Compatibility Determination for Old Harbor Geotechnical Survey, Kodiak National Wildlife Refuge

Refuge Use Category

Other Uses

Refuge Use Type(s)

Project- Old Harbor Geotechnical Exploration

Refuge

Kodiak National Wildlife Refuge

Refuge Purpose(s) and Establishing and Acquisition Authority(ies)

Kodiak National Wildlife Refuge (Refuge) was established by Executive Order 8857 in 1941 ". . . for the purpose of protecting the natural feeding and breeding ranges of the brown bears and other wildlife on Uganik and Kodiak Islands . . ."

The Refuge was expanded in 1980 though the Alaska National Interests Lands Conservation Act (ANILCA). ANILCA Section 303 (5)(B) sets forth these purposes of the Kodiak National Wildlife Refuge:

(i) to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited, to Kodiak brown bears, salmonids, sea otters, sea lions, and other marine mammals and migratory birds;

(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 purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents; and

(iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in subparagraph (i), water quality and necessary water quantity within the refuge."

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife,and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Pub. L. 105-57; 111 Stat. 1252).

Description of Use

Is this an existing use?

No

What is the use?

The Alutiiq Tribe of Old Harbor (Tribe) is proposing to conduct geotechnical drilling to survey an area of the Refuge for a proposed basin diversion hydroelectric project. The Tribe has proposed to drill approximately 29 boreholes along the length of the 158-acre survey area.

Is the use a priority public use?

No

Where would the use be conducted?

The proposed action would occur within the Seward Meridian in Township 34 South, Range 25 West in Sections 7, 17, 18, and 20; and in Township 34 South Range 26 West Section 12. The boreholes would start and end at approximately at 57.2464496°N, 153.3447344°W and 57.2320993°N, 153.3077541°W. The proposed geotechnical work would occur roughly within a 158-acre area on the Refuge that is in the anticipated construction corridor for the hydroelectric project.

Refer to Map 1 (attached) for a map of the project area for propoosed geotechincal drilling

When would the use be conducted?

January 1, 2025 to April 30, 2025. The applicant predicts each borehole to take approximately two days to access and complete. The project is predicted to take two months to complete the 29 boreholes. The extended work window is to allow for weather delays as needed.

How would the use be conducted?

The Alutiiq Tribe of Old Harbor is proposing to drill approximately 29 borehole samples utilizing a tracked drill rig. The proposed action would include a borehole approximately every 500 feet along the 10,150 foot penstock and tailrace alignment and increase in to every 25 feet along the intake site diversion wall. The proposed area geotechnical drilling would occur is approximately 158 acres. Boring would be done with Geoprobe 1028 track-mounted rig or similar machinery. Boreholes would be 6 to 8 inches in diameter and drilled to a depth range of 30 to 70 feet. A two-inch intake hose would withdraw a maximum of 4,000 gallons per day of drilling using a

pump with a rate of 30 gallons per minute. Water from the drilling operations would be directed to a small containment pool within uplands. No water from drilling operations would be directly discharged into creeks or existing water bodies.

A Special Use Permit will be required for the proposed geotechnical work. A separate Special Use Permit will be required for air transportation (helicopter use).

An Alaska Department of Fish and Game Fish Habitat Permit will be required for the proposed geotechnical work.

Why is this use being proposed or reevaluated?

This geotechnical survey is being proposed by the Alutiiq Tribe of Old Harbor so the Tribe can gather subsurface information from locations along the proposed access trail and penstock alignment to inform the design of the penstock, trail, and basin-diversion intake to meet engineering and safety specifications associated with the construction of a proposed hydroelectric facility.

Availability of Resources

Applicable administrative costs may include both direct and indirect costs such as: Salaries and associated employee expenses related to evaluation of the proposed use (including a compatibility determination, and compliance with the National Environmental Policy Act of 1969, as amended [42 U.S.C. 4321-4347]) and development of the Special Use Permit (SUP). A SUP is a special use permit issued by the refuge manager which authorizes an activity restricted by law or regulation on a national wildlife refuge;

- Salaries and associated employee expenses related to on-the-ground oversight of the use to ensure that SUP requirements (including general and special SUP conditions, and compatibility stipulations) are followed and the use remains compatible;
- Salaries and associated employee expenses related to traffic control and law enforcement;
- Salaries and associated employee expenses related to monitoring of the actual effects of the use on natural and cultural resources, and general public use;
- Travel;
- Supplies and equipment; and
- An applicable portion of Refuge overhead costs.

To the extent that the Alutiiq Tribe of Old Harbor may provide some of these services (e.g., through contracts with independent third parties acceptable to the Service), these costs and associated fees would be reduced. Consistent with the Refuge Revenue Sharing Act (16 U.S.C. 715s) any fee revenues collected from this use would

be deposited into the U.S. Treasury Department's National Wildlife Refuge Fund for redistribution to refuges to help offset the costs of administering specialized uses (Expenses for Sales) and for payments in-lieu of taxes to counties or other local governments (Refuge Revenue Sharing).

Anticipated Impacts of the Use

Potential impacts of a proposed use on the refuge's purpose(s) and the Refuge System mission

The effects and impacts of the proposed use to refuge resources, whether adverse or beneficial, are those that are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an "affected resource." Geology, soils, wetlands, visitor use and experience, and subsistence will not be more than negligibly impacted by the action and have been dismissed from further analyses.

Short-term impacts

Fish, Wildlife, and Their Habitats

As stated above, one of the main purposes of the Refuge is "to conserve fish and wildlife populations and habitats in their natural diversity." Additionally, another purpose of the refuge is to "fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats." We anticipate the following impacts to fish, wildlife and their habitats:

Short term and localized impacts to fish, wildlife, and their habitats within the Refuge from disturbances are anticipated, such as vegetation trampling, habitat destruction, and removal or temporary displacement and/or disturbance to wildlife in the area where the geotechnical survey work is occurring.

Foot traffic, vehicles, and equipment traffic can unintentionally bring terrestrial and aquatic invasive species to the proposed project area. Soil disturbance from foot traffic, vehicles, and equipment traffic will occur, particularly at the proposed borehole areas, which can increase the potential for invasive species establishment. Vectors include aircraft, vehicle tires, equipment tracks, clothes, and shoes.

The geotechnical work would be located on the East Fork of Mountain Creek, which is a small tributary joining Barling Creek near the high tide point. The lower portions of the East Fork run subsurface for large portions of the year, making the upper sections inaccessible to fish during the low flow periods. Surveys show little use of this stream

by anadromous fish. The Alutiiq Tribe of Old Harbor would be required to obtain an Alaska Department of Fish and Game Fish Habitat Permit.

The proposed timeframe of January 1, 2025 to April 30, 2025 would be outside the vast majority of bird species nesting season in the region. Common bird species in the area would be willow and rock ptarmigan, bald eagle, belted kingfisher, black-billed magpie, northwestern crow, common raven, black-capped chickadee, Pacific wren, American dipper, golden-crowned kinglet, pine grosbeak, red crossbill, and pine siskin. None of these are a listed species and none are designated Birds of Conservation Concern (BCC) 2021 (USFWS Migratory Bird Program). The Refuge conducted annual aerial surveys from 1963-2007 and five bald eagle nests were located within the Old Harbor area. Eagle nests can be used for decades and in the 2015 Old Harbor Hydroelectric Project Environmental Assessment, it was noted in 2011 that there were two active bald eagle nests within the project area. One nest was located in a live cottonwood tree in the Big Creek drainage and a second nest was located in a live cottonwood tree in the Lagoon Creek drainage.

Bears

Potential effects within the boring area are: damage to bear habitat (vegetation that reduces food and cover) and damage to denning sites (vegetation/soil disruption that makes denning sites unusable, etc.) by construction or use of roads/access sites. Introduction of invasive species to disturbed sites could also impact future bear habitat. Losses of food or shelter can increase the energetic expenditure of bears, with effects on body condition, and when substantial, reductions in cub production (Robbins et al. 2012). The presence of a thick-enough snow layer that minimizes disturbance would mitigate against some of the potential vegetative and soil effects impacting bear food, cover, and shelter habitat within the boring area. The area affected directly by drilling and on the ground action is small, and substantial similar habitat exists undisturbed nearby, resulting in minor temporary impacts to bears.

In addition to direct effects on the landscape that could impact bears, aircraft, drill-rig, pump, and all-terrain vehicle operation and human presence introduce the potential for noise and visual impacts, all of which can cause behavioral and physiological responses in bears (Woodruff et al. 2022) within the boring area. Non-denning bears may flee with minor and temporary impacts as they avoid or depart the area. Denning bears remaining in the area could have changes in stress hormone levels (Keay et al. 2006) or elevated heart rate (Ditmer et al. 2015) as a result of disturbance, or be displaced by disturbance to seek out alternative den locations (Swenson et al. 1997). Increased heart rate or increased activity related to relocating a den can elevate energetic expenditure which can decrease body composition; decreased body composition of animals can decrease over-winter survival and in maternal females can also affect cub survival (Hilderbrand et al. 2000). Relocation of a den, especially early after cubs have been born, can result in the death of cubs (Amstrup and Gardner 1994, Swenson et al. 1997, Rode et al. 2018, Woodruff et al.

2022). Behavioral reactions of denning bears depend on individual bear comfort levels, the period within the denning window, den characteristics, distance to the den, noise levels, and for aircraft altitude and type of aircraft. Impacts to denning bears that do not relocate are likely minor and temporary, detectable in those bears within the noise-disruption area but not affecting the broader population and lasting approximately 2 months during boring. Impacts to denning bears that relocate can be minor and temporary, assuming non-maternal bears that find suitable denning alternatives without expending significant energy stores, or can be intermediate and long-term, if reproductive output diminishes for affected maternal females.

The noise and visual impacts are expected to extend beyond the boring area. Industrial activities can be detected in artificial polar bear dens 2 km from activity (MacGillivray et al. 2003). Identifying the potential affected area as the project area plus a 1.6 km buffer on all sides would account for the area potentially affected by changes to the ambient noise environment; that area is approximately 18.5 km2 from 1.5 to 945 m elevation. Effects of noise within the additional area would be the same as within the boring area- minor and temporary, but possibly intermediate and long-term for maternal females that relocate and lose cubs. As the helicopter has the opportunity to affect the greatest area, limiting that overflight-area of the helicopter to a consistent path could minimize the extent of noise disturbance to denning bears.

Effects to the broader population of bears on the Kodiak archipelago (estimated around 3,500 animals) are expected to be minimal, as no evidence suggests that the affected area is a critical habitat area supporting an above average concentration of bears. Expected summertime bear abundance in the ~18 km2 affected area based on densities observed in the nearby Kiliuda survey area is four independent animals. Wintertime use of the area is unknown.

Water Quality

Another purpose of the Refuge is to ensure water quality. The applicant has proposed a maximum water withdraw of 4,000 gallons per day. Their proposal decreases impacts to water quality by discharging sediment ladened water into upland rather than back into surface waters. Increased turbidity would occur from the proposed action but impacts would be minor and short term, returning back to initial conditions after construction has completed.

Due to the use of aircraft, vehicles, and equipment associated with the proposed geotechnical survey work, there may be a low incidence of fuel spills that occur on the Refuge that may temporarily impact water quality in the localized area of the spill.

Leave-no-trace practices are promoted by the Refuge. Improper management of human waste and littering with toilet paper may occur during the proposed geotechnical survey work. Deposition of solid human waste within 100 feet of the ordinary high water mark of any wetland, lake, pond, spring, river or stream, while prohibited by regulation, is a potential impact within the survey area.

Cultural Resources

In the 2015 Old Harbor Hydroelectric Project Environmental Assessment, the Alutiiq Musuem and Archaeological Repository conducted a reconnaissance level investigation in 1997 along the project boundary for cultural resources. Additional cultural surveys were conducted in 2009, 2010, and 2011. In 2015, the Old Harbor Hydroelectric Project was reviewed by the USFWS Regional Cultural Resources staff and they concurred with the previous surveys and findings. In 2024, the USFWS Regional Cultural Resources staff reviewed the Special Use Permit application and GIS files for the proposed geotechnical survey that the Alutiiq Tribe of Old Harbor submitted. The USFWS Regional Cultural Resources staff determined that the geotechnical project footprint was within the 2015 Environmental Assessment for the Old Harbor Hydroelectric Project footprint, the type of terrain the project is occurring in falls within the previous consultation area, therefore this resulted in a finding of no historic properties affected per 36 CFR 800.4(d)(1) of the National Historic Preservation Act.

Long-term impacts

Vegetation

Long term impacts such as vegetation trampling and habitat destruction may occur in the proposed geotechnical area. The proposed helicopter usage would require crews to clear vegetation around the boring sites, leaving a 50-foot radius for the helicopter to land. These areas would be disturbed during the geotechnical work but are not expected to leave long term impacts, since the sites will gradually recover over time from disturbance.

Invasive Species

Invasive species that are known to occur on or near the Refuge are Canada thistle, orange hawkweed, fall dandelion, oxeye daisy, and common tansy. The loss of vegetation and habitat destruction during the proposed geotechnical work could impact future wildlife use of the area and result in the establishment and spread of invasive plant species on Refuge lands.

Public Review and Comment

The draft compatibility determination will be available for public review and comment for 15 days in conjunction with the public comment period for the Draft Supplemental Environmental Assessment for Old Harbor Geotechnical Survey. The public will be made aware of this opportunity to comment through emails and/or letters to local Tribes, municipal governments, and the State of Alaska; publication in the Kodiak Daily Mirror; and announcements on social media platforms. A hard copy of his document will be available at the Kodiak Refuge headquarters in Kodiak and will be

made available electronically on the Refuge website https://www.fws.gov/refuge/kodiak. Concerns expressed during the public comment period will be addressed in the final Compatibility Determination.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

- Stipulations necessary to ensure compatibility include obtaining and complying with a special use permit, which also contains required special conditions.
- The helicopter company will also need to apply for a special use permit for air transportation, which also contains required special conditions.
- The Permittee is responsible for ensuring that all persons working for the Permittee and conducting activities allowed by the permits are familiar with and adhere to the conditions of the special use permits.
- The special use permits herein granted is only for the specific use described and may not be construed to include the further right to authorize any other use within the area unless approved in writing by the Service.
- The Permittee is responsible for obtaining all necessary State and Federal permits and submitting copies to the Refuge Manager prior to the start of any work associated with the proposed geotechnical survey.
- All bulk hazardous material and all hazardous waste containers are not allowed in the project area.
- All trash and non-petroleum solid waste generated during survey work, construction, or production facilities will be hauled off the Refuge and disposed of in accordance with 18 AAC 60 (Solid Waste Regulations) and with 18 AAC 62 (Hazardous Waste Regulations).
- All hazardous wastes (as defined by the Resource Conservation and Recovery Act of 1976, as amended) will be transported and disposed in accordance with regulation requirements and shall not be stored in the permit area.
- Any problems with wildlife shall be reported immediately to the Refuge Manager. The Permittee, contractors, and employees shall not feed wildlife. Wildlife shall not be harassed or intentionally approached closely enough to disrupt the animal's activity or to endanger human life. There shall be no taking of any animal except in the case of defense of life and property. In the case of a defense of life and property taking, the Permittee shall immediately

contact the Alaska Department of Fish and Game and the Refuge Manager and salvage those parts of the animal required by State regulations.

- Disturbance and destruction of eagle nests or nesting trees is prohibited. Activities are prohibited within 1/4-mile of an established nest tree.
- The Permittee shall be responsible for keeping the project area clean. All trash, survey lath, trail markers and other debris shall be picked up and properly disposed of during the job. Improper management of human waste and littering is prohibited.
- The Permittee shall comply with the provisions of the Archeological Resources Protection Act (16 U.S.C. 470(a) (a)). The disturbance of archeological or historical sites and the removal of artifacts from Federal land are prohibited. In the event that cultural resources are found during the project, a localized work halt shall be initiated. This will be followed immediately by telephone contact to the Refuge Manager, and concurrent contact with the State Historic Preservation Officer (SHPO), to evaluate the significance of any findings and establish any protective measures that may be necessary.
- The Permittee's employees or contractors are prohibited from hunting, fishing, and trapping when access to the area is obtained by vehicle use of the permit, or any other road not open to the general public.
- The Permittee's employees or contractors are required to comply with existing State and Federal regulations.

Justification

Based on available science and best professional judgement, the Service has determined that the Other-Geotechnical at Kodiak National Wildlife Refuge, in accordance with the stipulations provided here, would not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose of the Kodiak National Wildlife Refuge.

Signature of Determination

DANIELLE FUJII-DOE

Digitally signed by DANIELLE FUJII-DOE
Date: 2024.10.25 09:08:03 -08'00'

Refuge Manager Signature and Date

Signature of Concurrence

KARLIN ITCHOAK

Digitally signed by KARLIN ITCHOAK
Date: 2024.10.28 12:40:23 -08'00'

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

November 1, 2034

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