

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)
and
FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)
for the
Removal of a Flightline Bird Air Strike Hazard**

Introduction

Eielson Air Force Base (Eielson) is proposing to fill a 0.5 acre pond that is in the designated Bird Exclusion Zone portion of the flightline. This action would eliminate a bird air strike hazard that currently exists at the north end of the runway.

Description of the Proposed Action

The proposed action will result in the placement of approximately 4,000 cubic yards of gravel and inert construction debris into the existing Grebe Pond. The filling process would occur over the period of approximately 1 year. Once the pond is filled, a finish layer of topsoil will be deposited and seeded with native grasses.

Alternatives to the Proposed Action

Two alternatives to the proposed action were identified. Alternative 1 would rely on the use of standard bird hazing methods to prevent bird use of the pond. This would likely be manpower intensive and not totally eliminate bird use of the pond. Alternative 2 would involve the physical capture and relocation of birds that are observed using the pond. This alternative would be even more labor intensive than alternative 1.

No Action Alternative

Under the no action scenario, standard bird hazing methods to prevent bird use of the area would be continued.

Environmental Impacts of the Proposed Action

Wetlands and Floodplains

The proposed project would result in the loss 0.5 acres of lacustrine (lake) wetlands. The wetlands are of moderate value and are used by waterfowl on a continuous basis from May to September. Elimination of the pond would likely result in waterfowl being displaced to nearby adjacent wetlands that are similar to those that currently exist at the site. The project area does not lie within the 100-year floodplain.

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Biological Resources

Impacts to biological resources from the proposed action would be minimal. Habitat impacted is a type that occurs frequently in the vicinity of Eielson, namely small to medium-sized ponds that are part of the floodplain of a major river (Tanana River).

Threatened or Endangered Species

There are no threatened or endangered species in the project area. The project area is not suitable habitat for any of the threatened or endangered species occurring in the Alaskan interior.

Historical or Cultural Resources

Most archeological sites on Eielson lands have been identified and mapped. The proposed project is not associated with any known sites. In the event that historic or cultural sites are discovered during project construction, activities will be halted and a professional archeologist will evaluate the find.

Noise

Implementation of the proposed action could result in short-term, minor impacts to noise from construction related activities.

Air Quality

The proposed action will have minor air quality impacts during construction due to fugitive dust and machinery exhaust. Such impacts will be highly localized and temporary in nature.

Mitigation

No special conditions (mitigation) other than standard best management practices that are already incorporated into the project design are required by any federal or state agency for impacts that may result from this project.

Public Comment

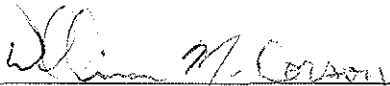
No public comments were received from the public noticing of the Environmental Assessment/FONSI/FONPA in the local Fairbanks newspaper.

Findings

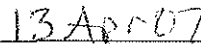
Pursuant to the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) implementing regulations for NEPA (40 CFR Part 1500-1508), and Air Force Instruction 32-7061, *Environmental Impact Analysis Process* (32 CFR Part 989), the Air Force has conducted an Environmental Assessment (EA) for the elimination of a bird air strike hazard in the vicinity of the flightline. This FONSI/FONPA has been developed pursuant to information provided in the accompanying EA.

Finding of No Practicable Alternative: Eielson is an Air Force facility that operates, maintains, and trains combat forces in close air support of military operations worldwide. Eielson must maintain the highest level of aircraft safety possible and eliminating Grebe Pond is an important part of this program. Taking all the environmental, economic, and other pertinent factors into account, pursuant to Executive Order 11990, the authority delegated by SAFO 780-1, and taking into consideration the submitted information, I find that there is no practicable alternative to this action and the proposed action includes all practical measures to minimize harm to the environment.

Finding of No Significant Impact: Based on this environmental assessment, which was conducted in accordance with the requirements of NEPA, CEQ, and Air Force Instructions, I conclude the removal of Grebe Pond as a hazard to aircraft will not result in significant impacts to the environment. I also find that the preparation of an environmental impact statement is not warranted.



WILLIAM M. CORSON, Colonel, USAF
Director, Installations and Mission Support



Date

Environmental Assessment

for the

**Removal of a Flightline Bird Air
Strike Hazard**

Eielson Air Force Base, Alaska

**354th Fighter Wing
January 2007**

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Director, Installations and Mission Support

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Environmental Assessment (EA) for the Removal of a Flightline Bird Air Strike Hazard

1.0 Purpose and Need for Action

Section 1 provides a description of the purpose and need for the proposed action.

1.1 Background and Objectives for the Proposed Action

1.1.1 A small, 0.5 acre pond, known as Grebe Pond, is located within the bird exclusion zone of Eielson Air Force Base's (Eielson) flightline and has been proposed for filing to eliminate it as a bird air strike hazard (Figures 1-1 and 1-2).

1.1.2 Eielson was established in 1944 and is currently part of the Pacific Air Forces' (PACAF) Command. The 354th Fighter Wing (FW) operates, maintains, and trains combat forces in close air support and interdiction missions in support of the war plans in three operational theaters. The 354 FW's mission is to train and equip personnel for close air support of ground troops in an arctic environment. The 168th Air Refueling Wing is the primary tanker unit of the Pacific Rim, annually transferring over 17 million pounds of fuel in flight to predominantly active duty aircraft.

1.1.3 Eielson is located in a region that is designated as "Interior Alaska" and is situated in a broad, relatively flat historic floodplain of the Tanana River (Figure 1-3). It is a region that is characterized by extensive areas of wetlands that contain numerous seasonally persistent water bodies that provide nesting and brood-rearing habitat for a wide variety of bird and waterfowl species. The Tanana River floodplain is also a major flyway for seasonally migrating birds that utilize Alaska North Slope areas for nesting. Each spring and fall more than a million birds pass through Interior Alaska moving north in the spring, and then south in the fall. The combination of habitat availability and proximity to a major bird flyway results in the presence of large numbers of birds in and around Eielson on a seasonal basis.

1.1.4 Due to the inordinately large numbers of birds that frequent the wetland areas in the vicinity of Eielson, effective bird air strike hazard (BASH) reduction is a critical responsibility of flight operations at Eielson. To assist in this function, wing safety has implemented a BASH Plan to minimize aircraft exposure to hazardous bird strikes where Eielson units conduct flying operations. The Eielson airfield is the primary focus of this effort, but the plan also addresses such areas as Blair Lakes Range and the Yukon Training Area. The BASH Plan has established planning areas (zones) that assist in managing and responding to various threats from birds. The area immediately adjacent to the flightline is divided into two zones (Figure 2), a Bird Exclusion Zone (BEZ) and a Bird Reduction Zone (BRZ).

REGIONAL AND BASE LOCATION MAPS

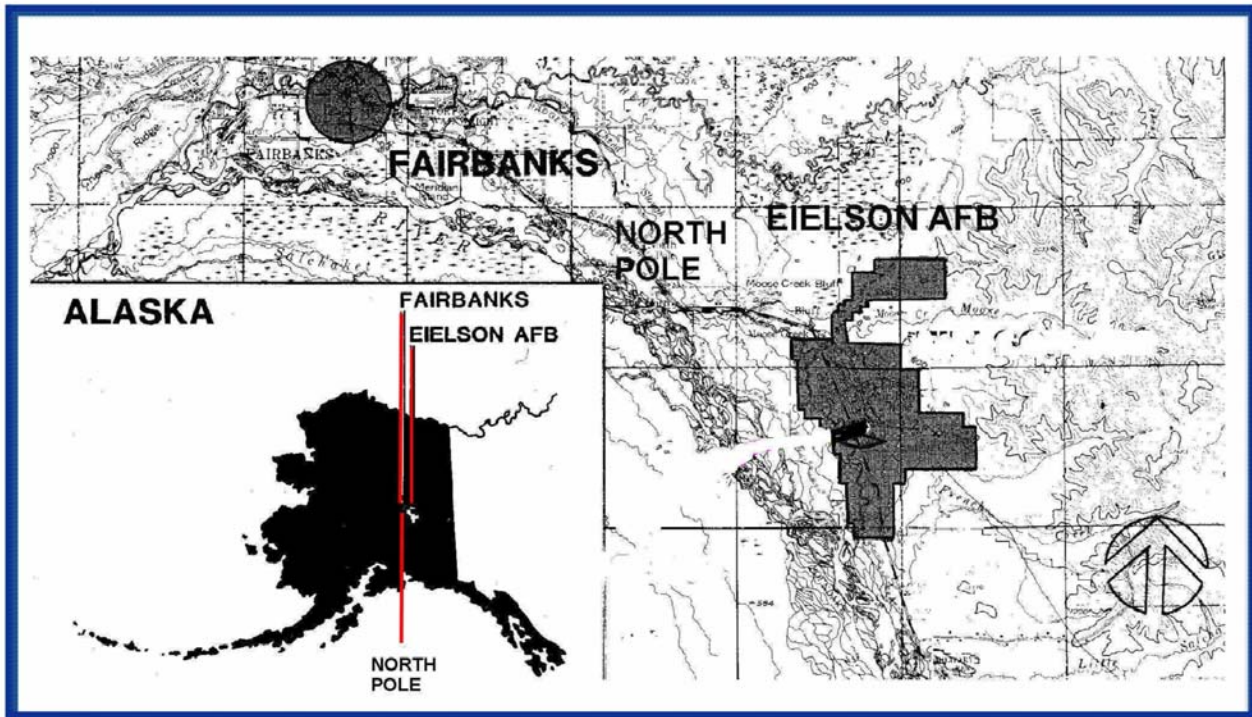


Figure 1-1 – Location Map

1.1.5 The BEZ is defined by the plan as an area in which bird activity will be kept to the lowest level possible. When bird activity is observed within this zone by wing safety, notification procedures are initiated and, depending on the particular circumstances, the situation could result in implementation of other actions contained in the plan. Within this BEZ there currently exist bodies of water that provide habitat for birds, particularly waterfowl. The BEZ is defined as that area of Eielson AFB bounded as follows: starting at the intersection of Old Richardson Hwy and Central Ave, east along Central Ave to Transmitter Rd, north on Transmitter Rd (approximately 1/4 mile) to wastewater treatment overflow ponds, east along north side of the ponds turning southeast back to Flightline Ave, south along Flightline Ave to the south side of the parking lot of building 3240, east along west side of the pond, south along the west shoreline of the pond to Garrison Slough then along the south side of Garrison Slough to Central Ave, south to Inner Loop Rd, along Inner Loop Rd to Flightline Ave, south along Flightline Ave and its extension across the mouth of Taxiway L to Taxiway E, south along east side of Bldg 1300 (CAC) and southeast of Bldg 1303 to the tree line, west around the approach lights to the fence line at the south gate, north along the fence line back to Central Ave.

1.1.6 The BRZ is defined in the plan as an area in which the base will actively manage land to discourage bird presence. This could involve removal of food sources as well as physical alteration of habitat. Figure 1-2 displays the relationship of the BEZ and the BRZ to the flightline.

1.1.7 In 1998, to comply with a newly implemented BASH Plan, Eielson proposed the removal of 21.6 acres of wetlands from the BEZ through filling. An EA was written and a

FONSI/FONPA signed by Air Staff (ILEV). Most of the wetlands initially earmarked for elimination in the BEZ have been filled, with the exception of approximately 2.5 acres just to the south of Grebe Pond. These wetlands are part of an on-going filling project similar to the one that is now being proposed for Grebe Pond whereby the pond would be filled by clean fill material on an as-generated basis. The remaining ponds in the BEZ that were not identified in the 1998 project for filling (in addition to Grebe Pond) are part of the waste water treatment plants tertiary treatment ponds and treated water discharge infiltration pond. Since these ponds are essential to the operation of the waste water treatment plant, they cannot, at present, be filled or eliminated. The threat as a bird attractant for these ponds is mitigated by wing safety, to the extent possible, through hazing methods or lethal depredation.

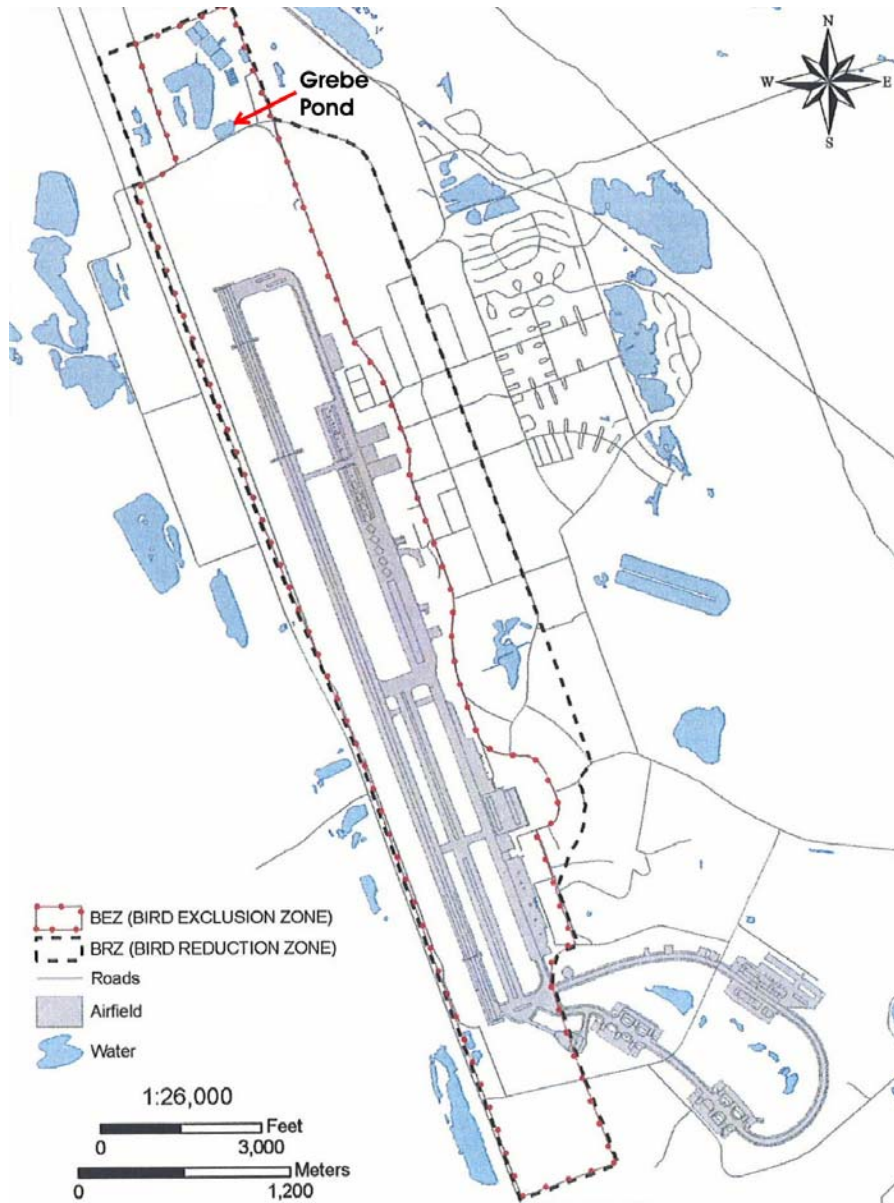


Figure 1-2 – Flightline BASH Zones

1.2 Location of the Proposed Action

1.2.1 Eielson is located within the Fairbanks North Star Borough, approximately 120 miles south of the Arctic Circle and 23 miles southeast of Fairbanks. The base is located in the Tanana River Valley on a low, relatively flat, floodplain terrace that is approximately 2 miles north of the active river channel. Other communities near Eielson include Moose Creek to the north, and the Salcha area to the south of the base.

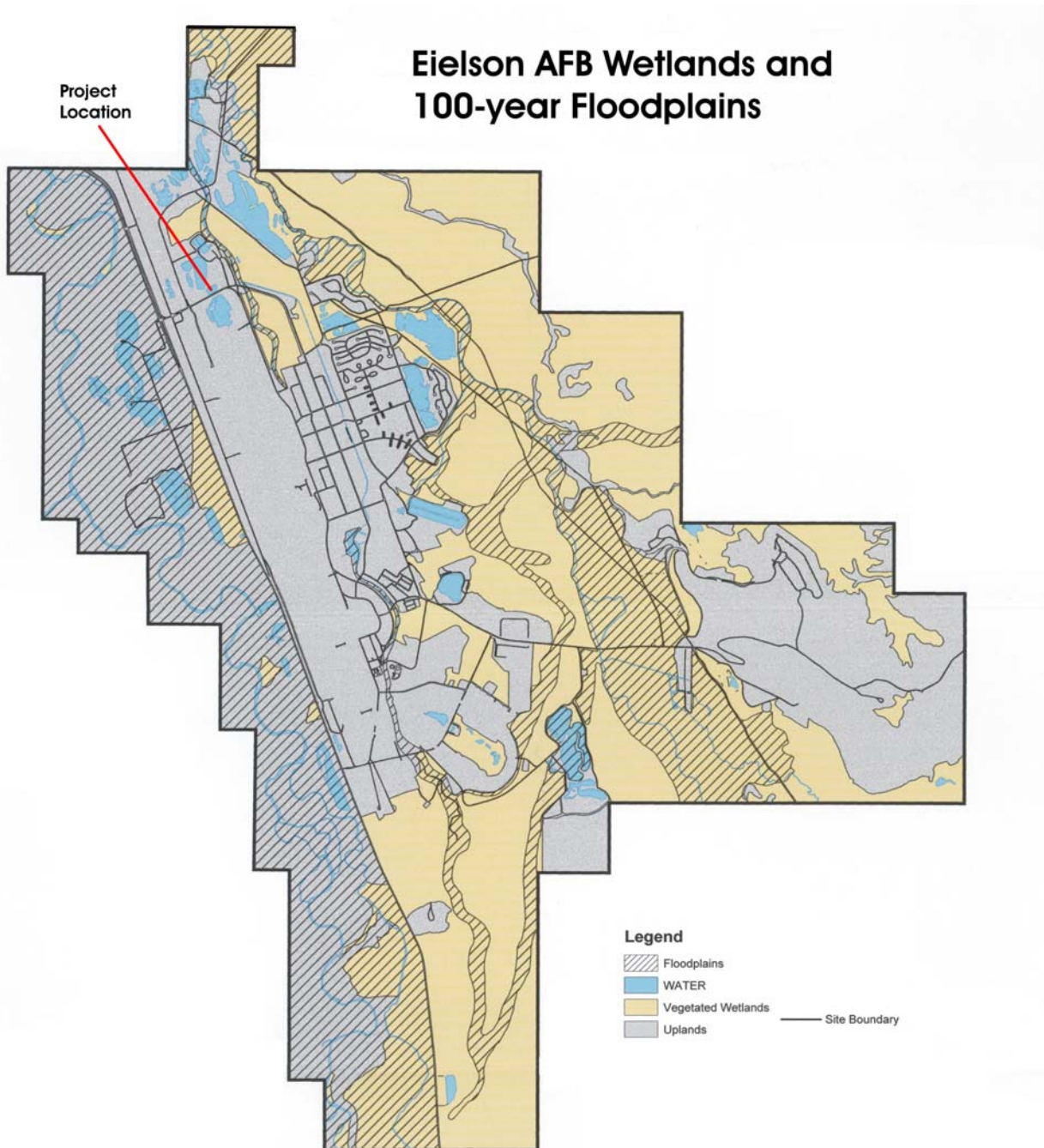


Figure 1-3 – Base Wetlands

1.2.2 Base lands include 19,790 contiguous acres bounded on the west by the Richardson Highway and on the north and east by Army lands (Yukon Training Area). To the south, the community of Salcha borders Eielson. Of the total base acreage, over 51 percent are designated as wetlands. Of the remaining undeveloped portions of the base, 79 percent are wetlands (see Figure 1-3). As a consequence, planning and utilization of Eielson lands becomes very difficult if one is to entirely avoid siting facilities and conducting activities in wetlands and 100-year floodplains.

1.3 Decision to be Made and Decision Maker

1.3.1 As required by 32 CFR Part 989, the *Environmental Impact Analysis Process* will be used to determine what are the environmental consequences of filling a 0.5 acre pond. This EA is intended to satisfy these requirements. The proposed action and all alternatives considered will be addressed in detail in Chapter 2.0 of this document. A description of the resources associated with the areas affected by all alternatives will be provided in Chapter 3.0, and the impacts that could result from each one are discussed in Chapter 4.0.

1.3.2 Based on the evaluation of impacts in the EA, a Finding Of No Significant Impact (FONSI) will be published if there is a finding of no significant environmental impacts for the proposed action. If it is determined that the proposed action will have significant environmental impacts, other alternatives will be considered for which impacts may not reach the threshold of significance.

1.3.3 The EA, a draft FONSI (if applicable), and all other appropriate planning documents will be provided to the PACAF Vice Commander, the decision maker, for review and consideration. Based on a review by the decision maker of all pertinent information, if a FONSI is proposed, a public notice will be published in accordance with 32 CFR 989.15(e)(2). The EA and the draft FONSI will be made available to interested agencies and the public. All interested parties will have 30 days to comment on the decision to the Air Force. At the end of the 30-day public comment period, if no substantive comments are received, the decision maker (or his delegatee) will sign the FONSI.

1.3.4 Two Executive Orders (EOs), 11988 and 11990, require the heads of federal agencies to find that there is no practicable alternative before the agency takes certain actions impacting wetlands or floodplains. The proposed action would potentially impact wetlands. To address this requirement, the Secretary of the Air Force's designated agent, HQ PACAF/CV will sign a document that addresses the issues of wetlands and floodplains that may be associated with actions the Air Force proposes to take. This document, known as a Finding Of No Practicable Alternative (FONPA), will state which alternative, the proposed action, alternative 1, alternative 2, or the no action alternative, will be selected as the appropriate course of action. The FONPA will be combined with the FONSI into one document. It will contain documentation that there is no practicable alternative to the proposed action and that all practical measures to minimize harm to wetlands have been incorporated into the project design. It will also state whether any required mitigation will be carried out.

1.4 Project Scoping/Significant Issues. This section provides a summary of all issues raised during the scoping process. The scoping process involved meeting with potentially interested

parties, including state and federal regulatory agencies and base groups, that have responsibility or interest in the proposed project. Since the wetlands were not regulated by the US Army Corps of Engineers, no other agencies chose to participate in the scoping process other than Eielson groups.

1.4.1 *Value of Habitat Slated for Elimination:* Most everyone involved in the scoping discussions acknowledged that the Grebe Pond habitat was of good quality and that its elimination would result in loss of brood rearing habitat for ducks and grebes. There was a consensus, however, that the safety risk to aircraft associated with not eliminating the habitat far outweighed the value of the potentially lost habitat. In addition, it was strongly perceived that birds presently using the area would likely be displaced to adjacent habitat of similar quality and that there would not be a reduction in overall bird populations as a result of the project.

1.4.2 *Flight Safety:* There was unanimous agreement among all parties involved in scoping discussions for this project that aircraft safety was an issue of great significance. Air Force fatalities and loss of aircraft due to BASH was a real threat if the bird attractants were not eliminated from the flightline.

1.5 Federal, State, or Local Permits or Licenses Needed for Project Implementation

Although Grebe Pond is technically a wetland, the US Army Corps of Engineers, Regulatory Functions Branch, made a determination that the pond was not jurisdictional wetlands. This was due to the fact that the pond had no hydrologic connection to waters of the United States. Therefore, no wetland permit is required for this project.

2.0 Description of the Proposed Action and Alternatives

Section 2.0 provides a description of alternatives considered to achieve the purpose and need described in Section 1.0. The proposed action, two action alternatives, and the no action alternative are addressed.

2.1 Criteria Used to Develop Alternatives. As a result of events that have occurred at Alaska Air Force bases in recent years, an urgent need has developed for resolving flight safety issues resulting from bird aircraft strike hazards that exist on Eielson. As stated previously in Section 1.1.2, Eielson's BASH Plan has established a BEZ within which no birds should be present during flight operations. Grebe Pond has, on a continuing basis during summer months, resulted in violations of this restriction. To address this threat to aircraft safety, Eielson's Wing Safety and Civil Engineer Squadron met and developed criteria that would be used in developing alternative project proposals.

2.1.1 Degree of Effectiveness: The BASH Plan has established zero tolerance for birds in the BEZ. Therefore, project designs should only be considered feasible if they have a high degree of effectiveness associated with it and can meet the BASH Plan requirements.

2.1.2 Timeframe for Completion: Any birds in the BEZ constitute a BASH problem. The only way to be reasonably certain this condition does not occur is to use depredation (lethal) methods when birds are observed in the BEZ. This method has been used sparingly at Eielson and is used generally as a last resort. Even lethal methods, however, are not 100 percent effective if the bird numbers are high or the physical circumstances are not conducive to depredation methods.

2.2 Proposed Action - Eliminate Attractant Habitat by Filling Grebe Pond

2.2.1 The proposed project would fill Grebe Pond, a 0.5 acre, 5-foot deep body of water that sits at the northeast corner of the flightline. Fill material would be inert waste comprised of concrete debris and clean soil. This filling process would occur over a period of 1 year as material is generated from base construction projects.

2.2.1.1 Construction projects on Eielson routinely result in the need to dispose of inert waste (concrete, clean gravel, and soil) at a site other than where it is generated. This waste material would be trucked to the site and placed in Grebe Pond as it becomes available. Based on past records of the generation rate of this type of material, it is anticipated that it would require one construction season to generate the total volume necessary to fill the pond to the required elevation. All material proposed for placement in the pond would be screened through the *Waste Material and Borrow Pit Plan Process* that Eielson's environmental flight reviews and approves.

2.2.1.2 The pond's approximate dimensions are 105 feet by 185 feet. It is anticipated that the filling project will require approximately 4,000 cubic yards of fill material. This includes approximately 500 cubic yards of soil that will be used as cover for the purposes of contouring and closure of the site as a permitted solid waste facility.



Figure 2-1 – Aerial of Project Vicinity

2.2.1.3 To accomplish the filling operation, an access road would be constructed that would extend from Central Avenue at the east end of the pond and swing around the north side of the pond. Filling of the pond would begin at its west end and gradually move eastward.

2.2.2 Because Grebe Pond would gradually be filled over a period of several months, habitat would continue to exist and attract birds during this process. To combat this, supplemental measures would, in the short-term, be required to prevent birds from occupying the area and creating a hazard to flight operations. Interim measures that would be employed in the event birds occupied the pond area during project construction include the following (in order of implementation):

- (a) Use of standard hazing methods such as propane cannons and cracker shells.
- (b) If methods used in (a) above are not effective and waterfowl have nested and brood have hatched, a roundup would be initiated when the adults and brood are flightless. Birds rounded up would be transplanted to alternative habitat outside of the BEZ in cooperation with US Fish and Wildlife Service personnel.
- (c) As a last resort, if a roundup of waterfowl does not remove the birds from the BEZ, lethal depredation methods would be used.

2.3 Alternative 1 - Hazing to Prevent Use of the Flightline Pond by Birds

2.3.1 This alternative would not require any permanent physical alteration to existing habitat. Instead, hazing techniques would be utilized that would provide a deterrent to birds from initiating early summer nesting, brood-rearing, or even casual feeding and loafing. These techniques would include use of propane cannons, cracker shells, iridescent ribbons, and netting barricades. If these hazing techniques are not effective, then a roundup of all flightless birds would be conducted as detailed in Section 2.2.2(b). As a last resort, lethal depredation would be employed.

2.3.2 This alternative is likely to be very time and manpower intensive. To utilize the hazing techniques that could be effective in this circumstance, extensive coverage of a large area, and at times 24-hour manning of the operation, would be required for at least the months of June and July. In addition, this would be an annual, seasonal requirement for as long as Eielson aircraft operations occur in the area and birds are attracted to the wetland habitat.



Figure 2-2 – Grebe Pond

2.4 Alternative 2 - Waterfowl Capture and Release

2.4.1 This alternative would entail the rounding up, removal, and relocation of all flightless birds that would be using Grebe Pond during a given summer season. This type of operation was conducted during July of 1996 with a high degree of success. The effort was a cooperative undertaking between the University of Alaska Fairbanks, the US Fish and Wildlife Service, and Eielson personnel. More than 30 flightless Canada geese (adults and goslings) were captured and transported off the base. This roundup was, to a large extent, very successful. The only waterfowl remaining after the roundup were a few ducks.

2.4.2 The use of this alternative would also be manpower intensive, but the overall investment in terms of man-hours would be less because it would only happen once, or at most twice, in a given summer season. A potential problem with this alternative from an operations management perspective is that birds would be using the pond up to the time the roundup would occur (until the birds would be flightless), and this would be a violation of the BASH Plan. This violation is mitigated to a large extent, however, by the fact that birds during this nesting stage of their life cycle are not actively flying and their threat to aircraft safety is at a minimum.

2.5 No Action Alternative

2.5.1 The no action alternative would allow the current physical condition of the pond to be maintained. This would in all likelihood result in the area continuing to violate Eielson BASH policy as birds would likely continue use of the area. This would be an unacceptable aircraft safety hazard.

2.5.2 The no action alternative would include the use of previously employed bird hazing techniques which have been only marginally effective. Without increased funding and manpower allocations for flight safety, this is all that could be accomplished. The likely outcome of the no action alternative would be the implementation of further BASH hazing actions such as lethal depredation.

2.6 Summary of Major Impacts by Resource for Each Alternative

Table 2-1 – Impact Comparison Matrix

Resource	Proposed Action	Alternative 1	Alternative 2	No Action
Soils	This would result in the alteration of natural soil horizons by the placement of 4,000 cubic yards of gravel, soil, and inert construction material into Grebe Pond.	No impacts to soil would result from this alternative.	No impacts to soil would result from this alternative.	No disturbance to soils would result from this alternative.
Surface Water	The proposed action would result in the loss of 0.5 acres of surface water (Grebe Pond), replacing it with an area of native grasses.	No impact to surface waters would result from this alternative.	No impact to surface waters would result from this alternative.	No impact to surface waters would result from this alternative.
Noise	Noise from the proposed action would be mainly from heavy equipment used to fill Grebe Pond.	Noise associated with hazing activities such as propane cannons and fire crackers.	No impacts from noise would result from this alternative.	No impacts from noise would result from this alternative.
Air Quality	Only short-term and localized impacts to air quality would occur from the proposed action.	No impacts to air quality would result from this alternative.	No impacts to air quality would result from this alternative.	No impacts to air quality would result from this alternative.
Biological Resources/Wildlife	An approximate 0.5 acre lacustrine (lake) wetland would be lost resulting in birds and waterfowl being displaced to nearby similar habitat.	This alternative would result in the elimination of Grebe Pond as a brood rearing area for waterfowl. It is also possible this alternative could result in loss of birds from lethal depredation.	This alternative would result in elimination of Grebe Pond for a portion of the waterfowl brood-rearing season.	This alternative could result in lethal depredation of some waterfowl that might attempt to use Grebe Pond.

3.0 Affected Environment

This section describes relevant resource components of the existing environment that might be impacted by the proposed project and alternatives. Only environmental components relevant to the issues and objectives of this EA are described.

3.1 Physical Environment

Eielson encompasses approximately 19,790 acres and is isolated from major urban areas. The portion of Eielson that contains the area associated with the proposed action lies on the abandoned floodplain of the Tanana River, with elevations ranging from 525 to 550 feet above mean sea level. The surface of the floodplain is relatively smooth and slopes gently downward to the northwest at a gradient of about 6 feet per mile.

3.1.1 Geology/Soils

3.1.1.1 The area in the vicinity of Eielson was not glaciated during the last ice age. The majority of the subsurface geologic formations of the central plateau of Alaska are primarily from the Permian and Devonian periods of the Paleozoic era.

3.1.1.2 Soils in the Tanana River Valley consist of unconsolidated silty sands and gravels, organic and sandy silts, and clays. Floodplain soils nearest the active channels are sandy with a thin silt loam layer on the surface. On higher terraces, the soils become predominately silt from the Salchaket series. Along older river terraces, silt loam soils, which contain significant organic components, often dominate. These soils tend to be cold and wet and are generally underlain by permafrost. Approximately two-thirds of Eielson is covered with soils containing discontinuous permafrost. This preponderance of permafrost soils contributes to the large percentage of vegetated wetlands occurring on undeveloped base lands.

3.1.2 Groundwater

Eielson is located over a shallow, unconfined aquifer. The aquifer is approximately 250 feet thick, extends to bedrock, and has a regional gradient of about 5 feet per mile flowing to the north-northwest. The water table varies from the surface in adjacent wetlands to 10 feet below ground level in developed areas. The base uses the local aquifer for its drinking water and monitors groundwater quality in a number of locations as part of its Installation Restoration Program. Localized contamination of the aquifer has been identified in the industrial area of the base, but the overall quality of groundwater at Eielson is excellent.

3.1.3 Surface Water and Wetlands

3.1.3.1 Aquatic bodies on Eielson include streams, wetlands, and lakes. There are approximately 28 miles of streams; 10,133 acres of wetlands; 12 lakes (Lilly Lake is natural and the remaining 11 are man-made) and 80 ponds (10 naturally-occurring and 70 man-made) totaling 560 acres; and 6,770 acres of floodplains on the main base.

The man-made lakes and ponds were created during the excavation of gravel deposits for use as fill material for construction projects on base. Surface drainage on Eielson is generally in a

north-northwest direction and parallel to the Tanana River. Five streams flow through the base and discharge into the Tanana River via Piledriver Slough.

3.1.3.2 Approximately 51 percent, or 10,133 acres, of Eielson is classified as wetlands with 9,391 acres being vegetated wetlands and the remainder being lakes, ponds, and streams (see Figure 3-1). Wetlands and low gradient, alluvial streams comprise most of the surface water resources on Eielson, with wetlands dominating the low-lying areas within and surrounding the installation. Most wetland areas were created as a result of surface waters becoming trapped in the thawed layer over the permanently frozen subsurface (permafrost). Flood periods tend to occur during spring snowmelt and in middle to late summer when heavy rains or warm air quickly brings glacier fed mountain streams to flood capacity. Several lakes and extensive wetlands surround the airfield in the cantonment area. Among these are Bear, Polaris, Moose, Hidden, Pike, Rainbow, Scout, Grayling, and Tar Kettle lakes. Creeks that can be found in the vicinity of the airfield include French and Moose creeks.



Figure 3-1 – Vegetation in the Vicinity of Grebe Pond

3.1.3.3 Piledriver and Garrison sloughs are the two largest streams in the vicinity of the airfield. Piledriver Slough, which discharges into the Tanana River, is located along the western edge of Eielson and approximately 4,000 feet west of the airfield and parallel to the runways. Approximately 12 miles of Piledriver Slough occurs on Eielson. The slough receives no runoff from the urban developed area of the base and has good water quality.

3.1.4 Noise

Aircraft generate by far the most noise on Eielson. Noise levels associated with aircraft during flying hours can exceed 80 decibels (dB) in the vicinity of the flightline, however, the dB

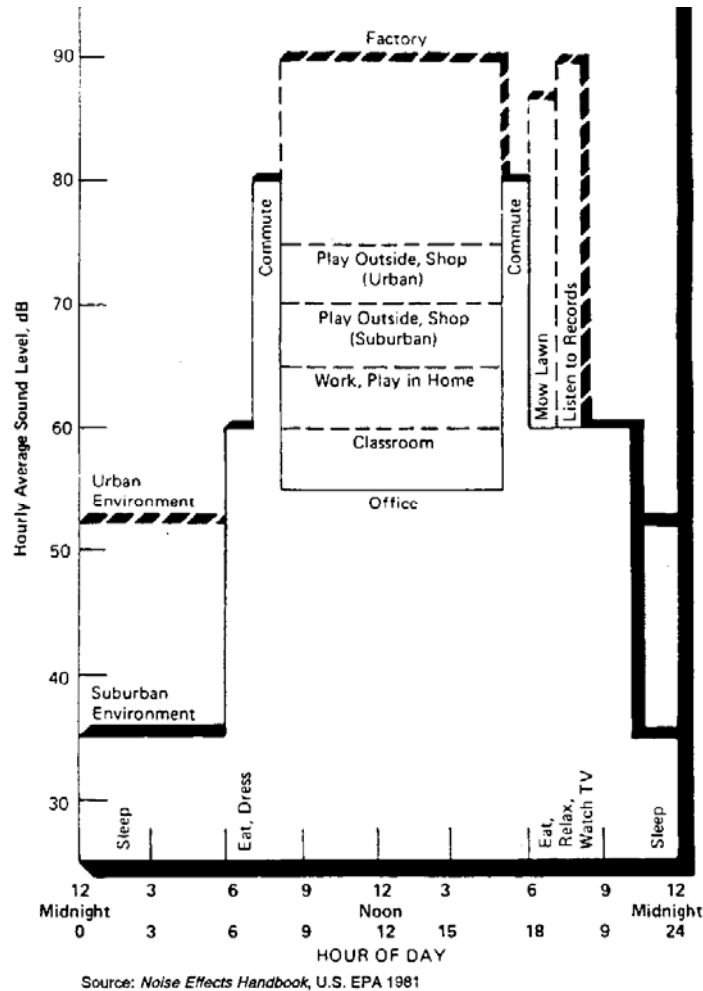


Figure 3-2 - Noise Levels

level drops off to a maximum of 70-dB in the closest residential area, Moose Creek, just north of the base. Noise greater than 65-dB is not recommended for housing areas. Construction noise is potentially another source of noise, but it is not considered to be a concern due to its temporary nature and relatively low dB level. Figure 3-2 is a chart that provides a scale of noise levels associated with typical daily activities.

3.1.5 Air Quality

Air quality is generally good at Eielson. Although portions of the North Star Borough (Fairbanks and North Pole) of which Eielson is also a part are in maintenance status for carbon monoxide, Eielson is far enough south to not be included or affected. The Clean Air Act designates areas as *attainment*, *non-attainment*, *maintenance*, or *unclassified* with respect to national ambient air quality standards (NAAQS). Non-attainment and maintenance areas are

locales that have recently violated one or more of the NAAQS and must satisfy the requirements of State and Federal Implementation Plans to bring them back into conformity with the applicable air quality standards. Eielson is located in an *unclassified* area, and activities that generate emissions do not need to satisfy the requirements of the Environmental Protection Agency ruling *Determining Conformity of General Federal Actions to the State or Federal Implementation Plans*.

3.1.6 Cultural Resources

In 1994, Eielson contracted for the preparation of a predictive model for the discovery of prehistoric and historic cultural resources on base lands. The predictive model was then used to conduct an evaluation of cultural resources on Eielson as required by Section 110 of the National Historic Preservation Act. The areas associated with the proposed action and alternatives 1 and 2 have been determined to not contain cultural or archeological resources. In the event that during project excavation/construction any cultural resources were encountered, activities would cease until the resources were evaluated.

3.2 Biological Resources

3.2.1 Vegetation

3.2.1.1 The vegetation of the Tanana River Valley in the vicinity of Eielson is typical of boreal forest or taiga habitats. The boreal forests of Eielson are predominantly evergreen forests dominated by black spruce and white spruce (*Picea glauca*), but also include extensive stands of deciduous forests containing paper birch (*Betula papyrifera*), quaking aspen (*Populus tremuloides*), and balsam poplar (*P. balsamifera*). Extensive areas of shrub and herbaceous vegetation are found in wetlands, lowland areas, and the active floodplain, and are dominated by willows and other shrubs, sedges, and grasses. Bog areas are dominated by black spruce stands intermixed with peat moss (*Sphagnum* spp.) and cottongrass (*Eriophorum vaginatum*).

3.2.1.2 Vegetation at the project site (Figure 3-1) falls into two more or less distinct regimes, upland and wetland. The upland areas are characterized by forbs, grasses, and a few trees. The wetland portion of the site is a typical lacustrine wetland system that is mostly open water with a small island in the middle. Around the periphery of the lake grows emergent aquatic vegetation such as typhus and different sedge varieties.

3.2.2 Aquatic/Fishery Resources

3.2.2.1 Lakes and streams on Eielson contain both native fish and fish stocked by the Alaska Department of Fish and Game. Native fish found in the Tanana River drainage include chinook salmon (*Oncorhynchus tshawytscha*), chum salmon (*O. keta*), silver salmon (*Oncorhynchus kisutch*), burbot (*Lota lota*), arctic grayling (*Thymallus arcticus*), northern pike (*Esox lucius*), chub (*Semotilus* spp.), several species of whitefish (*Coregonus* spp.), sheefish (*Stenodus leucichthys nelma*), rainbow trout (*Oncorhynchus mykiss*), and arctic char (*Salvelinus alpinus*).

3.2.2.2 The Alaska Department of Fish and Game stocks five lakes and one stream on Eielson: Grayling Lake, Hidden Lake, Polaris Lake, 28 Mile Pit, Moose Lake, and Piledriver Slough. Fish stocked by the Alaska Department of Fish and Game include rainbow trout, arctic grayling,

arctic char, silver salmon, chinook salmon, chum salmon, and northern pike. There are no known federally listed threatened or endangered fish species, fish species proposed for listing, or critical fish habitats on Eielson.

3.2.2.3 Grebe Pond does not support any fish species. The pond is shallow, less than 5 feet in depth and during the winter it freezes nearly to the bottom, thus not providing the essential overwintering habitat for fish.

3.2.3 Wildlife Resources

3.2.3.1 The surrounding Tanana Valley provides breeding habitat for a wide variety of migratory bird species. Bird species found on Eielson include spruce grouse (*Dendragapus canadensis*), ruffed grouse (*Bonasa umbellus*), northern goshawk (*Accipiter gentilis*), sharp-shinned hawk (*A. striatus*), great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). During winter, willow ptarmigan (*Lagopus lagopus*) and rock ptarmigan (*L. mutus*) are common on Eielson. Over 20 species of waterfowl including geese, ducks, loons, grebes, and scoters use aquatic habitats located on base lands.

3.2.3.2 There are 32 species of mammals found on Eielson. Common species include moose (*Alces alces*), black bear (*Ursus americanus*), grizzly bear (*U. arctos*), snowshoe hare (*Lepus americanus*), marten (*Martes americana*), red squirrel (*Tamiasciurus hudsonicus*), beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), mink (*Mustela vison*), meadow vole (*Microtus pennsylvanicus*), red-back vole (*Clethrionomys rutilus*), and meadow jumping mice (*Zapus hudsonius*).

3.3 Threatened and Endangered Species

No threatened or endangered species, as designated by the US Fish and Wildlife Service, typically occur in any of the project areas included in the listed alternatives. This was the conclusion of an Eielson contract study entitled *Biological Survey, Final Report 1994*, that addressed the potential for the presence of endangered species on Eielson lands.

4.0 Environmental Consequences

This section is the scientific and analytic basis for the comparison of alternatives. Section 4 also describes the probable environmental consequences (impacts, effects) of the proposed action, the two action alternatives, and the no action alternative. This section is organized according to resources, and a discussion of each alternative action is discussed relative to resources identified as relevant.

4.1 Physical Environment

4.1.1 Geology/Soils

4.1.1.1 Proposed Action - Fill Grebe Pond. The proposed action would result in the physical features of the site being converted from a basin that is dominated by a 0.5 acre water body, to a relatively flat, grassy area. The soils of the fill area would be similar to adjacent areas that have been constructed by placement of fill from gravel borrow pits. In addition to gravel, however, the basin would contain concrete rubble trucked to the site from on-base facility demolitions. The surface of the fill area would have placed on it soil containing organics that would support growth of native vegetation (grasses). Approximately 4,000 cubic yards of fill would be placed in the existing pond.

4.1.1.2 Alternative 1 - Hazing. This alternative would not result in any physical alteration of the project site. The existing elevations of the land would remain and no fill material would be placed.

4.1.1.3 Alternative 2 - Capture Waterfowl. This alternative would also not result in physical alteration of the project site. As in alternative 1, existing elevations of the land would remain and no fill material would be placed at the site.

4.1.1.4 No Action Alternative. This alternative would have no impact on the physical environment of the site.

4.1.2 Groundwater

The water table on Eielson varies from the surface in adjacent wetlands to 10 feet below ground level in developed areas. In the vicinity of Grebe Pond the depth to groundwater is relatively shallow and is at the surface in the pond's basin. All fill material placed in the pond's basin will be clean fill or inert construction debris. With this restriction placed on potential fill material, there is little likelihood that contamination of groundwater could occur as the result of the proposed action. No impacts to groundwater would likely occur from any of the other action alternatives or the no action alternative.

4.1.3 Surface Water and Wetlands

4.1.3.1 Proposed Action - Fill Pond. The proposed action would result in the loss of approximately 0.5 acre of open water (lacustrine) wetlands. Although these wetlands were originally man-made (gravel excavation), they have provided nesting and brood rearing habitat

for a variety of ducks. It is likely, however, that ducks currently utilizing the wetlands would move to nearby wetlands that are of a similar type.

4.1.3.2 Alternative 1 - Hazing. The existing surface water hydrology would remain intact under this project alternative.

4.1.3.3 Alternative 2 - Capture Waterfowl. This alternative would have no impact on surface water or wetland resources.

4.1.3.4 No Action Alternative. The no action alternative would not impact surface water resources in the project area.

4.1.4 Noise

The proposed action is the only alternative that would result in noise impacts. It would, however, only result in minor and highly localized impacts.

4.1.5 Air Quality

The proposed action could be a minor source of impacts to air quality from operation of machinery used to fill the pond. Impacts would be highly localized. No other alternatives would have impacts to air quality.

4.1.6 Cultural Resources

There are no identified cultural resources in the vicinity of the project area. Therefore, it is unlikely that impacts to cultural resources would occur from any of the action alternatives.

4.2 Biological Resources

4.2.1 Vegetation

4.2.1.1 Proposed Project - Fill Grebe Pond. As previously described above, the existing pond/basin would be eliminated. This would result in the loss of aquatic vegetation that currently exists at the site. Terrestrial vegetation (trees and shrubs) would also be removed. This vegetation would be replaced with monotypic stands of native grasses. This loss of vegetative diversity would result in overall reduced wildlife values and would likely cause certain populations such as voles and seed and insect eating passerine birds to increase their usage of the area.

4.2.1.2 Alternative 1 - Hazing. This alternative would have no impact on vegetation.

4.2.1.3 Alternative 2 - Capture Waterfowl. This alternative would have no impact on vegetation.

4.2.1.4 No Action Alternative. This alternative would have no impact on vegetation.

4.2.2 Aquatic/Fishery Resources

Due to the shallow nature of Grebe Pond (less than 5 feet) there are no aquatic or fishery resources present and filling the pond would not significantly impact fishery or aquatic resources. It is also unlikely that any of the other alternatives would affect these types of resources.

4.2.3 Wildlife Resources

4.2.3.1 Proposed Project - Fill Grebe Pond

The proposed project would result in the loss of approximately 0.5 acre of moderately productive waterfowl habitat. The habitats impacted would be converted to a grassy meadow that would have some value for seed eating passerine birds and small mammals.

4.2.3.2 Alternative 1 - Hazing. Although it is not anticipated that implementation of this alternative would result in any direct permanent loss of habitat at the site, there would likely be some altered use patterns by certain species, i.e., Canada geese and dabbling ducks, that would be impacted by the use of hazing methods. In addition, if non-lethal hazing methods are not effective deterrents to keep birds out of the area, then lethal methods would by necessity be employed. This could potentially have a population level impact, at least on a local scale.

4.2.3.3 Alternative 2 - Capture Waterfowl. The implementation of alternative 2 could potentially have similar outcomes as described for alternative 1 above. The main difference would be that the goose roundup would likely reduce or eliminate the need to employ lethal hazing methods.

4.2.3.4 No Action Alternative. Although the no action alternative would not result in any physical alteration to the project area, it would result in current BASH policies being continued. Thus, if birds continued to violate the BEZ by using Grebe Pond during flight operations, BASH policy would require that the hazard be reduced or eliminated. This could potentially involve lethal depredation, resulting in population impacts to certain bird species.

4.2.4 Threatened and Endangered Species

There are no threatened or endangered species on Eielson lands and no impacts to these species would result from any of the alternatives considered in this EA.

4.3 Cumulative Impacts. The NEPA process requires that the issue of cumulative impacts be addressed. This section provides (1) a definition of cumulative effects, (2) a description of past, present, and reasonably foreseeable actions relevant to the cumulative effects analysis, and (3) an evaluation of cumulative effects potentially resulting from these interactions.

4.3.1 Definition

The Council on Environmental Quality has stated in their NEPA regulations (1508.7) that “*Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to past, present, and reasonably foreseeable future actions...and...can result from individually minor but collectively significant actions taking place over a period of time.*” Cumulative effects are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location and/or during a similar time period. Actions overlapping with or in close proximity to the proposed action would be expected to have more potential for a relationship than actions that may be geographically separated. Similarly, actions that coincide, even partially, in time would tend to offer a higher potential for cumulative effects.

4.3.2 Past and Present Actions Relevant to the Cumulative Effects Analysis

Eielson AFB has, over the years, been very cognizant of the issue of cumulative impacts to wetlands. This is due to the fact that the base, to a large extent, was built as the result of filling wetlands, and that expansion of Eielson facilities beyond the original footprint of the base often requires the use of wetlands. Of the 19,789 acres that constitutes Eielson base lands, 51 percent are designated as wetlands. To address the potential for cumulative impacts to wetlands, Eielson has developed an active program of wetland habitat creation and enhancement. Classification of Eielson wetlands according to type and quality (as defined in Cowardin, et al, US Fish and Wildlife Service, 1979) has indicated that 98.1 percent of Eielson native wetlands are of low quality. Most of these wetlands are classified as black spruce or alder/willow scrub/shrub wetlands and constitute large, homogenous blocks of land that provide relatively low wetland values to wildlife. When Eielson develops a gravel source by excavating alluvial gravel deposits, it is often in these black spruce wetlands. As part of the gravel extraction process, wetlands of a higher value are created (lake habitat with shallow littoral zones and emergent vegetation). This type and quality of wetlands are particularly valuable for feeding, nesting, and brood rearing by waterfowl, the bird species potentially most affected by the proposed project.

4.3.3 Reasonably Foreseeable Future Actions

4.3.3.1 In addition to past and present actions that could cumulatively result in significant impacts, the analysis should also consider projects that are planned in the foreseeable future. Eielson has a Base General Plan that lists projects planned for construction as far as 5 years ahead. However, statuses of these projects often change and it is hard to predict accurately more than 2 or 3 years ahead which projects will be constructed. For the purposes of this cumulative effects analysis, only projects that are planned for the next 2 years are considered.

4.3.3.2 Most of the projects scheduled for completion on Eielson during the next two years are associated with the build up for the Red Flag-Alaska training exercises. These projects include numerous facility renovations, including office buildings, hangers, and aircraft parking ramps. All of these projects will be in the main cantonment area of the base and in conjunction with areas that have been previously impacted through development. These projects have been tiered to a programmatic EA entitled, *Omnibus Base Construction in the Developed Portion of the Base Programmatic Environmental Assessment*. Use of this programmatic EA for NEPA analysis of a

proposed project requires as a prerequisite that the action(s) not result in cumulatively significant impacts. In addition to the Red Flag-Alaska projects, during the next two years a new south gate road project is planned that would impact wetlands. Approximately 4.5 acres of black spruce wetlands would be impacted by this proposed work.

4.3.4 Analysis of Cumulative Impacts

The cumulative impacts analysis must look at the sum total of the past, present, and foreseeable future actions and determine whether a relationship could exist that could result in potentially significant impacts not identified when the proposed action is considered alone. To date all cumulative impact analyses that have been completed in Eielson's NEPA documents have arrived at the conclusion that cumulative impacts from base activities have not reached the threshold of significant. The current action will result in the loss of 0.5 acres of lacustrine (lake) wetlands. During the next 2 years it is possible that an additional 0.25 acres of wetlands could be lost as a result of a road project. However, when considering all of these activities and their impacts on the environment, Eielson's program of wetland creation/enhancement has more than offset the loss of these wetlands. Since the program was implemented in 1989, Eielson has created more than 330 acres of enhanced wetlands.

4.4 Unavoidable Adverse Impacts

4.4.1 Proposed Project. Unavoidable adverse impacts that could result from implementation of the proposed project would be the loss of 0.5 acres of moderate value wetlands habitat. This would likely cause the displacement by most species currently using the wetlands to other similar habitats nearby.

4.4.2 Alternative 1. This alternative, at a minimum, would cause similar displacement of wildlife use as noted above. If lethal depredation were necessary, several geese and ducks would be destroyed annually.

4.4.3 Alternative 2. This alternative would have similar impacts as alternative 1, with the exception of the lethal depredation.

4.4.4 No Action Alternative. This alternative would have similar impacts as alternatives 1 and 2.

4.5 Irreversible and Irretrievable Commitments of Resources

The only irreversible or irretrievable commitments of resources that would result from all of the stated alternatives would be the filling of Grebe Pond, as detailed in the proposed project. It must be kept in mind, however, that the wetland was originally man created, and it could therefore be recreated or replaced if it was deemed appropriate. This type of wetland is currently being created as part of Eielson's wetland creation/enhancement program.

4.6 Environmental Justice

4.6.1 President Clinton issued Executive Order (EO) 12898, *Environmental Justice in Minority Populations and Low-Income Populations*, on February 11, 1994. Objectives of the EO, as it pertains to the NEPA process, requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. To accomplish these requirements, the Air Force must conduct an environmental justice analysis of all potential impacts that may result from the proposed actions.

4.6.2 The environmental justice analysis must first identify all adverse impacts associated with the project. The next phase is to delineate the potential area of impact for the resources affected. Within this area of impact, if population demographics are such that a disproportionate effect on minority or low-income populations may occur, it should be so identified. These impacts should be documented and mitigation should be developed that can be implemented by the Air Force.

4.6.3 The site for the proposed action is immediately adjacent to the flightline. The area surrounding the flightline is industrial and does not exhibit any pattern of population demographics. The actions associated with this project would have equally beneficial effects on a full cross section of the demographics of Eielson's base population. Based on the environmental impacts identified in this EA and on a corresponding environmental justice analysis, it is felt that no disproportionate impact to minority or low-income populations would occur from implementation of the proposed project.

4.7 Mitigation

The US Army Corps of Engineers determined that Grebe pond was a non-jurisdictional wetland and no Section 404 wetlands permit is needed for it to be filled. This in turn resulted in no mitigation being required by any state or federal agency for this project.

5.0 List of Persons and Agencies Consulted

Mr. Brent Koenen, USAF, 354 CES/CEVN, Eielson AFB AK, phone 377-5182.

Mr. Forrest McDaniel, US Army Corps of Engineers, Regulatory Functions Branch, Fairbanks AK, phone 474-2166.

Mr. Larry Bright, US Fish and Wildlife Service, Fairbanks AK, phone 456-0322.

6.0 Glossary

Alluvial - Sediment deposited by flowing water.

Cantonment - The main operational area of a military base.

Culvert - A drain crossing under a road or an embankment.

Environmental Impact Analysis Process (EIAP) - A set of guidelines (Air Force Instruction 32-7061) that the Air Force uses to comply with the NEPA process.

Decibel - A unit of measurement for describing sound intensity.

Executive Order 11990 - Mandate to federal agencies to follow the NEPA process to ensure the protection of wetlands.

Habitat - The area or environment in which an organism or ecological community normally occurs.

Installation Restoration Program (IRP) - An Air Force program mandated to identify, investigate, and clean up contamination associated with past Air Force activities.

Mean Sea Level (MSL) - The average surface level for all stages of the tide over a 19-year period, usually determined from hourly height readings from a fixed reference point.

National Environmental Policy Act (NEPA) - Legislation enacted in 1969 mandating that all federal agencies assess the environmental impacts of actions which may have an impact on man's environment.

National Historic Preservation Act - Federal mandate that requires the preservation of prehistoric and historic sites.

Non-Attainment Area - An area exceeding National Ambient Air Quality Standards for one or more criteria pollutants.

Permafrost - Permanently frozen subsoil occurring in perennially frigid areas.

Riparian - Living or located on a riverbank or a natural course of water.

SAFO 780-1 - Secretary of the Air Force Order and reference number.

Seasonally Persistent - Persistence is based on historical records and field evidence that indicates an area is seasonally inundated with water during non-frozen (spring/summer) portions of the year.

Turbidity - Cloudy or hazy appearance in a naturally clear liquid caused by a suspension of colloidal liquid droplets or fine solids.

Understory - A foliage layer occurring beneath and shaded by the main canopy of a forest.

Upland - An area of land of higher elevation often used as the opposite of a wetland.

Wetlands - Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

404 Wetland - Wetland areas that have been determined “waters of the United States” and thus subject to Section 404 wetland permitting guidelines administered by the US Army Corps of Engineers and the Environmental Protection Agency.

100-Year Floodplain - Based on historical evidence, there is a high probability that the area within the 100-year floodplain will be flooded once every 100 years.

7.0 Public Notice

USAF ANNOUNCES an ENVIRONMENTAL ASSESSMENT

In accordance with the National Environmental Policy Act (NEPA), and Air Force Regulations, Eielson Air Force Base has completed an environmental assessment (EA) and Finding Of No Significant Impact (FONSI) to evaluate the consequences of the following stated proposed action:

Fill a 0.5-acre pond with clean construction waste and soil. The pond is located in the bird exclusion zone of Eielson Air Force Base's flightline and poses a bird air strike hazard to aircraft that operate at the base.

PUBLIC COMMENT WELCOME

To review the draft EA and FONSI, copies are available at the Noel Wien Library in Fairbanks. The public is invited to review these documents and make comments during the 30-day comment period from now until February 18, 2007. To get a copy of the EA, to comment, or for more information contact Jim Nolke, Eielson AFB Environmental Flight, at (907) 377-3365, or by mail at 354 CES/CEVP, 2301 Central Ave, Ste 100, Eielson AFB, AK 99702-2299.

Public Announcement published in the Fairbanks Daily News Miner on January 17, 2007