National Park Service
U.S. Department of the Interior
Gates of the Arctic National Park and Preserve
Alaska

Chandler Lake Mitigation Project Access
Public Review Environmental Assessment
May 2013

Chandler Lake in spring view from south to north

Kollutarak Creek area from aircraft

Comments on this environmental assessment (EA) may be submitted during the 30-day open comment period via the national planning web site at http://parkplanning.nps.gov.

Comments may also be submitted in writing to:

Greg Dudgeon, Superintendent
Gates of the Arctic National Park and Preserve
4175 Geist Road
Fairbanks, AK 99709-7216

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Acronyms

ANILCA	Alaska National Interest Lands Conservation Act
ASRC	Arctic Slope Regional Corporation
CEQ	Council on Environmental Quality
DOD	Department of Defense
ATV	All-terrain vehicle
EA	environmental assessment
NALEMP	Native American Lands Environmental Mitigation Program
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
OHV	off-highway vehicle
ORV	off-road vehicle
ROW	rights-of-way
RRO	residual range organics
RWCA	Right-of-Way Certificate of Access
SHPO	State Historic Preservation Office(r)
USACE	Unities States Army Corps of Engineers

CHAPTER 1 – PURPOSE AND NEED FOR ACTION

PURPOSE AND NEED

The National Park Service (NPS) is considering issuing a right-of-way certificate of access (RWCA) to Ms. Mabel Burris of Anaktuvuk Pass for temporary access across lands in Gates of the Arctic National Park. Ms. Burris has a Native Allotment on the shores of Chandler Lake, which she proposes to be used as a staging site for Anaktuvuk Pass residents and contractors to remove military debris from the Chandler Lake area. The application requests permits to authorize access to her allotment with two 8-wheeled Argos in summers 2013 and 2014 with which to stage abandoned U.S. Department of Defense (DOD) materials for removal from several Native allotments and Native Corporation Lands around the Chandler Lakes area. One or two roundtrips with the Argos between Anaktuvuk Pass and Chandler Lake would be needed each summer. The abandoned DOD materials would be transported by snowmobiles and sleds (or by aircraft if there is inadequate snow cover) in subsequent spring seasons (2014 and 2015). Up to 40 roundtrips with snowmobiles and sleds loaded with about 300 pounds of debris each would be required each spring, or an estimated 80 roundtrips. The project is funded by the Native American Land Environmental Mitigation Program (NALEMP) through a cooperative agreement (CA) between the DOD and the village of Anaktuvuk Pass, a federally recognized Alaska Native tribe. The CA is managed by the U.S. Army Corps of Engineers (USACE). The project location with land ownership is shown in Figure 1. The sites from which DOD debris is to be removed are shown in Figure 2.

RWCAs authorize the inholder access rights established by Section 1110(b) of the Alaska National Interest Lands Conservation Act. RWCAs protect park resources by establishing any necessary limits on the access and maintenance methods.

This environmental assessment (EA) analyzes the potential environmental impacts which could result from the access alternatives considered, including the No-Action alternative. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council of Environmental Quality (CEQ) (40 Code of Federal Regulations 1508.9), and the NPS NEPA compliance guidance handbook (Director's Order-12, *Conservation Planning, Environmental Impact Analysis, and Decision Making*, NPS, 2001).

Background

Ancestors of the residents of the village of Anaktuvuk Pass were the original inhabitants of Chandler Lake, Little Chandler Lake, and Chandler Lake North areas, and several Anaktuvuk Pass residents now have Native allotments in these areas (Figure 2). Furthermore, the Arctic Slope Regional Corporation (ASRC) owns surface and subsurface lands in these areas adjacent to the allotments and Gates of the Arctic National Park (Figure 1). Anaktuvuk Pass residents continue to use this area for subsistence fishing, hunting, and gathering. The Final Legislative Environmental Impact Statement for All-Terrain Vehicles for Subsistence Use (NPS 1992) resulted in the Anaktuvuk Pass Land Exchange and Wilderness Redesignation with Gates of the Arctic National Park and Preserve. The land exchange between the U.S. Department of the

Interior, ASRC, and the Nunamiut Corporation, Inc. resulted in the eventual recording of a deed in 2007 (Deed # 228, Barrow Recording District) that specified the land exchange and easements for ATV access for subsistence purposes. The non-wilderness park lands along Kollutarak Creek between the John River and Chandler Lake are to be available for dispersed all-terrain vehicle use (specifically low-pressure 6- to 8-wheeled Argos) for subsistence purposes. The proposed debris removal project would improve subsistence conditions in and around Chandler Lake and the condition of Native-owned lands, but the proposed all-terrain vehicle (ATV) and snowmobile access is not considered to be "subsistence" activity.

This Chandler Lake area was used by DOD between 1944 and 1958 for oil explorations and arctic research in northern Alaska, and the area was known as the Anaktuvuk Pass Research Camp or Chandler Lake Project, the preferred name for this project. The U.S. Navy office of Naval Petroleum and Oil Shale Reserves carried out the oil explorations for more than ten years, starting in 1944. In addition, Yale University and the U.S. Office of Naval Research collaborated on research around Chandler Lake to evaluate "Effects of an Arctic Environment on the Origin and Development of Freshwater Lakes" between 1951 and 1958. Research teams camped in the Chandler Lake area for at least two summers during that time.

In 2001 DOD and the President of Anaktuvuk Pass began written communications to address possible environmental impacts on tribal lands attributable to DOD activities. This led to site investigations by DOD contractors. NPS personnel made a site visits to the Chandler Lake Project area in summer of 2006 and subsequent years, where they documented a total of 130 55-gallon fuel drums and about 700 5-gallon fuel cans in the area among other debris. The Anaktuvuk Pass Subsistence Resource Council requested that this material be removed because it poses environmental hazards that interfere with subsistence activities. The NPS could not use its funds to remove all of these materials because most of it was not located on NPS-managed lands. The DOD contracted Sundance Consulting, Inc. in 2008 to complete a Draft Step III Site Assessment Report for the Chandler Lake Project (Sundance 2008). The assessment verified seven sites on Native lands with military debris as described by the NPS. Soil samples at several of these sites showed a possible presence of petroleum related compounds and one site had a soil sample showing residual range organics (RRO) above Alaska Department of Environmental Conservation (ADEC) cleanup levels. Debris at one site may include some materials containing asbestos. Site #7 is located on two Native allotments and NPS lands. The NALEMP can fund cleanup and removal of military debris from native-owned lands, but it cannot be used to remove such debris from federally-managed lands. Other agency funds must be used for removal from federal lands.

Park Purpose and Significance

The Alaska National Interest Lands and Conservation Act of 1980 (ANILCA) Section 201(4)(a) established Gates of the Arctic National Park and Preserve to be managed for the following purposes, among others:

> To maintain the wild and undeveloped character of the area, including opportunities for visitors to experience solitude, and the natural environmental integrity and scenic beauty

> of the mountains, forelands, rivers, lakes, and other natural features; to provide continued opportunities, including reasonable access, for mountain climbing, mountaineering, and other wilderness recreational activities; and to protect habitat for and the populations of, fish and wildlife, including, but not limited to, caribou, grizzly bears, Dall sheep, moose, wolves, and raptorial birds. Subsistence uses by local rural residents shall be permitted in the park, where such uses are traditional, in accordance with the provisions of title VIII.

The Foundation Statement for Gates of the Arctic National Park and Preserve (NPS 2009) provides three applicable significance statements with bearing on this project:

1. Gates of the Arctic National Park and Preserve protects habitats and resources in consultation with local rural residents to provide subsistence opportunities on lands that have supported traditional cultures and local residents.
2. Gates of the Arctic National Park and Preserve protects a 12,000-year record of human cultural adaptations to high latitude mountain environments and an unbroken tradition of living on the land.
3. Gates of the Arctic National Park and Preserve protects a functioning arctic, mountain ecosystem in its entirety and provides habitat of world importance for naturally occurring plant and animal populations.

Legal Context

ANILCA Section 1110(b) provides for access to inholdings:

> "Notwithstanding any other provisions of this Act or other law, in any case in which State owned or privately owned land, including subsurface rights of such owners underlying public lands, or valid mining claim or other valid occupancy is within or effectively surrounded by one or more conservation system units, national recreation areas, or those public lands designated as wilderness study, the State or private owner or occupier shall be given by the Secretary such rights as may be necessary to assure adequate and feasible access for economic and other purposes to the concerned land by such State or private owner, or occupier and their successors in interest. Such rights shall be subject to reasonable regulations issued by the Secretary to protect the natural and other values of such lands."

The Department of the Interior promulgated regulations for Title XI of ANILCA in 1986 at 43 CFR 36.10 "Access to Inholdings". The regulations define inholdings and other pertinent terms for access to inholdings, identify those needing a RWCA, describe how to apply for a RWCA, and describe how the agency makes decisions to issue RWCAs.

The pertinent regulation at Title 43 CFR 36.10(e)(1) states: "… the federal agency shall specify in a ROW permit the route(s) and method(s) across the area(s) desired by the applicant, unless it is determined that:

(i) The route or method of access would cause significant adverse impacts on natural or other values of the area and adequate and feasible access otherwise exists; or

(ii) The route or method of access would jeopardize public health and safety and adequate and feasible access otherwise exists; or

(iii) The route or method of access is inconsistent with the management plans for the area or purposes for which the area was established and adequate and feasible access otherwise exists; or

(iv) The method is unnecessary to accomplish the applicants land use objective."

The NPS Organic Act of 1916 and the General Authorities Act of 1970 prohibit impairment of park resources and values. The 2006 NPS Management Policies use the terms "resources and values" to mean the full spectrum of tangible and intangible attributes for which the park is established and managed, including the Organic Act's fundamental purpose and any additional purposes as stated in the park's establishing legislation. The impairment of park resources and values may not be allowed unless directly and specifically provided by statute. The primary responsibility of the NPS is to ensure that park resources and values will continue to exist in an unimpaired condition that will allow people to have present and future opportunities for enjoyment of them. Impairment is more likely when there are potential impacts to a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

A determination of whether impacts of the action would lead to an impairment of park resources and values would be appended to a decision on the access.

Issues Selected for Detailed Analysis

Vegetation, Soils, and Wetlands

Driving two Argos over about 20 miles of arctic terrain for four to six rounds trips (16 to 24 one-way transits) could affect vegetation and wetlands values and functions, depending on the routes taken. The operation of snowmobiles pulling sleds over similar terrain during periods with adequate protective snow cover and frozen soil conditions is much less likely to adversely affect vegetation and wetlands, especially if less aggressive tracks with shallow tread (paddles) on snowmobiles are used.

Wildlife and Habitat
The temporary use of Argos and up to 80 one-way snowmobile transits with sleds could temporarily disturb wildlife along the access route such as caribou, moose, and grizzly bears, and the removal of contaminated debris and trash could improve habitat for wildlife in areas adjacent to and within the legislated boundary of Gates of the Arctic National Park.

Aquatic Resources
The infrequent use of the access route with Argo ATVs along the Kollutarak Creek corridor during the ice-free season could have temporary adverse effects on the aquatic organisms and fish in the creek at and below several stream crossings, and the removal of trash and contaminated debris from around the Chandler Lake Project area could positively affect environmental conditions for fish and other aquatic organisms in the subject lakes.

Cultural Resources
Motorized travel along the access route and removal of debris from the Chandler Lakes Project area could negatively affect historical and archeological sites in the area.

Subsistence Use
Removal of DOD debris and contaminated materials could improve conditions for subsistence uses on Native lands, and transportation activities could disrupt use of NPS lands for subsistence purposes.

Recreational Use and Enjoyment
The project could temporarily and adversely affect opportunities for solitude and quiet along the Kollutarak Creek access corridor and improve scenic conditions around Chandler Lake with removal of unsightly debris.

Issues Dismissed From Detailed Analysis

Air Quality - Both the Clean Air Act of 1977 (CAA) and NPS 2006 Management Policies (NPS 2006) require the NPS to consider air quality impacts from their projects. The park is a Federal Class 2 Air Quality Area under the CAA. Air quality is monitored near the NPS Bettles Ranger Station and no pollutants have been documented to exceed National Ambient Air Quality Standards within the park. The use of small motorized equipment for a few hours per year would result in only short-term negligible impacts on air quality.

Soundscapes - Natural soundscapes in the area would be affected by the use of small motorized vehicles (Argos and snowmobiles) on the access route. These impacts would be of short duration, infrequent, and of low intensity, and therefore negligible.

Floodplains - E.O. 11988, Floodplain Management, requires all federal agencies to take action to reduce the risk of flood loss, to restore and preserve the natural beneficial values served by floodplains, and to minimize the impact of floods on human safety, health, and welfare. The project does not put any new facilities or disturbance in floodplains, so this impact topic does not apply.

Wilderness
The Kollutarak Creek corridor between Chandler Lake and the John River was redesignated as park non-wilderness pursuant to the Legislative EIS for All-Terrain Vehicles for Subsistence Use (NPS 1992), which resulted in the Anaktuvuk Pass Land Exchange and Wilderness Redesignation with Gates of the Arctic National Park and Preserve.

Threatened and Endangered Species
In compliance with the Endangered Species Act, Section 7, the U.S. Fish and Wildlife Service was consulted. No federally designated threatened or endangered species are known to occur within the park (Swem 2013), and none are anticipated to be affected by this project.

Local Communities/Socioeconomic Resources – There could be a measureable short-term beneficial effect to the local economy from issuing this permit. The inholders and contractors would travel to the Chandler Lake area for a few paid trips over the next three years.

Effects on Minority and Low-Income Populations
Executive Order 12898 requires federal agencies to incorporate environmental justice into their missions by identifying and addressing high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The proposed access would not result in disproportionately high direct or indirect adverse effects on any minority or low-income population or community.

Permits and Approvals Needed to Implement Project

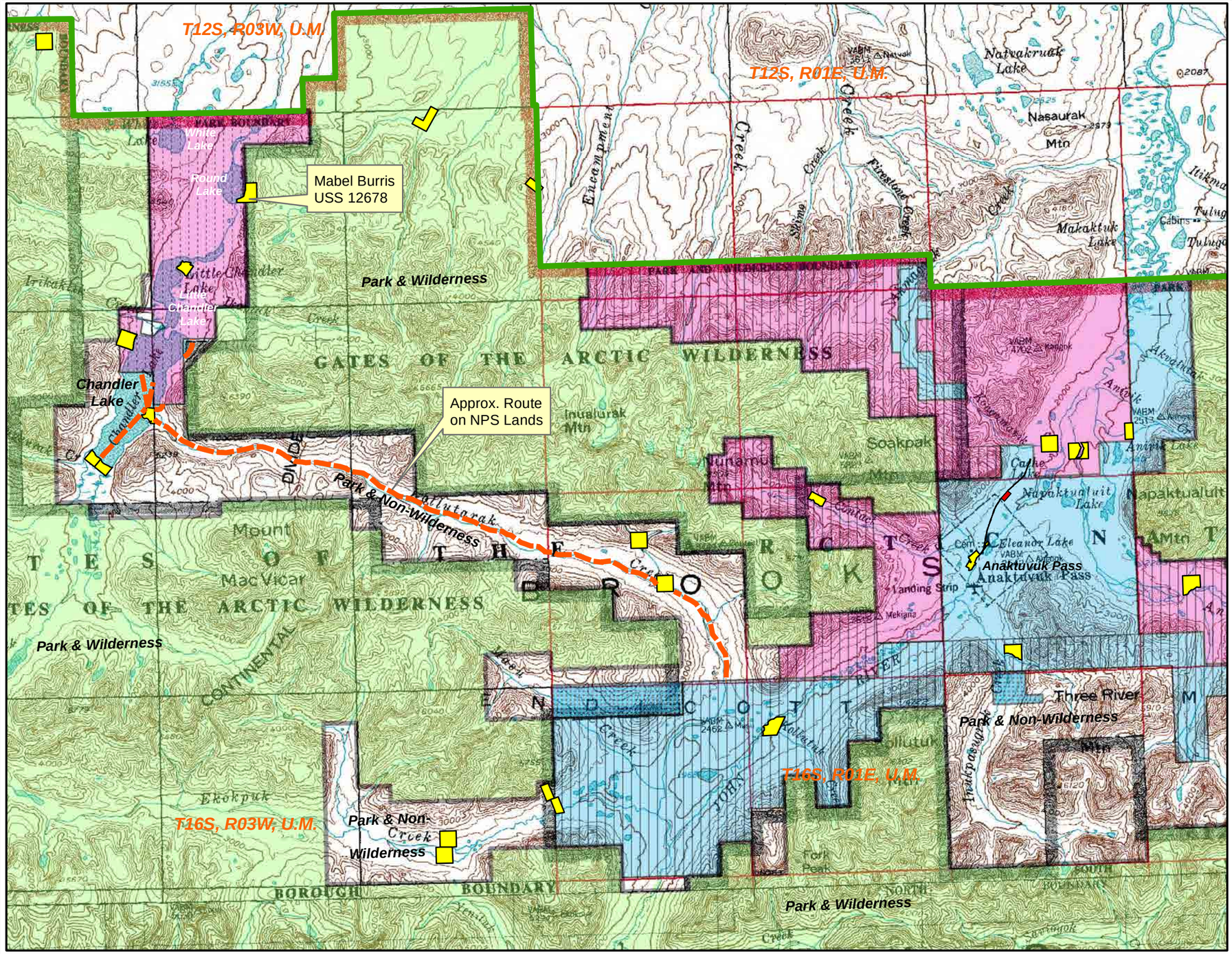
Rights-of-Way
The NPS would issue an ANILCA 1110(b) Right-of-Way Certificate of Access (RWCA) to Mabel Burris, tribal member of Anaktuvuk Pass Village. The RWCA would include a map of the ROW use area and specific terms and conditions to protect park resources and values. The RWCA would authorize access across Gates of the Arctic National Park lands with two 8-wheeled Argos during summer months and snowmachines in March-April for the purpose of staging and removing military debris from the Burris allotment and other Native lands in the Chandler Lake area.

Alaska SHPO Approval
In consultation with the State Historic Preservation Office (SHPO), the park has determined the proposed access (NPS Preferred Alternative) would result in a finding of no historic properties affected per NHPA Section 106 and implementing guidelines at 36 CFR 800.4(d)(1). Coordination with the SHPO regarding protection of historic resources near or within the project camp and work sites is being performed by the USACE.

Figure 1.1- Chandler Lake Project Location and Access Route

Gates of the Arctic National Park and Preserve

Alaska Region
National Park Service
U. S. Department of the Interior



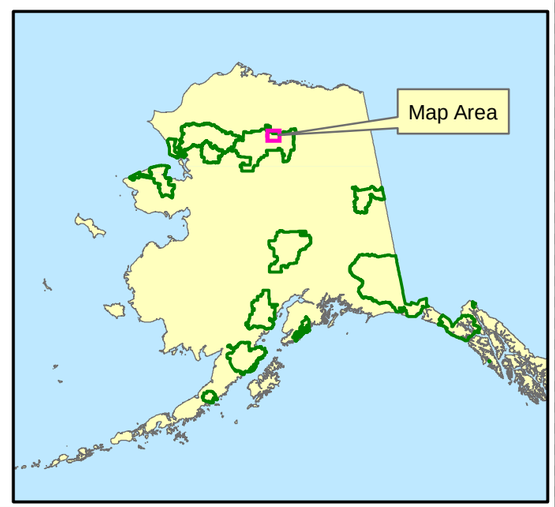
Legend

- Park Exterior Boundary
- Townsite Parcels & Borough Road Easement
- Native Allotments
- ASRC Surface & ASRC Subsurface w/ Public Access Easement
- Nunamiut Surface & ASRC Subsurface w/ Public Access Easement
- Nunamiut Surface & ASRC Subsurface
- Development Rights Owned by USA (Surface & Subsurface)
- Development Rights Owned by USA (Subsurface only)
- Approx. Route on NPS Lands

Notes:
1. Beds of navigable water bodies are state owned except in areas north of the continental divide. Navigability determinations are not final at this time.
2. Acquired (small) federal tracts are not shown.

National Park Service
Alaska Regional Office
Land Resources Program Center

0 1.25 2.5 5 7.5 Miles

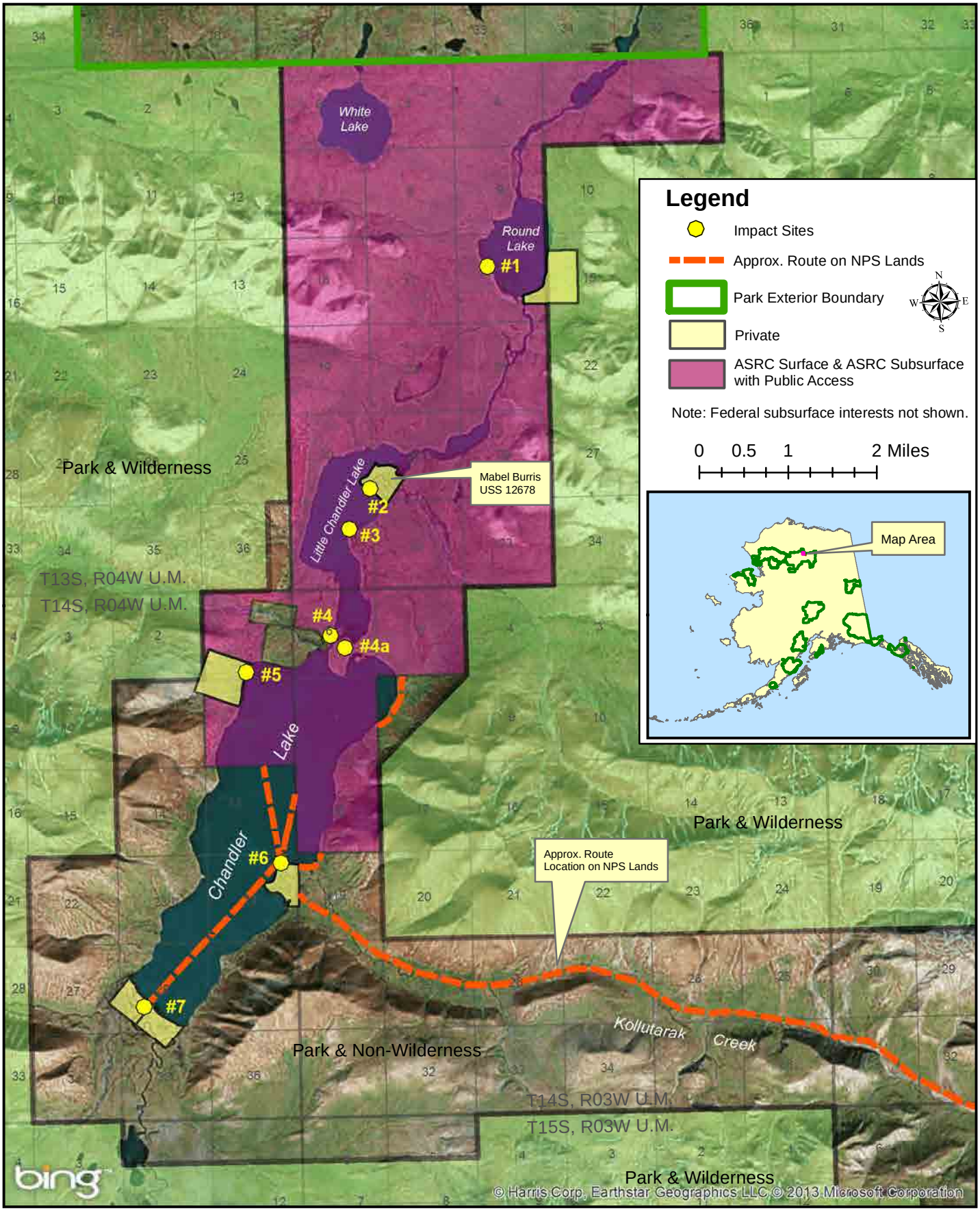


Created Jan 25, 2013, Revised Mar 15 & April 15, 2013 by Land Resources Program Center, Alaska Regional Office, Anchorage

Figure 1.2- Chandler Lake Impact Sites & Land Status

Gates of the Arctic National Park and Preserve

Alaska Region
National Park Service
U.S. Department of the Interior



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CHAPTER 2 - DESCRIPTION of the ALTERNATIVES

Introduction

This chapter describes a reasonable range of alternatives, which include the no-action alternative, the action proposed by Anaktuvuk Pass for access with Argo ATVs in summer and snowmobiles in spring, and a third viable alternative that would use Argo ATVs in summer and aircraft on skis or floats in spring/summer.

Elements Common to All Alternatives

Under all of the alternatives personnel, supplies, and equipment would be transported to the Chandler Lake Project area in summer to clean-up debris sites and stockpile DOD materials for subsequent removal. Transport would be accomplished with any of the following three combinations of methods, depending on the alternative: 1) floatplanes only, 2) floatplanes and two Argo ATVs; or 3) floatplanes, two Argo ATVs, and snowmobiles with sleds. To assure no contaminants are left at the sites or packaged and staged and transported improperly, additional sampling would take place during the clean-up and stock-piling and removal methods planned accordingly. Stockpiling DOD debris under the No-Action Alternative would be difficult without the use of Argos: and driving these machines to the area by a longer and much more difficult route north of and outside GAAR boundaries or transporting them to the Chandler Lake Project area by large aircraft or helicopter would be much more difficult and expensive. There are currently no readily available commercial aircraft to move Argos from Anaktuvuk Pass to the Chandler Lake Project area in summer. In spring or summer, large aircraft on skis or floats would be used to transport stockpiled DOD debris from the Chandler Lake Project area to Anaktuvuk Pass or other locality for disposal, or the debris would be transported during spring with snowmobiles pulling loaded sleds from the Chandler Lake Project area to Anaktuvuk Pass for disposal. The end result in all cases would be the removal of DOD debris from Native-owned lands in the Chandler Lake Project area to a disposal site outside of the project area and outside of the external boundary of GAAR.

Alternative 1: No Action

Under the No-Action Alternative, Mabel Burris would not be granted an access permit over NPS lands to her allotment in the Chandler Lake area for the purposes of staging and removing abandoned military debris left there in the 1940s and 1950s. If this alternative is selected, the applicants would have to find a route around and north of the GAAR park boundaries or use aircraft to transport workers, supplies, equipment, and debris to be removed between Chandler Lake and Anaktuvuk Pass. This alternative would not result in any direct impacts to park resources from mechanized travel over park lands for purposes of the project to collect and remove DOD debris from the Chandler Lake Project area.

Alternative 2: Proposed Action for Summer Access with Argos and Spring Snowmobile Transits (*NPS Preferred Alternative*)

Under Alternative 2 the NPS would issue a RWCA to Ms. Mabel Burris for access to her Native allotment for purposes of staging DOD materials by Anaktuvuk Pass residents and their contractors and removing DOD debris from seven sites on Native allotments and Native corporation lands in the Chandler Lake Project area. The application for access and the project work plan are attached as appendix B. The RWCA would authorize on park lands the following activities requested by the inholders:

- Up to four roundtrip transits with two 8-wheeled Argos for each trip would be authorized over NPS lands along the Kollutarak Creek between Nunamiut Corporation Lands along the John River and Native lands around Chandler Lake. Up to two round trips would occur in summer of 2013 and two round trips in summer of 2014. From the southeast shores of Chandler Lake the Argos would be loaded into a boat and moved to seven sites with scattered DOD debris on Native allotments and Native corporation lands in the area. The DOD materials would be cleaned or over-packed as necessary, cut, bound, and stacked in loads approximating 300 pounds each. An extra trip each summer with the Argos would be authorized for emergency to transport a worker or to obtain emergency equipment or supplies when weather prevents access with an airplane.
- Up to 20 roundtrip snowmachine trips would occur each spring of 2014 and 2015 in late March or April (total of 40 RTs or 80 one-way transits) along a suitable route along the Kollutarak Creek, given adequate protective snow cover and frozen ice on lakes and creeks. Local Native snowmachine operators with experience travelling in the area would drive to the staging sites around Chandler Lake, load the sleds and return to Anaktuvuk Pass to unload sled loads of debris for appropriate disposal.

Alternative 3: Summer Access with Argos and Spring/Summer Removals with Aircraft

Alternative 3 would be similar to alternative 2 for the first part of the access project, except that access along Kollutarak Creek may include a route around the John Morry Allotment along the OHV trail if access across the private property is not obtained before the project begins (see Figure 2.1). This route variation would entail about one mile of access around the subject allotment on gravel bars and open dry tundra, which would be determined in consultation with a park personnel to avoid unnecessary impacts. The NPS would issue a RWCA to Ms. Mabel Burris for access to her Native allotment for purposes of staging DOD materials by Anaktuvuk Pass residents and their contractors at seven sites on Native allotments and Native corporation lands in the Chandler Lake Project area. The RWCA would authorize on park lands the following activities requested by the inholders:

- Up to two roundtrip transits with two 8-wheeled Argos each time would be authorized over NPS lands along the Kollutarak Creek between Nunamiut Corporation Lands along the John River and Native lands around Chandler Lake. One round trip would occur in summer of 2013 and one round trip would occur in summer of 2014 to move the Argos to the Chandler Lake Project area from Anaktuvuk Pass and back at the end of each season.

From the southeast shores of Chandler Lake the Argos would be loaded into a boat and moved for access to seven sites with scattered DOD debris on Native allotments and Native corporation lands in the area. The DOD materials would be cleaned or over-packed as necessary, cut, bound, and stacked in loads for subsequent removal. Other supplies and personnel would be transported with floatplanes for summer time access, including for emergencies.

- Debris removal operations would be conducted with airplanes, either floatplanes during the summer season or ski planes during frozen winter season. Snowmobiles with sleds would not be authorized for this activity over GAAR lands.

Alternatives Considered and Eliminated from Further Evaluation

1. Fly stockpiled debris directly from the Chandler Lake Project area to Bettles in the Brooks Range Aviation otter on floats for storage and later transport over ice road to Fairbanks. This option is estimated to cost about $50,000 more than the option of flying or snowmobiling the DOD debris to Anaktuvuk Pass.
2. Fly stockpiled debris directly from the Chandler Lake Project area to Fairbanks in the Brooks Range Aviation otter on floats for disposal in Fairbanks. This option is even more costly and challenging logistically than the option described above.

Environmentally Preferable Alternative

Alternative 1 (No Action) is identified as the Environmentally Preferable Alternative because it affects the least wildlife habitat and vegetation acreage within the park from overland vehicle access; however, military debris and small amounts of contamination may not be removed from within park boundaries under this alternative.

Mitigation and Monitoring

Mitigation measures are specific actions that when implemented reduce impacts, protect park resources, and protect visitors. The following mitigation would be implemented under the action alternative and are assumed in the analysis of effects.

Vegetation and Soil: To assure vegetation effects are minimized, the summer Argo ATV traffic should be restricted to existing trails where vegetation has already been disturbed by previous (subsistence) traffic. The NPS should work with the project team to avoid the most sensitive vegetation types and wetland areas during summer transits with Argo ATVs and minimize the number of trips to those absolutely needed. Winter traffic should take place after snow cover is deep enough that no vegetation is exposed either before or after a snowmachine pass. Preferred winter routes are the existing summer trail, ice- or snow-covered water, and gravel bars. The NPS should assist the project team in selecting the best routes and measure key aspects of snow such as depth, hardness, and water content. The ground should be frozen at least to a depth of one foot in this project area in late spring, which condition prevents crushing of plant roots and the overlying substrate. Adequate snow depth should be at least six to 12 inches or more, depending on the vegetation type.

Wildlife and Habitat: Food, garbage, and other bear attractants would be stored in the project building or other approved bear-resistant containers until those materials can be transported to the inholdings or flown out. No food would be left unattended on park lands. Snowmobile transits should be completed before bears emerge from dens, which would minimize impacts to these animals when they are most stressed physically. Travelers would avoid caribou or moose congregations and give them wide berth (1/4 mile) so as not to disturb them unnecessarily, especially during spring calving or fall mating periods.

Fish and other Aquatic Resources: The number of stream crossing with Argo ATVs would be minimized and stream crossing sites would be utilized which are most able to withstand Argo ATV impacts, such as sandy-gravelly or rocky sites. Traveling at times when water levels are lower would also minimize effects to water quality and likelihood of accidents or loss of control of vehicles. Fuel transported over water bodies would be secured to vehicles and vessels in such a manner that they would not be lost or leak.

Cultural Resources: Since archeological sites are located in the vicinity, these sites are protected under federal law and collecting or otherwise disturbing these features is strictly prohibited pursuant to regulations at 40 CFR Parts 36.10 and 36.9. NPS can direct access to avoid sensitive cultural sites so long as the access would be adequate and feasible for inholder needs. The U.S. Army Corps of Engineers also requires contractors using NALEMP funds to have an archeologist clear the work sites before ground-disturbing activity can occur.

Subsistence and Recreation: The NPS may conduct similar cleanup of DOD debris from site #7 on NPS lands to further complete the restoration of the area to its pre-impact conditions for subsistence uses and recreational enjoyment of the area.

Table 2.1. Comparison of the Alternatives

Attributes/Alternative	**Alternative A – No Action**	**Alternative B – Proposed Access**	**Alternative C – Argo Access only**
#Argo ATV trips through GAAR	None	Up to 8 Argo ATV transits each year (4 roundtrips) or 16 transits over two summers.	Four Argo ATV transits each year (2 roundtrips) or 8 transits over two summers.
# Snowmachine Transits through GAAR	None	Up to 80 total transits over two springs, or 20 round trips with sleds each spring.	None.
NPS RWCA Issued	No	Yes	Yes

Table 2.2 Summary Impacts of the Alternatives

Impact Topic/Alternative	**Alternative A – No Action**	**Alternative B – Proposed Access**	**Alternative C – Argo Access only**
Vegetation, Soils, & Wetlands	No new impacts to vegetation and soils or wetlands would occur along the access corridor.	Up to 8 Argo transits (2 RTs with 2 Argos each time) during each of two summers along Kollutarak Creek and around parts of Chandler Lake would result in minor new impacts to vegetation, soils, and wetlands. Snowmobile transits would not result in noticeable impacts to vegetation or soils.	Up to 4 Argo transits (1 RT with 2 Argos each time) during each of two summers along Kollutarak Creek and around parts of Chandler Lake would result in minor new impacts to vegetation, soils, and wetlands.
Wildlife & Habitat	Negligible impacts to wildlife could occur from debris left in the area and contamination to small areas of habitat.	Additional motorized traffic from up to 8 Argo transits over two summers and 40 snowmobile transits in April could result in temporary minor disturbance to wildlife in the area, but removal of debris and contamination could outweigh the temporary effects.	Additional motorized traffic from up to 4 Argo transits over two summers and floatplane trips with debris in summer could result in temporary minor disturbance to wildlife in the area, but removal of debris and contamination could outweigh the temporary effects.
Fish & Aquatic Habitat	No new measureable effects to fish or aquatic resources would occur.	8 Argo transits each making about 80 stream crossings along Kollutarak Creek and tributaries in the area would result in temporary minor impacts to sensitive fish from turbidity, but removal of debris and contaminated materials may countervail impacts to fish in the Chandler Lakes.	4 Argo transits each making about 82 stream crossings along Kollutarak Creek and floatplane activity along lake shores adjacent to Native lands to remove stockpiled debris could result in temporary minor impacts to sensitive fish from turbidity, but removal of debris and contaminated materials may countervail impacts to fish in the area.

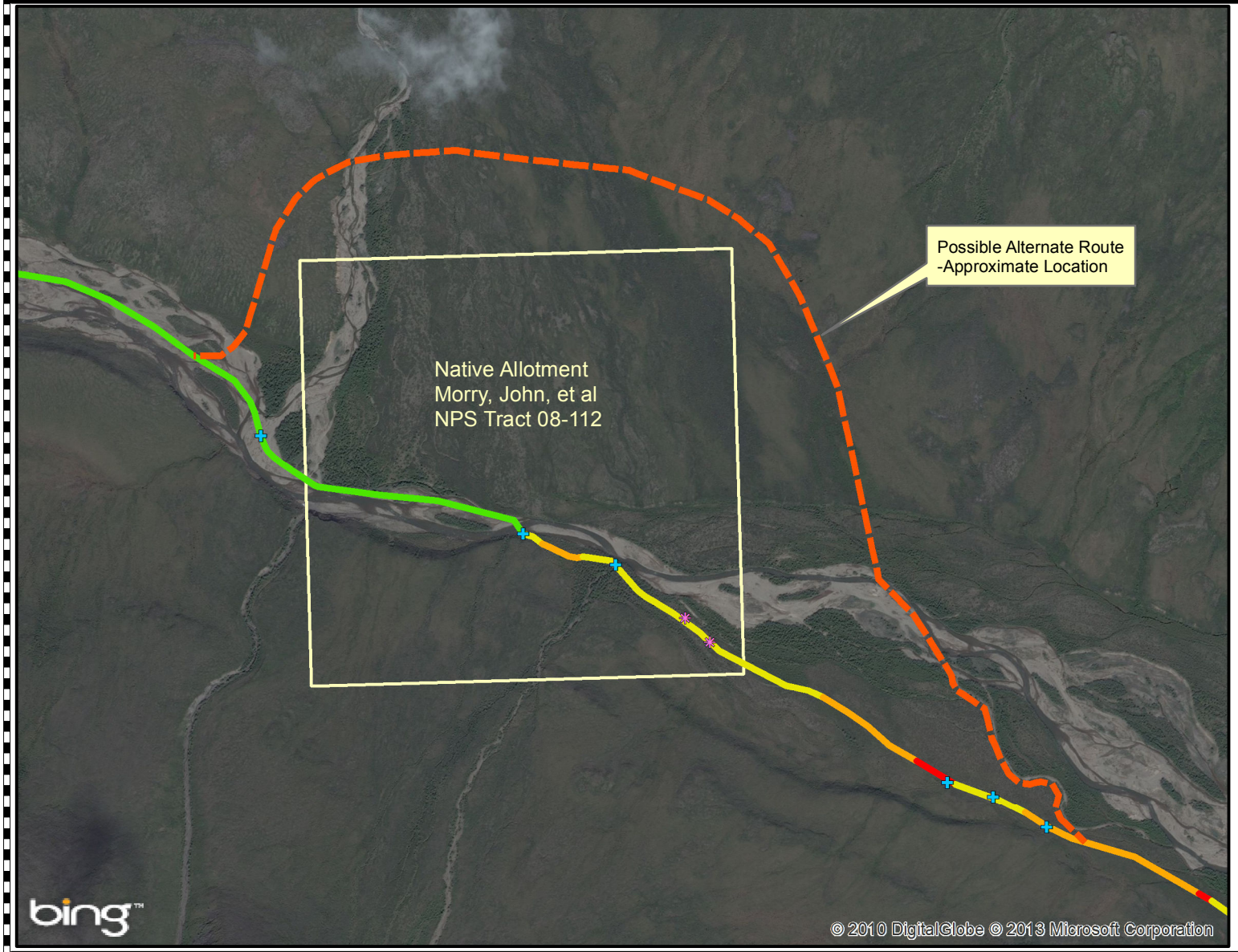
Cultural Resources	No measureable impacts to cultural resources would result.	Potential for adverse impacts to cultural resources is very low because Argo traffic would follow a previously disturbed route and artifacts and sites would be protected by snow cover when snowmobiles and sleds transit the area.	Potential for adverse impacts to cultural resources is low because Argo traffic would mostly follow a previously disturbed route, except around the John Morry allotment. Loading of floatplanes during summer near lake edges could affect some nearshore sites, but pre-work clearance by USACE archeologists would reduce this potential.
Subsistence	Minor adverse impacts to subsistence resources and uses could occur from failure to remove military debris and contamination in the area.	No significant restriction of subsistence uses would result, and minor benefit to subsistence resources and uses could occur from removal of the military debris from around the Chandler Lakes area.	No significant restriction of subsistence uses would result, and minor benefit to subsistence resources and uses could occur from removal of the military debris from around the Chandler Lakes area.
Recreation	No new impacts or measureable benefits to recreational use and enjoyment would occur.	Motorized traffic in the area could have minor temporary impacts to recreational users, if in the area, but removal of the debris and contaminated materials would improve the scenery and recreational setting over the long term. Snowmachine activity and disturbance to snow season travelers would increase during two Aprils.	Motorized traffic in the area could have minor temporary impacts to recreational users, if in the area, but removal of the debris and contaminated materials would improve the scenery and recreational setting over the long term. Floatplane activity would increase during two summers to remove the stockpiled debris, which could temporarily disrupt peaceful wildland recreation in the vicinity.

Kollutarak Creek ORV Trail Assessment

Gates of the Arctic National Park and Preserve

Figure 2.1

Alaska Region
National Park Service
U. S. Department of the Interior



Legend

OHV Trail Features

- GPS Reference
- Water or Erosion Problem
- Hazard, Various
- Structure
- Interest Point, Various
- Stream Xing

OHV Trail Condition 2005-07

- Good
- Fair
- Degraded
- Very Degraded
- Extremely Degraded

- Park & Designated Wilderness
- Park & Non-Wilderness

Land Owner Types

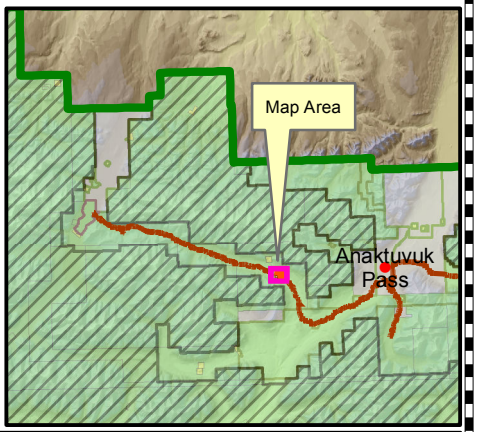
- Private
- Development Rights Owned by USA-Surface & Subsurface
- ASRC Surface & ASRC Subsurface with Public Access
- Nunamiut Corp Surface & ASRC Subsurface with Public Access
- Nunamiut Corp Surface & ASRC Subsurface

Note: Subsurface and subsistence access rights not shown.

National Park Service
Alaska Regional Office
Land Resources Program Center

0 150 300 600 900 1,200 1,500 Feet

N W E S



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3.0 AFFECTED ENVIRONMENT

3.1 Project Area

The Chandler Lake Access Project for removal of abandoned military debris is located in the north central part of Gates of the Arctic National Park and Preserve between Anaktuvuk Pass and Chandler Lake. Most of the access corridor on park lands would be along the Kollutarak Creek valley and pass. See the location map figures 1.1 and 1.2 in Chapter 1. Kollutarak Creek lies in a glacially carved valley between Divide Mountain and Mount MacVicar in the Central Brooks Range. The continental divide passes over these two mountains and the pass between Kollutarak Creek and Chandler Lake. Kollutarak Creek drains into the John River, which waters join the Koyukuk River and thence to the Yukon River and the Bering Sea. Chandler Lake drains north into the Chandler River, which waters eventually drain into the Beaufort Sea. The rugged 6,000 to 7,000 foot high peaks in the area define this spectacular arctic-alpine area. The access corridor across NPS lands would traverse about 20 miles of the valley bottom and about 4 miles of Chandler Lake. Other parts of the access project would traverse Native corporation lands and Native allotments. For comprehensive descriptions of the project area, see the Gates of the Arctic National Park and Preserve, Final General Management Plan (NPS 1986) and the Gates of the Arctic National Park and Preserve Final Wilderness Environmental Impact Statement EIS (NPS 1988), and the Final Legislative EIS for All-Terrain Vehicles for Subsistence Use in Gates of the Arctic National Park and Preserve (NPS 1992).

3.2 Vegetation/Soils/Wetlands

The existing Argo ATV trail between Anaktuvuk Pass and Chandler Lake on NPS-administered lands crosses a complex mosaic of tundra vegetation types. The dominant ecotypes (vegetation-soil units mapped by Jorgenson et al. 2008) are listed in Table 3.1. Most of these vegetation communities are mixtures of shrubs (mainly low-growing species less than 3 feet tall.), sedges, and various flowering forbs, with a ground cover of mosses and lichens. Vegetation communities vary greatly in wetness, shrub cover, and shrub height over short distances. Most of the soils are wet and have permafrost 2 or 3 feet below the surface, though wetland communities with water standing at the surface (Riverine and Alpine Wet Sedge Meadows) occupy less than 2% of the route. Dry ecotypes with sparse or low vegetation (Alpine Dryas Dwarf Shrub, Riverine Barrens, and Riverine Dryas Dwarf Shrubs, and Alpine Barrens) occupy just over 20% of the route, in spite of being preferred by Argo ATV users. Five maps appended to this chapter show the location and condition of the off-highway vehicle (OHV) trails assessed in the area by NPS in 2006-07. OHV trail conditions describe the degree of degradation of soil and vegetation.

Argo ATV traffic along the Kollutarak Creek access route has greatly modified the vegetation from its native condition, as characterized by the ecotypes listed above. Over 80% of the length of the trail was described by an NPS inventory in 2005-2007 as having moderate to heavy traffic impacts, or stripped entirely of vegetation by traffic (Table 3.2). The ATV impacts responsible

Table 3.1. Ecotypes (composite vegetation-soil classes) NPS-managed portion of the Anaktuvuk Pass-Chandler Lake OHV trail

Length of trail, km (%)	Ecotype*	Description
12.3 (26.5%)	Upland Dwarf Birch-Tussock Shrub	Tussock tundra with *Betula nana* shrubs and cotton sedge (*Eriophorum vaginatum*) on moderately wet soils with permafrost 1 to 2 feet below the surface.
6.1 (13.1%)	Upland Birch-Ericaceous-Willow Low Shrub	Low-shrub tundra with shrubs *Betula nana, Ledum decumbens,* and *Vaccinium* sp. on moist soils with permafrost at about 2 feet below the surface.
5.1 (11.1%)	Alpine Dryas Dwarf Shrub	Dwarf-shrub tundra with *Dryas octapetala* shrubs plus grasses and forbs, on dry soils with permafrost more than 3 feet below the surface.
4.6 (10.0%)	Lowland Birch-Ericaceous-Willow Low Shrub	Low-shrub tundra with shrubs *Betula nana, Ledum decumbens, Salix* sp., *Vaccinium* sp. and sedges (*Eriophorum* and *Carex*), on moderately wet soils with permafrost 1 to 2 feet below the surface.
5.3 (11.6%)	Sedge-Dryas Meadow	Dwarf shrubs (*Dryas*) and sedges (*Carex*) on moderately wet soils with permafrost about 3 feet below the surface.
3.1 (6.8%)	Riverine Barrens	Active river gravel bars with little or no vegetation.
3.1 (6.8%)	Riverine Birch-Willow Low Shrub	Low shrub thickets (*Betula nana* and *Salix* sp.) along rivers, on moist soils with permafrost 2 or more feet below the surface.
1.7 (3.6%)	Riverine Alder or Willow Tall Shrub	Shrubs thickets of willow (*Salix*) and, rarely, alder (*Alnus*) along rivers, on moist or wet soils with permafrost 2 or more feet below the surface
1.5 (3.2%)	Riverine Dryas Dwarf Shrub	Dwarf-shrubs (*Dryas* sp.*)* plus grasses and forbs, on dry soils with permafrost more than 3 feet below the surface.
0.8 (1.8%)	Upland Alder-Willow Tall Shrub	Tall shrub thickets of willow (*Salix* sp.) and rarely alder (*Alnus*) on moderately wet soils with permafrost about 2 feet below the surface.
0.5 (1.1%)	Snow	Persistent snow banks that were on the July satellite image used for vegetation mappings.

0.4 (0.9%)	Upland Willow Low Shrub	Shrub thickets of willow (*Salix*), on moderately wet soils with permafrost 2 to 4 feet below the surface.
0.4 (0.9%)	Riverine Wet Sedge Meadow	Sedge wetlands with *Eriophorum* and *Carex* sedges on wet soils with permafrost within 3 feet of the surface
0.3 (0.7%)	Alpine Alkaline Barrens	Sparsely vegetated dry carbonate (limestone) rock and gravel
0.3 (0.7%)	Alpine Acidic Barrens	Sparsely vegetated dry non-carbonate rock and gravel
0.3 (0.7%)	Riverine Water	Flowing water in streams
0.2 (0.5%)	Alpine Wet Sedge Meadow	Sedge wetlands with *Eriophorum* and *Carex* sedges, on wet soils with permafrost within 3 feet of the surface
0.1 (0.2%)	Riverine Willow Low Shrub	Willow (*Salix*) shrub thickets along streams, on moist soils with permafrost about 3 feet from the surface
46.3 (100.0%)	Total	

*Ecotypes from Jorgenson et al. (2008)

for the effects observed in 2005-2007 are permitted by the Anaktuvuk Pass Land Exchange and are expected to continue indefinitely at approximately current levels. Most portions of the trail described as having minor or no impacts to vegetation had no vegetation originally, i.e. these are portions of the trail that cross gravel bars. Thus the route crosses tundra plant communities and soils that are quite sensitive to off-highway vehicle impacts, but the negative impacts on the affected area have already occurred.

Table 3.2. Vegetation condition on the NPS-managed portion of the Anaktuvuk Pass-Chandler Lake OHV trail

Length of trail, km (%)	Estimated area, ha (%)	Vegetation Condition*	Description
9.8 (21.1%)	3.8 (18.9%)	Stripped	Loss of all vegetation across and between trail treads, very little (<25% along length) or no remaining center hump; soils are completely exposed and are compacted and eroded on upland sites and heavily churned on herbaceous dominated wetland sites. On

			some upland sites larger woody roots may remain and temporarily armor the surface. On herbaceous dominated wetlands, organics have been heavily churned and liquefied, and surface hydrology has been modified to increase the long term percentage of open water.
12.4 (26.8%)	7.3 (36.6%)	Heavy Impact	Traffic has heavily impacted vegetation along tracks. Wheel tracks distinct with woody component and surface vegetation nearly or completely stripped along foot/wheel tracks (< 25% vegetation remaining along wheel track). A center hump typically remains (>75% along length) that contains native composition. Underlying soils compacted on upland sites and churned on wetland sites continuously along route of travel. On herbaceous dominated wetlands significant there is organic churning and increases in ponding.
15.3 (33.2%)	6.2 (31.2%)	Moderate Impact	Traffic has moderately impacted vegetation along tracks, and tracks are obvious. Woody component largely stripped. Surface vegetation compacted and partially stripped (> 25% vegetation remaining along wheel tracks). Underlying soils partially exposed and may be lightly rutted and or churned.
1.8 (3.8%)	0.7 (3.4%)	Light Impact	Traffic has lightly impacted vegetation along tracks, some woody stems broken and/or surface vegetation compacted, but little or no soil compaction. Less than 10% of the surface vegetation is stripped away. Tracks are visible but largely transient.
7.0 (15.1%)	2.0 (9.9%)	None	Tire tracks not visible, or no existing vegetation along track, e.g. naturally bare gravel soil
46.3 (100.0%)	19.9 (100%)	Total	

*Vegetation condition determined by field survey of the NPS Off-Highway Vehicle (OHV) Technical Assistance Team, 2005-2007. The area affected was computed by multiplying the length of each surveyed trail segment by the average width of the area affected by traffic.

The entire route is underlain by permafrost (permanently frozen ground). By late winter when snowmachine traffic would occur, the entire active layer (the upper layer that thaws each summer) is frozen and not susceptible to compaction by snowmachine traffic. Also, when the numerous streams and ponds along the route are frozen enough for winter travel, the ground has frozen hard enough to prevent compaction damage by a snowmachine. High winds in

combination with undulating topography create a snowpack that varies greatly in thickness, with low vegetation exposed in certain windswept areas and tops of taller shrubs exposed where drifts are not deep. These areas of exposed vegetation are patchy in the late winter when snowmachine travel would occur and can be avoided with proper route-finding.

3.3 Wildlife/Habitat

The project area contains a full complement of species and habitats that occur in this region naturally. Some wildlife species regularly occurring in the area include, but are not limited to, caribou, grizzly bear, Dall's sheep, wolf, red fox, arctic fox, wolverine, mink, arctic ground squirrels, voles, snowshoe hares, raven, and willow and rock ptarmigan. The area is visited by scores of migratory bird species, including the golden eagle, American golden plover, red-necked phalarope and long-tailed jaeger. Similarly, many water bird species, including loons, ducks, geese and gulls, may utilize Chandler Lake. A list of bird species expected to occur in the area is provided in appendix D. Caribou can be found in the study area during every month of the year but are most commonly present in July and August. Mosquitos and other insects are abundant in late June and July. Wildlife habitat in project area is dominated by treeless Arctic and alpine tundra. Wetlands and riparian corridors are also common.

3.4 Aquatic Resources/Fish

Chandler Lake and its tributaries are clear water, oligotrophic systems characteristic of the arctic. Chandler Lake is a high elevation lake, well above tree line. The lake is deep (max depth 22m) and does not stratify permanently in summer. The lake begins to freeze in October and remains frozen until mid-June. Several tributaries enter the lake from the surrounding mountainous terrain. The streams that enter the lake also remain frozen for much of the year. The availability of free water is limited in areas by the presence of permafrost. Surface flow occurs on a thin layer of ground that thaws 6 inches to several feet in summer. Most streams run clear except after rains and spring breakup. After the spring runoff from snowmelt, the flow in rivers and streams subsides over the course of summer, except for intermittent storm runoff. Many tributaries dry up or freeze to the bottom by midwinter. Alluvial deposits are the principal aquifers for ground water, which is restricted by permafrost.

Chandler Lake and associated waterways contain fish populations typical of arctic waters. Species present in the affected area include lake trout, arctic grayling, round whitefish, slimy sculpin and Dolly Varden. Although seemingly abundant, these populations have very low growth rates and productivity is highly susceptible to overfishing or habitat loss. Lake trout are abundant in Chandler Lake and are fished for by both subsistence users and sport fishermen. Anadromous Dolly Varden are found in the region and fish passage can be blocked by OHV trails during the summer season. Arctic grayling are widespread in the affected area and overwinter in Chandler Lake and deep pools in the lake tributaries.

Lake trout, arctic char, arctic grayling and round whitefish are susceptible to turbidity that might result from summer time OHV activity. The OHV trail on NPS lands along the Kollutarak Creek drainage between the John River and Chandler Lake crosses streams about 80 times (including 3

on Native allotments). The main stem of Kollutarak Creek is crossed about 7 times, and the creek draining into Chandler Lake from the Kollutarak pass is crossed about 6 times. The ORV trail parallels about 22 miles of streams on NPS lands between the John River and Chandler Lake.

3.5 Cultural Resources

Anaktuvuk Pass and the surrounding region, including Chandler Lake and the intervening lands, has a long history of human occupation dating to approximately 10,000 years ago and has been subject to numerous cultural resources studies since the 1950s (Alexander 1969, Binford 1978, Campbell 1962, Hall et al. 1985, Kunz 1986, Spearman 1979). The most recent and relevant cultural resources survey within the project area was a study conducted in 1988 to address ORV use (Kunz and Troxel 1988; Pittenger and Staley 1985). A pedestrian survey of ORV trails between Anaktuvuk Pass and Chandler Lake along Kollutarak Creek was conducted and subsurface tests for archaeological materials were placed on a judgmental basis. One site was identified at the far western end of the survey area near the eastern shore of Chandler Lake (site XCL-155). The site contained a single tent ring of unknown age in a surface context. Cultural resources surveys conducted by the NPS in 2007 focused on the upper John River corridor. One day was dedicated to pedestrian surveys of the area paralleling the established OHV trail northwest of the John River and resulted in the discovery of three sites (XCL-432, XCL-433 and XCL- 434).

Altogether sixteen archeological sites have been identified on NPS lands along the proposed route between Anaktuvuk Pass and Chandler Lake, via the John River and Kollutarak Creek. The sites are known through artifacts and features observed on the ground surface, and sites with buried or stratified archaeological deposits are rare in this region. None of the previously documented sites have precise age estimates through methods such as radiocarbon dating, but based on the kinds of artifacts and constructed features present the sites likely date to late prehistoric to historic time periods and are affiliated with Nunamiut Inupiat people. From a functional perspective the sites primarily relate to either camping or hunting activities. Hunting sites contain caribou drive lines (inuksuk), caribou corals, and hunting blinds or windbreaks. Camping sites contain features such as tent rings, sod house ruins, and fire hearths. Additionally, two human burials have been identified within the project area. None of the sites within the project area have been evaluated in regard to their eligibility for the National Register of Historic Places.

3.6 Subsistence

The area of the park in which the proposed Argo ATV, boat, and snowmobile access activities would occur is basically west of the Nunamiut community of Anaktuvuk Pass within Gates of the Arctic National Park and Preserve.

Subsistence harvest of fish and wildlife is allowed in Gates of the Arctic National Park and

Preserve by qualified subsistence users subject to Federal subsistence management regulations and park-specific regulations and policies. ANILCA protects subsistence uses by local rural residents as a priority consumptive use over other non-subsistence consumptive uses.

Hunting, fishing, trapping and gathering remain a vital part of a subsistence way of life for local residents. Major subsistence resources include lake trout, Arctic grayling, Arctic char, fur bearers, ptarmigan, waterfowl, brown bears, moose, wolves, Dall's sheep, caribou, and several species of berries (see Holen et. al 2012). Occasionally subsistence users will make special trips into specific areas such as Chandler Lake or other large lakes to fish for Arctic char and lake trout or to mineral licks or prime habitat for targeted wildlife species. Chandler Lake is known for its abundant fish populations. Summer and fall harvests concentrate on caribou, Dall's sheep, moose, grizzly bear, arctic ground squirrels, birds and fish and occur opportunistically whenever people leave the confines of the community.

The Argo ATV trails to Chandler Lake and Little Chandler Lake through the Kollutarak Creek corridor follow traditional routes to important seasonal subsistence harvest areas. Winter trapping efforts in the access project area concentrate on the harvest of wolverine, wolves, and red fox. These and other subsistence activities occur throughout the year and are concentrated in a large region surrounding the community in the central, northern and eastern portions of the park and preserve.

In spring (March and April) there is high snowmachine activity between Anaktuvuk Pass and Chandler Lake along the Kollutarak Creek route. In recent years, the trail is used more often in winter than in summer. The main reason is because it takes about 2.5 hours to travel to Chandler Lake in winter and about 6 hours one way in summer. In winter, residents begin going to Chandler Lake in early March where two to three families camp and fish at the lake. The number of trips usually decreases by the end of April. In summer, people travel to the lake by mid-June on Argos, with 4th of July being a popular travel weekend (Larry Burris, pers. comm.)

The NPS recognizes that patterns of subsistence use vary from time to time and from place to place depending on the availability of wildlife, other renewable natural resources, and regulatory openings and closings of areas. A subsistence harvest in a given year may vary considerably from previous years because of such factors as weather, surface snow conditions for traveling, wildlife migration patterns, natural population cycles, equipment condition and availability, wildlife conservation practices such as leaving a trapline fallow periodically, and regulatory changes.

3.7 Recreational Use and Enjoyment

Visitors are attracted to the park to enjoy its superlative scenery and essentially undisturbed wilderness. Because of commercial air service from Fairbanks, the village of Anaktuvuk Pass is a popular spot for starting or ending backpacking and wilderness trips. To gain access to the park land from the village, hikers must cross Native land along specific linear easements and stay at campsites designated by section 17(b) of the Alaska Native Claims Settlement Act (ANCSA). The Alaska Wilderness Classic overland race has on occasion traversed this area. Most visitors

to this area travel up and down the John River corridor, but a few may venture into the Kollutarak Creek and Chandler Lake areas, or make a loop backpack with a leg along Ekokpuk Creek. A few recreational fishermen land in airplanes and fish around Chandler Lake for lake trout and Dolly Varden.

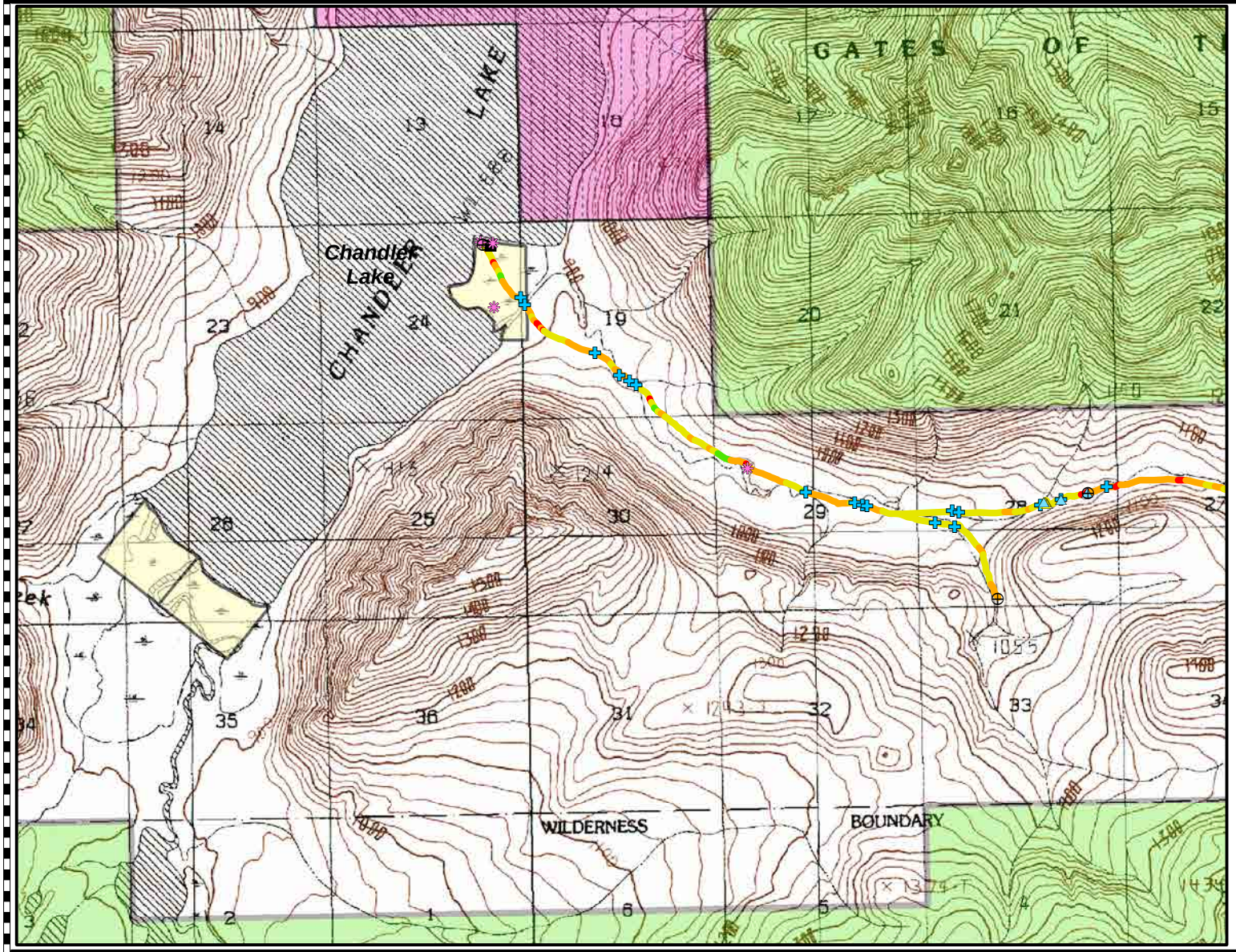
The Land Exchange Agreement between the United States and ASRC and Nunamiut Native Corporations conveyed a special warranty deed for public access across ASRC and Nunamiut Corporation lands and interests in lands with the park to further public access, use and enjoyment of the federally-owned lands in the park, for wilderness recreational activities, and for park management. The easements permit only pedestrian and dog team access, overnight camping, and nonlinear rights of access to federally-owned lands within the boundary of the park. Public access is to avoid conflicts with subsistence uses on ASRC and Nunamiut lands, camping within half mile of an active subsistence hunting camp, and camping more than one night at the same site on ASRC or Nunamiut lands is prohibited, except in emergencies.

Kollutarak Creek ORV Trail Assessment

Gates of the Arctic National Park and Preserve

Figure 3.1

Alaska Region
National Park Service
U. S. Department of the Interior



Legend

OHV Trail Features

- GPS Reference
- Water or Erosion Problem
- Hazard, Various
- Structure
- Interest Point, Various
- Stream Xing

OHV Trail Condition 2005-07

- Good
- Fair
- Degraded
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- Park & Non-Wilderness

Land Owner Types

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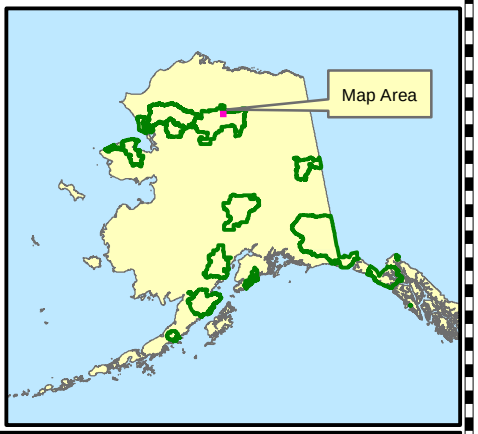
Note: Subsurface and subsistence access rights not shown.

National Park Service
Alaska Regional Office
Land Resources Program Center

0 0.25 0.5 1 1.5 Miles

N W E S



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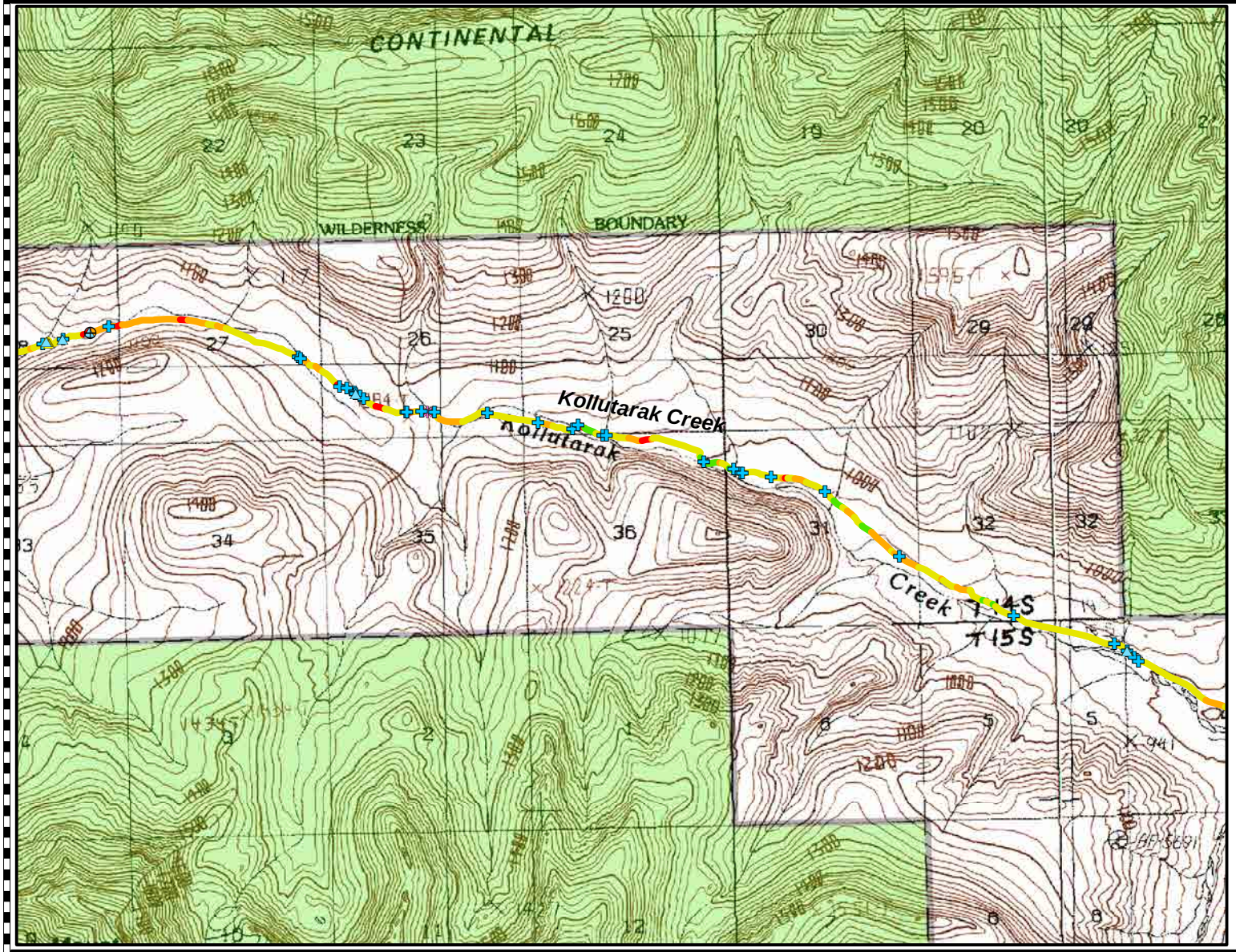
Kollutarak Creek ORV Trail Assessment

Gates of the Arctic National Park and Preserve

Figure 3.2

Alaska Region
National Park Service
U. S. Department of the Interior



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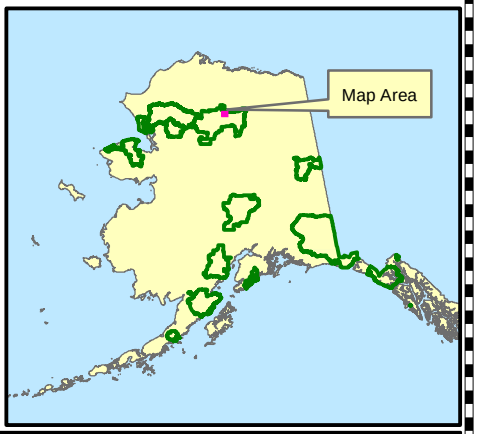
National Park Service
Alaska Regional Office
Land Resources Program Center

0 0.25 0.5 1 1.5 Miles



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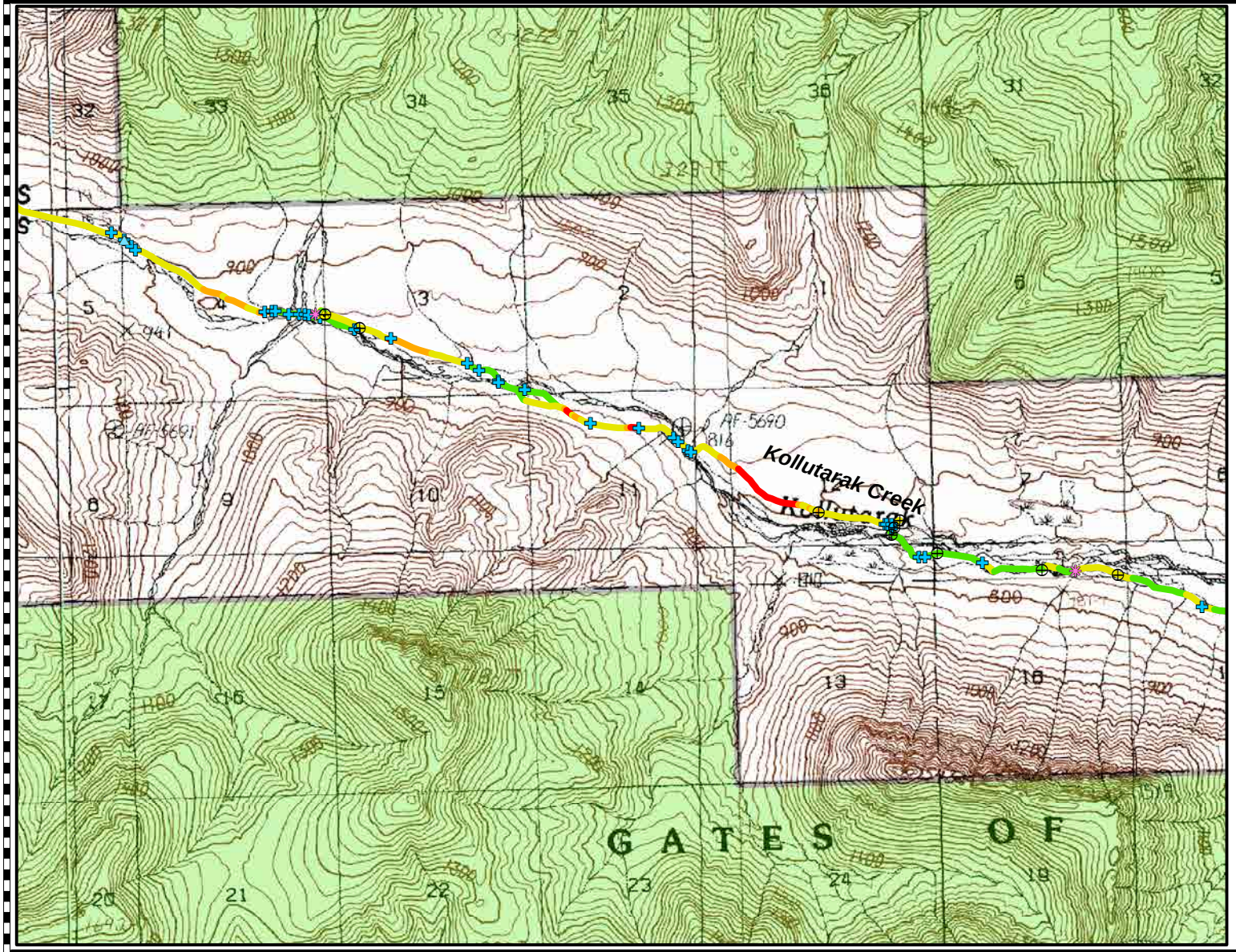
Kollutarak Creek ORV Trail Assessment

Gates of the Arctic National Park and Preserve

Figure 3.3

Alaska Region
National Park Service
U. S. Department of the Interior



Legend

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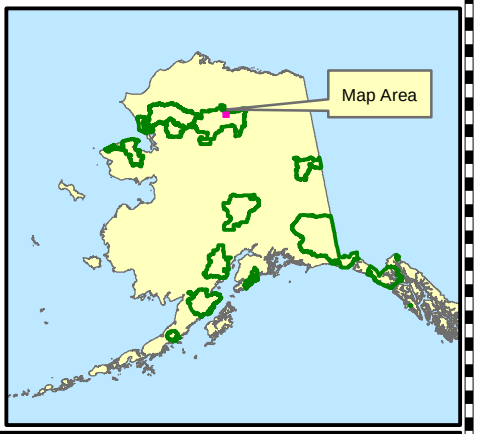
National Park Service
Alaska Regional Office
Land Resources Program Center

0 0.25 0.5 1 1.5 Miles



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Kollutarak Creek ORV Trail Assessment

Gates of the Arctic National Park and Preserve

Figure 3.4

Alaska Region
National Park Service
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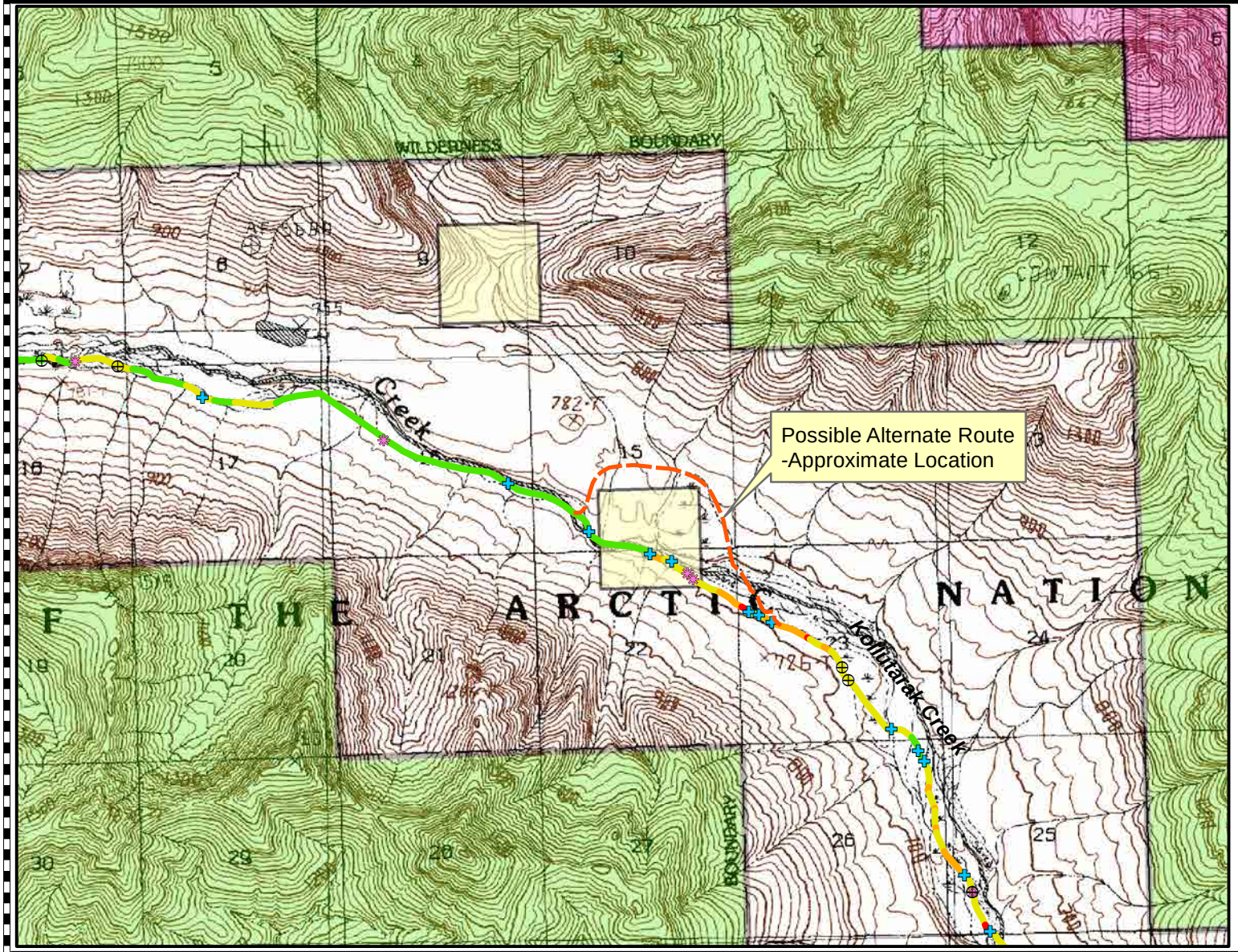

Legend

OHV Trail Features

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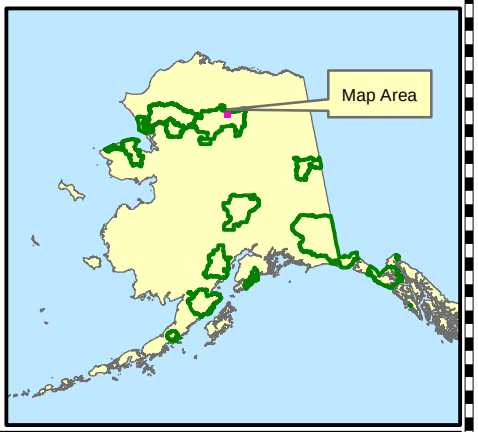
National Park Service
Alaska Regional Office
Land Resources Program Center

0 0.25 0.5 1 1.5 Miles



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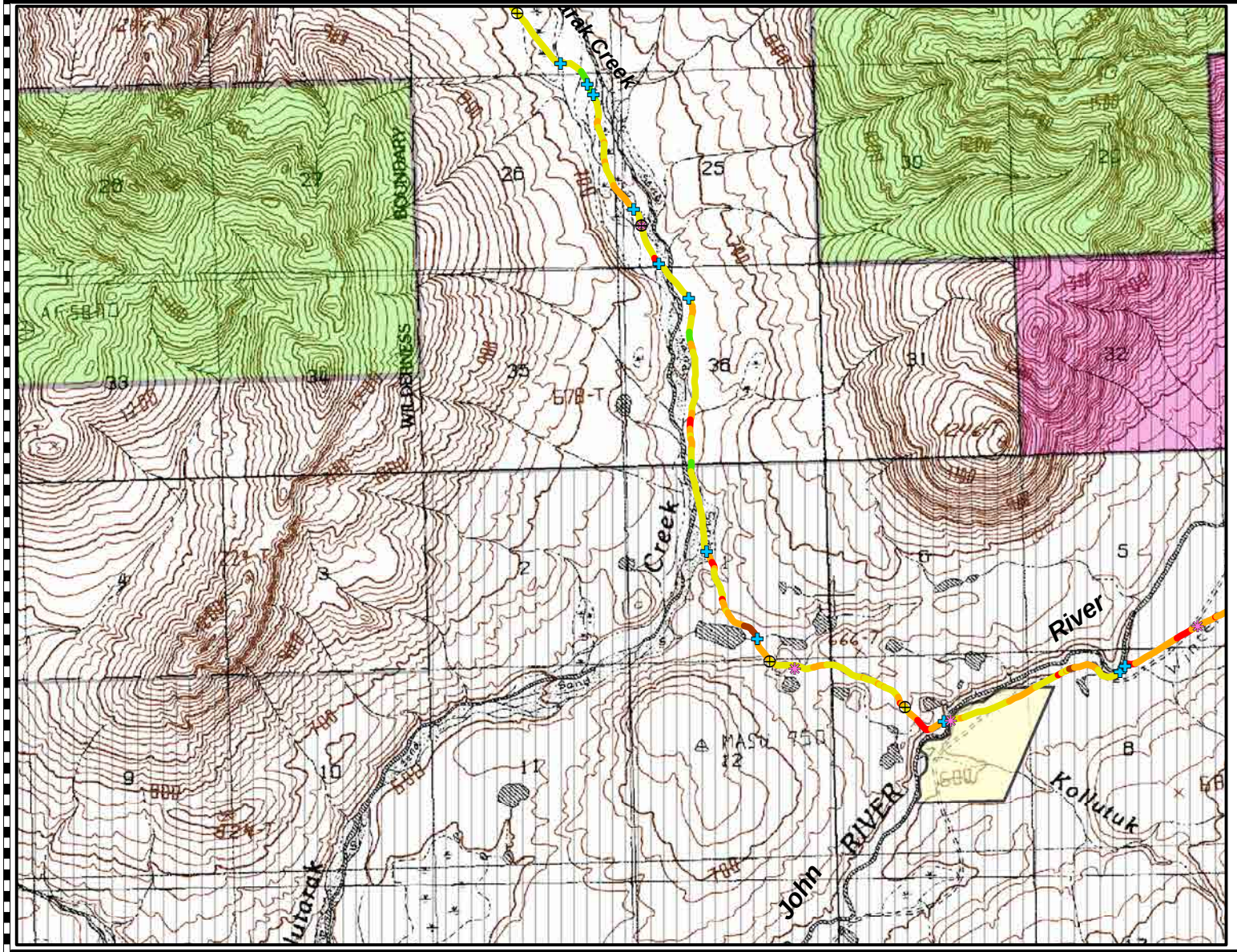
Kollutarak Creek ORV Trail Assessment

Gates of the Arctic National Park and Preserve

Figure 3.5

Alaska Region
National Park Service
U. S. Department of the Interior



Legend

OHV Trail Features

- GPS Reference
- Water or Erosion Problem
- Hazard, Various
- Structure
- Interest Point, Various
- Stream Xing

OHV Trail Condition 2005-07

- Good
- Fair
- Degraded
- Very Degraded
- Extremely Degraded

- Park & Designated Wilderness
- Park & Non-Wilderness

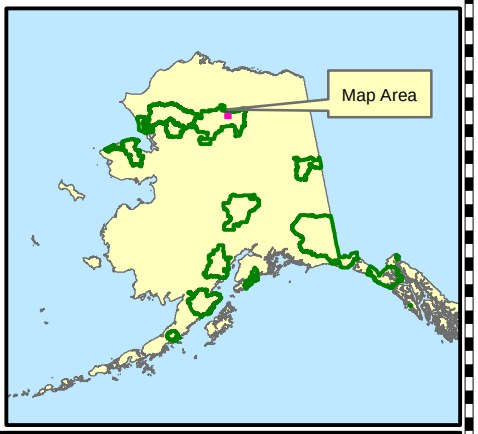
Land Owner Types

- Private
- Development Rights Owned by USA-Surface & Subsurface
- ASRC Surface & ASRC Subsurface with Public Access
- Nunamiut Corp Surface & ASRC Subsurface with Public Access
- Nunamiut Corp Surface & ASRC Subsurface

Note: Subsurface and subsistence access rights not shown.

National Park Service
Alaska Regional Office
Land Resources Program Center

0 0.25 0.5 1 1.5 Miles



Created Feb 13, 2013 by Land Resources Program Center, Alaska Regional Office, Anchorage

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CHAPTER 4 - ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This chapter provides an evaluation of the potential effects or impacts of each of the alternatives on the resources described in the issue statements presented in Chapter 1, Purpose and Need for Action."

4.2 Impacts to Vegetation, Soils, and Wetlands

Alternative 1 – No Action

The vegetation, wetlands, and soils of the trail would remain in approximately their present state as described in chapter 3 from to continued subsistence use. About 17.3 hectares (42.7 acres) of vegetation and soil would remain moderately impacted or heavily impacted where stripped of vegetation and rutted, but no new impacts would accrue from the no-action alternative.

Cumulative effects

Past impacts to vegetation and soils along the Kollutarak OHV trail have occurred in the past and continued use of that route with Argo ATVs for subsistence purposes would maintain the impacted linear trail as noted in table 3.2, which is about 46 kilometers long (28 miles) on NPS lands at 2-3 meters (6-8 feet) wide, or nearly 29 hectares (42.7 acres). There would be no additional effects to vegetation, soils, and wetlands on park lands from this alternative because no access permit would be issued for the project to authorize Argos and snowmachines to travel across park lands for the proposed clean-up project.

Conclusion

The No Action Alternative would result in no new impacts to vegetation, soils, and wetlands along the access corridor and around Chandler Lake.

Alternative 2

The vegetation, wetlands, and soils of the trail would remain in approximately their present state due to the addition of up to 8 more summer Argo ATV transits in each of two summers. So long as Argo ATV passes remain on previously disturbed routes, then new impacts would be minimal. Winter effects would also be minimal because traffic would occur with adequate snow cover and on unvegetated areas or the current trail, which already has little vegetation or has highly disturbed vegetation. The tips of shrubs such as willows could be snapped where they protrude from the snow or are just beneath the surface along the snowmachine travel corridor.

Cumulative effects

There would be up to 8 additional Argo ATV transits along the Kollutarak valley in addition to the few ongoing Argo ATV transits in the area for subsistence purposes and for access to Native lands around

Chandler Lake in each of two summers. Up to 40 round trip snowmachine transits with unloaded and loaded sleds would be in addition to at least that many snowmachine transits for spring fishing trips to the Chandler Lake area by local area residents. So long as the drivers follow the existing ATV route or areas with adequate snow cover during April, then impacts to vegetation, soils and wetlands should be imperceptible.

Conclusion

The Proposed Action Alternative would result in minor new impacts to vegetation, soils, and wetlands along the access corridor and around Chandler Lake.

Alternative 3

The vegetation, wetlands, and soils of the trail would remain in approximately their present state due to the minimal addition of more summer traffic to current subsistence use. There would be no possible effects to vegetation soils, and wetlands from winter access because debris would be flown out to Anaktuvuk Pass under this alternative.

Cumulative effects

There would be up to 8 Argo ATV transits along the Kollutarak valley in addition to the ongoing few annual Argo ATV transits for subsistence purposes and for access to Native lands around Chandler Lake in each of two summers. So long as drivers follow the existing ATV route, then no new perceptible impacts to vegetation, soils, and wetlands should occur.

Conclusion

The Proposed Action Alternative would result in minor new impacts to vegetation, soils, and wetlands along the access corridor and around Chandler Lake.

4.3 Impacts to Wildlife and Terrestrial Habitat

Alternative 1

No new effects to wildlife and their habitat are likely to be measurable or detectable. No additional habitat disturbance would occur from this alternative.

Cumulative Effects

The existing motorized use of this access route would result in temporary disturbances to wildlife such as caribou, grizzly bears, wolves, small mammals and birds. The no-action alternative would not add any additional impacts to wildlife and their habitat except potential disturbance to and contamination of wildlife habitat on Native lands would not be removed.

Conclusions

This alternative would have a negligible impact on wildlife values.

Alternative 2

The additional motorized use of this access route under this Alternative including up to 8 Argo ATV transits each of two summers and 40 snowmobile transits pulling sleds each spring could result in temporary and localized disturbances to wildlife such as caribou, grizzly bears, wolves, small mammals, and migratory birds. New effects to terrestrial wildlife are unlikely to be measurable or detectable. A very small area (<1 acre) of habitat may be newly disturbed by motorized use around the edge of Chandler Lake where trails do not currently exist. Numerous species of ground-nesting birds can be found in the study area. Several of these bird species, such as Smith's Longspur, upland sandpiper, and short-eared owls, are listed as Species of Concern (Boreal Partners in Flight 1999). Removal of garbage and toxic material from the study area could benefit wildlife species and their habitat. Indirect effects of the access RWCA to wildlife and habitat would be both adverse from motorized traffic impacts on adjacent areas and beneficial from removal of the military debris and contaminated or toxic materials from the Chandler Lake area.

Cumulative Effects

In the past up to 42 acres of wildlife habitat was disturbed or damaged from Argo ATV use. The total acreage of new wildlife habitat disturbance would be very small (<1 acre). The only foreseeable future action in the area would be future or concurrent NPS clean up actions around Chandler Lake on NPS-managed lands. The cumulative impacts to wildlife and habitat on NPS-managed lands from past, present, and foreseeable future actions would be minor. This alternative would contribute only a very minor impact on the wildlife resources of the area.

Conclusions

The additional motorized traffic on the existing ATV trail to remove military debris across park lands would have a minor adverse impact on the wildlife resources of the area from temporary disturbance from motorized vehicle transits and small areas of habitat damage; however, the indirect beneficial effects from removal of the debris and contaminated materials from adjacent Native lands may outweigh the adverse effects.

Alternative 3

The minimal additional motorized use of this access route under this Alternative with up to 8 Argo ATV transits in each of two summers could result in temporary and localized disturbances to wildlife such as caribou, grizzly bears, wolves, small mammals, and migratory birds. New effects to terrestrial wildlife are unlikely to be measurable or detectable and would be less than Alternative 2. A very small amount (<1 acre) of habitat may be disturbed by motorized use around the edge of Chandler Lake where trails do not currently exist. Numerous species of ground-nesting birds can be found in the study area. Several of these, including Smith's Longspur, upland sandpiper, and short-eared owls, are listed as Species of Concern (Boreal Partners in Flight 1999). Additional aircraft flights could result in in temporary and localized disturbances to wildlife such as Dall's sheep, golden eagles, and waterfowl. Removal of garbage

and contaminated or toxic material from the project area could benefit wildlife species and their habitat.

Cumulative Effects

In the past nearly 43 acres of wildlife habitat was disturbed or damaged from ATV use. The total acreage of new wildlife habitat disturbance would be very small (<1 acre). The only foreseeable future action in the area is the NPS completing similar clean up actions around the Lake on their property. The cumulative impacts to wildlife and habitat from past, present, and future actions would be very minor. This alternative would contribute only a minimal impact on the wildlife resources of the area.

Conclusions

The additional motorized traffic over this existing motorized trail and airplane flights over the area to remove refuse from the project area would have temporary minor direct adverse impacts on the wildlife resources of the area; however, the indirect beneficial effects to wildlife and habitat from debris and contaminated materials removal may outweigh any adverse effects.

4.4 Impacts to Fish and Aquatic Habitat

Alternative 1

No new effects to fish and aquatic habitat are expected under the no-action alternative. Continued Argo ATV use for subsistence purposes could have minor effects on fish and aquatic habitat where the vehicles cross streams and cause turbidity in the water. These ford sites could temporarily displace sensitive fish like lake trout, arctic char, arctic grayling, and round whitefish. The low level of contaminants in the military debris is not expected to have a measureable effect on the fish and water quality in the area because the water bodies in the Chandler Lake system are large and the volumes of contaminants are very small and at low concentrations (Sundance 2009).

Cumulative Effects

The past and ongoing Argo ATV use of this access route would result in temporary disturbances to sensitive fish such as lake trout, arctic char, arctic grayling, and round whitefish with about 80 ford sites along the Kollutarak Creek route on NPS lands, but the no-action alternative would not add any additional impacts to these resources. Fuel contamination from the military containers is mostly gone or diluted after over 50 years.

Conclusions

This alternative would result in no measureable new impacts to fish and aquatic resources.

Alternative 2

The additional motorized use of this access route under this Alternative including up to 8 Argo ATV transits each of two summers and 40 snowmobile transits pulling sleds each spring could result in temporary and localized disturbances to aquatic resources and fish. The snowmobile and sled trips are not expected to affect fish and aquatic resources because the lake surfaces and streams would be solidly frozen in April. Sensitive fish species like dolly varden, arctic grayling, and round whitefish could be temporarily displaced where Argos traverse the creeks along the Kollutarak drainage and pass area near Chandler Lake. Removal of garbage and toxic material from the project area could benefit fish species and their habitat. Indirect effects of the access RWCA to fish and their habitat would be both adverse from motorized traffic impacts on adjacent areas and beneficial from removal of the military debris and contaminated or toxic materials from the Chandler Lake area.

Cumulative Effects

In the past, up to 80 ATV fords along the Kollutarak drainage between the John River and Chandler Lake have resulted in temporary disturbances to fish and aquatic habitat. Because the Chandler Lake Project Argos would travel along the established route, no new impact sites are expected. The only foreseeable future action in the area would be future or concurrent NPS clean up actions around Chandler Lake on NPS-managed lands. The cumulative impacts to fish and aquatic habitat on NPS-managed lands from past, present, and foreseeable future actions would be minor. This alternative would contribute only a very minor additional impact on the fish and aquatic resources in the area, and some benefit to fish and aquatic resources could be derived from the removal on military debris and associated contamination, where present.

Conclusions

The motorized traffic over the existing ATV trail and winter route to remove military debris from the project area would have a minor adverse impact on the fish and aquatic resources in the area from temporary disturbance and creation of turbidity in streams and adjacent lake waters from Argo vehicle transits; however, the indirect beneficial effects from removal of the debris and contaminated materials from adjacent Native lands may countervail the adverse effects.

Alternative 3

Impacts to aquatic and fish resources from this alternative would be similar to that of alternative 2; however, a possible reroute around the Morry allotment along Kollutarak Creek could result in an additional three more creek fords, two of Kollutarak Creek. Also, summer transits with floatplanes to remove stockpiled debris could disturb fish and small areas of lake shore aquatic resources adjacent to Native lands where float planes dock on the shores for loading and removal of material. The minimal motorized use of this access route under this Alternative with up to 4 Argo transits in each of two summers could result in temporary and localized disturbances along the creek ford sites to sensitive fish species like dolly varden, arctic grayling, and round whitefish. Lake trout could be displaced temporarily where float planes are loaded with debris for removal along the shores of Chandler Lake and other area lakes, but these effects are expected to be

negligible. New effects to fish and aquatic resources are unlikely to be measurable or detectable on NPS lands and waters and would be slightly less than Alternative 2 because of fewer Argo ATV transits despite use of three more creek fords. Removal of garbage and contaminated or toxic material from the project area could benefit fish species and their habitat in the project area.

Cumulative Effects

In the past, leaking fuel containers might have adversely affected area fish in the Chandler Lakes area, but most of that contamination is currently at low levels. The total acreage of new fish habitat disturbance would be very small (<1 acre). Past and ongoing Argo ATV access across Kollutarak Creek and its tributaries along the OHV trail for subsistence purposes would continue at a low rate over the next couple of summers. The only foreseeable new future action in the area would be from the NPS completing similar clean up actions around Chandler Lake on its property. The cumulative impacts to fish and aquatic habitat from past, present, and future actions would be minor. This alternative would contribute minor impacts on the fish and aquatic resources of the area.

Conclusions

The additional motorized traffic along and over streams and floatplane activity on the Chandler lake system to remove debris from the project area would result in minor direct adverse impacts on the fish and aquatic habitat in the area; however, the indirect beneficial effects to fish and aquatic habitat from debris and contaminated materials removal may outweigh any adverse effects.

4.5 Impacts to Cultural Resources

Alternative 1

No adverse impact on cultural resources would occur if access across park lands was not permitted.

Cumulative Effects

The only foreseeable new future action in the area is the NPS completing similar clean up actions around Chandler Lake on its property, after the area and potential historic properties are investigated and evaluated for eligibility to the National Register. The past and ongoing Argo ATV use of this access route could result in disturbances to sensitive cultural resources in the Chandler Lake area, but the no-action alternative would not add any additional impacts to these resources. Fuel contamination from the military containers is mostly gone or diluted after over 50 years, and would not pose an increasing threat to cultural resources in the area.

Conclusions

This alternative would result in no measureable new impacts to cultural resources.

Alternative 2

The proposed actions pose little threat to cultural resources. While the surface nature of sites in this area makes them vulnerable to some impacts there is little potential for site disturbance during wintertime travel when snow cover and frozen ground serves to shield and protect the artifacts and features that are present. In addition, this route has seen considerable use in the past and cultural resource sites that remain are located in places that lie outside common travel routes, such as the tops of raised landforms at the edges of the valley.

Cumulative Effects

According to past studies, no adverse effects have occurred upon cultural resources along the existing trail. Taking this into consideration, along with results from prior surveys indicating no cultural resources are within impact distance of the existing trail, no new impacts of any sort would be anticipated from the minor increase in traffic this project would entail. It is also highly unlikely that this minor increase in traffic would expose or disturb previously unidentified archeological deposits or cause environmental damage significant enough to cause future disturbances. The only foreseeable new future action in the area is the NPS completing similar clean up actions around Chandler Lake on its property, after the area and potential historic properties are investigated and evaluated for eligibility to the National Register.

Conclusions

The potential for adverse impacts on cultural resources due to the additional motorized traffic on this existing trail is very low. Negligible, if any, impacts would incur upon the cultural resources of the area from minor surface disturbance from motorized vehicle transits.

Alternative 3

Impacts to cultural resources from this alternative would be similar to that of alternative 2; however, potential new Argo access around the Morry allotment could result in new impacts to cultural resources heretofore not located or known. Summer transfers of debris with floatplanes could disturb lake shore sites adjacent to Native lands where float planes dock on the shores for loading and removal of debris. The minimal motorized use of this access route under this Alternative with up to 4 Argo transits in each of two summers is unlikely to result in disturbances to surficial cultural resources near the lake edges and between lakes where cleanup activities are likely to occur. New effects to cultural resources are unlikely to be measurable or detectable and may be slightly more than Alternative 2 because of the potential need for access around the Morry Native allotment and from summer operations with floatplanes. NPS archeologist clearance of the reroute around the Morry allotment ahead of time would reduce the potential for adverse impacts to cultural sites. Removal of garbage and contaminated or toxic material from the project area could benefit cultural resources in the project area.

Cumulative Effects

The only foreseeable new future action in the area is the NPS completing similar clean up actions around Chandler Lake on its property, after the area and potential historic properties are investigated and evaluated for eligibility to the National Register. The cumulative impacts to cultural resources from past, present, and future actions would be minor. This alternative could result in new impacts to previously unknown cultural resources around the Morry allotment.

Conclusions

The additional motorized traffic along the Kollutarak Creek drainage, including around the Morry allotment, and around the Chandler Lakes to remove military debris from the Chandler Lake area would not likely result in adverse impacts to cultural resources in the area, except for potentially unknown sites around the Morry allotment. NPS archeologist clearance of the reroute around the Morry allotment ahead of time would reduce the potential for adverse impacts.

4.6 Impacts to Subsistence

Alternative 1

The no-action alternative would not authorize access across NPS lands and waters to remove abandoned military debris from the Chandler Lake Project area. No new effect to important subsistence resources in the area such as fish and wildlife and edible plants would occur; however, local subsistence users are concerned that important subsistence animals such as caribou could be displaced by the rusting piles of military debris. They also expressed concerns that lingering contamination could adversely affect habitat for fish and wildlife in the area. The no-action alternative would not correct this situation unless access for personnel and equipment could be accomplished by aircraft only. Hunters or fishermen who might be in the project area for subsistence during the clean-up operations, would not be disturbed under the no-action alternative.

Cumulative Effects

Past effects to subsistence resources from the abandoned military debris could have been greater when more fuel was present in the containers. Other recreational fishermen could compete for the fish resources in the lakes, but this has not been reported to be a problem. The NPS could remove military debris from its lands along the southwest side of Chandler Lake in the near future. The no-action alternative would not add any adverse impacts to subsistence resources and activities in the project area, but failure to remove the bulk of the military debris from Native lands around Chandler Lake could result in minor adverse impacts to subsistence resources from contamination and unnatural disturbance of the habitat for subsistence resources. Some subsistence users have reported hazards from the debris when it is under snow and accidentally hit with a snowmobile while they travel in the area.

Conclusions

The no-action alternative would not result in any competition for subsistence resources and uses in the area, but failure to remove the bulk of the military debris from Native lands around Chandler Lake could result in minor adverse impacts to subsistence resources from contamination, unnatural disturbance of the habitat for subsistence resources, and safety hazards for area subsistence users.

Alternative 2

The transfer of two Argos to the Chandler Lake area for stockpiling military debris and moving personnel around the project area would not likely compete with other subsistence users in the area. These machines could also be used to assist with subsistence hunting in the area when workers are not using the Argos for the project. The use of snowmachines to sled out stockpiled military debris in April could result in short-term disturbance to other subsistence hunters or fishermen in the area. Removal of the debris could improve habitat for subsistence resources like fish and wildlife because a potential source of contamination and unsightly and hazardous and angular metal debris would be removed and provide for a cleaner subsistence environment and safer travel in the region.

Cumulative Effects

Past effects to subsistence resources from the abandoned military debris could have been greater when more fuel was present in the containers. Other recreational fishermen could compete for the fish resources in the lakes, but this has not been reported to be a problem. The NPS could remove military debris from its lands along the southwest side of Chandler Lake in the near future. The proposed action alternative could result in a net additive benefit to subsistence resources and uses from removal of the bulk of the military debris on Native lands around Chandler Lake because contamination and potential disturbance to wildlife and safety hazards for travelling subsistence users would be removed.

Conclusions

The proposed action would not result in a significant restriction of subsistence uses, and there may be some benefit to subsistence uses in the area from the removal of the debris that may deter wildlife and pose contamination and safety hazards for subsistence users of the area.

Alternative 3

The impacts to subsistence resources under alternative 3 would be similar to that under alternative 2. There would be fewer disturbances along Kollutarak Creek in April from snowmobile transits because debris would be removed by airplane in summer or spring instead. Removal of the debris could improve habitat for subsistence resources like fish and wildlife because a potential source of contamination and unsightly and hazardous and angular metal debris would be removed and provide for a cleaner subsistence environment and safer travel in the region.

Cumulative Effects

Past effects to subsistence resources from the abandoned military debris could have been greater when more fuel was present in the containers. Other recreational fishermen could compete for the fish resources in the lakes, but this has not been reported to be a problem. The NPS could remove military debris from its lands along the southwest side of Chandler Lake in the near future. The proposed action alternative could result in a net additive benefit to subsistence resources and uses from removal of the bulk of the military debris on Native lands around Chandler Lake because contamination and potential disturbance to wildlife and safety hazards for travelling subsistence users would be removed.

Conclusions

Alternative 3 would not result in a significant restriction of subsistence uses, and there may be some benefit to subsistence uses in the area from the removal of the debris that may deter wildlife and pose contamination and safety hazards for subsistence users of the area.

4.7 Impacts to Recreational Use and Enjoyment

Alternative 1

The no-action alternative would not authorize motorized travel across NPS lands or waters to remove abandoned military debris, so no new impacts would occur to recreational use and enjoyment in these NPS areas.

Cumulative Effects

The past and ongoing ATV use of this access route would result in continued disturbances to recreational use and enjoyment of the area from motor noise and impacts to the natural scenery from ATV trail impacts, but the no-action alternative would not add any additional impacts to these recreational values. Fuel contamination from the military containers is mostly gone or diluted after over 50 years. The potential for removal of military debris from NPS lands around Chandler Lake would result in a minor benefit to the scenic integrity of the area and the potential for wildland recreational use and enjoyment.

Conclusions

This alternative would result in no measureable new impacts or benefits to recreational use and enjoyment of the area.

Alternative 2

The additional motorized use of this access route under this Alternative including up to 8 Argo ATV transits each of two summers and 40 snowmobile transits pulling sleds each spring could result in disturbances to recreational uses and enjoyment of the area during summer and spring. Uses may

include hiking and backpacking in summer months and skiing and dogsledding in April, which is the most popular month for travel during the snow season.

Cumulative Effects

In the past ATV trips for subsistence purposes along the Kollutarak drainage between the John River and Chandler Lake may have resulted in degradation of recreational experiences for the few who venture into this area. The opportunity for visitors to enjoy the natural quality and scenery of the area has been degraded through the establishment of ATV trails over the past several decades. Because the Argos would travel along the established route, no new impact sites are expected. The only foreseeable future action in the area would be future or concurrent NPS clean up actions around Chandler Lake on NPS-managed lands. The cumulative impacts to recreational uses and enjoyment on NPS-managed lands from past, present, and foreseeable future actions would be minor. This alternative would contribute minor temporary impacts on recreational uses and enjoyment in the area from the motorized access, and some benefit to recreational use and enjoyment as a result of the removal of military debris from the scenic area.

Conclusions

The motorized traffic over the existing ATV trail and winter route to remove military debris across NPS lands would have a minor adverse impact on recreational use and enjoyment of the area in summer and spring; however, the indirect beneficial effects from removal of the debris and contaminated materials from adjacent Native lands may countervail the temporary adverse effects.

Alternative 3

Impacts to recreational uses and enjoyment from this alternative would be similar to that of alternative 2; however, a potential new access route around the Morry allotment could result in about one mile of new visual disturbance along the Kollutarak Creek valley. Summer transits of debris with floatplanes could disturb recreational use and enjoyment during the loading and removal of debris. Some recreational fishermen also arrive by floatplanes, so this activity would be less disturbing to them. The minimal motorized use of this access route under this Alternative with up to 8 Argo transits in each of two summers could result in temporary and localized disturbances to recreational uses and enjoyment of the project area. New effects to recreational resources, such as hiking routes and camping sites, are unlikely to be measurable or detectable and may be slightly less than under Alternative 2 because of the summer operations with floatplanes. Removal of garbage and contaminated or toxic material from the project area could benefit recreational use and enjoyment of the area of the long term.

Cumulative Effects

In the past Argo ATV trips for subsistence purposes along the Kollutarak drainage between the John River and Chandler Lake may have resulted in degradation of recreational experiences for the few who venture into this area. The opportunity for visitors to enjoy the natural quality and

scenery of the area has been degraded through the establishment of ATV trails over the past several decades. Because the Argo ATVs would travel along the established route, no new impact sites are expected. The only foreseeable future action in the area would be future or concurrent NPS clean up actions around Chandler Lake on NPS-managed lands. The use of floatplanes to remove debris in summer instead of snowmobiles with sleds in April would affect summer recreational users more than a few spring recreational users that may occur in the area. The cumulative impacts to recreational uses and enjoyment on NPS-managed lands from past, present, and foreseeable future actions would be minor. This alternative would contribute minor temporary impacts on recreational uses and enjoyment in the area from the motorized access, and some benefit to recreational use and enjoyment as a result of the removal of military debris from the scenic area.

Conclusions

The additional motorized traffic along the Kollutarak Creek drainage and around the Chandler Lake system to remove refuse across NPS lands would have a minor direct adverse impact on recreational uses and enjoyment of the area in summer; however, the indirect beneficial effects to recreational use and enjoyment over the long term from debris and contaminated materials removal may outweigh any adverse effects.

5.0 CONSULTATION AND COORDINATION

The NPS personnel conducted site visits in 2006 to locate and characterize military debris reported and observed in the Chandler Lakes area. This survey resulted in the tally of over 700 small fuel containers and about 130 55-gallon drums in the vicinity. The NPS subsequently applied for agency funds to clean up the sites, but the most of the debris occurs on Native allotments and Native corporation lands. NPS funds could not be used to clean up private lands. Local native entities applied for funding from the U.S. Department of Defense (DOD) to characterize and clean up the site. They have since received funds for sites assessments and cleanup activities. The DOD identified the Native American Lands Environmental Mitigation Program (NALEMP) as an appropriate fund source to assess and clean up their lands. A level III site assessment was completed by Sundance Consulting, Inc. (2008), which further characterized the debris surveyed by the NPS, including a few sites with residual range organics (RRO) and asbestos. RRO are left over from old leaking fuel containers, Argos and snowmobiles, and naturally occurring events.

The NPS has communicated with the U.S. Army Corps of Engineers and understands that they require an agency archeologist must clear the work sites before ground disturbance can occur using NALEMP funds. The NPS also contacted Mr. Ted Swem of the U.S. Fish and Wildlife Service about the potential presence of endangered and threated species in the project area, and he concurred with NPS that there would be no effect to threatened and endangered species from access to or at this project work site.

The Native Village of Anaktuvuk Pass has requested permission for access over NPS lands to remove the military debris. Village resident Mabel Burris applied for access to her Native allotment on September 11, 2012. NPS Alaska Lands Team Manager Chuck Gilbert requested additional information to process the access request. Because the access is for a clean-up project and not for the allowed subsistence purposes, the NPS determined that an environmental assessment and public review was needed to process the request. Mr. Ron Lynn, acting in behalf of applicant Mabel Burris and Anaktuvuk Pass as a project manager, supplied additional information about the proposed project. Mr. Lynn suggested alternative means of removal and provided rough cost estimates. Mr. Gilbert accepted the application as complete enough to proceed on December 18, 2012.

Superintendent Greg Dudgeon arranged for tribal consultation on site with village representatives and leaders during the first week of April 2013, and phone contact was made with the Burris family in March 2013. The NPS shared the draft internal review EA with Anaktuvuk Pass residents, their contract manager Ron Lynn, and Richard Jackson (USACE NALEMP Project Manager) to gather their feedback and corrections before the document was released for public review.

A press release was issued on or about May 1, 2013, and the document was released for public review on the NPS Planning Environment and Public Comment (PEPC) web site and mailed to stakeholders concurrently for a 30-day public comment period.

The NPS assembled a team of resource experts to contribute to the EA and analyses as presented in table 5.1. This team included the park superintendent, park resource experts, member of the NPS Alaska Region Lands Team, and NEPA specialists in the NPS Alaska Regional Office.

Table 5.1 – Interdisciplinary EA Team

NAME	**TITLE**	**LOCATION**
Greg Dudgeon	Superintendent	Gates of the Arctic National Park and Preserve Offices, Fairbanks, AK
Jobe Chakuchin	Compliance Officer & Project Manager	Gates of the Arctic National Park and Preserve Offices, Fairbanks, AK
Bud Rice	Environmental Protection Specialist, NEPA Manager	NPS Alaska Regional Office. Anchorage, AK
Chuck Gilbert	Manager, NPS Alaska Lands Team	NPS Alaska Regional Office. Anchorage, AK
Martin Hansen	Realty Specialist, RCWA, NPS Alaska Lands Team	NPS Alaska Regional Office. Anchorage, AK
Bob Strobe	Mapping, NPS Alaska Lands Team	NPS Alaska Regional Office. Anchorage, AK
Jeff Rasic	Chief, Resources Management and Cultural Resources Expert	Gates of the Arctic National Park and Preserve Offices, Fairbanks, AK
Kyle Joly	Wildlife Biologist	Gates of the Arctic National Park and Preserve Offices, Fairbanks, AK
Dave Swanson	Vegetation Ecologist	NPS Arctic Parks Inventory and Monitoring Network
Amy Larsen	Aquatic Ecologist	Gates of the Arctic National Park and Preserve Offices, Fairbanks, AK
Marcy Okada	Subsistence Manager & ANILCA 810	Gates of the Arctic National Park and Preserve Offices, Fairbanks, AK

6.0 REFERENCES CITED

Alexander, H. L. 1969. *Prehistory of the Central Brooks Range: An Archaeological Analysis*. Unpublished PhD dissertation, Department of Anthropology, University of Oregon, Eugene.

Bacon, J.J., et al. 2009. Estimates of Subsistence Harvest for Villages on the North Slope of Alaska, 1994-2003. North Slope Borough Department of Wildlife Management, Barrow, Alaska.

Benson, C. S. and M. Sturm. 1993. Structure and wind transport of seasonal snow on the Arctic slope of Alaska. Annals of Glaciology 18: 261-267.

Binford, L. R. 1978. *Nunamiut Ethnoarchaeology*. Academic Press, New York.

Boreal Partners in Flight Working Group. 1999. Landbird Conservation Plan for Alaska Biogeographic Regions, Version 1.0. Unpubl. Report. Anchorage, Alaska.

Burris, Larry. 2013. Anaktuvuk Pass resident. Personnal communication with Marcy Okada, NPS Subsistence Manager for NPS.

Campbell, J. M. 1962. *Anaktuvuk Prehistory: A Study in Environmental Adaptation*. Department of Anthropology, Yale University.

Hall, E. S., Jr., Gerlach, S. C., and Blackman, M. B. 1985. *In the National Interest: A Geographically Based Study of Anaktuvuk Pass Iñupiat Subsistence Through Time*. North Slope Borough, Barrow, Alaska.

Holen, Davin, Sarah M. Hazell, & David S. Koster. 2012. Subsistence Harvests and Uses of Wild Resources by Communities in the Eastern Interior of Alaska, 2011. ADFG Division of Subsistence, Technical Paper No. 372.

Jorgenson, M. T., J. E. Roth, P. F. Miller, M. J. Macander, M. S. Duffy, A. F. Wells, G. V. Frost, and E. R. Pullman. 2009. An ecological land survey and landcover map of the Arctic Network. Natural Resource Technical Report NPS/ARCN/NRTR—2009/270. National Park Service, Fort Collins, Colorado.

Kunz, M. L. 1986. *Report of Phase III of a Cultural Resources Survey and Inventory in Gates of the Arctic National Park and Preserve: John River, Helmejack Hills, Helpmejack Lake, Lake Kipmik, Lake Amitchiak, Chandler Lake, Agiak Lake and Anaktuvuk Pass*. Unpublished report on file at Gates of the Arctic National Park and Preserve, Fairbanks.

Kunz, M. L. and Troxel, K. 1988. *The Anaktuvuk Pass All-Terrain Vehicle Study 1986-1988: A Narrative Report of Field Operations, Dispersed ATV Use, Qualitative Environmental Assessment, and an Overview of the Historical Evolution of Nunamiut Culture, Society, Economics and Self Image Among the Residents of Anaktuvuk Pass, Alaska*. Unpublished report

on file at Gates of the Arctic National Park and Preserve, Fairbanks.

Pedersen, Sverre and Cheryl Hugo. 2005. Anaktuvuk Pass Subsistence Fishery Harvest Assessment: October 2001 through September 2003. Federal Subsistence Fishery Monitoring Program, Final Project report No. FIS 02-050. U.S. Fish and Wildlife Service, Office of Subsistence Management, Fishery Information, Services Division, Anchorage, AK.

Pittenger, M. D. and Staley, D. P. 1985. *Gates of the Arctic Land Exchange and ATV Trails: An Assessment of Archaeological Potential*. Archaeological Clearance Survey Form 002-85-GAAR, Report on file, Gates of the Arctic National Park and Preserve, Fairbanks, Alaska.

Spearman, G. 1979. *Land Use Values Through Time in the Anaktuvuk Pass Area*. Cooperative Park Studies Unit, University of Alaska, Fairbanks.

Sundance Consulting, Inc. 2008. Draft Step III Site Assessment Report for Village of Anaktuvuk Pass on Anaktuvuk Pass Research Camp (Chandler Lake Project). Available on web site for Native American Management System for Environmental Information at www.namsei.com.

U.S. Fish & Wildlife Service. 2005. Recommended Time Periods for Avoiding Vegetation Clearing in Alaska to Protect Migratory Birds. USFWS Advisory. 2pp.

U.S. National Park Service. 1986. General Management Plan, Land Protection Plan, and Wilderness Suitability Review for Gates of the Arctic National Park and Preserve, Alaska. NPS D-11A.

U.S. National Park Service. 1992. Final Legislative Environmental Impact Statement on All-Terrain Vehicles for Subsistence Use, Gates of the Arctic National Park and Preserve, Alaska. NPS D-22A.

U.S. National Park Service. 2009. Foundation Statement for Gates of the Arctic National Park and Preserve, Alaska. NPS Alaska Regional Office.

APPENDICES

APPENDIX A: Standard Form 299 - ROW Application for access & supporting information

APPENDIX B: ANILCA Section 810(a) Subsistence Evaluation and Findings

APPENDIX C: Endangered Species Act, Informal Consultation with U.S. Fish & Wildlife Service

APPENDIX D: Project Area Bird List

APPENDIX A

Application for Rights-of –Way, SF-299 from Mabel Burris

And subsequent information from project contractor Ron Lynn

STANDARD FORM 299 (05/2009)
Prescribed by DOI/USDA/DOT
P.L. 96-487 and Federal
Register Notice 5-22-95

APPLICATION FOR TRANSPORTATION AND UTILITY SYSTEMS AND FACILITIES ON FEDERAL LANDS

FORM APPROVED
OMB Control Number: 0596-0082
Expiration Date: 10/31/2012

FOR AGENCY USE ONLY

Application Number

Date Filed 9/11/2012

NOTE: Before completing and filing the application, the applicant should completely review this package and schedule a preapplication meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the preapplication meeting.

1. Name and address of applicant *(include zip code)*

Mabel Burris
103 Steelhead Road
Fairbanks, Alaska 99709

2. Name, title, and address of authorized agent if different from item 1 *(include zip code)*

Lawrence Burris
PO Box 21071
Anaktuvuk Pass, Alaska 99721

3 Telephone (area code)

Applicant

Authorized Agent

4. As applicant are you? *(check one)*

a. [X] Individual
b. [ ] Corporation*
c. [ ] Partnership/Association*
d. [ ] State Government/State Agency
e. [ ] Local Government
f. [ ] Federal Agency

* *If checked, complete supplemental page*

5. Specify what application is for *(check one)*

a. [X] New authorization
b. [ ] Renewing existing authorization No.
c. [ ] Amend existing authorization No.
d. [ ] Assign existing authorization No.
e. [ ] Existing use for which no authorization has been received *
f. [ ] Other*

* *If checked, provide details under item 7*

6. If an individual, or partnership are you a citizen(s) of the United States? [X] Yes [ ] No

7. Project description (describe in detail): (a) Type of system or facility, *(e.g., canal, pipeline, road)*; (b) related structures and facilities; (c) physical specifications *(Length, width, grading, etc.)*; (d) term of years needed: (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction *(Attach additional sheets, if additional space is needed.)*

Ms Mabel Burris or her authorized agent(s) is requesting permission to access her allotment on the NE side of Little Chandler Lake. This allotment location is Township 13 South. Range 3 West,Section 28,29,30, Umiat Meridian,Alaska. Request is to make two round trip Argo trips to the Burris home site thru NPS lands from Anaktuvuk Pass. Also requested is approximately 30 round trip snowmobile trips to the same site using the same routes. Our route is a traditional access/return route through NPS lands -heading SW from AKP then NW through Kollutarak creek to SE Chandler Lake at Anna Neagok's allottment. At this point, due to geography which prevents Argo travel along the lake side, the Argo will be boated North, approximately one half mile to a safe landing site on ASRC property. Two separate Argos will access the site at the same time in the early summer of 2013,stay for the summer and return to AKP using the same route at the end of summer 2013. Some camp gear will be transported via Argo.
Thirty round trip snowmobiles trips will travel on the lake during March/April (of 2014???) and follow the same route to and from the site (except the frozen lake will be used). Sleds will be used with the snowmobiles to carry some supplies into the site and to haul debris from the site. See attached draft Chandler Lake Mitigation Project report for a description of the use of the non-federal lands to be accessed, and for further information about access requirements.

8 Attach a map covering area and show location of project proposal

9. State or Local government approval: [ ] Attached [ ] Applied for [X] Not Required

10. Nonreturnable application fee: [ ] Attached [X] Not required

11. Does project cross international boundary or affect international waterways? [ ] Yes [X] No *(If "yes," indicate on map)*

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

Funding for the project, including access and remediation of debris and possible contamination on the non-federal lands to be accessed is to be provided by the US Army Corps of Engineers, Native American Land Environmental Mitigation Program. Funding approved in July 2013. Funding has/will go to The Village of Anaktuvuk Pass Tribal Councilor this project. Project manager is Ron Lynn.

13a. Describe other reasonable alternative routes and modes considered.

Travel by air is the only alternative but it isn't reasonable. Air transport would be to Chandler Lake, landing on floats, or skis. Aircraft would bring in and take out 2 Argos and possibly several snowmobiles, and would bring in supplies/ materials, and haul out debris and materials involved in the project. Aircraft would transport work crews.

b. Why were these alternatives not selected?

Too costly

c. Give explanation as t o why it is necessary to cross Federal Lands.

There is no other feasible land route to the allotment and air transport is much more expensive.

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. *(Specify number, date, code, or name)*

N/A

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (construction, operation, and maintenance); (b) estimated cost of next best alternative; and (c) expected public benefits.

Land needs clean up.

Note Need to state full costs of the proposed access vs. air access. Full costs include labor and costs of flying is(AKP R/T to Chandler) estimated a $ 25,000.Land travel is estimated at $10,000.Bettles travel is $15,000 extra.

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

No effect on the population since no one lives in the area.

Note: Might want to state the positive economic effect on local employment.

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water: (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

The six or eight wheel argo will have little to no effect on the environment. Snowmobile use will have no impact if snow is abundant.

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species, and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

No probable effects on fish,plant life,wildlife and marine life or endangered species or marine mammals.

19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S C 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C 6901 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCIA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

No hazardous material will be transported over NPS lands. If the need arises,we'll contact NPS.

20. Name all the Department(s)/Agency(ies) where this application is being filed

National Park Service.

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant	Date
Mark Burns	09/07/2012

Title 18, U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

12/28/12

To: Chuck M. Gilbert

FR: Ron Lynn, AKP NALEMP Project Manager

Re: Response to letter dated 10/26/12 and email of 12/26/2012 for additional information on form 299

Access permit to Chandler Lake

Chandler Lake, NPS form 299 Additional Information Request

CC: Lawrence Burris

ITEM # 7

In order to facilitate completion of the Chandler Lake Mitigation Project, we are requesting a National park Service access permit for travel to our project clean-up sites. Approving this permit is critical since the only feasible route from AKP to Chandler Lake is thru Park Service lands. The time frame requested for the permit covers a two year period starting June, 2013 and ending June 2015. According to our work plan, we need to make three round trips each summer season thru NPS land using two Argos to go into and out of our work site. In June, 2013 and then again in June 2014, we'll enter NPS land once and then return thru NPS lands in late summer (2 round trips). Additionally, we may require one more Argo round trip during mid-summer each year as a contingency plan or in case of an emergency during times a plane can't reach our site (1 round trip). Number of total Argo trips requested during the project duration is three round trips or six individual trips per summer season in 2013 and 2014.

Snow machines are also needed to transport and remove packaged debris back to AKP in the winter seasons. We are requesting permission to make twenty- round trips by sport utility snow-machines in the 2013-14 winter season and twenty more R/T's in the 2014-15 winter season (for a total 40 round trips or, 80 single trips total over the project period).

Our primary use for the Argo's, is to support the project staff and facilitate a timely clean up on the wide spread project site (non-federal lands). Argos will <u>not</u> be used as the main transport vehicle for materials, workers and supplies to/from the site. The primary mode of transportation for this purpose is the Otter floatplane owned by Brooks Range Aviation (BRA) at the start and end of each season. If the Otter lacks the capacity needed for our purposes, we'll contract for a helicopter to transport our materials and personnel. If a helicopter is used, we'll adhere to the North Slope Borough policy for helicopter use based on the terms of our land use work permit A BRA Beaver floatplane will provide transportation during the summer to workers for time off and for restocking supplies and materials to/from Chandler Lake at (planned) intervals every two

weeks starting in early July and ending late summer- each field season. Some debris may be back hauled on the otter if feasible. Using the beaver for back hauling may not be feasible since it can only carry the workers weight.

Our primary Argo is the model 700 HD that has eight standard tread wheels. No trailer is planned to be used at this time due to early swift creek waters that could burden the Argo if it needs to be floated. If a trailer is needed, it will be flown into and out of the site. Our second Argo is owned by the tribe. That model type is undetermined at this time but, it's an older eight wheel model with an estimated weight of 1100 pounds. Approximate weight of the new Argo HD 700 is 1150 pounds. Another 75-100 pounds of supplies may be carried on each Argo driven by one driver each. Additional workers will be flown into and out of the site.

In total, our planned overland route from AKP to Chandler Lake is approximately twenty (20) miles on NPS lands. The first part of the trip is thru non NPS land where our Argos will follow the AKP airport runway in a south-westerly direction, then enter NPS land thru Kollutarak Creek and travel north westerly along the creek bed for approximately nineteen miles. Here, we will reach Chandler Lake and enter the private native allotment of Anna Nageak who owns one of the "clean up" sites. From there, we'll travel in a north-easterly direction for a short distance. crossing over two stretches of NPS land until we reach ASRC land then continue north to our campsite on the private Burris owned allotment or ASRC land.

Local residents claim that the only feasible route north from the Nageak site is to load the Argo on a boat. If necessary, because there may not be a northerly overland trail from the Nageak allotment, the Argo may be loaded into a boat or on a raft and pulled north a short distance in NPS waters by motorized raft until we reach a point where we can continue overland. (Our boat will meet the argos by traveling south on the lake from the camp site) At this point, when we should be out of NPS waters and land, we'll disembark onto ASRC land and travel north to reach our camp sites. After camp is set up, we'll clean up all the northerly impact sites on ASRC/Native owned land/waters before mitigating sites 6 and 7. While remaining within the limits of ASRC/native owned land, we'll also explore an area North of Round Lake by Argo and or boat including the Chandler River margin to determine if there is additional military debris on ASRC lands. If we encounter such debris and if time permits, we'll remediate such debris that lies on ASRC or Native allotment lands. Workers will not reenter NPS lands. Impact site #4 may occur on NPS lands (a Native allotment previously purchased by the NPS); if so, debris will not be removed, because the project is not authorized to remove debris or conduct mitigation on federal lands.

If we are able to mitigate all northerly sites in the 2103 season and have adequate time remaining, we'll begin mitigation of Impact sites 6 and 7 on the eastern and southern lake borders. Otherwise we will mitigate those sites during season two. Our route from the camp site to these sites will be by boat. Workers will clean up by walking and staging debris for later pick

up by plane or snow-machine. Otherwise, our mitigation of these sites is not planned until the 2014 season. We plan to drive Argos back to AKP at the end of the 2014 season.

Debris will be divided into recyclable and nor recyclable and packed into super sack and cloth bag. We may keep a few reusable 55 gallon drums for locals to use as garbage or burn cans.

Debris removal plan: During the summers of 2013-14 we'll stage debris for winter pick up by snow machines. Our winter plans call for removal of the debris using snow-machines with sleds driven by local AKP residents because of the dual purpose that locals are familiar with winter driving conditions and to have a positive impact on the local economy. Drivers (in pairs or more) will follow the same route as the Argo took from AKP, then travel over the frozen lake north to the staging sites. They will return south traveling the entire distance on the frozen lake if safe, to the Nageak allotment and travel back to AKP thru the creek bed until they reach AKP. Drivers will be paid $250/day for a total cost of $ 10,000. Each trip is scheduled to last five hours. Slightly more trips are expected during the winter of 2013/14 than 2014/15 since most of the debris will be staged and ready during the first season.

Debris will be staged at AKP until all recyclable debris is ready for removal to a Fairbanks recycler. Non-recyclable debris will be taken to the North Star/Fairbanks dump site. Any remaining debris left at the lake will be flown out using the Otter plane in the seasons of 2014 and 2015.

As a contingency, if removal by snow machine is not feasible for any reason, debris will be removed by Otter floatplane during the summer back to AKP.

15. Costs for each plan: Projected budget for the overland snowmobile trips to AKP is $10,000(total cost contracted labor and rental fees paid to local residents). If Aircraft removal is used, the estimated cost is $8800 ($3800 first trip and $1000 per trip x five trips) which is the estimated cost to air lift all debris back to the village. We prefer to use local snowmobile drivers to have a greater economic impact on the local economy.

We need to have two alternate plans as contingencies in case one plan will not work to transport the material from AKP to Fairbanks.

1). Transport the debris from AKP to Fairbanks in one trip by large plane. This plan is estimated to cost $40,000 to $55,000 depending on prevailing transportation costs. Costs may be less if we can contract with the "fuel" plane on a return trip estimated at a cost of $10- $15,000

Option two is to contract with ERA, using their Sherpa for three trips at $9800 each or $29,400 total cost. Additional costs of $4500 are projected for labor and transportation costs from the airport to the disposal sites.

2). Make several aircraft trips by Otter plane from AKP to Bettles and store debris until all material is ready for one tractor trailer load down the ice road to Fairbanks. Estimated cost for

this alternative is $50,000 which includes renting a conex, storage, transportation and labor cost to the final disposal sites. Costs are based on 2012 estimates and could rise depending on economic condition in subsequent years. Also, Brooks Range Aviation may give a multiple trip discount. The cost is in addition to the cost to get the debris to AKP.

Estimated cost to fly all the debris from Chandler Lake to Bettles then truck the material to Fairbanks is $29,500. Of this amount, $4500 is the cost of trucking debris from Bettles to Fairbanks. Airlifting all material from Chandler directly to Fairbanks is not an option due to the high cost and challenging logistics.

16. Our plan makes a positive economic impact directly on the local economy as $10,000 in contract wages, $120,000 for paid wages, (local residents) $7200 in rental fees, (tribal council) and $9000 in fuel purchased at AKP used for the Argos, snow-machines, camp generator and portable saws. The economic impact is $146,200 in direct economic impact enhancements.

17. According to vendors contacted, a 600cc snow-machine has a load capacity of 600 pounds with normal conditions. We plan to carry an average of 350 pounds each trip using sleds. A larger 15 ft. sled may be used if available. If snow cover isn't sufficient, debris will be flown by Otter floatplane to the village. Debris remaining at the end of the final season will be airlifted to AKP.

APPENDIX B: ANILCA Section 810 (a) Evaluation and Findings

I. INTRODUCTION

This section was prepared to comply with Title VIII, Section 810 of the Alaska National Interest Lands Conservation Act (ANILCA). It summarizes the evaluations of potential restrictions to subsistence activities which could result from the authorization of Argo and snowmachine access across approximately 20 miles of Gates of the Arctic National Park lands.

II. EVALUATION PROCESS

Section 810(a) ANILCA states:

In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands under any provision of law authorizing such actions, the head of the federal agency...over such lands…shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy or disposition of public lands needed for subsistence purposes. No such withdrawal, reservation, lease permit, or other use, occupancy or disposition of such lands, which would significantly restrict subsistence uses, shall be effected until the head of such Federal agency –

(1) gives notice to the appropriate State agency and the appropriate local committees and regional councils established pursuant to section 805;

(2) gives notice, and holds, a hearing in the vicinity of the area involved; and

(3) determines that (A) such a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands, (B) the proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition, and (C) reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions.

ANILCA created new units and additions to existing units of the national park system in Alaska. Gates of the Arctic National Park & Preserve was established by ANILCA section 201 (4)(a) for the purposes among others:

" To maintain the wild and undeveloped character of the area, including opportunities for visitors to experience solitude, and the natural environmental integrity and scenic beauty of the mountains, forelands, rivers and lakes, and other natural features; to provide continued opportunities, including reasonable access for mountain climbing, mountaineering, and other wilderness recreational activities; and to protect habitat for and the populations of, fish and wildlife, including, but not limited to caribou, grizzly bears, Dall sheep, moose, wolves, and raptorial birds. Subsistence uses by local residents shall be permitted in the park, where such uses are traditional, in accordance with the provisions of title VIII."

The potential for significant restriction must be evaluated for the proposed action's effect upon"…subsistence uses and needs, the availability of other lands for the purposes sought to be achieved and other alternatives that would reduce or eliminate the use."

III. PROPOSED ACTION ON FEDERAL LANDS

Alternative 1: No Action. Allow the DOD materials (approximately 130 55-gallon fuel drums and 700 5-gallon fuel cans) to remain in the area. The fuel drums and cans may continue to deteriorate slowly and the natural environment may also reclaim the debris.

Alternative 2: Proposed Action for Summer Access with Argos and Spring Snowmobile Transits (*NPS Preferred Alternative*). This alternative includes allowing Argo ATVs summer access for the purposes of staging DOD materials from seven sites and removing them via snowmobiles in the spring. Materials would be transported to Anaktuvuk Pass for appropriate disposal. This alternative would require two phases.

Phase I (Summer Access with Argos): Up to four roundtrip transits with two 8-wheeled Argos for each trip would be authorized over NPS lands along the Kollutarak Creek between Nunamiut Corporation Lands along the John River and Native lands around Chandler Lake. Up to two round trips would occur in summer of 2013 and two round trips in summer of 2014. From the southeast shores of Chandler Lake, the Argos would be loaded into a boat and moved to seven sites with scattered DOD debris on Native allotments and Native Corporation lands in the area. The DOD materials would be cleaned or over-packed as necessary, cut, bound, and stacked in loads approximating 300 pounds each.

Phase II (Spring Snowmobile Transits): Up to 20 round-trip snowmobile trips would occur each spring of 2014 and 2015 in late March or April (total of 40 RTs or 80 one-way transits) along a suitable route along the Kollutarak Creek, given adequate protective snow cover and frozen ice on lakes and creeks. Local Native snowmachine operators with experience traveling in the area would drive to the staging sites around Chandler Lake, load the sleds and return to Anaktuvuk Pass to unload sled loads of debris for appropriate disposal.

Alternative 3: Summer Access with Argos and Spring/Summer Removals with Aircraft This alternative includes allowing Argos summer access for the purposes of staging DOD materials from seven sites and removing them via aircraft in the spring/summer. This alternative would require two phases.

Phase I (Summer Access with Argos): Up to two roundtrip transits with 8-wheeled Argos each summer would be authorized over NPS lands along the Kollutarak Creek between Nunamiut Corporation Lands along the John River and Native lands around Chandler Lake. One round trip would occur in summer of 2013 and one round trip would occur in summer of 2014 to move the Argos to the Chandler Lake Project area from Anaktuvuk Pass and back at the end of each season. From the southeast shores of Chandler Lake, the Argos would be loaded into a boat and moved for access to seven sites with scattered DOD debris on Native allotments and Native

Corporation lands in the area. The DOD materials would be cleaned or over-packed as necessary, cut, bound, and stacked in loads for subsequent removal. Other supplies and personnel would be transported with floatplanes for the summer time access.

Phase II (Spring/Summer Removals with Aircraft): Debris removal operations would be conducted with airplanes, either floatplanes during the summer season or ski planes during the frozen winter season. Snowmobiles with sleds would not be authorized for this activity over GAAR lands.

IV. AFFECTED ENVIRONMENT

A summary of the affected environment pertinent to subsistence uses is presented here. For a comprehensive description, see the Gates of the Arctic National Park and Preserve, Final General Management Plan (NPS 1986) and the Gates of the Arctic National Park and Preserve Final Wilderness Environmental Impact Statement EIS (NPS 1988).

The area of the park in which the proposed ATV access activities would occur is west/northwest of the Nunamiut community of Anaktuvuk Pass within Gates of the Arctic National Park and Preserve. The park and preserve boundaries include 8,229,946 acres of federal land of which approximately 7,160,000 acres are designated wilderness and 242,136 acres are private land. The park and preserve lie in the central Brooks Range and occupy lands on either side of the continental divide from the eastern boundary at the Trans-Alaska Pipeline Utility Corridor and the Dalton Highway to the Noatak National Preserve boundary to the west. The northern boundary runs along the range front; the North Slope stretches beyond to the Arctic Ocean. The southern boundary runs through the taiga forest including some of the southern foothills within the park.

Nomadic peoples have used and occupied the area for thousands of years, following caribou herds and traveling to regional trading areas to meet with other Native groups. These peoples were from at least three distinct Alaska Native cultures: Koyukon Athapaskan Indians, Kobuk Eskimo, and Nunamiut Eskimo. Archeological sites found today trace their history and use, and may give clues to the earliest human inhabitants of northern Alaska. The temporal range of known sites in the park/preserve covers at least the last ten millennia. The variety of known archeological sites includes seasonal villages, long- and short-term camps, hunting and butchering locales, caribou fences, lookout sites, fish camps, trapping camps, and resource harvesting locations such as birch bark gathering. Local rural residents still depend upon resources in the park to sustain a subsistence way of life.

Subsistence harvest of fish and wildlife is allowed in Gates of the Arctic National Park and Preserve by qualified subsistence users subject to Federal subsistence management regulations and park-specific regulations and policies. ANILCA protects subsistence uses by local rural residents as a priority consumptive use over other non-subsistence consumptive uses.

Hunting, fishing, trapping and gathering remain a vital part of a subsistence way of life for local residents. Major subsistence resources include lake trout, Arctic grayling, Arctic char, fur bearers, ptarmigan, waterfowl, brown bears, moose, wolves, Dall's sheep, caribou, and several

species of berries. Occasionally subsistence users will make special trips into specific areas such as Chandler Lake or other large lakes to fish for Arctic char and lake trout or to mineral licks or prime habitat for targeted wildlife species. Chandler Lake is known for its abundant fish populations, and residents harvest dolly Varden, lake trout, Arctic grayling, Arctic cisco, and Arctic char from the lake. Approximately 351 Dolly Varden were harvested from Chandler lake between October 2001 and September 2002, and approximately 49 Dolly Varden were harvested between October 2002 and September 2003. Additionally, an estimated 535 Arctic char were harvested from Chandler Lake between October 2002 and September 2003 (Pedersen and Hugo 2005). Summer and fall harvests concentrate on caribou, Dall's sheep, moose, grizzly bear, arctic ground squirrels, birds and fish and occur opportunistically whenever people leave the confines of the community. Area harvest maps from Holen et. al. (2012) are appended to this finding. The ATV trails to Chandler Lake and Little Chandler Lake through the Kollutarak Creek corridor follow traditional routes to important seasonal subsistence harvest areas. Winter trapping efforts concentrate on the harvest of lynx, wolverine, wolves, marten, and red fox. These and other subsistence activities occur throughout the year and are concentrated in a large region surrounding the community in the central, northern and eastern portions of the park and preserve.

The NPS recognizes that patterns of subsistence use vary from time to time and from place to place depending on the availability of wildlife, other renewable natural resources, and regulatory openings and closings of areas. A subsistence harvest in a given year may vary considerably from previous years because of such factors as weather, surface snow conditions for traveling, wildlife migration patterns, natural population cycles, equipment condition and availability, wildlife conservation practices such as leaving a trap line fallow periodically, and regulatory changes.

V. SUBSISTENCE USES AND NEEDS EVALUATION

To determine the potential impact on existing subsistence activities, three evaluation criteria were analyzed relative to existing subsistence resources that could be impacted. The evaluation criteria were:

- The potential to reduce important subsistence wildlife populations by a) reductions in numbers, b) redistribution of subsistence resources, or c) habitat losses;

- What effect the action might have on subsistence hunter access;

- The potential for the action to increase competition.

1) <u>The potential to reduce populations:</u>

The proposed actions are not expected to have any significant effect on subsistence species or habitats. Wildlife and habitats would be subjected to minimal impacts and disturbances as a result of ATV access through the assessment areas. Fish and wildlife species along the ATV route would be temporarily displaced into adjacent habitat but would be expected to quickly return to normal activities after ATV passage. However, provisions of ANILCA and Federal

regulations provide the tools for adequate protection of fish and wildlife populations on federal public lands given such temporary permitted activities. In addition, NPS regulations allow the superintendent to enact closures and/or restrictions if necessary to protect subsistence opportunities and ensure the continued viability of a particular fish or wildlife population.

2) Restriction of Access:

All rights of general access for subsistence harvest on NPS lands are granted by Section 811 of ANILCA and the 1996 Anaktuvuk Pass Land Exchange Agreement for specific tracts of land surrounding the community. Gates of the Arctic National Park and Preserve is managed according to legislative mandates, NPS management policies and guidelines within the approved General Management Plan. The proposed action to authorize temporary Argo and snowmachine access across lands in Gates of the Arctic National Park is not expected to limit or restrict the access of subsistence users to natural resources within the park. The superintendent has the authority to enact closures and/or restrictions if necessary to protect subsistence opportunities or to assure the continued viability of a particular fish or wildlife population.

3) Increase in Competition:

Competition for wildlife or resources is not expected to significantly impact subsistence users as a result of the proposed actions. NPS regulations and provisions of ANILCA mandate that if and when it is necessary to restrict taking of fish or wildlife subsistence users are given a priority over other user groups. Continued implementation of the ANILCA provisions should mitigate any increased competition from resource users other than subsistence users. The superintendent may enact closures and/or restrictions if necessary to protect subsistence opportunities or to assure the continued viability of a particular fish or wildlife population.

VI. AVAILABILITY OF OTHER LANDS

Subsistence users utilize other Federal public lands within the region. The proposed actions do not affect the availability of Federal lands for subsistence uses. The proposed actions are consistent with NPS mandates and the park/preserve General Management Plan.

VII. ALTERNATIVES CONSIDERED

The EA and this evaluation have described and analyzed the proposed alternatives. The proposed action and NPS Preferred Alternative (Alternative 2: Proposed Action for Summer Access with Argos and Spring Snowmobile Transits) is consistent with NPS mandates and the park/preserve General Management Plan.

VIII. FINDINGS

This analysis concludes that the proposed action will not result in a significant restriction of subsistence uses.

APPENDIX C:

Endangered Species Act Section 7 Informal Consultation

with U.S. Fish and Wildlife Service

The NPS has reviewed the U.S. Fish and Wildlife service web pages for threatened and endangered species in Alaska and consulted with northern district program coordinator Ted Swem of Fairbanks, Alaska (907-456-2441). The NPS finds that there are no threatened or endangered species known to use the Chandler Lake project area or access route between the lake and Anaktuvuk Pass. The NPS therefore determines a null effect to threatened and endangered species in the project area, with which Mr. Ted Swem concurs.

APPENDIX D

Project Area Bird List

Appendix D - Bird List

Expected Species	Species of Concern	Reference	Reason for Concern	Habitat
Alder Flycatcher	YES	Audobon Watchlist-yellow	Species in decline	Shrubs of Drainages and Lake
American Pipit	NO			Montane
American Robin	NO			Shrubs of Drainages and Lake
American Tree Sparrow	NO			Shrubs of Drainages and Lake
American Golden Plover	YES	Audobon Watchlist-yellow		Upland Tundra Shelf
Arctic Tern	YES	Seaduck Joint Venture	Species in decline	Lake, Riparian
Arctic Warbler	YES	USGS Sampling Protocol For Highly Pathogenic Asian H5N1 Avian Influenza in Migratory Birds in Alaska	Asiatic Migrant-Avian Influenza, Remote breeders	Shrubs of Drainages and Lake
Bank Swallow	YES	Landbirds in the Alaska Comprehensive Wildlife Consevation Plan	Landbird with long-term delcline in population size	Banks of Riparian and Lake
Black Scoter	YES	Seaduck Joint Venture	Species in decline, Little known species, Seaduck sensitive to human disturbance	
Bluethroat	NO			Shrubs of Drainages and Lake
Canada Goose	NO			Lake, Riparian
Common Loon	NO			Lake, Riparian
Common Raven	NO			Shrubs of Drainages and Lake
Common Redpoll	NO			Shrubs of Drainages and Lake
Dark-eyed Junco	YES	Landbirds in the Alaska Comprehensive Wildlife Consevation Plan	Landbird with long-term delcline in population size	Shrubs of Drainages and Lake
Fox Sparrow	NO			Shrubs of Drainages and Lake
Glacous Gull	NO			Lake, Riparian

Golden-crowned Sparrow	YES	Boreal Partners in Flight Priority Species, Boreal Partners in Flight Landbird Conservation Plan for Biogeographic Regions of Alaska	Remote breeder-little information on the species, Loss of wintering habitat could affect breeding population in Alaska	Shrubs of Upland Tundra and Montane Drainages
Gray-cheeked Thrush	YES	Boreal Partners in Flight Priority Species, Boreal Partners in Flight Landbird Conservation Plan for Biogeographic Regions of Alaska	Sensitive to human habitat alteration, Population in decline	Shrubs of Drainages and Lake
Gray-crowned Rosy Finch	YES	Landbirds in the Alaska Comprehensive Wildlife Consevation Plan	Patchy distribution, Hard to study, Little known	Montane
Gray Jay	NO			Shrubs of Drainages and Lake
Green-winged Teal	NO			Lake, Riparian
Harlequin Duck	YES	Seaduck Joint Venture	Species in decline, Seaducks sensitive to human disturbance	Lake, Riparian
Hoary Redpoll	NO	Boreal Partners in Flight Priority Species, Boreal Partners in Flight Landbird Conservation Plan for Biogeographic Regions of Alaska	Remote breeder-little information on the species	Shrubs of Drainages and Lake
Horned Lark	YES	USFWS Birds of Conservation Concern		Montane
Horned Grebe	YES	USFWS Birds of Conservation Concern		Lake, Riparian
Lapland Longspur	NO			Tundra
Least Sandpiper	NO			Tundra, Lake, Riparian
Lesser Yellowlegs	YES	USFWS Birds of Conservation Concern		Tundra, Lake, Riparian
Lincoln's Sparrow	NO			Tundra Wetlands and Shrubs
Long-tailed Duck	YES	Seaduck Joint Venture	Species in decline, Seaducks sensitive to human disturbance	Lake, Riparian
Long-tailed Jeager	NO			Tundra
Mallard	NO			Lake, Riparian
Mew Gull	NO			Lake, Riparian
Northern Harrier	YES	U.S. Forest Service Northern Harrier Technical Conservation Assessment	Species undergoing long-term declines across its range	Upland Tundra and Wetlands

Northern Shrike	YES	Boreal Partners in Flight Landbird Conservation Plan for Biogeographic Regions of Alaska	Rare, threats on wintering ground affect large Alaska breeding population, Population declines outside of Alaska	Montane, Shrubs of Drainages and Lake
Northern Wheatear	YES		Patchy distribution, Hard to study, Little known	Montane
Orange-crowned Warbler	NO			Shrubs of Drainages and Lake
Pacific Loon	NO			Lake, Riparian
Red-necked Grebe	NO			Lake, Riparian
Red-breasted Merganser	YES	Seaduck Joint Venture	Species in decline, Seaducks sensitive to human disturbance	Lake, Riparian
Red-necked Phalarope	NO			Lake, Riparian, Shrubs of Drainages
Red-throated Loon	YES	USFWS Birds of Conservation Concern		Lake, Riparian
Rock Ptarmigan	YES	Landbirds in the Alaska Comprehensive Wildlife Consevation Plan	Patchy distribution, Hard to study, Little known	Tundra
Savannah Sparrow	NO			Shrubs of Drainages and Lake
Scaup Species (Lesser and Grea	YES			Lake, Riparian
Semipalmated Plover	NO			Lake, Riparian, Shrubs of Drainages
Semipalmated Sandpiper	YES	Audobon Watchlist-yellow		Lake, Riparian, Shrubs of Drainages
Short-earred Owl	YES	Audobon Watchlist-yellow, USFWS Birds of Conservation Concern	Remote breeder, small global population size, Little known about the species	Tundra
Smith's Longspur	YES	USFWS Birds of Conservation Concern, Audobon Watchlist-yellow, Boreal Partners in Flight Priority Species, Boreal Partners in Flight Landbird Conservation Plan for Biogeographic Regions of Alaska	Remote breeder, small global population size, One of the least known birds in North America	Tundra

Solitary Sandpiper	YES	USFWS Birds of Conservation Concern		Lake, Riparian, Shrubs of Drainages
Surfbird	YES	Audobon Watchlist-yellow		Montane
Surf Scoter	YES	Seaduck Joint Venture	Species in decline, Seaducks sensitive to human disturbance	Lake, Riparian
Tundra Swan	YES	Audobon Watchlist-yellow		Tundra, Lake, Riparian
Upland Sandpiper	YES	USFWS Birds of Conservation Concern, Audobon Watchlist-yellow		Tundra Wetlands
Varied Thrush	YES	Audobon Watchlist-yellow, Boreal Partners in Flight Priority Species, Boreal Partners in Flight Landbird Conservation Plan for Biogeographic Regions of Alaska	Loss of old growth forest affecting species overall	Shrubs of Drainages and Lake, Tundra
Wandering Tattler	YES	Audobon Watchlist-yellow		Shrubs of Drainages and Lake
Western Sandpiper	NO			Tundra Wetlands
Whimbrel	YES	USFWS Birds of Conservation Concern		Shrubs of Drainages and Lake
White-crowned Sparrow	YES	Landbirds in the Alaska Comprehensive Wildlife Consevation Plan	Landbird with long-term delcline in population size	Shrubs of Drainages and Lake
White-winged Scoter	YES	Seaduck Joint Venture	Species in decline, Seaducks sensitive to human disturbance	Lake, Riparian, Shrubs of Drainages
Willow Ptarmigan	NO			Shrubs of Drainages and Lake
Wilson's Snipe	NO			Shrubs of Drainages and Lake
Wilson's Warbler	YES	Landbirds in the Alaska Comprehensive Wildlife Consevation Plan	Landbird with long-term delcline in population size	Shrubs of Drainages and Lake
Yellow Wagtail	YES	USGS Sampling Protocol For Highly Pathogenic Asian H5N1 Avian Influenza in Migratory Birds in Alaska	Asiatic Migrant-Avian Influenza, Remote breeders	Shrubs of Drainages and Lake

Yellow Warbler	YES	Bureau of Land Management: Yellow Warbler	Population declines in U.S. outside of Alaska due to nest parasitism and loss of habitat from grazing and decreasing water table levels	Shrubs of Drainages and Lake
Yellow-billed Loon	YES	USFWS Birds of Conservation Concern, Candidate Species, Boreal Partners in Flight Priority Species	Species of concern due to low global population estimates of 16-21,000. Piscivorous; contaminants accumulation. Deaths from consuming lead shot.	Lake, Riparian