

Final

June 2020



Action Memorandum

Naval Defensive Sea Area

Kiska Island, Alaska

Department of the Navy

Naval Facilities Engineering Command Northwest

1101 Tautog Circle

Silverdale, WA 98315



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Site Name/Location: Naval Defensive Sea Area, Kiska Island, Alaska

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FORWARD

This Action Memorandum (AM) presents the selected non-time critical removal action (NTCRA) for the Naval Defensive Sea Area (NDSA) at Kiska Island, Alaska. An NDSA is a water area set aside by Executive Order of the President of the United States because of its strategic nature or for purposes of national defense. The NDSA at Kiska Island was established on February 14, 1941 by Executive Order 8680. It includes the territorial waters between the extreme high-water marks and 3-mile marine boundaries around Kiska and Little Kiska islands. This AM presents the response actions selected for the NDSA which comprise conducting an NTCRA to memorialize establishing institutional controls and land use restrictions.

The U.S. Navy, through the Naval Facilities Engineering Command, Northwest (NAVFAC NW), is the lead agency under Executive Order 12580 and the Defense Environmental Restoration Program (DERP) for the NDSA at Kiska Island and developed this AM consistent with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), as amended. A public notice describing this NTCRA will be placed in the *Alaska Dispatch* (Anchorage), *Kodiak Daily Mirror* (Kodiak) and the *Dutch Harbor Fisherman* (Unalaska) for a 30-day public comment period. Responses will be prepared to any public comments received. This AM will be included in the administrative record for Kiska Island and will be available for public review at the following locations:

- Alaska Department of Environmental Conservation (ADEC), 555 Cordova Street, Anchorage, AK 99501-2617
- NAVFAC NW, 1101 Tautog Circle, Silverdale, Washington, 98315



Signatory

C. M. Brooks

Captain, U.S. Navy

Commanding Officer, Naval Facilities Engineering Command Northwest

6 JUL 2020

Date

ACRONYMS AND ABBREVIATIONS

AA	anti-aircraft
ADEC	Alaska Department of Environmental Conservation
AM	Action Memorandum
AMNWR	Alaska Maritime National Wildlife Refuge
AMTB	anti-motor-torpedo-boat
ANILCA	Alaskan National Interests Lands Conservation Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
DERP	Defense Environmental Restoration Program
DMM	discarded military munitions
ECDIS	Electronic Chart Display and Information Systems
EE/CA	Engineering Evaluation and Cost Analysis
IC	institutional control
LUCIP	Land Use Control Implementation Plan
MC	munitions constituents
MEC	munitions and explosives of concern
MRP	Munitions Response Program
MRSP	Munitions Response Site Priority Protocol
NAAF	Naval Auxiliary Air Facility
NCP	National Oil and Hazardous Substance Pollution Contingency Plan
NDSA	Naval Defensive Sea Area
NGA	National Geospatial-Intelligence Agency
NOAA	National Oceanic and Atmospheric Administration
NTCRA	Non-Time Critical Removal Action
PA	Preliminary Assessment
PP	Proposed Plan
USACE	U.S. Army Corps of Engineers
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UXO	unexploded ordnance

Section 1.0: PURPOSE

This Action Memorandum (AM) is the decision document describing the U.S. Navy's non-time critical removal action (NTCRA) implementing the institutional controls (ICs) including land use restrictions at the Naval Defensive Sea Area (NDSA), Kiska Island, Alaska. This NTCRA is being conducted in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the National Oil and Hazardous Substance Pollution Contingency Plan (NCP). The Navy is the lead agency under Executive Order 12580 for the CERCLA actions at the NDSA, Kiska Island, Alaska. A public notice describing this NTCRA will be placed in the *Alaska Dispatch* (Anchorage), *Kodiak Daily Mirror* (Kodiak) and the *Dutch Harbor Fisherman* (Unalaska) for a 30-day public comment period. Responses will be prepared to any public comments received.

The NDSA is a water area set aside by Executive Order of the President of the United States because of its strategic nature, or for purposes of defense. The NDSA at Kiska Island was established on February 14, 1941, by Executive Order 8680. This NDSA includes the territorial waters between the extreme high-water marks and the 3-mile marine boundaries around Kiska and Little Kiska Islands.

The National Defense Authorization Act of 2000 required the Department of Defense to establish a program addressing military munitions as part of the Defense Environmental Restoration Program (DERP). The Navy's Munitions Response Program (MRP) complies with this requirement. The purpose of the MRP is to address the potential explosives safety, health, and environmental issues caused by munitions and explosives of concern (MEC) and munitions constituents (MCs) used or released on site from past operations and activities. Based on Navy MRP policy (U.S. Navy, 2019), the following criterion is used for inclusion of water sites in the MRP:

- Shallow water areas where munitions releases are known or suspected to have occurred, where Navy actions were responsible for the release, and where the site or AOC is not:
 - Part of, or associated with, a designated operational range
 - A designated water disposal site
 - A Formerly Used Defense Site
 - A result of combat operations
 - A maritime wreck
 - An artificial reef

The purpose of this NTCRA is to protect human health and the environment from the potential presence of MEC within the underwater sections of the NDSA that meet Navy MRP policy criteria.

Additional CERCLA actions may follow implementation of this NTCRA when technology is capable of identifying and locating items of interest in these harsh underwater environments of the north Pacific Ocean.

Section 2.0: BACKGROUND AND SITE CONDITIONS

Kiska and Little Kiska are islands in the Rat Island group of the Aleutian Island chain in Alaska. The Rat Islands are a group of volcanic islands located between Buldir Island to the west and Amchitka Pass to the east. The largest islands in the group from west to east are Kiska, Little Kiska, Segula, Hawadax, Khvostof, Davidof, Little Sitkin, Amchitka, and Semisopchnoi. Figure 2-1 shows the location of the Rat Island group and the relative positions of the individual islands. Kiska Island is approximately 22 miles long, and varies in width from 1.5 to 6 miles. It is located at 51° 57' 51" north latitude, 177° 27' 36" east longitude.

This NTCRA focuses on the known in-water range areas established for target firing of the coastal artillery and anti-aircraft (AA) batteries installed on Kiska and Little Kiska Islands by Allied forces, known in-water practice bombing targets, and on-water ordnance handling locations within the 3-nautical mile limit of the NDSA. Figure 2-2 shows the extent of the NDSA surrounding Kiska and Little Kiska Islands.

2.1 Site History

The US purchased Alaska (which includes the Aleutians) from Russia in 1867. Kiska Island and Little Kiska Island were withdrawn from the public domain for naval purposes in 1903. A Navy weather station was the only U.S. military presence on the islands prior to the Japanese occupation in 1942. Ten men were working at the station at the time when the Japanese invaded Kiska Island on June 7, 1942 during World War II. The Empire of Japan occupied Kiska Island from June 7, 1942, until July 28, 1943. The Allied (U.S. and Canadian) forces began bombing the Japanese positions on and around Kiska on June 12, 1942. By the end of April 1943, 640 tons of bombs had been dropped on Kiska Island. The Japanese abandoned the island at the end of July 1943, and Allied forces retook possession of the island on August 15, 1943.

The U.S. Army and Navy established defensive operations on Kiska for approximately one year. As part of defensive operations, six in-water ranges with mobile guns were established. The U.S. Army established the Kiska Island Garrison Site and Little Kiska Island Harbor Defense Site, while the U.S. Navy established the Kiska Naval Auxiliary Air Facility (NAAF) in September 1943. The Navy decommissioned NAAF Kiska Island on September 19, 1944, as the Army declared the Kiska Island Garrison and Little Kiska Harbor Defense Sites as excess and placed them in inactive status on December 3, 1945. The Army had no permanent interest in Kiska Island, so it returned control of these sites to the Department of the Navy on May 2, 1949. The Navy formally returned Kiska and Little Kiska Islands to the Department of the Interior on February 23, 1951. However, NDSA Kiska Island remains under the purview of the Navy.

As a result of these varied activities, NDSA Kiska Island falls within both categories of Acts of War and training sites for munitions cleanup.

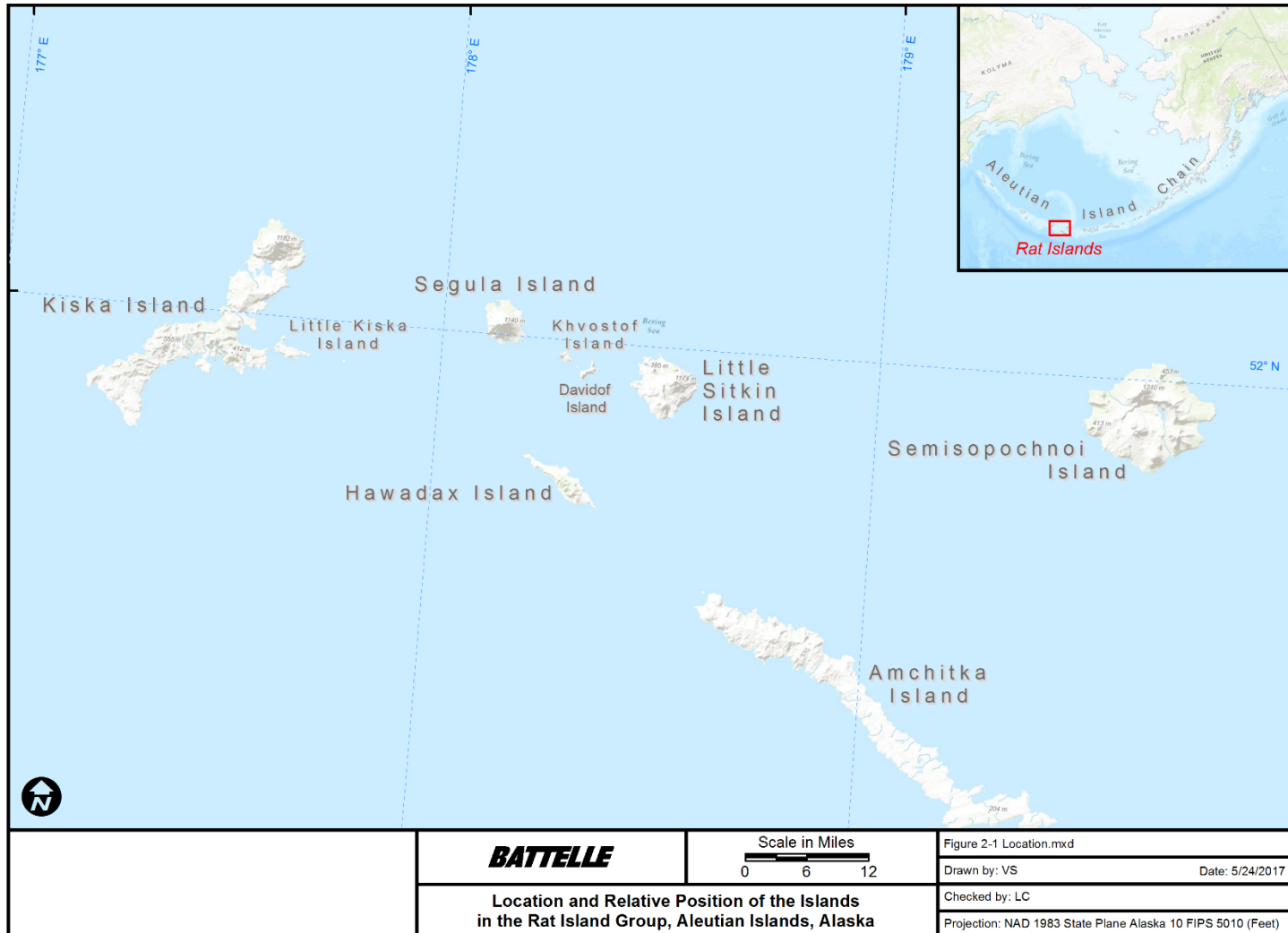


Figure 2-1. Kiska Island Location Map

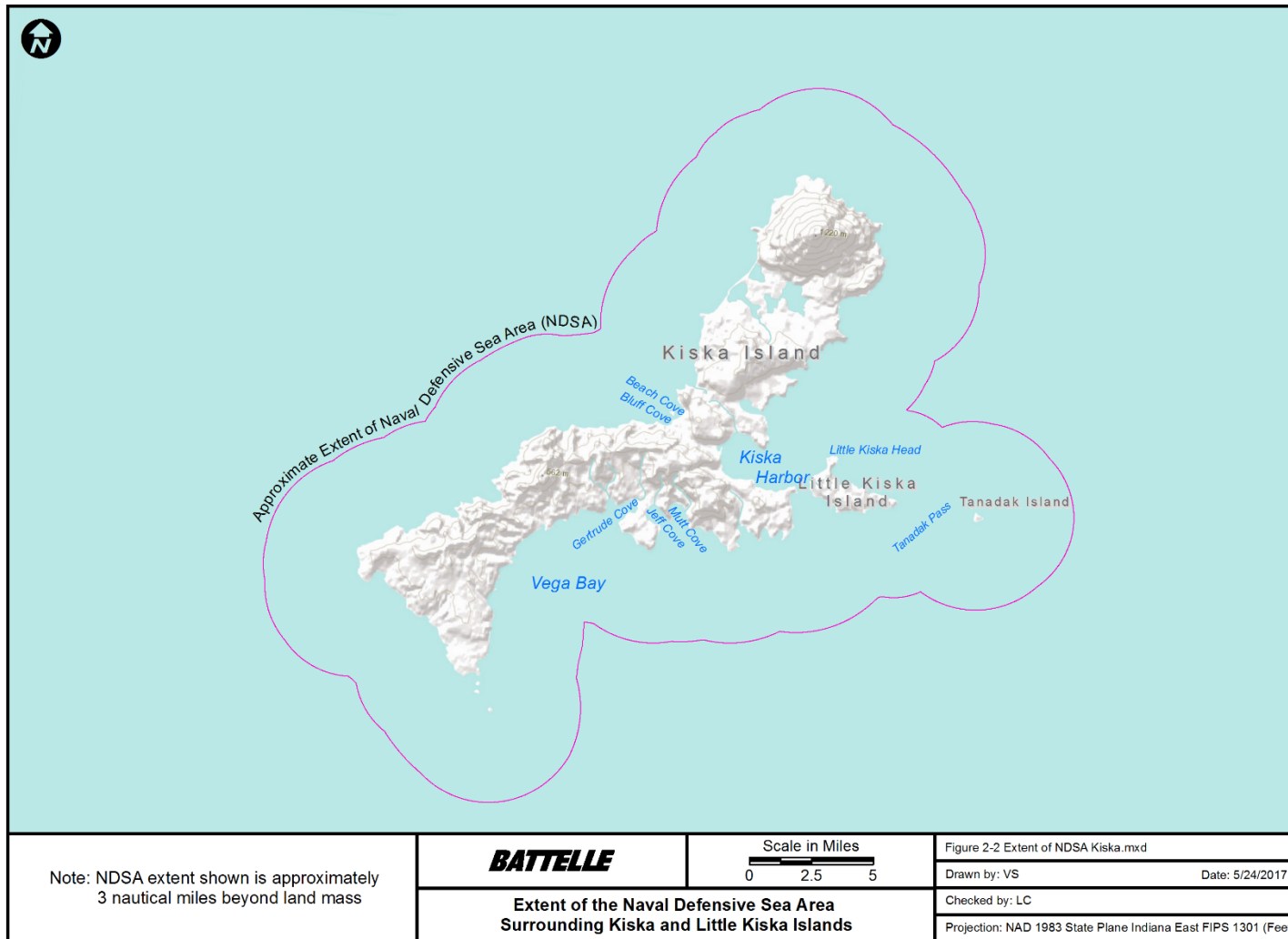


Figure 2-2. Kiska Island NDSA Boundary Map

2.2 Site Regulatory History

A Preliminary Assessment (PA) was conducted at NDSA Kiska Island (U.S. Navy, 2013) to investigate historical activities at the site based on records review and interviews, and to provide a summary of MEC sources and areas where it likely exists. The purpose of the PA was to differentiate sites that pose little or no potential threat to human health and the environment from sites that warrant further investigation. The PA identified evidence of in-water ranges within the NDSA at Kiska Island, and the likely presence of legacy ordnance in the water. The U.S. Army Corps of Engineers (USACE) evaluated the terrestrial environment at Kiska and Little Kiska Islands under the Formerly Used Defense Sites program. The PA concluded that the Navy would perform a NTCRA to initiate a notice to Mariners and an information advisory to increase awareness of the presence of MEC in the area.

An engineering evaluation/cost analysis (EE/CA) was performed in accordance with the DERP (10 United States Code 2701, et. seq.). The EE/CA evaluated potential removal action alternatives for NDSA Kiska Island, focusing on reducing the exposure to MEC in Kiska Harbor and the in-water ranges surrounding Kiska Island. The objective of the removal action is to protect human health from MEC by reducing the potential for an explosive blast while maintaining the current commercial and recreational fishing, research, and recreational diving opportunities in the waters of Kiska.

2.3 Site Characteristics

Kiska is the westernmost of the Rat Islands group. The 177-square-mile island is oriented from southwest to northeast, measuring 25 miles in length and between 1 and 6 miles wide. Kiska has three distinct topographical zones. The northern quarter of the island is formed by the Kiska Volcano—a symmetrical cone that rises to a height of 4,000 feet above sea level. The volcano was last active in 1990. The northern seaward flanks of the Kiska Volcano are lined by tall sea cliffs that fall up to 1,350 feet to the sea; the southern flanks drop to a low, lake-filled plain dominated by a series of large lakes—East and West Kiska Lakes (connected by a narrow channel) and Lake Christine. Terrain south of the Kiska Volcano is comprised of a series of isolated plateaus. The southern half of the island is dominated by a sinuous drainage divide with steep slopes on the west and shallower slopes on the east. Sirius Point on Kiska contains the largest colony of least auklets in the Aleutian Islands and probably in the world (over 1,160,000 birds) and crested auklets (Rudis, 2013).

Island vegetation on these two treeless islands is maritime tundra and is a combination of meadows in sheltered valleys; hollows and heaths occur on more exposed sites. Grasses, lichens, mosses and herbaceous plants are abundant. Grasses in flat valley floors can reach 6 feet in height. There is a profusion of wildflowers in the summer. Woody vegetation is dwarf shrubs, primarily willows (*Salix* species) and blueberries (*Vacciniums*). A variety of crustose lichen species are common on rocks and ridge tops.

2.4 Site Use

Kiska Island is part of the Alaska Maritime National Wildlife Refuge (AMNWR) that was created in 1980 by the Alaskan National Interests Lands Conservation Act (ANILCA). ANILCA also delineated five distinct geographic units and added 1.9 million acres of additional lands to 11 existing refuges, combining a majority of Alaska's seabird habitat into one refuge. The refuge

extends from Forrester Island in southeast Alaska to Attu Island at the tip of the Aleutian Chain and almost to Utqiagvik on the Arctic Ocean. Kiska is part of the Aleutian Islands Unit. These islands have been designated as conservation units for more than a century, first as part of the Aleutian Island National Wildlife Reservation and later the Aleutian Island National Wildlife Refuge (Rudis, 2013).

Aleut people lived on Kiska starting around 4,500 years ago, based on archaeological data for Amchitka, one of the other islands of the Rat Island Group. A village site was excavated and documented as early as 1873 at the west end of the harbor by William Dall, a surveyor with the Coast Survey. However, little is known about Aleut occupational history of Kiska. Results of 2009 research demonstrate the high frequency of cultural remains on Kiska. When the Russian America Company was formed, Kiska, along with Attu, was in the Atka District. By 1805, the original population of the Rat Islands was gone, dead, or relocated to other islands, including Atka and Attu. Arctic foxes were released on Kiska for fur trapping in 1835 (Rudis, 2013).

With Attu, Kiska also became part of the National Wildlife Reservation created in 1913 by Executive Order, which specifically stated that it could not interfere with military use of the island. The land and sea area on Kiska was withdrawn by a 1941 Executive Order to create a NDSA and airspace reservation. The War Assets Administration declared Kiska surplus for disposal on September 19, 1946. The surplus buildings were turned over to the Navy for their disposal.

The Navy returned Kiska back to the U.S. Department of the Interior on February 23, 1951. The original 1903 Executive Order was formally revoked by Public Law 1224 dated September 14, 1955. This returned Kiska to the Aleutian Islands National Wildlife Refuge. ANILCA of 1980 included Kiska in the Aleutians Island Unit of the AMNWR.

In 1985, portions of Kiska were designated as the Japanese Occupation Site, Kiska Island National Historic Landmark. Ten historic sites associated with the Japanese occupation are listed with the Alaska Heritage Resource Survey for Kiska and Little Kiska Islands. Areas on Kiska that are part of the World War II Valor in the Pacific National Monument include an aircraft crash site in addition to the two Allied troop landing locations, and the Japanese Occupation Site, which is also a National Historic Landmark. There are presently four Alaska Native Claims Settlement Act, Section 14(h)(1) significant historic and cemetery sites on Kiska, which were conveyed to the Aleut Native Corporation, and there is one selected Native parcel. On Little Kiska, there is one conveyed parcel to the Aleut Native Corporation.

The management of each refuge is dictated, in large part, by the legislation that created the refuge. In 1980, ANILCA [16 U.S.C. § 303 (1) (b)] sets forth the major purposes for which the AMNWR was established and shall be managed:

- i. to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, marine mammals, marine birds and other migratory birds, the marine resources upon which they rely, bears, caribou and other mammals;
- ii. to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- iii. to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents;

- iv. to provide, in a manner consistent with subparagraphs (i) and (ii), a program of national and international scientific research on marine resources; and
- v. to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge.

2.5 Previous Investigations and Actions

A PA was completed in 2013 (U.S. Navy, 2013). The PA concluded that the Navy would perform a NTCRA to initiate a notice to Mariners and an information advisory to increase awareness of the presence of MEC in the area. The Navy will request that the National Oceanic and Atmospheric Administration (NOAA) include a notice to Mariners on navigational charts for Kiska Island. The warning will notify fishers and divers to be extremely careful when they are within the NDSA for Kiska Island because MEC exists in the waters around Kiska Island.

An EE/CA was completed in 2015 (U.S. Navy, 2015) to identify, describe and evaluate NTCRA alternatives against effectiveness, implementability and cost criteria. Based on the evaluation, Alternative 2 was selected – conduct an NTCRA to memorialize the establishment of institutional controls/land use restrictions. The Navy would request that NOAA have the National Geospatial-Intelligence Agency (NGA) publish a notice to Mariners on navigational charts for Kiska Island. In addition, the Seventeenth U.S. Coast Guard District would be informed to publish a local notice to Mariners with the same information. The Navy would prepare a brochure for land management agencies to provide with permits/information requests. Alternative 2 was selected as the most effective alternative that meets the removal action objectives to maintain the recreational opportunities for people who visit Kiska Island and protect human health and the environment from MEC in the long term.

2.6 Current Actions

There are no current actions taking place.

2.7 State and Local Actions to Date

As the lead agency, the Navy regularly coordinates with the Alaska Department of Environmental Conservation (ADEC), U.S. Environmental Protection Agency (U.S. EPA) Region 10, the AMNWR, and the U.S. Fish and Wildlife Service (USFWS) on current and future actions.

2.8 Potential for Continued State/Local Response

The Navy is the lead agency for response at this site. There is no potential for state or local response actions.

2.9 Engineering Evaluation/Cost Analysis and Public Involvement

The EE/CA serves as the basis for this NTCRA. Upon finalization of this Action Memorandum, public notices will be placed in the *Alaska Dispatch* (Anchorage), *Kodiak Daily Mirror* (Kodiak) and the *Dutch Harbor Fisherman* (Unalaska) for a 30-day public comment period. Responses will be prepared to any public comments received.

Section 3.0: THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES

3.1 Summary of MEC Hazards

The sources of MEC released into the marine environment at NDSA Kiska Island by Allied forces consists of coastal defense and AA gun batteries, supply transfer points, air combat training by units of the 11th Air Force, and air combat training by units of the U.S. Navy. Additional MEC may be present in the six NDSA in-water ranges resulting from combat activities during World War II near Kiska and Little Kiska Islands from ordnance dropped or fired by Allied forces. It is possible that ordnance dropped during combat activities is the predominant source of MEC and is likely present outside of the in-water ranges.

Two piers were constructed in the northwest portion of Kiska Harbor and were used by Allied forces during their operations on-island to offload supplies, including ordnance (Figure 3-1). Information obtained during an interview conducted during the 2013 PA indicates the presence of “thousands of small arms shells on the seafloor off the Kiska Docks” (U.S. Navy, 2013). Remnants of one of these piers are still visible in Kiska Harbor today.

Records from May 1950 indicate that Patrol Squadron Two of the U.S. Pacific Fleet Air Force conducted nine rocket and bombing strikes against abandoned ship targets in Kiska Harbor (U.S. Navy, 2013). No information was discovered to indicate if this was an isolated or common occurrence.

The 2013 PA identified the Allied coastal and AA gun batteries on Kiska and Little Kiska Islands consisting of one 90-mm anti-motor-torpedo-boat (AMTB) gun (e.g., a gun designed to destroy fast moving torpedo boats and aircraft); one 37-mm AMTB gun; four 40-mm M-1 AA guns; six 20-mm Mk-4 AA guns; ten .50-caliber water-cooled machine guns; and four guns of unknown size. The exact locations of the Allied gun batteries were not determined during this investigation. However, information obtained indicates that defensive guns were installed in the vicinity of North Head, Kiska Harbor, Mutt Cove, Jeff Cove, Gertrude Cove, Beach Cove, Bluff Cove, and Little Kiska Head and that regular practice firing occurred at these locations (U.S. Navy, 2013).

Other sources of MEC may include Japanese or Allied troops who may have disposed of or lost ordnance items overboard in the water, particularly in Kiska Harbor, while they were present on the island. MEC of Japanese origin was photographed in 1993 on the bottom of Kiska Harbor to confirm this source (U.S. Navy, 2015).

Five areas with a total of six former in-water ranges within NDSA Kiska Island have been identified as potentially containing discarded military munitions (DMM), practice-fired unexploded ordnance (UXO), or practice-dropped UXO. To be consistent with the Navy MRP, each area contains known or suspected munitions releases that occurred prior to September 30, 2002, where Navy actions were responsible for the release and the site is not covered by water deeper than 20 fathoms (120 feet). These individual areas are defined as follows and illustrated on Figure 3-1:

- Kiska Harbor and Former In-Water Range Area 1 including the former ship pier, barge pier, three rocket/bombing targets, and the seafloor within the former gun

range extending northeast. This area is 7.6 square miles in size and 5.4 square miles is less than 20 fathoms in depth.

- Former In-Water Range Area 2 and 3 off Little Kiska Island. This area is 5.8 square miles in size and 1.5 square miles is less than 20 fathoms in depth.
- Former In-Water Range Area 4 including all of Mutt and Jeff Coves and the adjacent seafloor between Bukhti and Hatchet Points. This area is 4.4 square miles in size and 3.7 square miles is less than 20 fathoms in depth.
- Former In-Water Range Area 5 including all of Ethel and Gertrude Coves and the adjacent seafloor extending southwest. This area is 4.1 square miles in size and 1.6 square miles is less than 20 fathoms in depth.
- Former In-Water Range Area 6 including all of Barley, Beach, and Bluff Coves and the adjacent seafloor, as shown on. This area is 12 square miles in size and 3.9 square miles is less than 20 fathoms in depth.

3.2 Chemical Hazards

Exposure to MC can be considered a potentially complete pathway as the marine environment slowly consumes the metal casings. The major environmental concern associated with releases of MCs in the underwater environment is the impact to sediments. Sediments support biological communities that are the food for marine life. However, the MCs are likely to present low ecological risk under expected exposure scenarios in the marine environment. Therefore, the exposures of terrestrial and aquatic populations to MCs via sediment and surface water within the Kiska Island NDSA are considered complete, but insignificant (U.S. Navy, 2013).

3.3 Risk Conclusions

A Munitions Response Site Priority Protocol (MRSP) was completed following the PA (U.S. Navy, 2013). The MRSP gave the NDSA an explosives hazard rating of 4 out of 8. The likely scenarios include direct contact with UXO by beachcombers and divers, or incidental contact where UXO may get entangled in an anchor or fishing net. These exposure pathways are considered complete but highly unlikely.

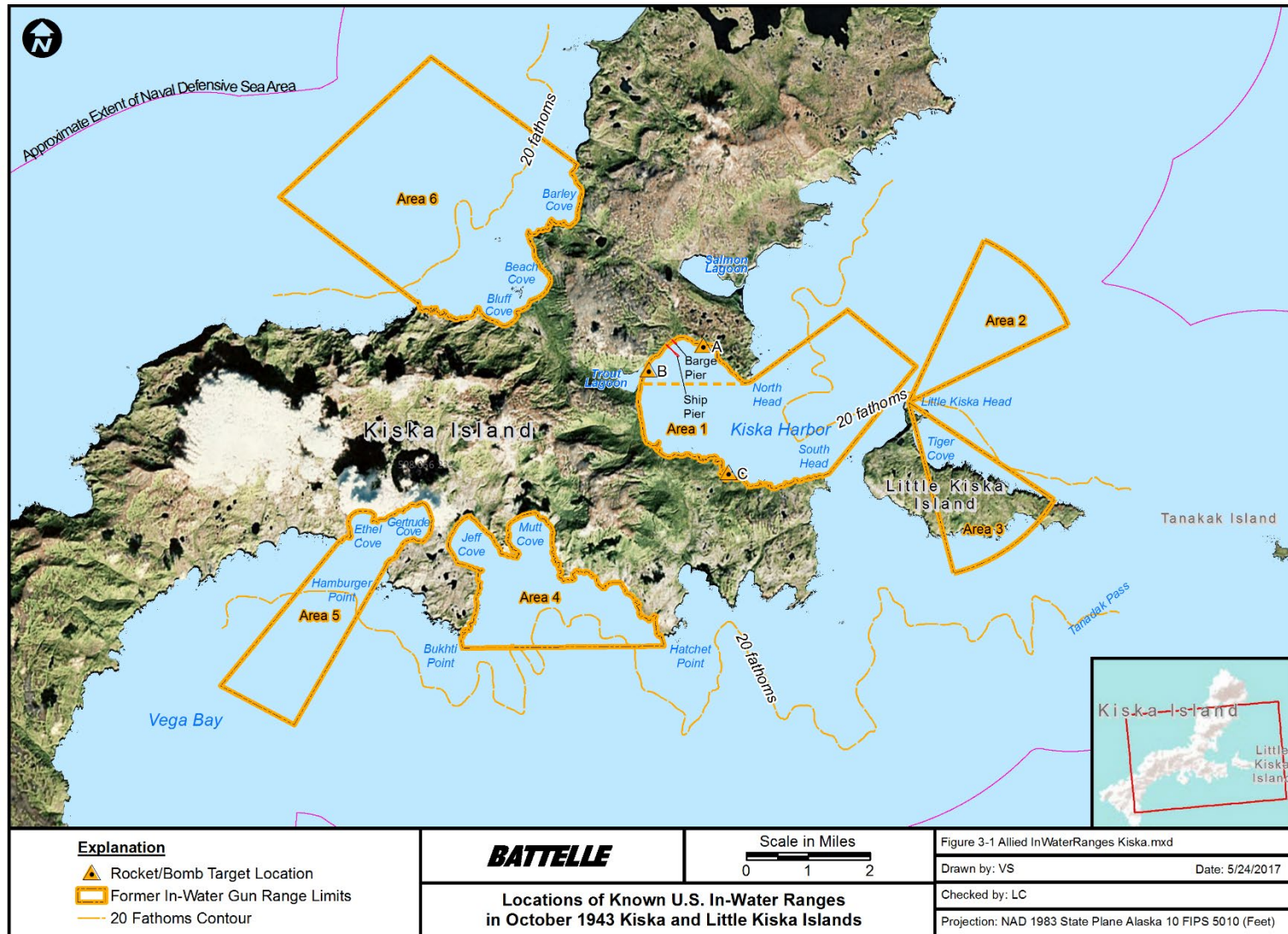


Figure 3-1. Locations of Known U.S. In-Water Ranges in October 1943 Kiska and Little Kiska Islands

Section 4.0: ENDANGERMENT DETERMINATION

Actual or threatened releases of pollutants and contaminants from this site may present an imminent and substantial threat to public health, welfare and the environment.

Section 5.0: PROPOSED ACTIONS AND ESTIMATED COSTS

Implementation of the NTCRA will address the near-term need for reducing the risk from explosive blasts for humans who may potentially come in contact with MEC within former in-water ranges from diving or fishing at NDSA Kiska. It has been determined that only three of the six in-water ranges (Areas 1, 4 and 5) are suitable for diving and only the portion of the range shallower than 20 fathoms may warrant additional protection. The preferred fishing grounds around Kiska are unknown (U.S. Navy, 2015).

The NTCRA comprises ICs, including land use restrictions. Institutional devices, such as the “Follow the 3R’s (Recognize, Retreat and Report)” will be used to increase awareness for potential visitors to Kiska Harbor and the NDSA former in-water ranges.

Administrative Tools:

- The Navy will request that the NOAA have the NGA publish a notice to Mariners.
- The Navy will advise the Seventeenth U.S. Coast Guard District to publish a local notice to Mariners.
- Navigational charts for Kiska Island will be updated with the MEC information. This includes Electronic Chart Display and Information Systems (ECDIS). The ECDIS is currently required on all passenger ships greater than 500 tons and on most cargo and tanker vessels greater than 3,000 gross tons. Ships equipped with ECDIS would automatically receive a notification when they enter the MEC-impacted areas around Kiska Island.
- Provide MEC awareness information to post in public facilities in the Aleutian Islands, such as airports, ports, town halls, post offices, etc., focusing on areas where infrequent visitors to Kiska may likely pass.
- Provide MEC awareness information to commercial and non-commercial research organizations who are likely to visit Kiska Island. These would likely include commercial fishing companies/associations and charter vessels providing transport to research organizations and/or to recreational users for bird watching or diving.
- The Navy will prepare a brochure for land management agencies to provide with permits and information requests.

The Navy will prepare a Land Use Control Implementation Plan (LUCIP). The LUCIP will detail implementation and maintenance, enforcement and reporting. Further, the Navy will maintain the geographic information system database layers that identify all areas around Kiska Island where the ICs apply and their boundaries, as derived from the PA report (U.S. Navy, 2013). The Navy will review, update as needed and distribute MEC awareness information on Kiska Island every 5 years. Costs for these actions are shown in Table 5-1 (U.S. Navy, 2015).

The schedule for the AM is as follows:

- Regulatory review and comment period for Draft AM (60 days)
- Finalize AM (14 days following regulatory review)

- Public notifications in Alaska newspapers and public comment period (30 days)
- Responsiveness Summary (30 days)

These dates may be adjusted pending completion of the regulatory review and comment periods.

An Interim Action Plan consisting of Land Use Controls (LUCs) is scheduled to be prepared in 2021 and LUC Implementation is scheduled to be completed in 2022.

Table 5-1. Cost

Task	Cost - Alternative 2 Institutional Controls/Land Use Restrictions
Capital Direct Costs	\$130,000
Contingency (%)	20
Capital Indirect Costs	\$13,000
Site Inspection and Overhead	\$4,300
Total Capital Costs	\$150,000
Totals	
Total O&M Costs (30 years)	\$160,000
Annualized O&M Costs	\$5,000
Total Capital and O&M Costs	\$310,000
Total Project Present Worth	\$250,000

**Section 6.0: EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE
DELAYED OR NOT TAKEN**

An unacceptable munitions risk has been identified within the NDSA. These measures are intended to mitigate that risk by informing the public through the best means available. Implementation of the NTCRA will decrease risk by forewarning potential visitors to Kiska Island and providing them with knowledge on how to respond should they inadvertently encounter MEC.

Section 7.0: OUTSTANDING POLICY ISSUES

There are no outstanding policy issues involved in this NTCRA.

Section 8.0: RECOMMENDATIONS

It is recommended this NTCRA be approved. This NTCRA provides measures to mitigate risk to human health and the environment.

Section 9.0: REFERENCES

Rudis, D.D. 2013. *Alaska Maritime National Wildlife Refuge – Attu and Kiska Islands Contaminant Assessment*. U.S. Fish and Wildlife Service, Juneau Field Office, Alaska.

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