

**U.S. Department of the Interior**  
**Bureau of Land Management**  
Central Yukon Field Office

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**ENVIRONMENTAL ASSESSMENT**  
**DOI-BLM-AK-03000-2012-0017-EA**

Arrowhead Outfitters  
Greyling Lake Staging Area and Base Camp  
FF-95417 (2920)

**Location:**

T. 24 N., R. 14 W., Sec. 23, Fairbanks Meridian, Alaska

**Prepared by:**

U.S. Department of Interior  
Bureau of Land Management  
Central Yukon Field Office  
1150 University Avenue  
Fairbanks, Alaska 99709

May 2012

## **A. INTRODUCTION**

### **Background**

The applicant is an authorized air-taxi operator and outfitter in the Kanuti National Wildlife Refuge west of the Utility Corridor. He plans to stage out of Grayling Lake with a float plane starting about September 1 until freeze up in late September.

### **Purpose and Need for the Proposed Action**

The Proposed Action and the No Action Alternative are subject to the Federal Land Policy and Management Act (FLPMA), as amended, of October 25, 1976, which authorizes the Secretary of the Interior, through the BLM, to grant, issue, or renew a permit. If approved, the Proposed Action or modification as determined appropriate by this environmental analysis would be authorized under Title III of FLPMA.

The BLM is responsible for analyzing potential environmental impacts of issuing a permit for the proposed project. The BLM must conduct an environmental assessment analysis and determine whether the proposed project should be approved, rejected, or approved with modifications, and if additional mitigation is needed.

### **Conformance with Land Use Plan**

This proposed action is within the Utility Corridor Resource Management Plan and Final Environmental Impact Statement approved January 11, 1991.

The proposed action is in conformance with the plan because it is specifically provided for in the following planning decision (objectives, terms, and conditions):

#### Appendix N Lands Program Objectives

Process applications for land use authorizations from the general public, federal and state agencies, and research organizations on a case by case basis.

### **Relationship to Statutes, Regulations or Other Plans**

Title III of FLPMA provides for the issuance of permits to utilize public lands.

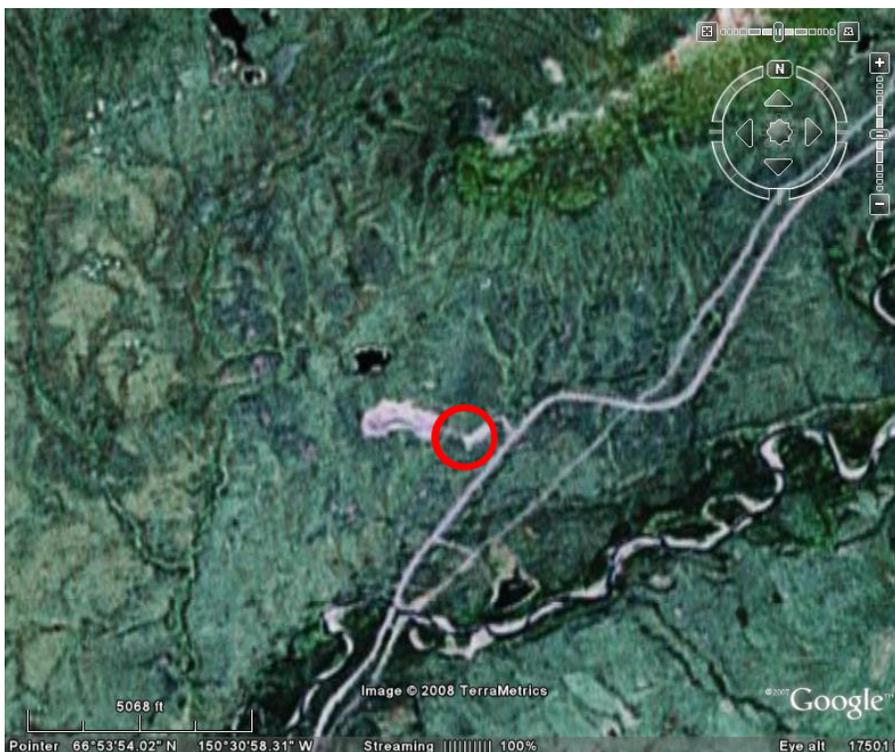
## PROPOSED ACTION AND ALTERNATIVES

### Proposed Action

#### Base Camp

The applicant proposes a base camp consisting of a 30 foot self-contained motorhome, 20 foot enclosed utility trailer, and a pickup truck. He has two large holding tanks which he dumps the RV holding tanks into; he can go for three or four weeks before he will dump the holding tanks at Coldfoot or the BLM dump at Five-Mile. The base camp will also house a small generator, ATV with small trailer, 10x10 Screen Tent, 12 x 14 canvas tent, toilet tent with porta potty, satellite dish with base and 6-8 client vehicles.

The camp location is about five miles south of Grayling Lake at about MP 150 Dalton Highway at the expired Recreation & Public Purpose lease F-78201 located in Sec. 23, T. 24 N., R. 14 W., Fairbanks Meridian. The area is off the road to material sites F-95107 (Alyeska) and F-93007 (ADOT&PF). This lease was for a sanitary landfill site in an old gravel pit and has expired; the case is still open pending proper closure. The camp site is on the entrance road to the landfill site and was not part of the landfill.





### **Grayling Lake Staging Area**

The following equipment would be staged at the aircraft tie down area.

- M-6 Maule Aircraft would be tied down at Grayling Lake when not in use.
- The pilot has requested use of an ATV for accommodation for a physical limitation. If granted, the ATV will be parked out of sight of the public.
- A very small generator would be located at the aircraft tie down area for heating up the aircraft during very cold temperatures. It will be stored in a storage container and under a tarp at when not in use.
- A plastic tote containing absorbent pads, aircraft cowling cover and wing covers, paper towels and miscellaneous items.
- A small containment box with a few quarts of aviation oil, funnel and extra 5 gallon gas cans.
- A temporary dock would be in place during the operation season and removed at the conclusion of each season.
- 275 gallon, temporary fuel storage tank containing aviation gas would be located near the lakes edge in approved, proper containment.

The applicant has a total of approximately 35 clients during the period of operation. Trips generally consist of approximately 2 persons per trip.

**No-Action**

The BLM would reject the proposal and no permit would be issued.

**A. AFFECTED ENVIRONMENT**

**Affected Resources**

<b>Critical Elements and Other Elements to be Considered</b>					
Critical Elements	Affected		Critical Elements	Affected	
	Yes	No		Yes	No
Air Quality		X	Native American Religious Concerns		X
Areas of Critical Environmental Concern		X	Threatened or Endangered Species		X
Cultural Resources		X	Hazardous and Solid Wastes		X
Environmental Justice		X	Water Quality- Surface and Ground	X	
Essential Fish Habitat		X	Wetlands/Riparian Zones	X	
Prime and Unique Farm Lands		X	Wild and Scenic Rivers		X
Floodplains	X		Fisheries/Aquatic Resources	X	
Invasive, Non-native Species	X				
Other Elements			Other Elements		
Access		X	Visual Resources		X
Fire Management		X	Wildlife/Aquatic		X
Mineral Resources			Wildlife/Terrestrial		X
Soils	X				
Subsistence		X			
Vegetative Resources					

#### Invasive, Non-native species:

Surveys along the Dalton Highway for non-native invasive plant species (NIP) have been conducted annually since 2004; 28 species have been recorded between the Yukon River Bridge and Dalton Highway Milepost 270. Invasive plants in Alaska are ranked on an invasiveness scale of 0-100 (100 being the most invasive). The two primary species of concern in this area are white sweet clover (*Melilotus alba*; ranking 80) and bird vetch (*Vicia cracca*; ranking 73). Other notable non-native invasive species in the area include Yellow Toadflax (*Linaria vulgaris* P.; ranking: 69), Ox-eye daisy (*Leucanthemum vulgare*; ranking: 61), Annual hawksbeard (*Crepis tectorum*; ranking: 54) and foxtail barley (*Hordeum jubatum*; ranking: 63).

Of greatest concern for the Grayling Lake area is white sweet clover which has infested the roadside adjacent to where the ATV use occurred by Arrowhead Outfitters in 2011. ATV use has denuded a swath of previously vegetated area along the outside margin of the lake shore and exposed bare mineral soil. Well drained, bare mineral soil is the preferred substrate of white sweet clover. The ATV use area is located in an area with moderately well-drained soil. Particularly under dry conditions the area is likely susceptible to infestation by white sweet clover.

#### Soils:

Soil within the area of the proposed action developed under cold temperature regime in which the biological and chemical transformations are slow, and in which soil horizons or layers are subject to physical dislocations as a result of the freeze-thaw processes. Permafrost, is usually present between 12 and 24 inches deep (BLM 1989, Viereck et al. 1992) and acts to retard internal drainage thus promoting anaerobic conditions and decreased decomposition of organic matter. The end result of these soil forming conditions are soils that have a thick and poorly decomposed organic surface horizon which overlays thin mineral horizons mixed with fractured bedrock. The soils are generally poorly drained, finely textured, and have a high organic content, and are usually covered by permafrost-influenced wetland vegetation communities. These types of soils have little load bearing capacity due to the large amount of pore space that is typically filled with water at saturation. Finely textured soils store and retain water over long periods so their bearing capacity can be low for prolonged periods. In general these soils are considered highly sensitive and poorly suited for trails (Meyer 2002).

#### Riparian/Wetlands/Floodplains:

The riparian areas of the proposed project area are typical of interior Alaska in their make-up of sedges, willows, and alders intermixed within and near the bankfull elevations giving way to a mature White Spruce forest throughout the floodplain. The proposed action would take part in an area which consists predominantly of an open black spruce forest type. As the name implies, this forest type is dominated by black spruce, a species estimated as having a 67 – 99% probability of occurring in wetlands (Reed 1988). Other tree species such as paper birch, white spruce, and tamarack may be present. This forest type is common over vast areas of poorly drained, cold terrain in interior Alaska (Viereck et al. 1992). An open to nearly continuous cover of low shrubs is characteristic of these communities intermixed with tall

shrubs of willow and alder which may dominate stream corridors. The ground layer is commonly dominated by mosses and lichens. As with black spruce, many of the understory species associated with this forest type are also indicative of wetlands (Reed 1988). Riparian areas around Grayling Lake have thick willow growth with interspersed black spruce. The riparian areas in and around Grayling Lake are in a natural, undisturbed state with the exception of the rest stop at Grayling Lake, a gravel pullout used for float planes at the edge of Grayling Lake, and an swath of lake margin extending approximately 700' from the gravel pullout used for float plane. The 700' swath of lake margin was denuded of vegetation due to ATV use by the applicant in 2011. The 700' swath was previously vegetated largely by riparian sedges and shrubs but currently lacks vegetation.

For additional information on riparian, floodplains and wetlands, the reader is referred to the Utility Corridor RMP/EIS (USDI BLM 1989: 3-4 to 3-5).

#### Fisheries/Aquatic Resources:

Grayling Lake is the only water body described for this analysis. The Alaska Department Fish & Game has reported capturing Arctic grayling (*Thymallus arcticus*), and round whitefish (*Prosopium cylindraceum*) in Grayling Lake (State of Alaska 1977). Given the shallowness of the lake and the likelihood that it freezes entirely in the winter months, fish use the outlet stream to migrate to and from the Jim River during the open water season. The habitat is thought to be used by grayling for spawning and rearing. No anadromous species have been reported as present in the lake.

#### Water Quality – Surface and Ground

Grayling Lake is the only water body described for this analysis. Water quality within Grayling Lake is expected to be good given the lack of disturbance in the drainage. This 80 acre lake is characterized by Netsch (1975) as having a sand and muck bottom with brown water color. Netsch also recorded a Secchi disk reading of 0.9 and a measured pH of 6.4. Soundings conducted by the Alaska Department of Fish and Game (State of Alaska 1977) found no depths greater than 5 feet. The inlet and outlet streams as well as the lake itself are shallow and likely freeze completely in the winter. It is expected that maximum discharge into the lake occurs during spring breakup, which usually happens during the latter part of May south of the Brooks Range. A small aviation fuel spill (approximately 3' x 3') occurred on the lakes edge in 2011 which will negatively affect water quality until the contaminated soil is removed.

## B. ENVIRONMENTAL EFFECTS

### **Impacts of the Proposed Action**

#### Invasive, non-native plants:

*Direct/Indirect Effects:* Under the Proposed Action the area currently disturbed by ATV use would continue to be disturbed.

*Cumulative Effects:* If the proposed action is implemented the majority of the Grayling Lake area would remain undisturbed and therefore is not likely to be susceptible to infestation by invasive plant species. In contrast, the disturbed 700' swath adjacent to the gravel float plane area, which was denuded of vegetation due to ATV use by the applicant, will remain in a disturbed state with bare mineral soil available in places for plant establishment. Bare mineral soil is the preferred substrate of invasive white sweet clover; therefore it is possible that this species, which has infested adjacent areas, will become established on the ATV trail.

#### Soils:

*Direct/Indirect Effects:* Under the proposed action the majority of the soils in the project area will remain in undisturbed condition. The soils in the area currently disturbed by ATV use will continue to be disturbed and with no additional disturbance will slowly recover. Damage of soils due to ATV use can occur even at low levels of use (Sinnott 1990). If ATV use is allowed to continue in vegetated areas adjacent to Grayling Lake the vegetated mat underneath the ATV trail will be broken and poorly drained soils will become saturated with water which increases the potential for erosion. Once this process is started it leads to further thermal degradation which quickly leads to unstable soil conditions. The restriction of ATV operation to gravel areas will contain the area in which soils are damaged and will allow the damaged soils to recover.

*Cumulative Effects:* Under the proposed action the majority of soils in the project area will remain in undisturbed condition. Once ice and moisture rich soils are damaged they are slow to recover. Continued use will exacerbate damage done to soils in 2011 and will extend the area to which the damage was done and increase the amount of time needed for the area to recover. The restriction of ATV operation to gravel areas will contain the area in which soils are damaged and will allow the soils to recover.

#### Riparian/Wetlands/Floodplains:

*Direct/Indirect Effects:* Under the proposed action the majority of the riparian/wetlands/floodplain area will remain in undisturbed condition with the exception of the area currently disturbed by ATV use will continue to be disturbed. If ATV use is allowed to continue in vegetated areas adjacent to Grayling Lake the vegetated mat underneath the ATV trail will be broken and poorly drained soils become saturated with water which increases the potential for erosion and eliminate the potential for revegetation. Once this process is started it leads to further thermal degradation which quickly leads to unstable soil

conditions which cannot support riparian, wetland, and plant communities and disrupts floodplain functionality.

*Cumulative Effects:* If the proposed action is chosen the majority of the riparian/wetlands/floodplain areas in the project area would be in an undisturbed condition with the exception of the 700' section damaged by ATV use near Grayling Lake. If ATV use is continued in these areas revegetation of the riparian and wetland areas will not occur and additional wetland and riparian areas will be damaged. The restriction of ATV use to the gravel area used to launch floatplanes would allow riparian and wetland function plant communities to recover along with maintaining floodplain connectivity.

Fisheries/Aquatic Resources:

*Direct/Indirect Effects:* A fuel spill while the operator is refueling at Grayling Lake is the main concern for impacting fish and their habitat. There is always some possibility for contamination from accidental spills during fuel transport and fueling operations. The applicant will likely refuel at the water's edge on Grayling Lake during this operation. In the event of a petroleum spill, only small quantities of petroleum would be expected to be released. In the event fuels reached the water, direct toxicity to organisms would likely be limited to the immediate area of the spill. Sub-lethal effects to fish and other aquatic organisms are more likely to occur. They include changes in feeding habits and temporary displacement.

*Cumulative Effects:* Other planes also use Grayling Lake as a landing area. Most of the use is pickup and drop off of recreational users. Some refueling of planes by private citizens is possible. This repeated use of the lake will incrementally decrease the overall water quality of Grayling Lake over time which could compound sub-lethal effects to fish and other aquatic organisms but the overall risk is slight.

Water Quality – Surface and Ground:

*Direct/Indirect Effects:* Under the applicants proposed action a fuel spill while the operator is refueling at Grayling Lake is the main concern for maintaining water quality under this permit. If there are petroleum spills, most are expected to occur at the lakes edge, near the road, where refueling is likely to occur. In instances where oil or fuel does reach the water, impacts from contaminated water would include increased toxicity to organisms for a few days until toxic compounds either evaporated or were diluted. Degradation of water quality and loss of aquatic organisms in the event of a fuel spill can be mitigated by stipulations that address fuel transport, storage, refueling of equipment, and necessary containment and clean up equipment. Given the small quantities of fuel present during refueling at the lake and the minor risk of a potential spill, fuel spills associated with this action are not expected to have a measurable effect on water quality in Grayling Lake.

*Cumulative Effects:* Other planes also use Grayling Lake as a landing area. Most of the use is pickup and drop off of recreational users. Some refueling of planes by private citizens is possible. This repeated use of the lake will incrementally decrease the overall water quality of Grayling Lake over time but the overall risk is slight for impacts from refueling.

## **Impacts of Alternatives**

### No Action Alternative

#### Invasive, non-native plants:

*Direct/Indirect Effects:* Under the no action alternative the area previously disturbed by ATV use would not continue to be disturbed.

*Cumulative Effects:* In the absence of the proposed action the majority of the area would remain undisturbed and is therefore not likely to be susceptible to infestation by invasive plant species. The disturbed area adjacent to the gravel float plane area, which was denuded of vegetation due to ATV use by the applicant, will recover from its currently disturbed state and gradually become less susceptible to invasive plant infestation since native vegetation is likely to become re-established in the moderately well-drained soil along the pond margin.

#### Soils:

*Direct/Indirect Effects:* There would be no change to the existing situation under the no action alternative.

*Cumulative Effects:* In the absence of the proposed action the majority of soils in the project area would remain undisturbed. The area adjacent to the gravel float plane area which was denuded of vegetation due to ATV use by the applicant will, in the short term, continue to be disturbed and will gradually recover.

#### Riparian/Wetlands/Floodplains:

*Direct/Indirect Effects:* There would be no change to the existing situation under the no action alternative.

*Cumulative Effects:* In the absence of the proposed action the majority of the riparian, wetlands, and floodplain would remain undisturbed. The area adjacent to the gravel float plane area which was denuded of vegetation due to ATV use by the applicant will, in the short term, continue to be disturbed and will gradually recover as colonizing plants become established.

Fisheries/Aquatic Resources:

*Direct/Indirect Effects:* There would be no change to the existing situation under the no action alternative.

*Cumulative Effects:* In the absence of the proposed action the fisheries and aquatic resources would remain in their current condition.

Water Quality – Surface and Ground

*Direct/Indirect Effects:* There would be no change to the existing situation under the no action alternative.

*Cumulative Effects:* In the absence of the proposed action water quality would remain to be relatively good condition however it will continue to be affected by the fuel spill in 2011 until the affected soil is removed.

**Mitigation Measures**

1. In and around Grayling Lake, ATV use will be restricted to the gravel area used to load and unload floatplanes. ATV use is not allowed in vegetated areas surrounding Grayling Lake to prevent riparian and floodplain degradation similar to what occurred in 2011.

**E. CONSULTATION AND COORDINATION**

**List of Preparers**

Merben Cebrian, Wildlife Biologist  
William Hedman, Archeologist  
David Esse, Fisheries Biologist  
Joyce Voight, Realty Specialist  
Michael Schoder, Chief, Division of Cadastral Survey  
Lisa Shon Jodwalis, Interpretive Park Ranger  
Jennifer McMillan, Ecologist

**G. REFERENCES**

Bureau of Land Management (BLM). 1989. Utility Corridor, proposed resource management plan and final environmental impact statement. U.S. Dept of Interior, Bureau of Land Management, Arctic District Office, Fairbanks, Alaska.

Meyer, K.G. 2002. Managing degraded off-highway vehicle trails in wet, unstable, and sensitive environments. Technical Report 0223-2821P-MTDC. Missoula, MT: U.S. Department of Agriculture, Forest Service, Missoula Technology and Development Center. 48p.

Netsch, N.F. 1977. Fishery resources of waters along the route of the Trans-Alaska pipeline between Yukon River and Atigun Pass in north central Alaska. U.S. Fish and Wildlife Service. Resource Publication 124. 45pp.

Reed, P.B., Jr. 1988. National list of plant species that occur in wetlands: Alaska (Region A). Biological Report 88(26.11). U.S. Fish and Wildlife Service, Washington, DC.

Sinnott, R. 1990. Off-Road Vehicles and Hunting in Alaska – A Report to the Alaska Board of Game. Alaska Department of Fish and Game.

Viereck, L.A., C.T. Dyrness, A.R. Batten, and K.J. Wenzlick. 1992. The Alaska vegetation classification. General Technical Report PNW-GTR-286. U.S. Dept. of Agriculture, Forest Service, PacificNorthwest Research Station, Portland, Oregon. 278p.

**FINDING OF NO SIGNIFICANT IMPACT/DECISION RECORD**

**Finding of No Significant Impact:**

Permit (2920) application F-95417  
Base camp on public lands in support of air taxi operations

I have reviewed Environmental Assessment DOI-BLM-AK03000-2012-0017. Based on the analysis of potential environmental impacts and considering the significance criteria in 40 CFR 1508.27, I have concluded that the proposed action with the mitigation measures described in the EA and Exhibit A of the permit will not have a significant effect on the human environment and an environmental impact statement is not required

/s/ NW Jacobson

7/5/12

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Acting Field Manager, Central Yukon Field Office

\_\_\_\_\_  
Date

**Decision Record**  
**Permit for Arrowhead Outfitters, FF95417**

It is my decision to approve the permit to Arrowhead Outfitters for a base camp on public lands in support of their air taxi operations as described in the proposed action. A permit will be issued for approximately three (3) years from September 1, 2012 through September 30, 2015.

In and around Grayling Lake, ATV use will be restricted to the gravel area used to load and unload floatplanes. ATV use is not allowed in vegetated areas surrounding Grayling Lake to prevent riparian and floodplain degradation similar to what occurred in 2011.

The attached stipulations shall be followed to protect resources and prevent the possible spread of non-native invasive.

**Rationale:**

1. There are no anticipated impacts to cultural resources. See Attachment #1.
2. The Proposed Action will not significantly restrict subsistence uses. See Attachment #2.
3. No salmon species catalogued by the State of Alaska in the area encompassed by this permit will be impacted. See Attachment #3.
4. The proposed action will occur in an area that has been determined not to have wilderness characteristics. The proposed action will not have any impact on wilderness characteristics. See attachment #4.
5. Implementation of the mitigation measures to minimize harm to or within the floodplain/wetlands will alleviate any adverse effects on the natural or beneficial floodplains/wetland values. See Attachment #5.

**Appeal Procedures:**

This decision may be appealed to the Interior Board of Land Appeals, Office of Hearings and Appeals in accordance with 43 CFR Part 4 and DOI Form 1842-1. The notice of appeal must be filed in the Bureau of Land Management Central Yukon Field Office (at the above address) within 30 days from receipt of this decision.

/s/ NW Jacobson

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Nichelle W. Jacobson  
Field Manager  
Central Yukon Field Office

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7/5/12  
Date

**Contact Person**

For additional information concerning this EA review and decision, contact Joyce Voight, Realty Specialist, Central Yukon Field Office at (907) 474-2247.