIS's that have previously been prepared by the Corp concerning past navigation projects at St. Paul, Alaska. Records indicate that SHPO concurred with the Corps' Finding of No Significant Impact in the 1996, 1998, 2002, and 2006 navigation improvement and harbor construction projects.

- 1982. St. Paul Harbor, Final Feasibility Report and Environmental Impact Statement. Re: the construction and maintenance of a main breakwater and an entrance channel and maneuvering area.
- 1988. St. Paul Island Harbor, Environmental Assessment. Re: the construction of a secondary, detached breakwater.
- 1996. St. Paul Harbor Improvements, Interim Feasibility Report and Environmental Assessment. Re: Dredging the entrance channel and maneuvering basin deeper, constructing a spending beach on the lee side of a detached breakwater, and constructing three offshore reefs parallel to the main breakwater. SHPO concurred with Corps' findings.
- 1998. St. Paul Harbor Improvements, Salt Lagoon Entrance Channel. Environmental Assessment and Finding of No Significant Impact. Re: Constructing features designed to restore Salt Lagoon's full tidal exchange to its condition prior to the construction of the harbor's breakwaters and reconstruct tidal flats. SHPO concurred with Corps' findings.
- 2002. St. Paul Small Boat Harbor, Emergency Breakwater Repair and Disposal of Dredged Material. Environmental Assessment and Finding of No Significant Impact. Re: the construction of a small boat harbor within the confines of existing breakwaters, the on-going emergency action for the protection of the existing main breakwater and related infrastructure, and the disposal of dredged material. SHPO concurred with Corps' findings.
- 2006. St. Paul Harbor, General Reevaluation Report Environmental Assessment and Finding of No Significant Impact (Hanson January 28, 2005 letter to SHPO). SHPO concurred with Corps' findings.

Sites Identified in the Area of Potential Effect

Examination of the Alaska Historic Resources Survey (AHRS) database revealed one National Historic Landmark within the project APE: the Seal Island Historic District (XPI-002; Table 1). No known prehistoric sites are identified within the project's APE.

Table 1. AHRS sites within the project APE.

Site Name	AHRS No.	NATREG STATUS
Seal Island Historic District National Historic Landmark	XPI-002	Eligible under Criterion A

XPI-002 is identified as being a rookery for fur seals and part of the historic fur seal hunting grounds. XPI-002 includes the beaches of Saint Paul and Saint George Islands. The National Historic Landmark is historically significant because of its association with historic Aleut subsistence practices and because of its association with the historic Russian, British, French, Spanish, and American fur hunting trade. Records indicate that during July and August of each year, hunters drove young "bachelor" fur seal males to inland killing areas, where the seals were easily captured, slaughtered and skinned (Bower 1945). Killing of the fur seals was historically reported as being "indiscriminate" and resulted in the near extinction of the fur seal population on the Pribilof Islands. Subsistence fur seal harvesting by Natives takes place to this day; however, quotas are strongly regulated.

Assessment of Effects

Proposed operation and maintenance improvements at the Saint Paul Harbor are taking place in an area already heavily used and disturbed by past construction of the existing breakwater and harbor facilities. The borrow site locations have been used for harbor construction activities in the past and are utilized by the community of Saint Paul outside of this proposed projects' undertaking.

The proposed operation and maintenance improvements project is within the boundaries of XPI-002, a National Historic Landmark (NHL) eligible for the National Register under Criterion A. The undertaking is taking place in areas already of the NHL that is heavily modified by dredging and tidal action; heavily built up by existing dock and harbor facilities constructed in 2002; and includes existing roads and barrow source locations. The Corps has determined that the proposed project actions will not further diminish the property's location, design, setting, materials, workmanship, feeling, or association as the undertaking will take place on previously modified and disturbed surfaces. Following 36 CFR 800.4(d)(1), the Corps seeks your concurrence in the determination that the proposed Saint Paul Harbor operation and maintenance improvements project will result in **no adverse effect** to XPI-002. This assessment is based on past harbor improvement work within the same APE and is consistent with previous assessments and concurrences concerning past construction and navigational improvements at the Saint Paul Harbor. If you have any questions about this project, please contact me by phone at (907)753-5670, or by email at shona.d.pierce@usace.army.mil.

Sincerely,

Shona D. Pierce

Shona Pierce
Archaeologist

Cf:

Darrel Lewis
Alaska Regional Office, National Park Service
240 West 5th Avenue
Anchorage, AK 99501

Honorable Simeon Swetzof
City of St. Paul
PO Box 901
St. Paul Island, AK 99660-0901

Pat Baker
Aleut Community of Saint Paul Island
pnbaker@aleut.com
president@aleut.com

Melvin Smith, Manager of Resource Development
Aleut Corporation
4000 Old Seward Hwy, Suite 300
Anchorage, AK 99503-6087

Millie McKeown, Cultural Heritage Director
Aleutian Pribilof Islands Association, Inc.
1131 East International Airport Rd
Anchorage, AK 99518

Julie Shane
Tanadgusix Corporation
615 E 82nd Avenue, Suite 200
Anchorage, AK 99518

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DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, ALASKA
P.O. BOX 6898
JOINT BASE ELMENDORF-RICHARDSON, ALASKA 99506-0898

Environmental Resources Section

MAR 10 2015

Ms. Socheata Lor
U.S. Fish and Wildlife Service
Anchorage Fish and Wildlife Field Office
4700 BLM Road
Anchorage, Alaska 99507

Dear Ms. Lor

The U.S. Army Corps of Engineers, Alaska District (Corps) is preparing an environmental assessment addressing repairs to Federal navigation features at St. Paul Harbor, St. Paul Island, Alaska. Specifically, the Corps proposes to: (1) repair a slumping detached rubble mound breakwater, (2) repair scour holes in the harbor's entrance channels and adjacent to rubble mound breakwaters, (3) dredge to project depth selected shoaled areas of the main and small boat harbor entrance channels, (4) dredge to project depth a sediment management area, and (5) dispose of dredged material in upland locations (enclosure). Without such repairs, the structural integrity of the harbor's navigation features would be compromised, therefore jeopardizing the harbor's continued functional and economic value to the bottom fish industry and island community. The Corps' environmental assessment will describe the maintenance activities in more detail and their potential environmental impacts, as well as include environmental protection measures designed to mitigate any foreseeable adverse effects.

Section 7 of the Endangered Species Act (ESA) requires Federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of critical habitat. To comply with Section 7 of the ESA and to facilitate the environmental assessment's development, the Corps wishes to initiate informal consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the ESA.

According to the USFWS's web site (http://ecos.fws.gov/tess_public/reports/species-listed-by-state-report?state=AK&status=listed), the Corps believes that the USFWS-managed threatened/endangered species listed below, along with designated critical habitat, have the potential to be present in the St. Paul Harbor area. The Corps asks that USFWS verify the accuracy of our species list and, if necessary, add any species or pertinent information that is missing.

- Short-tailed albatross (*Phoebastrai(=diomedea) albatrus*): Endangered
  No critical habitat rules have been published.

- Steller's eider (*Polysticia stelleri*), Alaska breeding population: Threatened
  Designated critical habitat does not exist in the St. Paul Harbor area.

- Northern sea otter (*Enhydralutris kenyoni*), Southwest Alaska Distinct Population Segment: Threatened
  Designated critical habitat does not exist in the St. Paul Harbor area.

- Eskimo curlew (*Numenius borealis*): Endangered
  No critical habitat rules have been published.

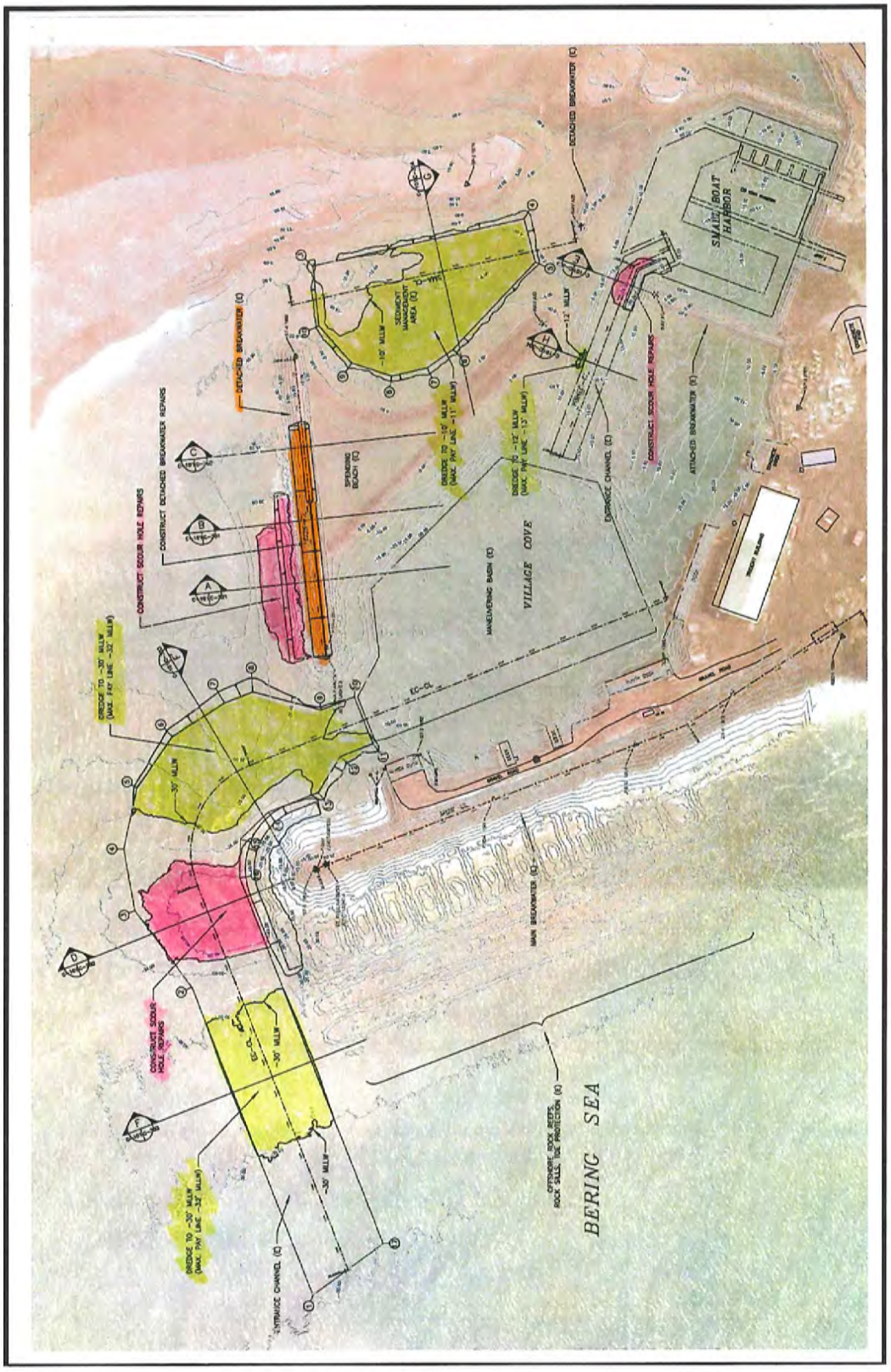
USFWS feedback will facilitate the Corps' evaluation of the maintenance activities according to their potential for effects on the listed species and critical habitat. No formal consultation with the USFWS will be sought if the Corps determines that its maintenance activities will have no effect on the listed species or critical habitat. The Corps will seek USFWS concurrence if its maintenance activities may affect, but are not likely to adversely affect, listed species or critical habitat. Formal consultation with the USFWS will be required if the Corps determines that its activities are likely to adversely affect the listed species or critical habitat.

Thank you for your assistance. If you have any questions regarding the Corps' request or require additional information, please contact Wayne M. Crayton of my staff at (907) 753-2656 or at Wayne.M.Crayton@usace.army.mil.

Sincerely,

Michael D. Noah
Chief, Environmental Resources Section

Enclosure



Enclosure: Proposed operation and maintenance activities at St. Paul Harbor, St. Paul Island, Alaska.

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, ALASKA
P.O. BOX 6898
JBER, ALASKA 99506-0898

MEMORANDUM FOR RECORD (MFR) 18 December 2014
CEPOA-P-CW-ER

SUBJECT: St. Paul Island Small Boat Harbor and Lowell Creek Diversion Tunnel O&M projects coordination meeting, November 19, 2014, with/at the Alaska Department of Environmental Conservation (ADEC).

PURPOSE: The purpose of the meeting was to brief the attendees about the Corps' O&M projects at the subject sites and to obtain ADEC's feedback relative to Clean Water Act-related issues (e.g. Section 401 and 404 and dredged material characterization and disposal). This MFR does not function as meeting minutes, but instead the MFR summarizes discussions and documents project decisions, agreements and strategies.

ATTENDEES:

Wayne Crayton - USACE Environmental Resources
Julie Anderson - USACE Construction Operation
Dee Ginter - USACE Hydraulics Hydrology
Ken Eisses - USACE Hydraulics Hydrology
Jim Rypkema - ADEC Wastewater Discharge Authorization Program
Shannon DeWandel - ADEC Wastewater Discharge Authorization Program
Bill Oconnell - ADEC Contaminated Sites Program
Louis Howard - ADEC Contaminated Sites Program
Lori Aldrich - ADEC Solid Waste Program
David Winandy - NOAA Safety and Environmental Compliance Office (via phone)

DISCUSSION:

Briefly, the Lowell Creek project involves repairing the diversion tunnel's reinforcements with new concrete, rebar and grouting to coincide with the low-flow season.

1. Discussions centered around the need to conduct a Section 404(b)(1) evaluation for the proposed activities. ADEC agreed that Lowell Creek is "waters of the United States" and therefore subject to the Clean Water Act.

2. Because the proposed maintenance activities are associated with a previously authorized, currently serviceable structure, the ADEC agreed with the Corps that the work can proceed under Nationwide Permit No. 3 (Maintenance) and no new Section 404(b)(1) evaluation is required.

3. ADEC also stated that if the project footprint is greater than one acre, a storm water pollution prevention plan would be required that implemented best management practices to control erosion and the release of sediment.

The Corps' project at St. Paul Island involves repairing existing rubble mound breakwaters affected by storms, dredging shoaled-in navigation channels and a settlement basin, and disposing of dredged material (attachment 1).

1. The project is likely to proceed in stages. Priority work is repairing a breakwater and repairing three scour-holes, followed by dredging four areas and disposing of the material upland. The breakwaters and scour-hole repairs would likely be rock obtained from the island's existing quarry, provided the rock meets project specifications. More than likely, a clamshell dredge would be used, in conjunction with a barge, to dredge shoaled-in areas composed of sand and gravel. Dredged material is expected to be off-loaded at the harbor's dock into trucks and transported upland for placement.

2. Maintenance dredging has not occurred since the completion of harbor construction in 2010. Collectively, the Corps expects to dredge and dispose of about 85,000 cubic yards of shoaled material.

3. Dredged material is not expected to exceed sediment quality criteria because of the dynamic oceanographic nature of the coastline. Dredged material sampling results from 2004-2005 will be used to help develop a proposed project dredged material sampling plan, possibly using free download Pro UCL software. State of Alaska solid waste management regulations (18AAC60.025, Polluted Soil; attachment 2) will also be considered in developing the subject sampling plan.

4. Dredge management units, if established, would help determine the number of necessary samples and locations. However, ADEC is thinking at this time that the Corps' dredged material sampling plan should include at least 8 individual, not composite, dredged material and disposal area background samples and they should be analyzed for metals and DRO.

5. The Corps and ADEC agreed that sampling will be performed prior to dredging and disposal of material, but not before the construction contract is awarded, as is the usually the Corps' process. Currently no equipment exists on St. Paul Island to reach the maximum pay-lines, up to -32 feet MLLW, to sample. The Corps plans to require the construction contractor to test and provide sampling results, including a 30-day agency review period, prior to being allowed to dredge material.

6. ADEC believes that contaminated dredged material, if any, would be disposed of at the City of St. Paul's existing landfill. It is believed that uncontaminated dredged material would go to a City of St. Paul yet-to-be-identified designated stockpile area, which might include its existing inert monofill.

Questions should be addressed to Wayne Crayton at 753-2656 (Wayne.M.Crayton@usace.army.mil) and Julie Anderson at 753-5685 (Julie.L.Anderson@usace.army.mil).

Prepared and submitted by,

Wayne M. Crayton
Project Biologist
CEPOA-P-CW-ER

18 AAC 60.025 is repealed and readopted to read:

18 AAC 60.025. Polluted soil. (a) Unless otherwise approved under (b), (c), or (d) of this section, polluted soil may be disposed of only in a Class I MSWLF or a landfill that meets all applicable requirements of this chapter and federal law for the disposal of industrial solid waste or for drilling waste.

(b) The disposal or beneficial use of polluted soil within a Class III MSWLF will be approved on a case-by-case basis only if the owner of the polluted soil and the owner or operator of the landfill demonstrate, to the satisfaction of the department, that:

(1) petroleum hydrocarbons are the only contaminants in the soil.

(2) the polluted soil originates from the cleanup of a single spill incident within the community served by the landfill;

(3) the volume of the polluted soil requiring disposal is less than 500 cubic yards; and

(4) the contaminant concentrations within the polluted soil do not exceed the following maximum values as measured by the applicable Alaska methods for petroleum hydrocarbons described in Appendix D of the *Underground Storage Tanks Procedures Manual,* dated November 7, 2002:

(A) 900 mg/kg Gasoline Range Organics (by Method AK 101);

(B) 2,000 mg/kg Diesel Range Organics (by Method AK 102); and

(C) 4,500 mg/kg Residual Range Organics (by Method AK 103).

(c) The beneficial use of polluted soil that does not meet the volume, source, or contaminant concentration criteria in (b)(2), (b)(3), or (b)(4) of this section may be approved within a Class III MSWLF if the proposed use of the soil

(1) has a direct benefit to the community;

(2) can be accommodated within the established operational practices at the landfill or within the existing maintenance, closure, or expansion plans for the landfill; and

(3) will comply with the conditions and requirements in (d) and (e) of this section.

(d) The disposal of polluted soil at a landfill other than a Class I MSWLF, an industrial solid waste landfill, a drilling waste landfill, or a Class III MSWLF, or the beneficial use of polluted soil under (c)(3) of this section, will be approved on a case-by-case basis only if the owner of the polluted soil and the owner or operator of the landfill demonstrate, to the satisfaction of the department, that

(1) the waste in the landfill cannot be washed into nearby surface water and leachate from the landfill cannot reach nearby surface water;

(2) the polluted soil will not cause a threat to the public health, safety, or welfare, or to the environment if it is disposed in the landfill;

(3) there is no practical potential for migration of a hazardous constituent from that landfill to an aquifer during the active life and post closure care of the landfill; and

(4) the owner of the landfill agrees to implement institutional controls that the department determines are necessary for long term protection of the public health, safety, or welfare and the environment.

(e) The demonstration required in (d) of this section must be certified by a qualified groundwater scientist and based upon site-specific

(1) field-collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting fate and transport of hazardous constituents; and

(2) hazardous constituent fate and transport predictions that anticipate maximum, likely migration and consider effects on public health, safety, and welfare and the environment.

(Eff. 1/28/96, Register 137; 7/11/99, Register 151; am 9/5/2010, Register 195; am __/__/__, Register ___)

Authority: AS 44.46.020 AS 46.03.296 AS 46.03.810
AS 46.03.010 AS 46.03.299 AS 46.04.020
AS 46.03.020 AS 46.03.302 AS 46.09.020
AS 46.03.100 AS 46.03.800

18 AAC 60.200(a) is amended to read:

18 AAC 60.200. Permit requirement. (a) Except as otherwise provided in this section, a person may treat or dispose of solid waste, or construct, modify, or operate a solid waste facility only in accordance with a waste disposal permit issued by the department under 18 AAC 60.215**, an authorization under (c) or (d) of this section or otherwise issued by the department,** or a research, development, and demonstration permit issued under 18 AAC 60.213. However, a permit **or authorization** under this chapter is not required for

18 AAC 60.200 is amended by adding new subsections to read:

(c) The disposal of municipal solid waste in a Class III MSWLF meeting the standards of 18 AAC 60.300(c)(3)(B) will be authorized by the department provided

(1) the landfill serves an average daily population of fewer than 50 persons;

(2) the landfill is sited and operated in accordance with the requirements of this chapter;

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

DIVISION OF AIR QUALITY
Air Non-Point Mobile Sources

619 E. Ship Creek Avenue, Suite 249
Anchorage, Alaska 99501
Main: 907-269-7577
Toll Free: 866-241-2805
Fax: 907-269-7508
www.dec.alaska.gov

April 7, 2015

Wayne M. Crayton
US Army Corps of Engineers, Alaska District
P.O. Box 6898
JBER, AK 99906

Dear Mr. Crayton:

This letter is in regards to your request to provide comment regarding an air quality review of the St. Paul Island Harbor, maintenance dredging and breakwater repair, by the U.S. Army Corps of Engineers. As described in the attachment the project is not currently in a nonattainment area or maintenance area for air quality control under the Clean Air Act. Therefore, projects receiving federal funds or approvals do not require a conformity analysis under General Conformity regulations.

However, particular attention should be given during any construction activities to take reasonable precaution per 18 AAC 50.045(d) to prevent fugitive dust. Thank you for contacting us about your project. If you have further questions or concerns about air quality issues, you may contact me at (907) 269-7579 or by e-mail at cindy.heil@alaska.gov.

Sincerely,

Cindy Heil
Program Manager, ANPMS

Attachment: Copy of Original request

DEC Air Quality Conformity Request Form
Project Located Outside of Nonattainment/Maintenance Area

- Location of the Project:

  Name: ST. PAUL ISLAND HARBOR
  Address: ST. PAUL, ALASKA
  Lat/Long Coordinates[1]:
  Size (acres):

- Type of Project / Project description:

  MAINTENANCE DREDGING AND BREAKWATER REPAIR

- Is the project located inside of a nonattainment or maintenance area?

  ☐ Yes
  ☒ No

  If no, explain how you reached that conclusion.[2]

  OBTAINED INFORMATION FROM ADEC AIR QUALITY PROGRAM WEB SITE

- Define the period of performance that can be foreseen.

  State Date: —
  Construction Period: MAY – SEPT.
  Operation Start Date: 2016 – 2018

- Contact information for responsible federal manager requesting.

  Name: WAYNE M. CRAYTON
  Agency: USARMY CORPS OF ENGINEERS, ALASKA DISTRICT
  Address: P.O. BOX 6898 JBER, AK 99506
  Phone No.: 907-753-2456
  Email Address: Wayne.M.Crayton@USACE.army.mil

  If more than one agency is responsible for the project, provide contact information for other managers below.

  Name: N/A
  Agency:
  Address:
  Phone No.:
  Email Address:

Wayne M. Crayton 01 APRIL 2015

[1] For projects located near nonattainment / maintenance areas provide a map/diagram displaying the location of the property relative to the nonattainment / maintenance boundary.
[2] This response is relevant for projects located near nonattainment / maintenance areas.

DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JOINT BASE ELMENDORF-RICHARDSON, AK 99506-0898

29 April 2015

CEPOA-PM-C-ER
MEMORANDUM FOR THE RECORD (MFR)

SUBJECT: St. Paul Island Small Boat Harbor Operation and Maintenance (O&M) activities.

PURPOSE: To document coordination with the U.S. Fish and Wildlife Service, Alaska Region.

1. This MFR is a record of my April 27, 2015, conversation with Ms. Leah Kenney (Leah), who is with the:

   U.S. Fish and Wildlife Service
   Anchorage Fish and Wildlife Field Office
   4700 BLM Road
   Anchorage, AK 99507
   Phone: 907-271-2440

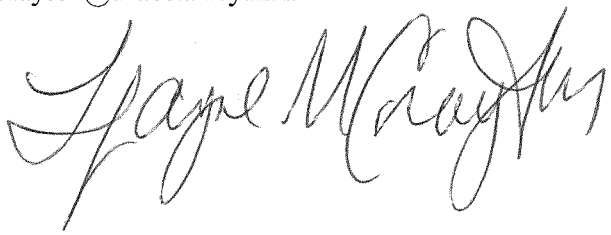
2. Leah called regarding the U.S. Army Corps of Engineers, Alaska District's (Corps) March 9, 2015, ESA/Section 7 letter of coordination with the USFWS.

3. Leah informed me that St. Paul Island does not have any critical habitat for the threatened Steller's eider (*Polysticta stelleri*) and threatened spectacled eider (*Somateria fischeri*), and that no other threatened or endangered species, other than what the Corps identified in the subject letter, occur in the St. Paul Island vicinity.

4. Leah also provided valuable information about the USFWS's "2012 Northern sea otter and Steller's eider observer protocol" and suggested it be implemented when construction begins. Subsequently, Leah sent a pdf of the document to me via email.

5. The feedback and information provided by Leah will be incorporated in the St. Paul Harbor O&M environmental assessment, especially in sections pertaining to mitigation recommendations. The information will also be shared with the Corps' Project team so that the project's "Plans and Specifications" (which go out for bid) identify the need for implementing an observer program.

6. This MFR was prepared by Wayne Crayton, Staff Project Biologist. Questions should be addressed to him at 907-753-2656 or at Wayne.M.Crayton@usace.army.mil.



Anchorage Fish and Wildlife Field Office
Observer Protocols for
Pile Driving, Dredging and Placement of Fill
Draft August 7, 2012

Contact: Kimberly Klein,
907-271-2066, Kimberly_Klein@fws.gov

Northern sea otters (*Enhydra lutris kenyoni*) may be harmed by noise from pile driving and other activities. Steller's eiders (*Polysticta stelleri*) are unlikely to be in the project area between April 15-Novemeber 15 (Unalaska), May 1 - October 31 (Cook Inlet and Kodiak Island); work should be scheduled to occur to during this time to avoid impacts. However, if present, Steller's eiders may also be harmed by noise. Impacts from noise are likely to be avoided if it is confirmed that otters and eiders are not present within a "hazard area" near the source of the noise. The "hazard area" is defined here as the area in which noise levels from construction activities are expected to exceed threshold noise levels that cause harm. Tables 1 specifies the size of the hazard area for dredge and fill activities and pile driving. The use of one or more observers to "clear" the hazard area is an effective means to assure that no Steller's eiders or sea otters will be harmed. The observer is responsible for communicating the presence of one or more Steller's eider or sea otters in the hazard area to the construction operators, and halting work until the animal voluntarily leaves the area. To "clear" the area means to verify no listed species are present; no action may be taken to disturb otters or eiders, move them away, or discourage their use of an area.

Because there has been no research conducted to establish noise thresholds for sea otters or Steller's eiders, we used noise thresholds established by the National Marine Fisheries Service National Marine Fisheries Service [NMFS] for pinnipeds to guide development of hazard areas. NMFS determined that thresholds for Level A Harassment (injury) and Level B Harassment (disturbance) would be reached for pinnipeds under the following scenarios (NOAA 2005; NOAA 2006; NOAA 2008; NMFS 2009, Southall et al. 2007; full citations are available upon request):

- Level B Harassment due to airborne noise: 100 dB re: 20 µPa;
- Level B Harassment due to underwater noise: 120 dB re: 1 µPa for vibratory pile driving;
- Level B Harassment due to underwater noise: 160 dB re: 1 for impact pile driving;
- Level A Harassment due to underwater noise: 190 dB re: 1.

The U.S. Fish and Wildlife Service (Service) recommends the size of the hazard area be established according to Table 1. The hazard area includes all marine areas below mean high tide (MHT) within a specified radius around the source of the noise. Areas blocked by points of land or shoreline contours are not included in the hazard area, but a 10° buffer outside of these areas should be included (see Figure1).

The distances identified in Table 1 represent the minimum hazard area radii needed to ensure that the typical maximal sound production levels reached during specified activities attenuate to levels below those expected to cause injury. The Service estimates these thresholds to be **110 dB re: 20 µPa for airborne noise, and 183 dB re 1µPa2-sec cumulative SEL for underwater noise**. These distances include a buffer for protection against injury due to cumulative sound exposure.

Table 1. Hazard area radii for specified activities, based on typical maximal sound levels generated during pile driving, dredging and fill placement activities[1].

Activity	Details (pile size, etc.)	Sound Production Level			Radius of Hazard Area centered on noise source
		Peak**	RMS**	SEL**	
In-water Impact Pile Driving*	Round or H pile >36"	>215	>200	>190	Contact the Service
	Round or H >36" with sound attenuation devices	200-215	185-200	175-190	2000 meters
	Round or H >24" up to 36"	200-215	185-195	175-185	2000 meters
	Round or H >24-36" with sound attenuation devices	190-205	175-185	165-175	500 meters
	Round or H ≤24"	185-210	170-185	160-175	500 meters
	Round or H ≤24" with sound attenuation devices	<200	<185	<175	300 meters
	Sheet Pile-any size	190	170	160	500 meters
	Sheet Pile-any size, with sound attenuation devices	180	160	150	300 meters
In-water Vibratory Pile Driving*	Round or H >36"	185-200	170-190	160-180	1000 meters
	Round or H >36" with sound attenuation devices	175-190	160-180	150-170	500 meters
	Round or H >24" up to 36"	175-195	165-185	155-175	500 meters
	Round or H >24" up to 36" with sound attenuation devices	165-185	155-175	145-165	300 meters
	Round or H ≤24"	<190	<180	<170	300 meters
	Round or H ≤24" with sound attenuation devices	<180	<170	<160	100 meters
	Sheet Pile-any size	182	165	165	300 meters
	Sheet Pile-any size, with sound attenuation devices	172	155	155	100 meters
Land-based Pile Driving	Based on in-situ recordings and sound propagation modeling, the distances needed to provide protection from airborne noise impacts would be adequately covered by monitoring the hazard area established for underwater sound propagation.				Same as each category above. Hazard area is limited to areas below MHT.
In-water Fill Placement and Dredging	All in-water use of heavy equipment for manipulating the substrate; including use of hydraulic rock breakers, drills, etc.	140-200	125-185	115-175	300 meters

* In-water <20 m ** Underwater sound pressure levels are measured in dB re: 1 μPa.

[1] Typical maximal sound levels from Illinworth Rodkin (2007); Blackwell et al. (2004, cited in Navy 2011); Hastings and Popper (2005); Jasco Research Ltd (2005, as cited in Navy 2011); Laughlin (2005, 2010a,b) ; Reyff (2005); Onuu and Tawo (2006); URS (2007); Parvin et al. (2008); Jones and Stokes (2009); NOAA (2009); Navy (2009); Scientific Fishery Systems, Inc. (2009); Thomsen et al. (2009); Mumford (2011); Navy (2011); Robinson et al. (2011); WSDOT (2011); Cardno ENTRIX (2012). Full citations are available upon request.

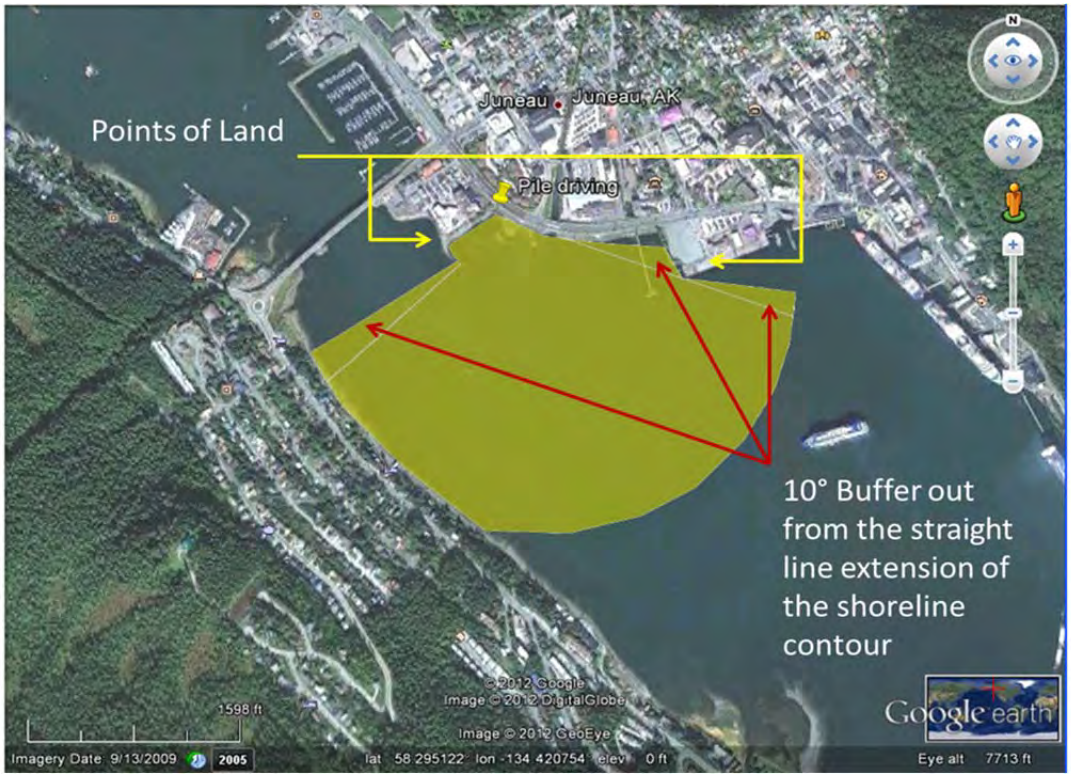


Figure 1. Depiction of a hazard area modified by the contours of the shoreline and points of land.

Ramp-up procedures

1. For impact pile driving, contractors will be required to provide an initial set of three strikes from the hammer at 40% energy, followed by a 30-second waiting period, then two subsequent three-strike sets. For vibratory pile driving, sound should be initiated for fifteen seconds at reduced energy followed by a 1-minute waiting period. This procedure would be repeated two additional times.
2. Ramp up procedures will be designed by the Applicant for in-water fill placement and in-water dredging activities specified in Table 1 to allow noise production to increase gradually from a low level, and to begin at locations farthest from marine areas. For example, a 5-minute period following startup of a single generator located well above high tide could be followed by 5 minutes of operating an excavator near the shoreline, etc. Equipment should be operated at low power, and then gradually increased to noisier, high-power levels. In-water noise production such as placement of fill should occur only after other all other noise-generating activities have ramped up and otters and eiders have had the opportunity to leave the area of their own accord.

Monitoring the "hazard area"

A. Pile driving: 100 to 2000-m "hazard area"

1. Observers will watch for Steller's eiders and sea otters within the appropriate hazard area as specified in Table 1 for 30 minutes prior to start of work. Observations will continue for the full duration of these activities.
2. If one or more Steller's eider or sea otter occurs within the hazard area before or at any time during pile driving, the observer will report the presence of the animal and work will immediately cease or be postponed until the animal leaves the hazard area on its own.

B. Fill Placement and Dredging: 300-m "hazard area"

3. Prior to commencing in-water fill placement, in-water dredging, and any other in-water use of heavy equipment for manipulating the substrate (including use of hydraulic rock breakers,

drills, etc.) observers will clear a 300-m hazard area. Additionally, observers will clear the hazard area before recommencing work after any break greater than 30 minutes.

4. If an otter or eider is seen within the hazard area during the 30-minute observation period prior to start-up, the observation period need not start over once the animal moves out of the hazard area, but work may not commence until the observation period is complete.
5. If a sea otter or eider enters the 300-m hazard area during fill placement or dredging, after the observation period has ended, work may continue.
6. If an otter or eider is seen in the 300-m buffer during the observation period prior to start of work and does not leave the area prior to the completion of the 30-minute observation period, ramp up procedures will be applied.

C. ALL noise-generating activities specified in Table 1 (applies to both A and B)

7. All observers must be capable of spotting and identifying sea otters and Steller's eiders and recording applicable data during all types of weather in which pile driving, in-water fill placement, or in-water dredging will be conducted.
8. All observer protocols will be applied to any unidentified duck whenever the observer cannot identify whether a duck is a male or a female Steller's eiders in breeding or nonbreeding plumage.
9. Observers will be given the authority to halt project activities if a sea otter or Steller's eider is present and to provide clearance for work to resume after the animal leaves on its own.
10. Observers will have no other duties during the observation period in order to ensure that watching for protected species remains the observer's main focus.
11. A lead observer will be responsible for implementing the protocols. The lead observer may select and train additional observers, but should remain accountable for their performance throughout the work season.
12. All observers must be trained in the monitoring methods to include the following topics:
    - Types of construction activities that require monitoring
    - Observation methods and equipment
    - Observation locations
    - Distance estimation
    - Data to record (parameters) and field forms
    - Species identification
    - Procedures to Stop Work
13. Tools, such as a laser range finder or buoys placed at 300 m intervals away from the shoreline should be used to aid the observer in estimating distances out to 1,000 m.
14. The following are examples of standard equipment recommended for use by observers:
    - High power, reticle binoculars 10 x 50 Bushnell
    - Range finder equivalent to Leica LRF 1200
    - GPS and compass
    - High power spotting scope
15. Observation stations will be established to maximize visibility of the hazard areas. Elevated observation stations will provide better visibility than those at sea level.
16. Observation stations may be established aboard moored vessels and stationary skiffs.
17. Use of a particular station may depend upon weather conditions. If the observable range from any one vantage point is limited due to weather or construction activity, the observer should use an established station that has a better vantage point for monitoring.
18. If visibility is poor due to weather or low light, pile driving will not commence until viewing conditions make it possible to clear the entire hazard area. In-water fill placement and in-water dredging may commence after ramp up procedures are conducted.
19. During periods of low visibility, pile driving may commence if additional observers can be added in multiple stations to provide complete visual coverage of the "hazard area".

20. Observers will record basic metrics such as start and end times, date, GPS location of the observation station, name of observers, type of work occurring, numbers and locations of observed sea otters or eiders, environmental conditions (air temperature, wind speed and direction, sea state, swell height, tide stage, visibility, percent cloud cover, and precipitation), documentation of work shut downs or postponements due to presence of otters or eiders, and length of time work was shut down or postponed.
21. Other data that may be useful include: records of sea otter and Steller's eider movements (direction and distance of travel), the times during which the movements occur, and a categorical assessment of behaviors during the observation period. For example, indicate whether sea otters or eiders are resting, feeding, grooming, engaging in social interactions, or travelling from one place to another. Record behavioral changes during the observation period, and comment on whether these behaviors appear to be associated with the work being conducted, and if so, what indications lead to that conclusion.
22. All observation records will be made available to the Service at the end of each calendar month.
23. A summary report will be provided to the Service by December 1 each year.

Optional Considerations:

Monitoring: Whenever possible, sound level testing should be conducted to determine the size of the "hazard area". A more accurate size of the "hazard area" for pile driving and for fill placement/dredging can then be used for these two categories of work instead of the buffers in Table 1. A smaller impact area can be monitored more easily and more accurately by fewer observers. To accomplish this, we recommend the following procedures:

1. Prior to sound monitoring, observers should clear a hazard area according to Table 1.
2. In-air and in-water sound pressures should be measured with portable instrumentation placed in intervals in multiple directions from the noise source as shown in Figure 2.
3. For best results, in-water measurements should be taken at multiple water depths.
4. Sound pressure should be monitored in marine waters out to the appropriate distance specified in Table 1 for the type of pile driving being conducted. For fill placement and dredging, a 300-m radius should be monitored.
5. Monitoring should be timed to record peak sound pressures. Sound pressure should be monitored during two categories of work (when both types of work will occur):
    a. Pile driving
    b. Dredging and fill placement
6. If possible, sound measurements should be taken at various locations simultaneously.
7. If actual noise levels are greater than **110 dB re: 20 µPa; for airborne noise or 183 dB re 1µPa2-sec cumulative SEL for underwater noise** at either the 500-m or 300-m radius from the source (as applicable for the type of activity), testing should be conducted at additional points at 300-m intervals further from the source site to determine the full extent of the area in which threshold levels are reached. If the hazard area is larger than 500 m, the Service should immediately be notified, and a 50% larger hazard area should be cleared by the observers prior to continuing work. All observer protocols will be applied to the expanded hazard area.
8. Sound level monitoring results should be reported to the Service. All estimates of sound pressure levels should be reported in dB re: 1 µp for in-water and dB re: 20 µp in air.

Modeling: Acoustic modeling may be conducted by a qualified engineer or hydrologist as an alternative to acoustic monitoring. The models selected should be capable of predicting underwater noise production and attenuation at various distances from the proposed noise-generating activities. Models should be customized to incorporate the specific techniques to be used, and the local bathymetry and substrate information. Modeling methods, assumptions, outputs, and uncertainties should be reported to the Service. The hazard area should be defined as wherever pressure levels are predicted to exceed **110 dB re: 20 µPa; for airborne noise or 183 dB re 1µPa2-sec cumulative**

SEL for underwater noise. All observer protocols should be applied to those areas. When possible, noise levels should be tested upon startup of work for comparison with model outcomes. If actual noise levels exceed predicted values, work should follow protocols outlined here, or should stop until sound level testing can be completed.

Videography: The use of video documentation of sea otter or Steller's eiders observations in or near the hazard area during pile driving, dredging or placement of fill is recommended to assist observers in recording and characterizing responses to noise. We are interested in developing a systematic videographic study. Please notify the Service if you intend to record wildlife near the hazard area as part of your project.

If warranted by new information, observer protocols may be revised by the USFWS.

Contact the Anchorage Fish and Wildlife Field Office with any additional questions or concerns.

Ellen W. Lance, Branch Chief
Endangered Species Branch
605 W. 4th Room G-61
Anchorage, AK 99501

Ellen_Lance@fws.gov
907-271-1467
Main Office
907-271-2888

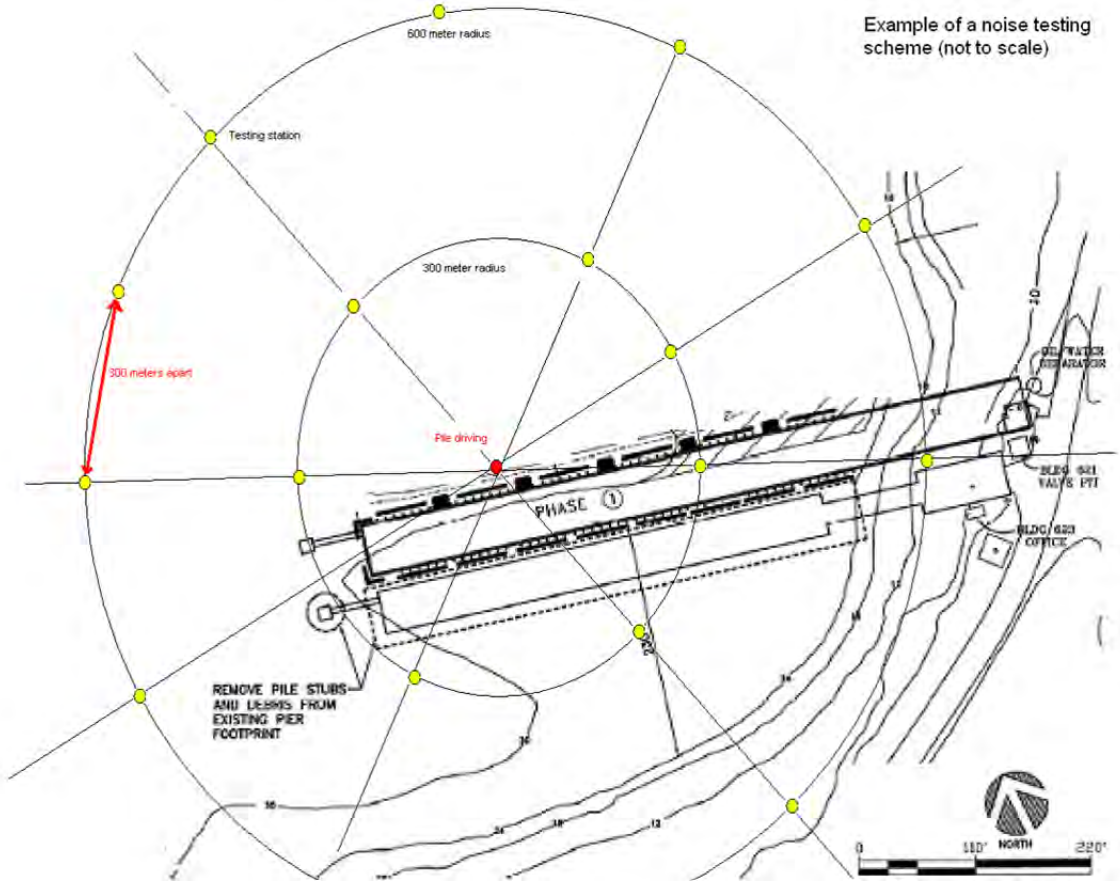


Figure 2. An example plan for noise testing. Test points are placed in intervals around the work site and each other (it is not to scale) to provide complete coverage of all areas of in-water work.

United States Department of the Interior

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

In Reply Refer To: March 27, 2023
Project Code: 2023-0038155
Project Name: Saint Paul Harbor Maintenance Dredging

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 & Wildlife Field Office
4700 Blm Road
Anchorage, AK 99507
(907) 271-2888

PROJECT SUMMARY

Project Code: 2023-0038155
Project Name: Saint Paul Harbor Maintenance Dredging
Project Type: Navigation Channel Improvement
Project Description: Maintenance dredging and breakwater repairs. The estimated volume of dredged material is approximately 139 kcy of sand and gravel. The dredged material would be placed in an upland location for future reuse.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@57.1404889,-170.2747371441747,14z

Counties: Aleutians West County, Alaska

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 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*	Threatened

Population: Southwest Alaska DPS
There is **final** critical habitat for this species. Your location does not overlap 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

BIRDS

NAME	STATUS
Short-tailed Albatross *Phoebastria (=Diomedea) albatrus*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/433

Steller's Eider *Polysticta stelleri*	Threatened

Population: AK breeding pop.
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/1475

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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	175,258.75

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.

There are migratory birds in your project area. Please refer to Alaska's Bird Nesting Season for recommendations to minimize impacts to migratory birds, including eagles.

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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.	Breeds Feb 1 to Sep 30
Black Guillemot *Cepphus grylle* 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 May 15 to Sep 10

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
Dovekie *Alle alle* 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/6041	Breeds elsewhere
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
Pomarine Jaeger *Stercorarius pomarinus* 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 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

NAME	BREEDING SEASON
Red-legged Kittiwake *Rissa brevirostris* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2871	Breeds May 20 to Oct 15
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
Red-throated Loon *Gavia stellata* 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
Snowy Owl *Bubo scandiacus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Sep 30
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:

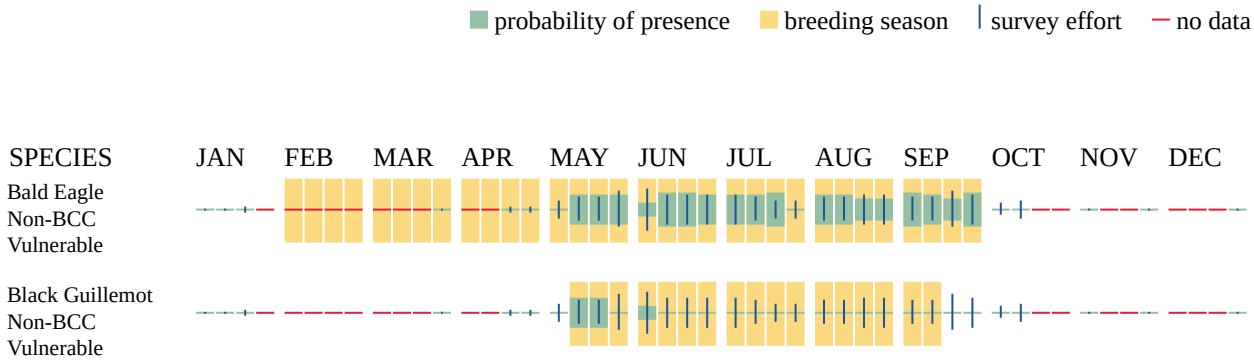
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability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

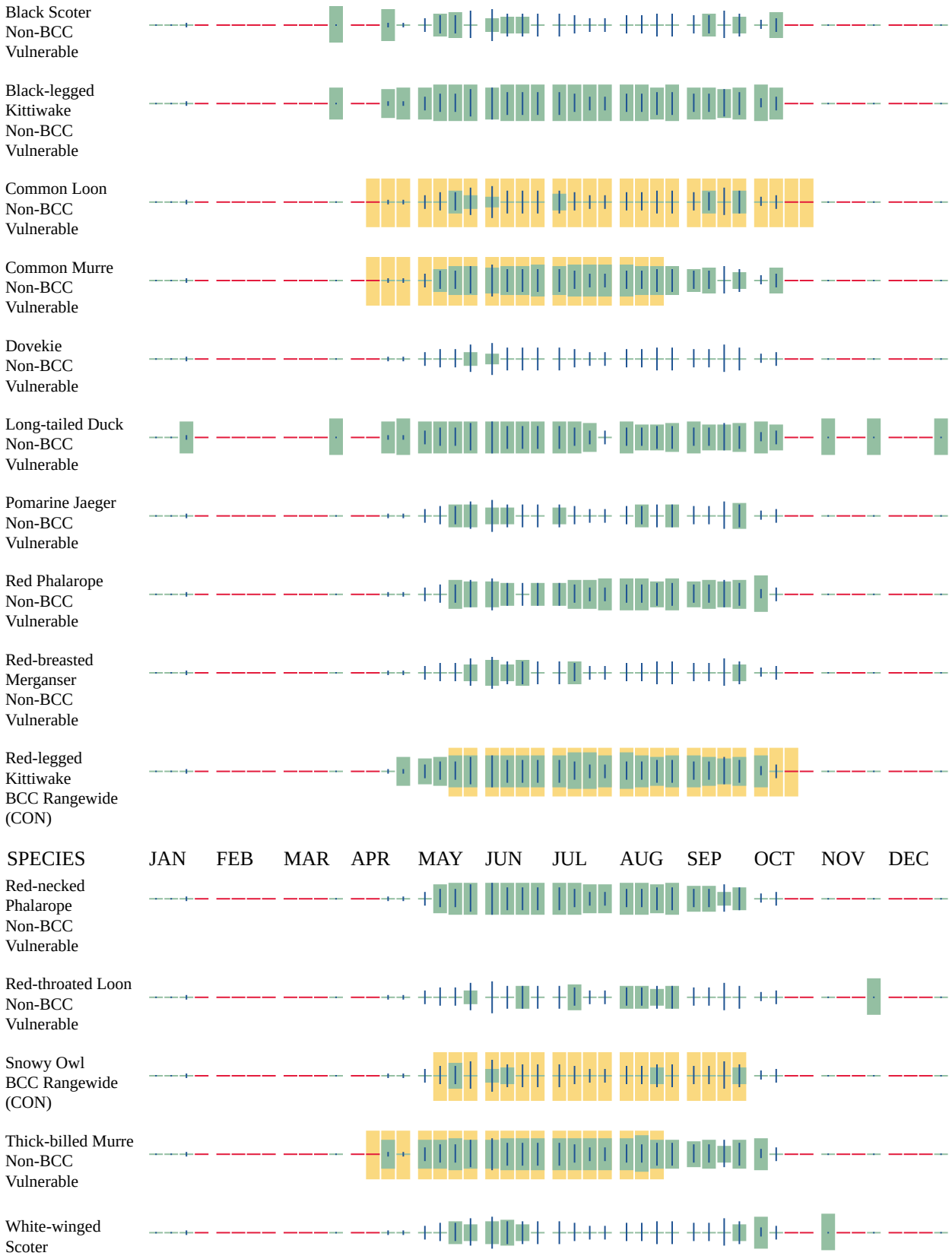
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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.

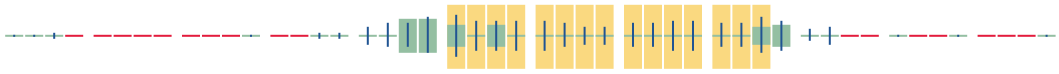
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.




Black Scoter
Non-BCC
Vulnerable
Black-legged
Kittiwake
Non-BCC
Vulnerable
Common Loon
Non-BCC
Vulnerable
Common Murre
Non-BCC
Vulnerable
Dovekie
Non-BCC
Vulnerable
Long-tailed Duck
Non-BCC
Vulnerable
Pomarine Jaeger
Non-BCC
Vulnerable
Red Phalarope
Non-BCC
Vulnerable
Red-breasted
Merganser
Non-BCC
Vulnerable
Red-legged
Kittiwake
BCC Rangewide
(CON)
SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Red-necked
Phalarope
Non-BCC
Vulnerable
Red-throated Loon
Non-BCC
Vulnerable
Snowy Owl
BCC Rangewide
(CON)
Thick-billed Murre
Non-BCC
Vulnerable
White-winged
Scoter

Non-BCC
Vulnerable

Yellow-billed Loon
BCC Rangewide
(CON)



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.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 list of migratory birds that potentially occur 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 Rapid Avian Information Locator (RAIL) 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 or migrating in my 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 query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. 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: Matthew Ferguson
Address: 2204 Third Street
City: JBER
State: AK
Zip: 99506
Email matthew.w.ferguson@usace.army.mil
Phone: 9077532711

DEPARTMENT OF THE ARMY
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 6898
JBER, AK 99506-0898

Aleut Community of Saint Paul Island
Amos Philemonoff, President
PO Box 86
Saint Paul Island, AK 99660-0086

Dear President Philemonoff:

In recognition of the U.S. Army Corps of Engineers (USACE) government-to-government relationship with the Aleut Community of Saint Paul Island and our federal trust responsibility, I am writing to inform you that USACE is in the design phase for dredging and repairs at St. Paul Harbor, Saint Paul, Alaska. As part of periodic inspections of federal harbors, USACE had St. Paul Harbor surveyed in 2020 and 2022. The survey showed the depths had decreased at the entrance channel, maneuvering area, small boat harbor entrance channel, small boat harbor maneuvering and moorage area, and sediment management area. Additionally, the survey showed there were scour holes in the harbor and the constructed reefs parallel to the main breakwater were decreasing in the profile.

The history of Saint Paul Harbor's development occurred in three general phases. Phase I, completed in 1990, included a 1,050 foot long main breakwater, a 1,000 foot long inner breakwater, a 2 acre turning basin at a depth of 18 feet mean lower low water (MLLW), a 700 foot long dock, and a 6 acre mooring basin. Phase II, completed in 1996, addressed an unanticipated demand for harbor services and overtopping problems associated with the main breakwater to include: (1) the depth of the entrance channel was increased to -30 feet MLLW, (2) a maneuvering basin was enlarged and dredged to -29 feet MLLW, (3) a +4 feet MLLW spending beach was constructed and a sediment management area was established on the lee side of the 1,000 foot long detached breakwater, (4) three offshore reefs 1,300 feet in length at -12 feet MLLW were constructed parallel to the main breakwater, and (5) the natural entrance channel to the Salt Lagoon was realigned to restore the lagoon's water quality and biological productivity. Phase III, completed in 2010, involved: (1) the construction of a small boat harbor, (2) an entrance channel dredged to -16.5 feet MLLW, (3) a maneuvering area dredged to -12 feet MLLW, and (4) construction of wave protection/flow directing features, such as 435 foot long, +10 foot MLLW breakwater and a 530 foot long, +10 foot MLLW circulation berm.

The purpose of the USACE proposed project is to repair federal navigation features at St. Paul Harbor, specifically the following:

This project will restore dimensions of manmade reefs located offshore of the main breakwater; place scour protection for entrance channel, and small boat harbor entrance channel; and perform maintenance dredging at entrance channel, maneuvering area, small boat harbor entrance channel, small boat harbor maneuvering and moorage area, and sediment management area. Construction is projected to take place between May through September of 2024 and potentially 2025, depending on availability of funds. Reference enclosure, Saint Paul Harbor Proposed Repair Project.

The USACE Alaska District is beginning to prepare an Environmental Assessment (EA) and design plans and specifications for the proposed project. I would like to invite you to review the information on the proposed project and evaluate whether you believe there may be potential for this action to affect tribal trust and/or subsistence resources. This invitation is made pursuant to USACE's policy for government-to-government consultation with American Indian and Alaska Native tribes. In support of the EA, we will be contacting you separately to initiate the Section 106 review process.

If you believe that tribal rights and/or protected resources may be affected by this proposed project and would like more information**,** please contact the Project Manager or Tribal Liaison via the contact information listed below. If you wish to invite USACE to government-to-government consultation, please advise me in writing and provide the contact information of a person you would like my staff to contact to begin coordination.

If you have questions or concerns, or require further information, please feel free to contact the Project Manager Monica Velasco, at (907) 753-5688 or email at Monica.J.Velasco@usace.army.mil. You may also contact my Tribal Liaison, Kendall Campbell, at (907) 753-5582 or email Kendall.D.Campbell@usace.army.mil.

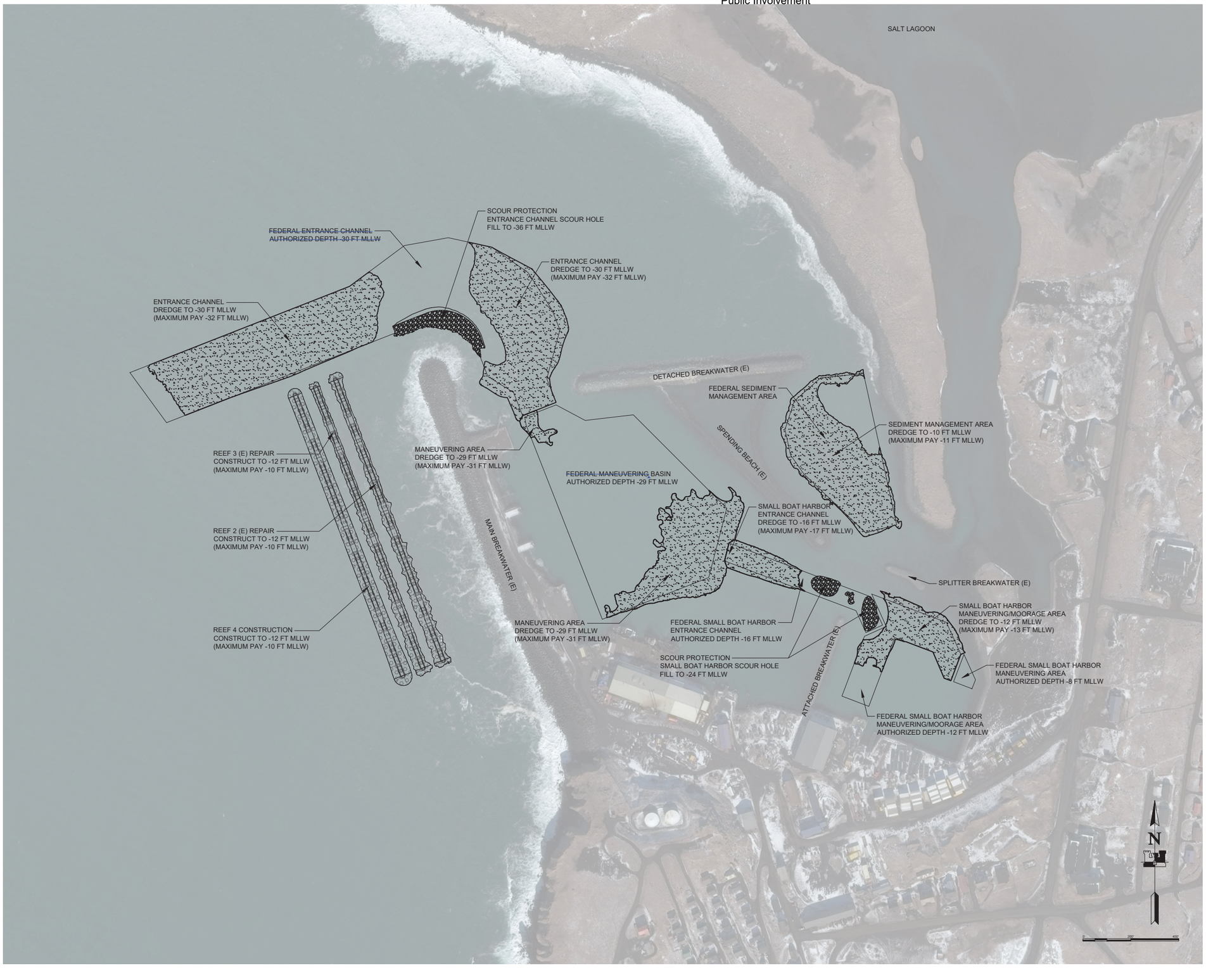
Sincerely,

Damon A. Delarosa
Colonel, U.S. Army
Commanding

Enclosure

SAINT PAUL HARBOR, PROPOSED REPAIR PROJECT

Appendix E
Public Involvement



PROPOSED PROJECT FEATURES (APRIL 27, 2023):

- REEF REPAIR/CONSTRUCTION
- SCOUR HOLE PROTECTION
- DREDGING