

1.0 PURPOSE AND NEED FOR ACTION

The National Park Service (NPS) is considering alternatives for managing subsistence-related off-road vehicle use in the Cantwell Traditional ORV Use Area (TUA) of Denali National Park and Preserve (see Figure 1.1). In this environmental assessment (EA), the NPS analyzes four management alternatives and their impacts on the environment. These alternatives are described fully in Chapter 2 of this document.

1.1 PURPOSE OF ACTION

In July 2005, the NPS published the final “Cantwell Subsistence Traditionally Employed Off-Road Vehicle Determination” which opened the entire 32,159 acre Cantwell traditional ORV use area (TUA) to the use of off-road vehicles (ORVs), for subsistence purposes by NPS qualified subsistence users. The NPS is proposing this current action to assure subsistence ORV use in this area is proactively managed to minimize adverse impacts to the resources and values for which the park was established while also providing reasonable access for subsistence purposes. Along with the 2005 Determination, this action would amend the General Management Plan for Denali (GMP).

1.2 NEED FOR ACTION

The 1980 Alaska National Interest Lands Conservation Act (ANILCA) authorizes subsistence uses where traditional in the ANILCA additions of Denali National Park (Denali park additions) by local rural residents. ANILCA also provides for reasonable access with methods of surface transportation traditionally used for subsistence purposes.

The NPS determined in the 1986 Denali General Management Plan (GMP) that ORVs had not been regularly used for subsistence purposes and were not considered a traditional means of subsistence access. The GMP determination was based on existing information and applied on a park-wide basis. However, the GMP also provided that in the future, as additional information became available, the park would review traditional means of subsistence access on a case by case basis.

In the 1990s, eight Cantwell subsistence users and the Denali Subsistence Resource Commission (SRC) requested that the Superintendent review and reconsider the 1986 GMP determination in light of new information provided by Cantwell residents regarding their traditional use of ORVs for access to subsistence resources. Specifically, in a September 29, 1996 letter to the NPS, the Denali SRC made the following recommendation:

“Access should be allowed at the same level as 1980, with reasonable allowances for restrictions to preserve the environment. At Denali for instance, people in the Cantwell resident zone have used ORVs traditionally; an examination of access routes suggests that in some areas, because of lack of vegetation and presence of a harder, less-eroding surface, ORV use for retrieval of moose meat from subsistence hunting should be permitted. It is understood that the situation would be monitored and if a detrimental change to the environment should result from ORV use, the permission to use ORVs would be suspended. It was also suggested that a trial period, perhaps of one hunting season, with restrictions (to mapped routes, etc.), be opened to determine the advisability of continuing the ORV use.”

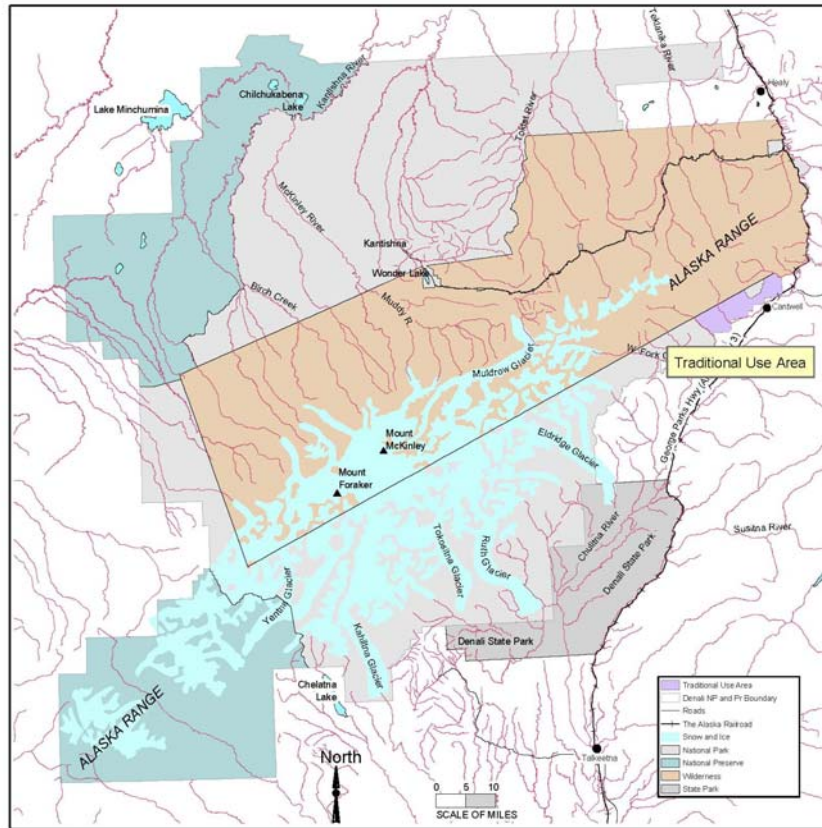


Figure 1.1 Project Location

Denali National Park and Preserve
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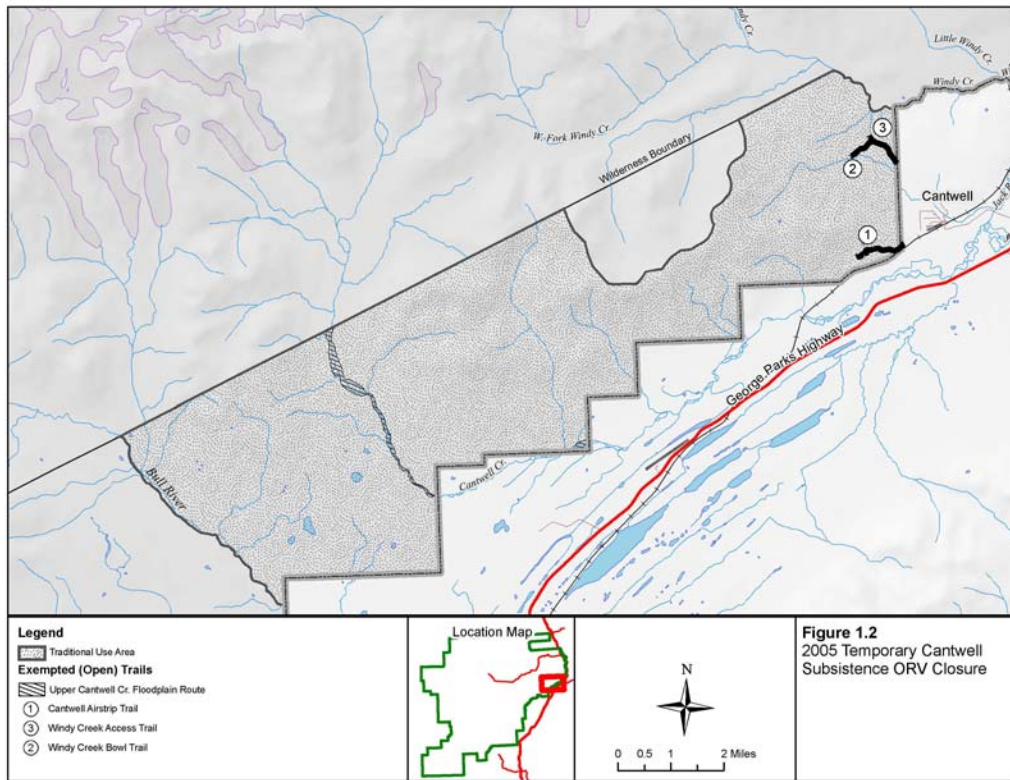
In response to these requests, and in compliance with ANILCA and NPS regulations and policies, the NPS undertook a project to compile and review traditional access information for the Cantwell area. The scope of this review and report was limited to the Cantwell area because the request was specific to that community and adjacent Denali National Park lands regarding traditional subsistence ORV access for the Cantwell area.

On July 22, 2005, the NPS published a final “Cantwell Subsistence Traditionally Employed ORV Determination” (NPS 2005d) in which it determined that the community of Cantwell had used ORVs for successive generations for subsistence purposes in portions of the Denali Park additions before the establishment of the Denali National Monument in 1978 (again, see Figure 1.1). Such use is subject to the provisions of 36 CFR 13.460, 50 CFR Part 100, and other applicable laws and regulations (see “Laws, Regulations, and Policies” for more information).

In both August 2005 and August 2006, the NPS implemented a temporary 120-day closure to protect park resources in the area where Cantwell residents traditionally employed ORVs for subsistence purposes that was identified in the Determination. To allow ORV access for

subsistence, three existing trails were exempted from the closure: 1) the one mile long Windy Creek Trail from the park boundary to the top of the ravine leading down to Windy Creek, including the 0.5 mile long spur trail that leads to the west/southwest from the ravine. 2) the northern portion of the old roadbed that extends southwest from the Cantwell Airstrip, for approximately one mile to the top of a little knoll, and 3) the Cantwell Creek Trail, which encompasses the gravelly part of the floodplain of Cantwell Creek for about 3 1/4 miles within the park downstream of the wilderness boundary, including the section that re-enters the park near Pyramid Peak (see Figure 1.2).

The closure allowed reasonable access to subsistence resources for NPS qualified subsistence users while protecting park resources and also giving the NPS time to complete the necessary field work and environmental documentation evaluating ORV effects on park resources and values. The necessary field work has been completed and the environmental documentation is presented in this EA.



1.3 PARK PURPOSE

The purposes for which Denali National Park and Preserve was created are found in the language of the 1980 Alaska National Interest Lands Conservation Act (ANILCA, Pub. L. 96-487), that enlarged and renamed the park Denali National Park and Preserve. Section 202 (3) (a) of ANILCA stated that the Denali National Park and Preserve additions are to be managed for the following specific purposes:

- To protect and interpret the entire mountain massif and the additional scenic mountain peaks and formations.
- To protect habitat for, and populations of fish and wildlife, including, but not limited to, brown/grizzly bears, moose, caribou, Dall sheep, wolves, swans, and other waterfowl.
- To provide continued opportunities, including reasonable access, for mountain climbing, mountaineering, and other wilderness recreational activities.

1.4 PARK SIGNIFICANCE

Statements of park significance define what is most important about the park's resources and values and are based on the purpose of why the park was created. These statements capture the attributes that make the park's resources and values important enough for Congress and the president to establish it as a unit of the National Park System. The 2006 *Denali National Park and Preserve Backcountry Management Plan* provides detailed park significance statements; these are abbreviated as follows:

Large Protected Area. The six million acres of the Park and Preserve enables a spectacular array of flora and fauna to live together in a healthy natural ecosystem and provides excellent opportunities to study subarctic ecosystems in settings largely undisturbed by humans.

Mountains and Glaciers. The park contains a major portion of the Alaska Range, one of the great mountain uplifts in North America, including North America's highest peak, Mount McKinley and some of the largest glaciers in North America.

Wildlife and Habitat. While populations fluctuate, nowhere else in America can such concentrations of these large species of wildlife be observed in as accessible a natural setting. The park is also significant for its diverse avian habitat and rich and varied vegetation. Denali has more than 10,000 mapped lakes.

Scenic Resources and Air Quality. Outstanding views of natural features, including mountains, glaciers, faults, and rivers dominate the park landscape. Denali National Park and Preserve is a designated Class I airshed under the Clean Air Act Amendments.

Cultural Resources. There are 257 known cultural resource sites within Denali's boundaries, including both prehistoric and historic sites. Because cultural resource inventories have been limited to date, this number likely represents a small fraction of the park's total sites.

Mountaineering. Mount McKinley is considered one of the world's premier mountaineering destinations, drawing climbers from many countries. Many other peaks in the park, including Mount Foraker, also offer outstanding expeditionary climbing opportunities.

Wilderness Recreation. Denali offers superlative opportunities for primitive wilderness recreation. This huge park contains large areas with almost no trails and where evidence of human use is minimal to nonexistent. A large portion of Denali's backcountry is readily accessible to visitors who can reach the park by either highway or railroad from either Anchorage or Fairbanks.

1.5 LAWS, REGULATIONS, AND POLICIES

1.5.1 General Direction for Public Enjoyment and Resource Protection

The National Park Service Organic Act of 1916 (16 USC §§ 1-4, 39 Stat. 535)

The Organic Act establishes the National Park Service and directs the agency to

... promote and regulate the use of the Federal areas known as national parks, monuments, and reservations... by such means and measures as conform to the fundamental purpose of the said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

Importantly for all planning processes in the park system, the Organic Act provides a fundamental standard for management – that park resources should remain “unimpaired” for the enjoyment of future generations.

Redwood National Park Expansion Act of 1978 (16 USC §§ 1-1a, 92 Statute 166)

The Redwoods Act amends the Organic Act and clarifies the importance Congress placed on protecting park resources such that:

The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.

NPS Management Policies Section 1.4. The NPS Management Policies use the terms “resources” and “values” to mean the full spectrum of attributes for which a park unit is established and managed, including the Organic Act’s fundamental purpose and any additional purposes as stated in a park unit’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 National Park Service is to ensure that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities to enjoy them.

The evaluation of whether impacts of a proposed action would lead to impairment of park resources and values is included in the environmental consequences chapter of this document. 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.

1.5.2 Subsistence Management

Although not a specific purpose of Denali National Park and Preserve, the NPS manages the park additions for subsistence use in accordance with ANILCA. The following laws and regulations govern this use.

ANILCA Section 202(3)(a) [16 USC §410hh-1]. This section is specific to Denali National Park and Preserve and directs that “subsistence uses by local residents shall be permitted in the additions to the park where such uses are traditional in accordance with the provisions in title VIII.”

ANILCA Section 810 [16 USC §3120]. This section provides that “in determining whether to...permit the use, occupancy, or disposition of public lands under any provision of law authorizing such actions, the head of the Federal agency having primary jurisdiction over such lands or his designee shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands of 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.” The ANILCA 810 Evaluation for this project is found in Appendix 1 of this document.

ANILCA Section 811 [16 USC § 3121(b)]. This section provides for continued access to public lands for subsistence use. Specifically, it states that “. . . rural residents engaged in subsistence uses shall have reasonable access to subsistence resources on public lands” and “Notwithstanding any other provision of this Act or other law, the Secretary [of Interior] shall permit on the public lands appropriate use for subsistence purposes of snowmachines, motorboats *and other means of surface transportation traditionally employed for such purposes by local residents, subject to reasonable regulations*” (italics added).

36 CFR § 13.460. This regulation implements ANILCA Section 811(b). It authorizes the use of snowmobiles, motorboats, dog teams and other means of surface transportation traditionally employed by local rural residents engaged in subsistence uses within park areas except at those times and in those areas restricted or closed by the Superintendent. Subsection (b) of this regulation allows a Superintendent to restrict or close a route or area to ORVs if determined that “such use is causing or is likely to cause an adverse impact on public health and safety, resource protection, protection of historic or scientific values, subsistence uses, conservation of endangered or threatened species, or the purposes for which the park area was established.” Subsection (c) requires a notice and public hearing in the affected vicinity prior to imposing restrictions or closures. Subsection (d) directs that surface transportation, including ORVs, traditionally employed by local rural residents engaged in subsistence uses be operated in such manner as to prevent waste or damage to the parks, and in such a manner as to prevent the herding, harassment, hazing or driving of wildlife for hunting or other purposes.

36 CFR Part 13 (Subpart B). These regulations implement the NPS subsistence management program.

50 CFR Part 100. These regulations implement the Federal Subsistence Management Program on public lands within the State of Alaska, including the park additions, and outline a process to identify NPS qualified subsistence users (see also definition at beginning of EA).

1.5.3 Wilderness Management

The GMP identified the park land within the present-day Cantwell traditional ORV use area as suitable (hence referred to as eligible) for designation as wilderness. This eligible wilderness is managed according to the following laws and policies.

The Wilderness Act of 1964 (16 USC §§ 1131-1136, 78 Stat. 890). The 1964 Wilderness Act established the National Wilderness Preservation System and defined wilderness as follows:

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this chapter an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which

- (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable;
- (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation;
- (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and
- (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Alaska National Interest Lands Conservation Act of 1980 (ANILCA, 16 USC §§ 3101-3233). ANILCA provides guidance about wilderness management at Denali.

- ANILCA Section 101 lists “preserve wilderness resource values” as a fundamental purpose of ANILCA.
- ANILCA Section 102(13), states that the term “wilderness” as used in ANILCA has the same definition as in the Wilderness Act.
- ANILCA Section 203(a) states that a fundamental purpose of the Denali park and preserve additions is to provide continued opportunities, including reasonable access, for wilderness recreational activities.
- ANILCA Section 1317 requires a wilderness suitability review and wilderness recommendations regarding the park additions and preserve lands added to Denali by ANILCA.

In addition, ANILCA provides some exceptions to national park and wilderness management practice, including allowing appropriate use for subsistence purposes of other means of surface transportation traditionally employed for such purposes by local residents, subject to reasonable regulations (see ANILCA Section 811 above).

NPS Management Policies, Chapter 6. Section 6.3.1 establishes that eligible and proposed wilderness on NPS lands should be managed under wilderness policy.

For the purposes of applying these policies, the term “wilderness” will include the categories of eligible, study, proposed, recommended, and designated wilderness. Potential wilderness may be a subset of any of these five categories. The policies apply regardless of category except as otherwise provided herein.

In addition to managing these areas for the preservation of the physical wilderness resources, planning for these areas must ensure that the wilderness character is likewise preserved. This policy will be applied to all planning documents affecting wilderness.

The National Park Service will take no action that would diminish the wilderness eligibility of an area possessing wilderness characteristics until the legislative process of wilderness designation has been completed. Until that time, management decisions will be made in expectation of eventual wilderness designation. This policy also applies to potential wilderness, requiring it to be managed as wilderness to the extent that existing nonconforming conditions allow. The National Park Service will apply the principles of civic engagement and cooperative conservation as it determines the most appropriate means of removing the temporary, nonconforming conditions that preclude wilderness designation from potential wilderness. All management decisions affecting wilderness will further apply the concept of “minimum requirement” for the administration of the area regardless of wilderness category. The only exception is for areas that have been found eligible, but for which, after completion of a wilderness study, the Service has not proposed wilderness designation. However, those lands will still be managed to preserve their eligibility for designation.

1.6 RELATIONSHIP OF PROJECT TO OTHER DOCUMENTS, PROVISIONS, AND PLANNING

1986 Denali National Park and Preserve General Management Plan. In terms of motorized subsistence uses, the GMP determined that ORVs had not been regularly used for subsistence purposes and were not considered a traditional means of subsistence access. This determination was made on existing information and applied on a park-wide basis. The GMP also provided that in the future as additional information became available the park will review traditional means of subsistence access on a case by case basis.

2004 Denali National Park Subsistence Management Plan. Subsistence management for Denali National Park and Preserve is addressed in the 2004 Subsistence Management Plan, which was prepared in cooperation with the Denali Subsistence Resource Commission. Specific to ORVs, the plan states:

ORV's are generally not permitted for subsistence within NPS lands, but their use may be permitted in specific areas if such vehicles were traditionally employed for subsistence purposes in those specific areas. In such cases ORV use may only occur on designated trails where it has been determined that their use will not adversely affect the natural, aesthetic or scenic values of the park lands. There are no designated trails or routes identified at this time in Denali National Park and Preserve.

Relative to the specific topic of this EA, the plan recommended:

SRC Actions: (1) Designate ATV routes into the park for use by residents of Cantwell for subsistence moose and caribou hunting. (2) Allow access to Denali at the same level as 1980, with reasonable restrictions to preserve the environment.

NPS Actions: Define “traditionally employed.”

2005 Cantwell Subsistence Traditionally Employed ORV Final Determination. This determination concluded that the community of Cantwell had used ORVs for successive generations for subsistence purposes in portions of the Denali Park additions before the establishment of the Denali National Monument in 1978.

2006 Denali National Park and Preserve Backcountry Management Plan. This plan amended the GMP and designated the land within the present-day Cantwell traditional ORV use area (TUA) as Management Area B. The purpose of the Management Area B zone is to provide opportunities for wilderness recreational activities suitable for day users and overnight users that are remote and require self-reliance.

17B Easement Across Ahtna, Incorporated Property Near Cantwell. This is an easement for an existing access trail twenty-five (25) feet in width from the Cantwell Airport in Sec. 31, T. 17S, R.7W., Fairbanks Meridian, northwesterly across Ahtna Incorporated property to the Denali National Park boundary. The public uses allowed on the trail easement are: travel by foot, dogsleds, animals, snowmobiles, two- and three-wheel vehicles, and small all-terrain vehicles (ATVs) (less than 3,000 pounds gross vehicle weight).

1.7 IMPACT TOPICS

To focus the environmental assessment, the NPS selected specific impact topics for further analysis and eliminated others from evaluation.

1.7.1 Impact Topics Selected for Detailed Analysis

Soils. ORV use causes soil rutting, displacement, and compaction. This causes soil loss or reduced productivity.

Vegetation, Including Wetlands. ORVs can directly impact vegetation, including wetlands, by crushing plants, scarring trees, and exposing roots. Sites disturbed by ORVs may be susceptible to invasive plants. All of these could result in changes in plant composition. In addition, the construction of ORV trails results in the loss of vegetation.

Wildlife. ORV use could result in displacement and disturbance of moose and wolves.

Water Resources. ORV use across wetlands or streams may increase sedimentation, potentially affecting water quality, stream morphology (shape), benthic invertebrates, and fish habitat and populations in and downstream of the TUA.

Visitor Experience. ORV use and its impact on vegetation and soils could impact the scenic quality of areas used by backpackers and visitors on scenic air tours. ORV use could also affect natural sounds, and viewing opportunities for wildlife.

Wilderness. ORV use could indirectly impact adjacent designated park wilderness and directly affect lands considered eligible for wilderness designation.

Subsistence Opportunities. Decisions made in this EA could affect subsistence opportunities, as well as the socio-economic conditions of NPS-qualified subsistence users.

1.7.2 Impact Topics Dismissed from Detailed Analysis

Floodplains. NPS Directors Order #77-2 (Floodplain Management) implements Executive Order 11988 (“Protection of Floodplains”). These guidelines direct the NPS to protect floodplains by avoiding actions that could adversely affect floodplains or increase flood risks. Although ORVs would be allowed on the Upper Cantwell Creek and Bull River Floodplains under some of the alternatives, such use is expected to have negligible impacts on floodplain functions (impacts to specific floodplain features such as vegetation and soils are covered separately under those headings). None of the alternative actions would occur in high-hazard areas. For these reasons, a Floodplain Statement of Findings to evaluate impacts to floodplains is not required.

Threatened and Endangered Species. No federally designated or candidate threatened or endangered animal or bird species are known to occur within Denali National Park and Preserve (USFW 2007a), and none are anticipated to be affected by the proposed project. No species proposed for listing occur in park and preserve, nor is there critical habitat. No federally-listed endangered or threatened plant species are known from the TUA (NPS 2004b, NPS 2004c).

Rare or Unique Plant Species. The following plant species, which have been designated as rare in Alaska have been found in the general vicinity of the Cantwell TUA: *Aphragmus eschscholtzianus*, *Botrychium alaskaense*, *Draba ruaxes*, *Minuartia biflora*, and *Oxytropis huddlesonii*. All of these taxa, except for *B. alaskaense*, generally occur in steeply sloping alpine areas, and thus are not considered to be imperiled by ORV activities. (Impacts to *B. alaskaense* are analyzed under the impact topic, “Vegetation, Including Wetlands.”)

Air Quality. Denali National Park and Preserve has been designated a Class I area under the Clean Air Act. Fugitive dust and exhaust emissions would be produced by ORV use but would not cause national ambient air quality standards to be exceeded.

Water Pollution. ORV use may result in small amounts of petroleum products leaking into streams or wetlands, but the amounts are expected to be small and localized; therefore, impacts to water quality would be negligible.

Caribou. Patterns of caribou hunting would change less than they would for moose because retrieval of caribou isn't as dependent on mechanized transport (caribou are smaller so they are easier to pack out) and because caribou are more widely and unpredictably distributed. While moose tend to occur along river corridors (and near the trails), caribou tend to occur sporadically throughout the TUA. Hunting caribou is more opportunistic and, therefore, less effected by actions in this plan. The total number of caribou harvested in the TUA would likely be about the same as in the past (approximately 4 caribou/year) in all action alternatives and in alternative 1 (no-action) it would potentially double. Caribou populations would not be likely to be affected the same way as moose, because caribou move in and out of the TUA, and the 100-200 individuals that spend time in the TUA are only a small subset of the two herds (Denali and Nelchina), which number about 2,000 and 34,000 caribou, respectively. A harvest of 4 caribou per year (or even 8 caribou per year) isn't likely to have a significant effect on those herds (NPS 2006b, NPS 2006a). Also in all action alternatives, the NPS would work with the Federal Subsistence Board, the Denali Subsistence Resource Commission, and the Regional Advisory Council to establish subsistence harvest limits for caribou to maintain natural and healthy populations on park land within the TUA

Cultural Resources. Ethnographic resources, cultural landscapes, historic structures, and archeological resources were dismissed from detailed analysis for the reasons listed below. Should additional cultural resources be discovered or uncovered during subsistence use activities, uses would be directed to notify the park superintendent

1. Ethnographic Resources: Per NPS-28 (Cultural Resource Management Guideline), ethnographic resources are traditional sites, structures, objects, landscapes, natural resources, and other material features associated with cultural systems or ways of life (also see <http://www.cr.nps.gov/ethnography/parks/resources/index.htm>). Many ethnographic resources have been identified in Denali in various publications, including Haynes et al. 2001, Schneider et al. 1984, Gudgel-Holmes 1991, and Kari 2000. However, within the TUA there are not yet any traditional cultural properties identified. While there could be impacts identified in the future (e.g., disruption of traditional camp site, etc.), no more than minor impacts are expected.
2. Cultural Landscapes: Four Cultural Landscapes have been identified in Denali. The Headquarters Historic District is the only one listed on the National Register of Historic Places and is not in the backcountry. The other three cultural landscapes have not been inventoried, boundaries defined, or significance determined, but none are present in the TUA.
3. Historic Structures: In the backcountry of Denali the historic structures consist mainly of isolated patrol cabins, trapping cabins, and resources related to mining in the Kantishna and Dunkle Hills areas. The resources in the Dunkle Hills area were determined ineligible for the National Register. There are no historic structures within the TUA.
4. Archeological Resources: Denali National Park and Preserve is home to a host of cultural resources that date back to the earliest period of human settlement of North America. Many of these resources are from prehistoric time periods – archeological investigations conducted within and immediately adjacent to the park strongly suggest that sites dating from the Paleoarctic tradition (11,000 years before present) through the Protohistoric period (200 years before present) exist within the park. Throughout the park there are 257 known cultural sites and complexes representing Denali’s rich cultural history.

Currently, there is one known prehistoric site located in the TUA. An archeological survey of landforms for archeological resources was conducted within the TUA in August 2006. No archeological resources were discovered and the general areas of use within the TUA were considered low probability areas for significant archeological resources. Impacts to the potential archeological resources would be low.

When specific actions are undertaken within any alternative (including the no action alternative) further analysis will be required to comply with the requirements of Section 106 of the National Historic Preservation Act (NHPA) in accordance with the Advisory Council on Historic Preservation’s regulation implementing Section 106 (36 CFR Part 800, “Protection of Historic Properties”. In addition, monitoring of existing and future trails will be conducted, and if currently unknown archeological resources are discovered, mitigation of the impacts to those resources will be undertaken.

Environmental Justice. Executive Order 12898 requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects on minorities and low-income populations

and communities. The EO defines a minority population as either (a) the minority population of the affected area exceeds 50% or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. The EO states that low-income populations within an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the census' Current Population Reports, Series P-60 on Income and Poverty. In 2000, the estimated population of Alaska Natives in Cantwell was 41, or 19% of the total population. The average household income, derived from all sources, was \$39,184, while the average earned income was \$27,883 (ADFG 2002). Given this information, none of the alternatives would have disproportionately high impacts on minorities or low-income populations or communities. Therefore, environmental justice was eliminated from detailed analysis.

1.8 PERMITS AND APPROVALS NEEDED TO IMPLEMENT THE PROJECT

1.8.1 Wetlands

NPS Director's Order #77-1 (Wetland Protection) establishes the policies, requirements, and standards under which the NPS will meet its responsibilities to protect and preserve wetlands in a manner consistent with Executive Order 11990 ("Protection of Wetlands") and with the "no net loss of wetlands" goal as stated in the 1993 White House Office on Environmental Policy paper titled "Protecting America's Wetlands: A Fair, Flexible, and Effective Approach." Based on these guidelines, an NPS Wetlands Statement of Findings (SOF) evaluating wetlands impacts and prescribing mitigation measures and compensation efforts may be required depending on the alternative selected for implementation.

Again, depending on the alternative selected for implementation, the relationship of the wetlands to navigable waters, and the amount of wetlands impacted, a Corps of Engineers Clean Water Act Section 404 Permit may be needed. Additionally, the Alaska Department of Environmental Conservation may need to issue a Certificate of Reasonable Assurance pursuant to the Clean Water Act Section 401.