

ENVIRONMENTAL ASSESSMENT
Case File No. : AA-084056
AK-040 02-EA-019

Applicant: Alaska Department of Fish and Game
Division of Sport Fish
P.O. Box 25526
Juneau, Alaska 99802-5526

Type of
Action: Right-of-Way, 43 CFR 2800

Location: Seward Meridian, T. 13 N., R. 2 W., Section 7, E $\frac{1}{2}$ E $\frac{1}{2}$ E $\frac{1}{2}$ SW $\frac{1}{4}$; Section 18,
E $\frac{1}{2}$ E $\frac{1}{2}$ E $\frac{1}{2}$ NW $\frac{1}{4}$.

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Preparing
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Date: May 6, 2002

I. INTRODUCTION:

A. Background:

The Alaska Department of Fish and Game (ADF&G), Division of Sport Fish, operates the Fort Richardson Fish Hatchery (Hatchery). This Hatchery supplies a large percentage of fish used for stocking water bodies throughout Southcentral Alaska. Currently, the Hatchery utilizes heated water from the Fort Richardson Military Reservation Steam/Power Plant. However, the U.S. Army has officially notified ADF&G that it has scheduled the closure of the Fort Richardson Steam/Power Plant for the fall of 2003. At that time, the Hatchery will lose the vital source of heat that has been used for many years to warm the Hatchery water. Stable sources of water and heat are critical to the programs at the Hatchery. Fish production will be reduced by more than half without a replacement heat source. Although ADF&G could heat the Hatchery water using natural gas and large boilers, the cost to heat 3,000 gallons per minute (GPM) of water would prove to be prohibitive to keep fish production at current levels. Therefore ADF&G is studying how to supply a new source of water so that it can be heated at the Municipal Light & Power (ML&P) Plant #2 and transported to the Hatchery. As the first step in this project, ADF&G has contracted with HDR Alaska, Shannon & Wilson, and Alpine Drilling to complete a feasibility study to locate and secure a new source of water for the Hatchery.

The Real Property Division of the Directorate of Public Works (DPW) on Fort Richardson Military Reservation will issue a letter of non-objection prior to issuance of a grant.

B. Purpose and Need for the Proposed Action:

ADF&G has applied for a Right-of-Way (R/W) to drill and test four wells on the Fort Richardson Military Reservation south of the Glenn Highway. The purpose is to complete a feasibility study to see if the identified locations will supply the required quantity of water. To be viable, the source of water and heat must be relatively close to the Hatchery to be cost effective. The area ADF&G wants to study is about 1½ miles from the Hatchery, but it is within ½ mile of the ML&P Plant #2, the nearest source of waste heat to the Hatchery. If the feasibility study reveals that wells can be successfully developed in this area, then ADF&G will seek a separate authorization to build a pipeline from the well field to the ML&P plant, and then to the Hatchery. If the entire project is successful, the Hatchery will be able to maintain current fish production levels.

C. Conformance with Land Use Plan:

The Proposed Action has been reviewed and found to be in compliance with the Southcentral Management Framework Plan (MFP), March 1980. Objective

Number L-2 of the MFP states the BLM intends to “Satisfy needs for rights-of-way.” If the feasibility study is positive, the BLM can expect an application for a R/W from ADF&G. Objective Number L-1 of the MFP states the BLM intends to “Satisfy state and local government needs as well as public and/or private demonstrated needs for land as they arise.”

II. PROPOSED ACTION AND ALTERNATIVE

A. Proposed Action:

The Proposed Action is to complete a feasibility study to identify a new source of water for the Hatchery. The portion of the study covered by this environmental assessment will take place in two phases. Phase 1 will involve drilling four test wells. Phase 2 will include testing the wells to estimate production capacity of the wells. The project area is near the junction of Oilwell Road and Bulldog Trail in Section 7 and 18, T. 13 N., R. 2 W., Seward Meridian.

Phase 1-Drilling and Completion of Test Wells

Phase 1 involves developing site pads and drilling and developing four test wells.

Each well will be located approximately ten feet from an existing road or trail and will require a pad that is approximately 20 feet in diameter. Each pad may require an area of .028 acres. The total area for four pads will be approximately .115 acres. A few trees and small amount of brush may need to be removed at each pad location. Alpine Drilling will drill one 8-inch and three 6-inch diameter wells to a depth of 150 feet and then line the wells with steel casing.

Alpine Drilling will use a truck mounted air rotary drill rig. The drill rig/truck weighs about 55,000 pounds. The operator will back-up off the road about ten feet, and then set up the drill. Originally, Alpine Drilling wanted to spray water on the snow at each site to form ice pads, thereby lessening disturbance to ground cover. If snow or ice cover is not viable, then the ground will be scraped level or small amounts of fill added for leveling. Currently, the sites are near level, so minimal leveling should be needed. If needed, snow will be plowed to each pad site, and on the trail to allow for vehicle access. The 8-inch well will yield approximately 2.3 cubic yards of cuttings, while each 6-inch well will yield approximately 1.3 cubic yards of cuttings. Cuttings will consist of sand and gravel and will be disposed of at the well site, by being dispersed in a radial pattern around the well to a depth of approximately one foot. No chemicals will be used in the drilling process.

The wells will be completed following installation of the casing. Completion will be conducted using air surging and pumping methods, and is expected to take two to four hours per well and produce about 10,000 gallons of water per well. The

water will be discharged to the ground in the vicinity of the well, and disperse naturally.

The preliminary evaluation of the well field will involve the pumping of Anchorage Water and Wastewater Utility's (AWWU) Well #9 for a period of up to 30 days. The water will be piped into the AWWU distribution system. During this time, water levels in the test wells will be monitored using pressure transducers and data loggers in order to evaluate the influence of the pumping Well #9 on the new wells. Data loggers are typically mounted on the well casing, and can be carried by hand to the site.

If the results of the preliminary assessment are favorable, tests will be performed on at least one of the four new wells. This pump testing program is described in Phase 2.

Phase 2 B Test Pumping

If the preliminary analysis of the well field indicates a viable well field, the applicant will complete a 24-hour to 72-hour draw down pump test of a 6-inch or 8-inch diameter well. Well #2 is the most likely candidate for a pump test because the area surrounding the well is naturally sloped to the west and allows for the discharge of the water with less potential for pooling of water. The daily discharge of water will be between 720,000 gallons per day to 1,000,000 gallons per day. Pumping equipment will be mounted on a wheeled truck, and the well will be accessed from Oilwell road. The pumped water will be discharged to the down hill side of the forest, using twenty-five to forty feet of hose. The water will be pumped into a 6" or 8" hose, and connected to a larger 8" to 12" hose, where it will flow onto the natural snow pack and/or the surrounding forest floor. The well water will be discharged to the ground at a rate between 2.0 cu.ft./sec. to 4.5 cu.ft./sec., or in other words, a rate of 500 to 700 gpm.

If the well project is feasible, ADF&G will pursue another phase of the project to drill additional wells, build a water pipeline that parallels existing roads and trails to the Municipal Light & Power Plant #2. A route selection study will analyze how to bring heated water from the plant to the Hatchery. All phases beyond Phase 1 and 2 will be analyzed under a separate environmental analysis.

B. No Action Alternative:

The No Action Alternative would be to deny the R/W. Under this alternative ADF&G would have to find other ways to secure a supply of water and heat to continue Hatchery operations at the current level.

III. AFFECTED ENVIRONMENT

A. Critical Elements:

The following critical elements of the human environment have been analyzed and are either not present or will not be affected by the Proposed Action or the No Action Alternative.

Air Quality
Areas of Critical Environmental Concern
Cultural Resources/Paleontology
Environmental Justice
Farmlands (Prime or Unique)
Flood plains
Native American Religious Concerns
Subsistence
Threatened and Endangered Species
Wastes (Hazardous/Solid)
Water Quality (Surface/Ground)
Wetlands/Riparian Zones
Wild and Scenic Rivers
Wilderness

1. ANILCA Section 810 Clearance:

The Proposed Action and Alternative have been analyzed and determined to have no effect on any subsistence uses or needs under Section 810. The lands are withdrawn by Executive Order 8102 for a military reservation.

2. Cultural Resources:

The first archaeological evidence of people living in the Cook Inlet area occurs approximately 7000 to 9000 years ago. The people inhabiting the Anchorage area at the time of first recorded history were Tanaina. No Tanaina villages are known for Fort Richardson. The area now encompassing Fort Richardson was undoubtedly used by the Tanaina for subsistence activities, especially the coastline and the salmon streams.

Beginning in the 1890's, Non-Native settlement of the general area was stimulated by the search for gold. In 1915 the Alaska Railroad reached Ship Creek and the town of Anchorage was platted. Some homesteads were situated within the area of Fort Richardson, but were acquired by the military when the land was withdrawn from public entry in 1939.

No cultural resources are known for the area of this project. Given the previous disturbance in the area of the project, no previously unknown

cultural resources are expected for the area of potential effect. A stipulation addressing unexpected discoveries will be attached to the R/W.

3. Threatened and Endangered (T&E) Species Clearance:

The Proposed Action and Alternative were evaluated in accordance with the Endangered Species Act of 1973, as amended. The Proposed Action and Alternative were determined to have no effect on threatened and endangered plants and animals and their habitats. No consultation with the U.S. Fish and Wildlife Service (USF&WS) is necessary pursuant to Section 7 of the Act.

B. Land Status:

This land is under a withdrawal for a military reservation. BLM's role is to manage the vegetative and mineral resources. BLM issues land authorizations for this withdrawal, subject to the concurrence of the military.

C. Vegetation:

The project area is within the Cook Inlet/Susitna Lowlands major land resource area. Vegetation in and around the project area has a history of disturbance from military operations. Climax vegetation would consist of paper birch, white spruce and cottonwoods, interspersed with thick patches of alder and willow brush.

D. Visual Resources:

This area is managed under a Class III Objective. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer.

E. Recreation:

The area for this project has limited recreation value as the land is reserved for military purposes and access is restricted by the U.S. Army. This area is the western border of an active training area and therefore the general public does not utilize the area for recreation. This area will not be opened to the general public in the foreseeable future.

F. Wildlife:

The site of the Proposed Action and surrounding area supports a variety of animal species. Resident populations include moose, porcupine, snowshoe hare, microtine rodents and at least 40 species of resident and migrant land birds. Non-resident species that have been seen include fox, coyote, wolf, lynx, brown bear and black bear. These animals move through the area, probably from the Chugach

Mountains during seasonal changes and heavy snowfall. Many migrant birds pass through the area during spring and fall migration, including several raptor and many neo-tropical species. Shrub and forest habitats provide nesting habitat for land birds and raptors, particularly Bald Eagles. There is one species of amphibian, the wood frog, that occurs in the area.

G. Soils:

Soils in the project area are of the typic cryorthods subgroup of the orthod soil group. These soils make up approximately 40 percent of the subgroup area and consists of soils which are dominant on gravelly, nearly level to undulating outwash plains and rolling moraines. Soils are 15 to 18 inches thick over gravelly glacial drift. Soils typically have a thin gray surface layer over a reddish brown to yellowish subsurface layer 6 to 12 inches thick overlying a very gravelly coarse sand or sandy loam containing many stones and boulders. The soils have few limitations for construction and should pose no obstacle for accessing the site or drilling the wells.

IV. ENVIRONMENTAL CONSEQUENCES

A. Impacts of the Proposed Action:

1. Critical Element - Invasive, Non-Native Species:

Areas that are cleared and disturbed could be invaded by invasive, non-native species. The likelihood depends on whether there are seed sources in nearby areas or if seeds are transported in on construction equipment. The quicker disturbed sites revegetate, the less chance of invasive, non-native species becoming established. Disposal of cuttings to a depth of 12 inches around the well head has the potential to kill underlying vegetation, while at the same time providing a site where non-native species would become established. The addition of fill for leveling purposes may also become a site where non-native species would become established.

2. Vegetation:

Under the Proposed Action, there would be minor impacts to the vegetation in the project area provided vegetation is cleared by cutting without blading or dozing to mineral soil. Most of the impacts would be the temporary clearing or trampling of vegetation for passage of the construction equipment. This activity will not result in a deleterious effect to the forest resources of the area. There could be some erosion and loss of vegetation due to the water run-off.

Areas cleared to mineral soil could likely recolonize the first few years in weeds. Much of the adjacent areas are at different successional stages due

to human influences. Each area would progress to a climax community in due time, if no other impacts would occur.

3. Visual Resources:

There will be some visual impact in the form of well casings six and eight inches in diameter that will stick up about 30 inches above the ground. Disposal of cuttings to a depth of 12 inches around the well head will create a visual impact that would be evident to the casual observer. When vegetation re-establishes on the cuttings pile the visual impact would be lessened because the pile would blend more with the surrounding environment.

4. Wildlife:

Wildlife will be temporarily displaced during the time construction takes place. This will be short term and of limited impact.

5. Soils:

During Phase II of this project, the release of up to a million gallons of water per day to the surrounding forest has the potential to cause erosion in a small area at the point of release. Once the water leaves the hose, the energy should dissipate, minimizing the effect on the surrounding area.

B. Impacts of the No Action Alternative:

Under the No Action Alternative there will be no impacts because the project will not take place.

C. Cumulative Impacts:

The Proposed Action will add to the development that is taking place in the Anchorage Bowl. Because of the size, location and low visibility of the site, the impact will be slight.

D. Residual Impacts:

Residual impacts would be the long-term loss of a minimal amount of vegetation and wildlife habitat where the wells are drilled.

E. Mitigation Measures:

To minimize introduction of invasive non-native plant species, equipment, and other materials brought on-site should be free of weed sources. Disturbed sites should be monitored to determine if non-native species become established. If these species are found, they should be removed. Any areas that do not revegetate by the end of the second growing season should be seeded with a native seed. If

disturbed areas are excessive in size they may require seeding after construction. No blading or removal of vegetation to mineral soil in the R/W area or access routes should be allowed.

All sand, gravel, and soil removed from the ground should be evenly spread around each well to a depth of no more than two (2) inches. Removal of vegetation should be held to a minimum. Existing roads and trails will be used as much as possible to access test well areas. Any fill material used in the construction phase of the project should be recontoured at the conclusion of the project. Fill should be dispersed to a depth of no more than two (2) inches in the surrounding area.

During the Phase II release of water, a mat fabric should be laid out under the point of discharge to prevent any erosion and to allow the water to become a sheet flow prior to being released to the forest floor. It is recommended that a woven geo-textile be used to accomplish this purpose.

V. CONSULTATION AND COORDINATION:

- A. Individuals and Agencies Consulted
Mike Wolski, Project Engineer, HDR Alaska
Sally Morsell, Environmental Specialist, HDR Alaska
Bill Quirk, Directorate of Public Works, USARAK
Gordon Garcia, Project Manager, ADF&G, Sport Fish
- B. List of Preparers:
Debbie Blank, Botanist
Jeff Denton, Wildlife Biologist
Clinton Hanson, Group Manager, Resources
Rodney Huffman, Realty Specialist - Lead Preparer
Donna Redding, Archaeologist
Mike Scott, Fisheries Biologist
Bruce Seppi, Wildlife Biologist
Mike Zaidlicz, Forester/Iditarod Trails Coordinator