

**ENVIRONMENTAL ASSESSMENT  
FOR CONSTRUCTION OF TWO NEW TRAILS  
STARTING IN THE FRONTCOUNTRY AREA OF  
DENALI NATIONAL PARK**

Prepared by  
UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE  
DENALI NATIONAL PARK AND PRESERVE

July 2006

Mention by the U.S. Department of the Interior National Park Service of trade names or commercial products does not constitute endorsement or recommendation for use.



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural and cultural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to assure that their development is in the best interests of all. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The National Park Service, Alaska Support Office, provided publication services.

July 2006

## TABLE OF CONTENTS

<b>I. PURPOSE AND NEED</b> .....	4
Background.....	5
Legal Context.....	9
Issues.....	11
Issues Eliminated From Further Consideration .....	12
Permits and Approvals Needed to Complete the Project.....	13
<b>II. DESCRIPTION OF THE ALTERNATIVES</b> .....	13
Alternative 1- Existing Conditions (No Action).....	13
Alternative 2- Construction of Two New Trails starting in the Frontcountry Area .....	12
Alternatives Considered and Eliminated from Further Consideration.....	15
Environmentally Preferred Alternative.....	15
Mitigation and Monitoring.....	16
<b>III. AFFECTED ENVIRONMENT</b> .....	17
<b>IV. ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES</b> .....	21
Assumptions for Impact Analyses .....	21
Alternative 1- Existing Conditions (No Action).....	21
Alternative 2- Construction of Two New Trails starting in the Frontcountry Area .....	22
<b>V. CONSULTATION AND COORDINATION</b> .....	27
<b>VI. SELECTED REFERENCES</b> .....	27
<b>APPENDIX A: ANILCA Subsistence 810(a) Evaluation and Findings</b> .....	28
<b>APPENDIX B: Triple Lakes Trail Minimum Requirements Decision Guide</b> .....	33
<b>APPENDIX C: Savage Alpine Trail Minimum Requirements Decision Guide</b> .....	41
<b>FIGURES</b>	
Figure 1 – Project Location .....	7
Figure 2 – Triple Lakes Trail – Proposed Work.....	8
Figure 3 – Proposed Savage Alpine Trail.....	15
<b>TABLES</b>	
Table 1 – Comparison of the Alternatives.....	17
Table 2 – Summary Impacts of the Alternatives.....	17

**I. PURPOSE AND NEED**

The National Park Service (NPS) is proposing to rehabilitate, re-route, and formalize two trails in heavily used parts of backcountry that are accessed along the first 15 miles of the park road in the entrance area of Denali National Park and Preserve (Denali). The Triple Lakes Trail is a 7 mile long trail that was built as a connection between the entrance area and the McKinley Village area and it needs upgrading and re-routing in a number of areas. The trail has been closed at the north end due to concerns over resource damage on a wet hillside as well as safety concerns from use of the Alaska Railroad (AKRR) trestle for the crossing of Riley Creek. The Savage Alpine Trail was identified in the 1997 Entrance Area and Road Corridor Development Concept Plan/Environmental Impact Statement (DCP/EIS) as a new trail for increased recreational opportunities. Existing pedestrian use of the hillslopes above the Savage River parking area has already created a social trail that is not sustainable and the Upper Savage Trail would be constructed to formalize a route for that use. The trails would range from 18-36 inches wide and would total 8.2 miles in length. The first ¼ mile of the northern end of the Triple Lakes Trail would be constructed to be wheelchair accessible and would be built to Americans with Disabilities Act accessible standards. The projects would begin during the summer of 2006.

The purpose of the new trails would be to provide additional recreational and interpretive opportunities near the non-restricted part of the road corridor of Denali, to mitigate resource damage from past and present hiker use in the area, to mitigate safety concerns from unauthorized use of the railroad trestle over Riley Creek, and to provide connections between heavily used activity areas of the park entrance and road corridor areas. These trails are needed because heavy pedestrian use in both areas has caused and would cause in the future increased resource damage on unsustainable route locations.

The park's 1986 General Management Plan provided on page 61 that: "The trails near the park entrance and the short loop trails along the park road corridor will be maintained for continued use." The Record of Decision for the DCP/EIS approved the upgrade and relocation as necessary of a seven-mile long Triple Lakes Trail with footbridge to the Riley Creek Campground area. The decision also approved a trail at the Savage River Rest Stop "up the ridge to the east" and also labeled it as the "Alpine Trail".

The decision on the DCP/EIS designated certain areas around the park entrance and along the road corridor for increased development which would provide a variety of expanded opportunities for visitors in the entrance area and along the road corridor of the park over the next 15-20 years. Among the developments in which the NPS has traditionally specialized are trails. This concept was widely supported during public review of the DCP/EIS.

This Environmental Assessment (EA) analyzes a No Action Alternative, and the NPS preferred action for the rehabilitation, re-routing, and construction on two trails leading into the backcountry area along the eastern road corridor of Denali National Park and Preserve and has been prepared according to the National Environmental Policy Act of 1969 and regulations of the Council of Environmental Quality (40 CFR 1508.9).

## **Background**

The entrance area of Denali National Park and Preserve serves as a staging area for bus tours to the park's interior and as the primary park experience for visitors not taking a shuttle or tour bus or a private bus to a Kantishna lodge. Facilities and services in the park entrance area currently include the Wilderness Access Center (formerly Visitor Access Center), NPS interpretive programs, Riley Creek Campground, the railroad depot, the Denali Park Post Office, the airstrip, a network of hiking trails, the sled dog kennels at park headquarters, the Riley Creek Mercantile, and support facilities for the concessionaire including a bus maintenance building, bus parking lot and employee housing.

A new visitor center, food court and bookstore were constructed on the site of the former Denali Park Station Hotel, which closed in September 2001, and they opened in May, 2005. The new Murie Science and Learning Center (MSLC) had programs in session during 2003, and is housed in new facilities north of the former hotel. A winter visitor contact center opened on the MSLC campus in September, 2004. A new Alaska Railroad train depot opened in 2004.

Trails in the entrance area include a multi-purpose trail connecting the park entrance with the new Denali Visitor Center (DVC), Riley Creek Campground and Mercantile, a Roadside Path that connects the DVC with park headquarters, the Rock Creek Trail that also connects the DVC with park headquarters, the Jonesville Bridge pedestrian trail (no bikes) from the entrance of the Riley Creek Campground to the Nenana River bridge at the park boundary, a new multi-purpose trail paralleling the George Parks Highway and connecting the Nenana River bridge to the park entrance, the Mt. Healy Overlook Trail, Horseshoe Lake Trail, Taiga Loop Trail, and other trails leading to destinations off the park road. Numerous trailheads and connections between these trails have been re-established during the construction of the new visitor center complex and MSLC. A route from the Mercantile past the Riley Creek Campground to the Old Morino Roadhouse was upgraded in 2005 and extended underneath the AKRR trestle over Riley Creek to connect to the DVC area, with the whole being called the McKinley Station Trail. An old dirt road that connects the former Morino Campground to the base of the trestle has been used for access by the AKRR for trestle projects. That road provides a steep though stable route for hikers down to Riley Creek.

The McKinley Park airstrip is a 3000' long facility used for general aviation and administrative functions, such as research and patrols. Between the airstrip and the DVC is the 200' wide exclusive use easement for the Alaska Railroad (AKRR). Pedestrian traffic at the railroad tracks presents safety concerns and the Alaska Railroad requested over 20 years ago that visitors should not be directed to use the walkway on the trestle. At the same time the NPS decided that the northern end of the Triple Lakes Trail was in a location that could not be sustained because it ran directly up the fall line on a wet north-facing slope. The NPS eventually removed the Triple Lakes Trail from its maps and only occasionally cut brush encroaching on the southern part of the trail.

Numerous historic resources exist as ruins in the Riley Creek valley upstream of the AKRR trestle. Ruins include the 1921-1925 park headquarters as well as the camp used during trestle construction. The AKRR trestle also is a historic feature.

The Triple Lakes Trail was begun by rangers in 1941 and completed from the trestle to the lakes in 1944. Today the southern end of the trail extends from the lakes to just north of the bridge over the Nenana River at McKinley Village. McKinley Village is a community of commercial hotels and campgrounds on the south bank of a bend in the Nenana River where the Parks Highway leaves the park about 6 miles south of the park entrance.

The Savage River canyon is a popular area for visitors to spend time. For the past 34 years it has delineated the end of the unrestricted part of the park road and receives visitors who wish to drive as far as they can. It also was used extensively by the early park concessioners, especially with visitor horseback trips, and a trail downstream through the canyon was established at that time. A replacement highway bridge was constructed in 1981 about 250 yds upstream of the previous bridge, and the former roadbed provided a disturbed area that has been turned into parking lots and trailheads on either side of the river. Recent facility upgrades at the area include a loop trail that extends 1 mile downriver to a pedestrian bridge over the river, an accessible loop trail that extends 300 yds downriver onto the floodplain, an 18 car parking lot on the east side of the river, with vault toilets and an information kiosk, and a parking lot for tour bus use on the west side of the river. A welter of social trails leading up from the Savage East parking lot to a rock climbing destination – Savage Rock – was replaced two years ago by a single constructed trail.

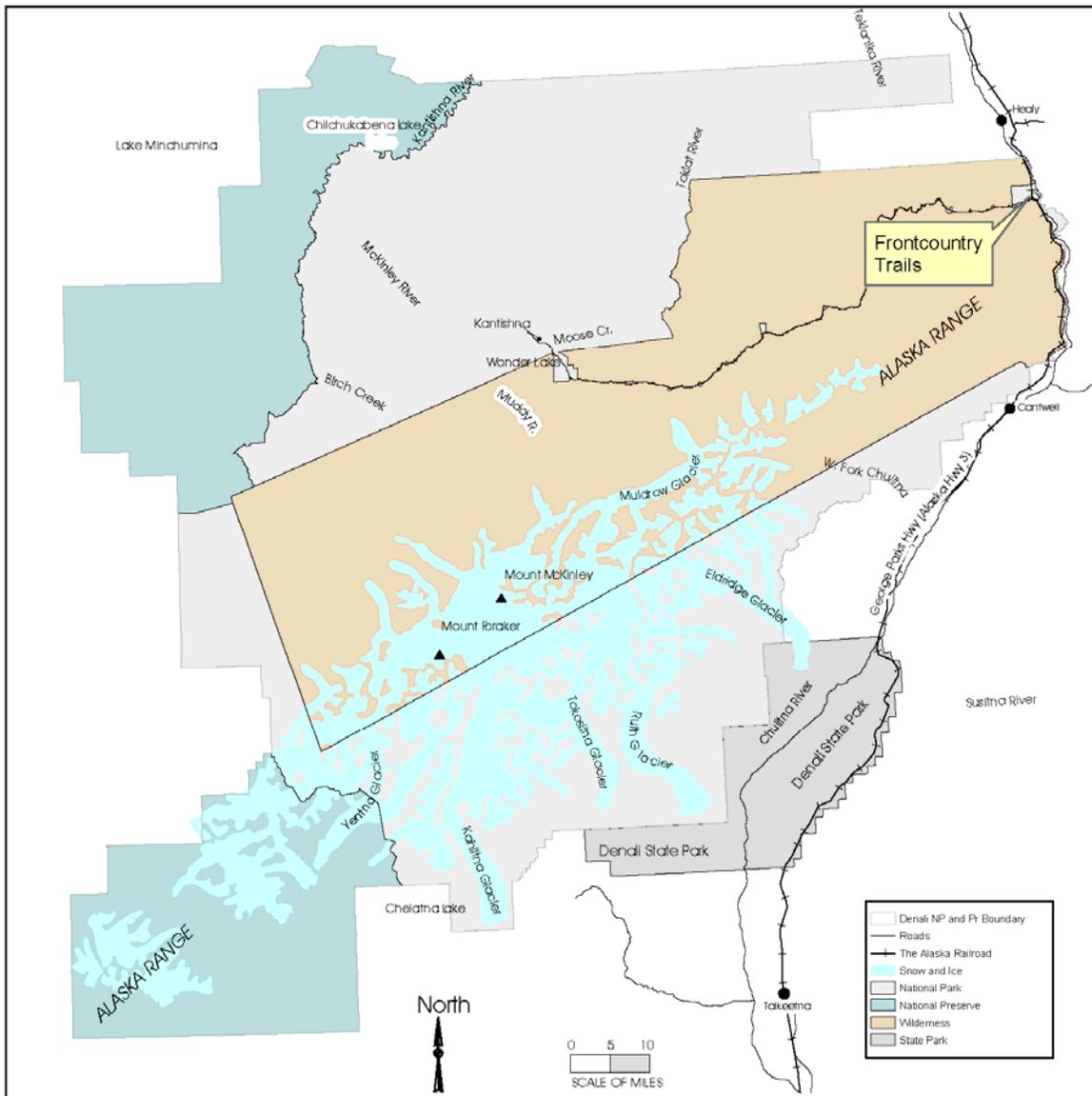
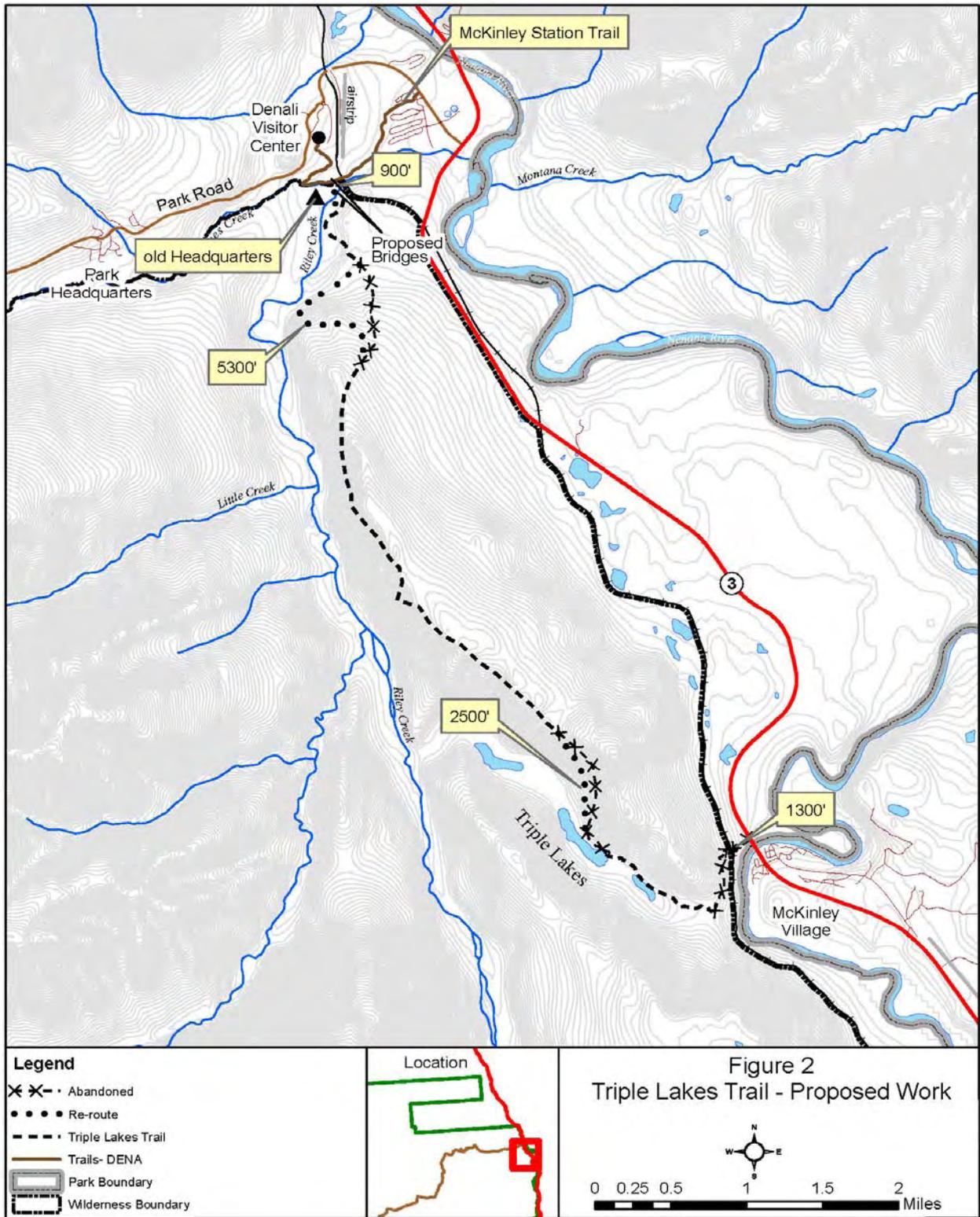
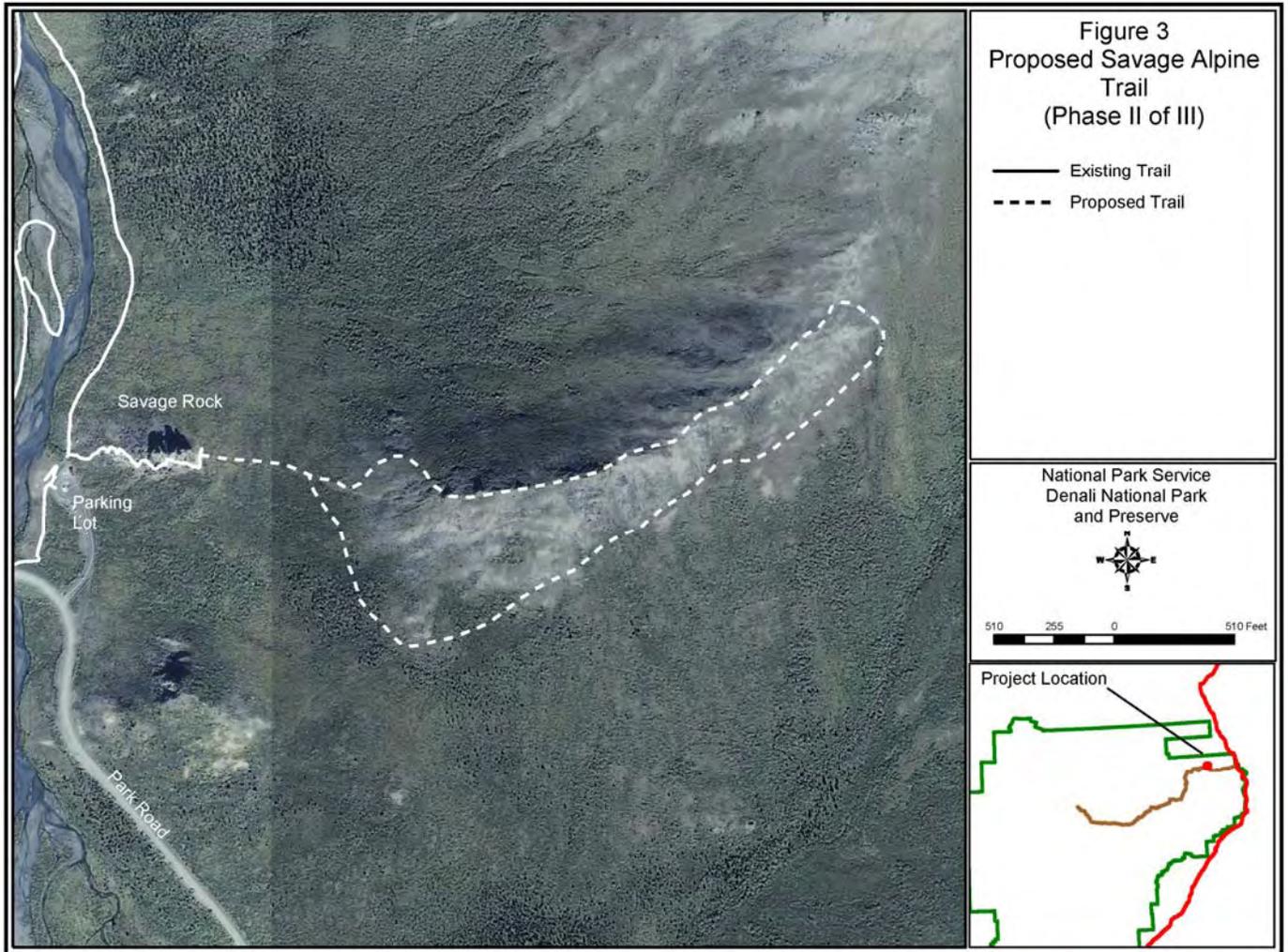


Figure 1  
 Project Location  
 Denali National Park and Preserve  
 U.S. Department of the Interior National Park Service





## Legal Context

The 1916 Organic Act directed the Secretary of the Interior and the NPS to manage national parks and monuments 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.” (16 U.S.C. 1.)

The Organic Act also granted the Secretary the authority to implement “rules and regulations as he may deem necessary or proper for the use and management of the parks, monuments and reservations under the jurisdiction of the National Park Service.” (16 U.S.C. 3.)

In 1917, Congress established Mount McKinley National Park:

“...as a public park for the benefit and enjoyment of the people . . . said park shall be, and is hereby established as a game refuge.” (39 Statute 938)

Additions to the park were made in 1922 and 1932 to provide increased protection for park values and, in particular, wildlife. The 1932 addition moved the eastern park boundary from a north-south line near park headquarters to the western bank of the Nenana River, including a right-of-way for the Alaska Railroad. An Act of Congress transferred federal ownership of the AKRR to the State of Alaska in 1985, giving the AKRR an exclusive use easement in the 200 foot wide right-of-way.

1978 amendments to the 1916 NPS Organic Act and 1970 NPS General Authorities Act expressly articulated the role of the national park system in ecosystem protection. The amendments further reinforce the primary mandate of preservation by stating:

“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 for by Congress.” (16 U.S.C. 1-a1.)

The Alaska National Interest Lands and Conservation Act of 1980 (ANILCA) added approximately 2,426,000 acres of public land to Mt. McKinley National Park and approximately 1,330,000 acres of public land as Denali National Preserve and re-designated the entirety Denali National Park and Preserve. ANILCA also designated 99% of the former Mt. McKinley National Park as wilderness. ANILCA directs the NPS to preserve the natural and cultural resources in the park and preserve for the benefit, use, education, and inspiration of present and future generations. The Act further directs the NPS to manage for the continuation of customary and traditional subsistence uses in the park and preserve additions in accordance with provisions in Title VIII.

The NPS Organic Act and the General Authorities Act prohibit impairment of park resources and values. The 2001 NPS Management Policies uses 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 a condition that will allow the American people to have present and future opportunities for enjoyment of them.

The evaluation of whether impacts of a proposed action would lead to an impairment of park resources and values is included in this environmental assessment. 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.

## **Issues**

Issues and impact topics are identified and form the basis for environmental analysis in this EA. A brief rationale is provided for each issue or topic that is analyzed in the environmental consequences section of this EA. Issues and topics considered but not addressed in this document also are identified.

### Vegetation, Wetlands and Soils

Trail construction would remove vegetation and soils in the project area and fill wetlands.

Specific concerns include:

- Trail construction would remove up to 0.65 acres of white spruce mixed forest, and around 0.4 acres of low shrub and alpine dwarf shrub communities.
- Soils would be removed during construction of the trail and soils exposed because of the project could be susceptible to erosion.
- Less than 0.1 acre of wetlands would be disturbed during construction.

### Wildlife Values and Habitat

Trail construction and visitor use would remove wildlife habitat and affect habitat use. Specific concerns include:

- Large mammal habitat would be removed and adjacent habitat use would be affected.
- Over one acre of small-mammal and bird habitat would be removed.

### Cultural Resources

Trail construction and visitor use could affect known cultural resources. Specific concerns include:

- The new routing of the Triple Lakes Trail would lead an increased number of visitors to known cultural resource sites with an increase in potential to damage to those sites.
- The Triple Lakes Trail would provide opportunities to interpret the human history of the park entrance area.

### Visitor Use and Recreation

Trail construction could affect visitor use. Specific concerns include:

- A new Triple Lakes Trail would improve the connection from the entrance area to the McKinley Village facilities for pedestrians.
- Bridges would provide a safe means for crossing Hines Creek and Riley Creek that would not involve making unauthorized use of the railroad trestle and would provide additional recreational opportunities in the front country.

### Wilderness Resource Values

Trail construction and visitor use could affect wilderness resource values. Specific concerns include:

- New trails constructed inside designated wilderness boundaries would reduce the feeling of solitude and freedom from man-made facilities.
- New trails would reduce wilderness resource impacts from social trail formation.

### **Issues Eliminated from Further Consideration**

#### Effects on Threatened and Endangered Species

The Endangered Species Act requires an analysis of impacts on all federally listed threatened and endangered species, as well as species of special concern. In compliance with Section 7 of the Act, the U.S. Fish and Wildlife Service (USFWS) was consulted. No federally designated threatened or endangered species are known to occur within Denali National Park (pers. comm. Ted Swem, USFWS, Fairbanks, Alaska, June 9, 2000).

#### Air Quality

Exhaust from equipment such as power wheelbarrows would contribute a negligible amount of air pollution due to the short duration of operation.

#### Floodplains

Riley Creek and Hines Creek would be bridged to connect trail segments. These bridges would span the full creekbeds and would not interfere with floodplain flows or other floodplain values.

#### Natural Soundscape

Trail construction activities would degrade natural sounds by only a negligible amount due to the context of existing background of noise from planes, trains and automobiles.

#### Subsistence Use

Subsistence uses are not allowed in the entrance area or on any of the lands of the former Mt. McKinley National Park, and no adverse affects to subsistence activities would occur. See Appendix A.

#### Local Communities/Socioeconomic Resources

Although the trails would provide additional recreation opportunities in the entrance area, it would be impossible to attribute any increased visitation to the area to them, or anything other than a negligible impact on socioeconomic resources.

## Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, requires all federal agencies to identify and address disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. This project would not result in significant changes in the socioeconomic environment of the area, and therefore is expected to have no direct or indirect impacts to minority or low-income populations or communities.

## **Permits and Approvals Needed to Complete the Project**

A concurrence from the State Historic Preservation Officer will be required for the evaluation of the effects of this project on cultural resources.

A Section 404 permit from the Corps of Engineers for filling wetlands has been approved in Nationwide Permit #42 – Recreational Facilities. This permit does not require Corps notification for filling of less than 1/10<sup>th</sup> of an acre of jurisdictional wetlands.

A National Park Service Wetlands Statement of Findings to evaluate wetlands impacts and prescribe mitigation measures and compensation efforts is not required for this project because trail construction with wetlands interpretation components is generally an action excepted from these requirements.

A National Park Service Statement of Findings to evaluate impacts to floodplains is not required because the establishment of foot trails in non high-hazard areas is an excepted action as it requires little physical development and does not involve overnight occupation.

## **II. DESCRIPTION OF THE ALTERNATIVES**

### **Alternative 1 - Existing Conditions (No Action Alternative)**

The NPS would not put the Triple Lakes Trail on park maps or tell visitors about the trail due to the closure of the northern part of the trail. Upgrades to the southern part of the trail would not take place although some brushing and maintenance actions could occur.

No Savage Alpine Trail would be constructed above Savage Rock. Visitors hiking above the rock would find their own path to ascend or descend.

### **Alternative 2 – Construction of Two New Trails Starting in the Frontcountry Area (NPS Preferred)**

Under this alternative the NPS would re-route, reconstruct and maintain the Triple Lakes Trail (Figure 2) and would formalize and construct a Savage Alpine Trail (Figure 3). The trails would be designed and constructed for capable hikers seeking a path into the backcountry that does not

require route finding. The design and construction methods would provide for a moderate to difficult trail with steep grades, non-uniform tread and minimum infrastructure. As much of the Triple Lakes Trail as the terrain allows would be made accessible to wheelchairs.

### **Triple Lakes Trail**

The trail would have a length of 37,000 feet (7.0 miles), have an average width of 24-30 inches (36 inches where accessible), and be a combination of the existing trail route (with improvements) and significant reroutes (Figure 2). At Hines Creek the trail would be at 1600 feet elevation, reaching 3100 feet elevation overlooking the lakes and dropping down again to 1900 feet at the southern trailhead. The trail would leave the McKinley Station Trail on the Hines Creek floodplain near the Riley Creek railroad trestle and would require bridges for Hines and Riley Creeks. The proposed bridge site for Hines Creek would be approximately 800 feet upstream from the trestle, at a spot where an informal footbridge existing during the early 1980s. The trail would then follow a historic road upstream 900 feet and cross Riley Creek. The bridge would be designed to be either removable (with minimal effort) or be constructed high enough to provide winter access under the bridge. The Hines Creek bridge, its approaches, and the trail to the Riley Creek bridge would provide for ADA access from the McKinley Station trail to the original park headquarters area.

Once on the east bank of Riley Creek, the trail would follow the existing route through rolling hills and deciduous forests for 2800 feet until the trail enters an area of black spruce and permafrost tundra. At this point the new trail would leave the existing route for 5300 feet and bear southwest to follow a bench above Riley Creek by alternately crossing mixed evergreen-deciduous knolls and small drainages. Within the mixed forest, one open tundra section of 400 feet would have to be crossed by a running plank boardwalk. The trail would then southeast and do a long traverse on the north face ending at the top of the ridge to connect to the existing trail.

From there the trail would use the existing route, mostly along the top of the ridge, for 28,000 feet, except for 1) short re-routes on top of the ridge to avoid dense alder and provide for improved views of the Riley Creek drainage and mountains to the west; 2) a 2500 foot steep re-route to avoid using the fall-line on the way down the south end of the ridge toward the lakes; 3) short re-routes to avoid poor sections of ground while heading southeast above the lakes; and 4) a 1300 foot re-route to avoid saturated ground, mud holes, permafrost, and fall-line drops while heading northeast toward the southern trailhead.

Borrow pits would be developed where they would not be visible to hikers. When possible a borrow excavation would be re-filled with sub-standard soils removed from the trail tread. Sites would also be chosen so they could be re-contoured to look natural. Brush would be tossed away from the trail to decompose on its own. Material would be moved by hand wheelbarrow, power wheelbarrow, helicopter sling loads (super sacks) and by back pack. Gravel and soils would be compacted by a 21" wide gas-powered plate compactor, if necessary.

If a suitable location would be found, a spike camp for one 8 person youth crew would be developed to minimize commute time to the project. The camp would be restored when the project is finished.

The trail would be 24-30 inches wide. On flat ground the trail would be crowned and constructed of native soils from local borrow pits or imported process gravel. On slopes the bench cut trail would be constructed of native soils that would be capped with imported materials where the soils are found to be slippery. Boardwalks across wetlands would be 16-20" wide and made of rough cut lumber. At least one rest site along the trail would be devoted to interpreting wetland/floodplain values of the area.

Gas powered jackhammers would be used to drive anchor hardware into the ground for the main cables. The bridge decks would be a minimum of 6 feet above the average low water level. The approach ramps for the Hines Creek bridge would have a grade of 8.3%.

Winter users use Hines and Riley Creeks for skiing and mushing. Winter access at the bridges would be either on the ice and snow under the bridges or on short bypass trails snowshoed in by the NPS each winter.

The park's trail crew would salvage as much in the way of vegetation mats as is possible during construction of the trail re-routes for use in revegetating abandoned trail segments.

### **Savage Alpine Trail**

This 18-24 inch wide trail would be constructed to extend uphill from the recently finished trail to the Savage Rock above the Savage East parking lot. The Savage Rock Trail extends up to an elevation of about 2800 feet. The Savage Alpine Trail would create a loop around the next major promontory uphill of the Rock, approximately 600 feet higher in elevation (Figure 3). The southern part of the loop would have long even grades that range between 20-25%. The tread would be benched into the slope and most of the material used to shape the tread would be from the cuts used to create the benched trail. Additional material may have to be brought in by helicopter in super sacks. The trail would be outsloped up to 10% to shed water without the need for structures like waterbars. The trail would then loop back down on the northern side of the promontory to the starting point and some segments on this side may reach up to a 30% grade. The total trail length would be 6400 feet (1.2 miles). Social trails have been proliferating on the slope below the promontory and they would be closed off and allowed to revegetate.

### **Alternatives Considered and Eliminated from Further Evaluation**

Closure of the area above Savage Rock due to extensive social trail formation and resource damage was not considered viable in this case because of the popularity of the Savage River trailheads and the plan in the DCP/EIS to invite visitors to explore the alpine reaches of the park, especially those accessible from the paved part of the park road.

### **Environmentally Preferred Alternative**

Alternative 1 (No Action) is identified as the Environmentally Preferred Alternative because it affects the least wildlife habitat and vegetation acreage.

## **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 each action alternative and are assumed in the analysis of effects.

Vegetation. Vegetation mats that need to be moved from the trail surface would be saved and moved to abandoned trail segments. Periodic surveys would be conducted to determine the presence of exotic plants.

Wildlife and Habitat. The NPS would follow established guidelines in the park's bear-human conflict management plan. The plan requires staff and operators to use bear-proof containers for food and refuse and sets up guidelines for temporary closures.

Cultural Resources. Surveys for cultural resources have taken place in the entrance area over the past two decades. If previously unknown cultural resources were located during construction, the project would be halted in the discovery area until cultural resource staff could determine the significance of the finding. Mitigation standards would be established to limit any damage to the cultural information present at the sites.

Visitor Use and Recreation. Visitors would be advised in park announcements, programs, and publications that there would be temporary inconveniences from construction work on the two trails.

**Table 1. Comparison of the Alternatives**

<b><u>Trail Components</u></b>	<b><u>Alt. 1 (No action)</u></b>	<b><u>Alt. 2 Two New Trails Starting in the Frontcountry Area</u></b>
<b>Triple Lakes Trail Dimensions</b>	6 miles existing. Northern one mile is closed for resource damage and no legal bridge over Riley Creek.	7 miles, including a bridge over Hines Creek and a bridge over Riley Creek. Trail would generally be 24-30 inches wide. About 900 feet would be ADA compliant and 36 inches wide.
<b>Savage Alpine Trail Dimensions</b>	None existing. Social trails scar the immediate slope above the Savage Rock	1.2 miles long. 18-24 inches wide.
<b>Length of Wetland and Floodplain Sections</b>	n/a	400 feet of boardwalk over a sedge meadow. The bridges would be on the edge of the floodplain.
<b>Trails in Wilderness</b>	The 6 miles of the Triple Lakes Trail accessed from the south trail head.	Virtually all of the 7 mile Triple Lakes Trail and all of the Savage Alpine Trail.
<b>Accessible Trail to additional Cultural Resource Sites</b>	no	Yes – to the old park headquarters along Riley Creek.

**Table 2. Summary Impacts of the Alternatives**

<b>IMPACT TOPIC</b>	<b>Alt. 1 – No Action</b>	<b>Alt. 2 – Two New Trails Starting in the Frontcountry Area</b>
<b>Vegetation, Soils and Wetlands</b>	Minor continued impact from social trail development.	0.7 acres of spruce forest removed. 0.4 acres of alpine and shrubby vegetation removed. Soils affected would be used in cut/fill or in reclamation of abandoned segments. Minor impact.
<b>Wildlife and Habitat</b>	Continued localized avoidance on other trails.	1.1 acres of habitat removed, with minor effect. Local avoidance during construction and use.
<b>Cultural Resources</b>	No impact	Likely no impact to local resources. Positive impact from education about cultural resources.
<b>Wilderness</b>	Minor impact from increased social trail formation.	Minor impact from increased use drawn to easy trails.
<b>Visitor Use and Recreation</b>	No new recreational opportunities created.	Moderate benefits to visitors from increased opportunities for trail hiking, access to cultural resources and access to wilderness resources along the eastern road corridor.

### **III. AFFECTED ENVIRONMENT**

Detailed descriptions of the environment in the entrance and road corridor areas may be found in the 1986 GMP and the 1996 DCP/EIS. This section summarizes the natural and human environment that may be affected by the proposal and alternatives under consideration.

The projects are located near the Savage River and near the Parks Highway corridor in Denali National Park and Preserve. The Triple Lakes Trail would connect the park entrance area with the McKinley Village area 6 miles to the south. The Savage Alpine Trail would extend an existing pedestrian trail that starts at the Savage East parking lot. The Savage Alpine Trail and almost all of the Triple Lakes Trail would be constructed in designated wilderness. Both projects are located in areas near the Denali front country, an area with high visitor use during the summer season.

#### **Vegetation, Wetlands and Soils**

In the mid-1920s, a number of fires burned over the entrance area and much of the lower Riley Creek valley. By 1939, when the Park Hotel opened near the railroad depot, mostly low shrubs and immature aspen and spruce trees dominated the area. Now taiga forest plant associations occur with mature white spruce and aspen dominating the vegetation. A variety of plant species comprise the understory, including alder, willows, Labrador tea, blueberry shrubs, and Alaska rose. Riparian zones are dominated by tall willow species, alder, and white spruce. The landscape that the southern part of the Triple Lakes Trail goes through has the same vegetation communities. The middle area of the trail is above treeline and goes through some alpine dwarf shrub communities and some low shrub dwarf birch types.

Three generic soil types occur in the project area. One soils type underlies upland forested areas and is gravelly or bouldery, silty soil with humus layers supporting mosses and lichens. The second soil type occurs in wetland areas with black spruce-white spruce hybrids or in forest openings, and it consists mostly of poorly drained silts and clays above thick gravel layers or bedrock. The other soil is in the riparian areas, with a gravelly or bouldery, silty soil without a well-developed organic layer.

One small pocket of sedge meadow wetlands is located in the proposed project area. These wetlands are classified in the Cowardin Classification System as palustrine non-persistent emergent, seasonally flooded/saturated (PEM2E).

The area uphill of the Savage River parking lot is steep, with large bedrock promontories on ridges breaking through a thin soil mantle that covers the hillside drainageways between the ridges. The trail progresses through medium-high shrubs such as dwarf birch, cinquefoil and willow until it reaches rocky ground covered by dwarf shrubs and forbs such as dryas, bell heather, and saxifrages. The north side of the ridgeline has a thicker moss layer, with dwarf willows poking through.

## **Wildlife Values and Habitat**

The most common wildlife species in the project area are red fox, snowshoe hares, red squirrels, and various birds such as chickadees, ravens, magpies, and numerous migratory species. The area also provides moose habitat, including willow browse along Hines and Riley Creeks and along the margins of the Triple Lakes. Wetland areas can provide important foraging areas for moose and habitat for small mammals, migratory and resident birds. Grizzly bears also use the creek valleys to find roots and for movement corridors, and use the higher slopes for blueberries and crowberries. Wolves may also be found traversing the area.

## **Floodplains**

Riley Creek is about 60 feet wide and is generally thought of as a clear water stream, though it does have small glaciers feeding some of its tributaries. Hines Creek is a 12 foot wide non-glacial stream that drains the mountains north and south of the park road west to about mile 8. The beds of both are gravelly with cobbles and boulders. Both creeks have a period of a couple of weeks in late April-early May when the snow is melting fast and they have impressive flows. They can also respond to heavy rains anytime during the summer with flood events. In winter the ice buildup usually extends vertically and horizontally farther than any flood event, so that much of the existing floodplain is, on average, only affected by the disturbance effects of winter ice and by the water flows that start on top of the ice at the beginning of break-up. Areas of the floodplain that are usually only affected by ice often have a scattered cover of willows, mountain alder and young balsam poplar, with a small number of forbs and little moss growth.

## **Cultural Resources**

Cultural resources in the park entrance area include archeological sites and historic buildings and structures. Approximately 25 cultural sites and features are located in the entrance area. The old Park Headquarters on Riley Creek was occupied from 1921 until the spring of 1925, using structures acquired from the Riley Creek Trestle camp of the Alaska Engineering Commission across the creek. A bridge connecting the two sites washed out during early flooding. A recent primitive bridge over Hines Creek lasted a few summers during the early 1980s before being washed out. A wagon road up the Riley Creek valley from a coal mine near McKinley Village to the park road corridor can still be followed, though sections near Riley Creek have been washed out by creek meandering. The part of the road between the old headquarters and the proposed bridge site on Hines Creek still exists.

## **Visitor Use and Recreation**

Around 440,000 people visit Denali's entrance area annually. About 300,000 people take a bus trip beyond the Savage River check station into the park interior and the remaining visitors remain in the front country area, seeing this section of the park by the Savage Shuttle, private car, by bicycle, or on foot. Park bus use has remained steady since 1999, but visitation of all types is expected to increase over the next 10-15 years. The new visitor center and Denali Science and Learning Center should both enhance visits and recreational and educational opportunities.

During the summer months there is a lot of day-hiking activity in the entrance area, both on maintained trails and on game trails and the abandoned roads and trails that had activity during the 1920s. Maintained trails include the Horseshoe Lake Trail, Healy Overlook Trail, Rock Creek Trail, Roadside Path, Jonesville Bridge Trail, Taiga Loop, the new multi-purpose trail that was finished in 2005 between the entrance and new visitor center, and the McKinley Station Trail.

In addition to the bus systems that provide access to the interior of the park, the NPS runs a bus every 20 minutes that runs a loop through the area, connecting the DVC, Murie Science and Learning Center, railroad depot, WAC and Riley Creek Campground and Mercantile. Many of the local businesses also run a bus or van either on a schedule or at least regularly into the entrance area. Many of the businesses at McKinley Village run a bus or van regularly to the park entrance area and to the facilities in the Healy Canyon. Bicycle use is restricted to the park road, campground roads, and to the multi-purpose trail.

The Riley Creek Campground has 145 campsites and an outdoor amphitheater where evening naturalist programs are presented. The Mercantile was opened in 2001 and provides camper supplies, showers, an RV dump station and espresso. A long-term parking lot is adjacent to the Riley Creek Campground.

The Savage River East parking lot has space for 18 vehicles and the lot is full much of the summer. A free shuttle bus departs the entrance area every hour during the summer and turns around at the Savage River.

### **Park Management**

The NPS has a contract with a concessionaire to provide public services including transportation, bus and campground reservations, food services, gift sales, camper merchandise and showers. Concession facilities in the area include the shuttle bus parking and maintenance facility, dormitories and apartments for seasonal employees, and laundry facilities. The NPS provides interpretive programs at the campgrounds, at the new Denali Visitor Center, and at various other sites in the entrance area for guided walks. The NPS operates a power plant near the DVC as a back-up for the entrance area commercial power. One loop of the Riley Creek Campground is kept open during winter without running water. This loop, park administrative headquarters and a Winter Visitor Contact Station that opened in 2004 are the only facilities open during the winter. (see also Background, p. 2)

## **IV. ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES**

### **Assumptions for Impact Analysis**

This section contains an evaluation of the direct and indirect environmental impacts of three action alternatives and the no action alternative. The analysis assumes that the mitigation identified in the *Mitigation and Monitoring* section (page 10) of this environmental assessment would be implemented under any of the action alternatives.

Cumulative impacts were analyzed to add up the incremental impacts to the environment resulting from adding the alternatives to other past, present, and reasonably foreseeable future actions. The cumulative impacts relate primarily to: (1) the continued implementation of the visitor and educational facility improvements proposed in the Entrance Area EA of December, 2001, (2) the implementation of a hazardous fuels management plan to limit the amount of vegetation around all park buildings to reduce the chance that wildland fires would endanger park structures, (3) the build-up of facilities in the entrance area of the park, including the AKRR, McKinley airstrip, campgrounds, trails, parking areas and other visitor and administrative facilities, (4) recent improvements at the Savage River East parking lot and the construction of a new Rest Area east of the Savage Campground in 2008.

### **Alternative 1 – Existing Conditions (No Action)**

#### Vegetation, Wetlands and Soils

No vegetation, soils or wetlands would be removed or disturbed to preserve the status quo. Limited visitor use on the northern part of the Triple Lakes Trail would result in delayed revegetation of the fall-line segment. A minor amount of erosion would occur from the trail scar, depending on the level of continued use.

Short of closing the area above the Savage Rock, continued use of the landscape above the rock would lead to more social trail development and a minor loss of vegetation and minor damage to soil structure.

#### Wildlife Values and Habitat

No additional habitat would be lost for small mammals, birds, and moose. Continued visitor and employee use of the existing trail segments and social trails would result in continued local avoidance of those corridors by moose, lynx, bears and other wary animals.

#### Cultural Resources

No known cultural resources would be affected under this alternative.

### Wilderness Resources Values

Continued steady use by hikers would likely expand the social trail network above Savage Rock. This would have a minor adverse effect on the resource value of solitude, and on the sense of wilderness as consisting of an unmarred landscape, in that small but popular area. Impacts to wilderness values along the existing Triple Lakes Trail alignment would be negligible due to the light use it presently gets.

### Visitor Use and Recreation

This alternative would not provide any additional recreational opportunities. Some visitors would continue to use or create new social trails to get higher up the slope above the Savage Rock. The lack of bridges over Hines Creek and Riley Creek would keep many visitors away from the old Triple Lakes Trail and the unsustainable north-facing section of the trail above Riley Creek would keep park management from advertising the existence of the trail. Some use would continue from the south trailhead, but resource degradation would also keep park management from advertising the trail's existence. This alternative would also not provide a viable alternative to the dangerous and illegal use of the railroad trestle to cross Riley Creek.

*Cumulative Effects:* The impacts of this alternative to resource values, including vegetation, wildlife habitat, wilderness resource values, cultural resources and visitor use, would be negligible to minor and there would not be a contribution to any impacts from other local or regional projects.

*Conclusion:* The adverse impacts to soils and wilderness values would continue to worsen above the Savage Rock as more visitors would come and extend their hikes above the Rock. Impacts to park resources along the existing Triple Lakes Trail alignment would be negligible due to the light use it would continue to get. Visitor opportunities to hike these areas with a quality trail experience would remain limited. Other existing trails would be maintained under this alternative.

In summary, this alternative would not impair park resources, but it also would not achieve the objectives of maintaining existing trails, providing short loop trails along the road corridor, and concentrating hiker use where experience has shown that dispersed use is leading to adverse resource impacts.

## **Alternative 2 – Construction of Two New Trails Starting in the Frontcountry Area (NPS Preferred)**

### Vegetation, Wetlands and Soils

Under this alternative approximately 0.7 acre of white spruce-mixed forest community would be removed for the construction of the Triple Lakes Trail. Approximately 0.23 acres of low shrub scrub, 0.19 acre of dry alpine tundra, and 0.01 acres of tall shrub scrub would be removed for the Savage Alpine Trail. The limited vegetation removal from this alternative would not have a significant impact on the thousands of acres of taiga forest and other vegetation resources near the paved section of the park road corridor.

Approximately and 0.02 acres of sedge meadow would be affected by the installation of a wooden boardwalk on a palustrine scrub-shrub, needle-leaved evergreen/broad-leaved deciduous, saturated soil wetlands. These wetlands were determined by the U.S Army Corps of Engineers to *not* be jurisdictional wetlands requiring a Clean Water Act, Section 404 fill permit because these wetlands are not directly connected to any navigable waters of the USA (Don Rice, personal communication). This type of wetland is common locally and regionally and placing boardwalk on 2/100<sup>ths</sup> of an acre would not affect the flood retention, habitat or other values received from wetlands.

A few inches of organic soil attached to the vegetation would be removed from the length of the trail. The soil types are common under white spruce-mixed forests. The soils would be saved for use in the reclamation of the parts of the Triple Lakes Trail to be abandoned, or for filling in low spots during the cut-and fill method for the Savage Alpine Trail.

*Cumulative Effects:* Commercial and private development as well as the growth of transportation and utility systems in and near the Denali frontcountry have resulted and would continue to result in the loss of several hundred acres of spruce forest, especially in the Nenana River corridor outside the park boundary. Additional commercial and private development along the Nenana River corridor is expected to result in the disturbance of hundreds of acres of vegetation and soils during the foreseeable future. A moderate loss of and disturbance to vegetation and soil in the park entrance area and along the park road corridor has occurred because of previous development, primarily visitor facilities and construction and maintenance of roads and trails. The total disturbance in the park development zone between the Nenana River and new Visitor Center is about 85 acres, with an additional 20 acres disturbed in the area where the park road crosses the Savage River. This includes acres of cleared vegetation for the George Parks Highway, Denali Park Road, Wilderness Access Center, Denali Visitor Center, MSLC, Riley Creek Campground, Riley Creek Mercantile, sewer treatment plant, airstrip, railroad, Morino Campground, bus maintenance facilities, concession housing, area trails, and road, parking areas and trails at the Savage River. An additional 15 acres of vegetation clearing is expected to be maintained under the hazardous fuels management plan to remove hazardous fuel around park buildings. The incremental impact to vegetation and soils in the entrance area from implementation of this trail project would be less than 1% of the total disturbance in the park entrance area and Savage River area. These incremental impacts would not result in significant cumulative impacts on vegetation and soils.

About 4.1 acres of wetlands have been impacted by previous road, trail, and building construction in the park entrance area. The entrance area and Riley Creek backcountry of the park contains hundreds to thousands of acres of similar non-jurisdictional wetlands. This project would further impact 0.02 acre of wetlands in the surrounding area, which would be less than a 1% increase in wetland area affected. Because the area of wetlands adversely impacted would be small and installation of a boardwalk would not affect the functioning of the wetlands, there would be only a negligible increase in the loss of wetlands or wetlands function in the park.

*Conclusion:* The clearing of trees, shrubs, other vegetation, and the disturbance to soil on less than 1.1 acres would result in a minor adverse impact to vegetation and soil. The placing of boardwalk on 0.02 acres of palustrine sedge meadow wetlands for the trail construction would result in a

negligible net loss of wetlands and wetlands functions in the park entrance area. These impacts would not result in an impairment of park resources that fulfill specific purposes identified in legislation establishing the park or key to the natural or cultural integrity of the park.

#### Wildlife and Habitat

Wildlife habitat for large mammals, small mammals, and birds would be reduced by approximately 0.7 acre of white spruce-mixed forest community for the Triple Lakes Trail and 0.23 acres of low shrub scrub, 0.19 acre of dry alpine tundra, and 0.01 acres of tall shrub scrub for the Savage Alpine Trail. During the construction period noise and human activity would disturb wildlife and cause them to be temporarily displaced from the affected and adjacent areas. There are no known raptor nests along the proposed alignment. Both small mammals and birds would find extensive acreage of similar habitat adjacent to the trail acreage lost.

*Cumulative Effects:* Approximately 85 acres of wildlife habitat has been disturbed in the entrance area between park headquarters and the Parks Highway. This includes acres of cleared vegetation for the VAC, Riley Creek Campground, Riley Creek Mercantile, water treatment plant, airstrip, railroad depot, park road, Visitor Center complex, and MSLC. An additional 15 acres of vegetation clearing is expected under the hazardous fuels management plan to remove hazardous fuel around park buildings. The incremental impact from this project to wildlife and habitat in the entrance area would add less than 1% to the total existing disturbed area near the park entrance. The removal of less than ½ acre of vegetation in the Savage area would also affect less than 1% of similar habitat locally. Because thousands of acres of similar habitat exist in the vicinity, there exists a moderate cumulative impact on wildlife and habitat in the park entrance area and this alternative would be a minor contributor to that impact.

*Conclusion:* The clearing of trees, shrubs, and other vegetation on up to 1.2 acres of wildlife habitat would result in minor adverse impacts on wildlife and habitat. The impact to wildlife and habitat would not result in an impairment of park resources that fulfill specific purposes identified in legislation establishing the park or key to the natural or cultural integrity of the park.

#### Cultural Resources

The Triple Lakes Trail would provide an additional maintained route to known cultural resource sites, such as the original Park Headquarters and the site of the Riley Creek trestle-building camp. These opportunities to highlight human history of the area would have a beneficial effect on expanding the understanding of the advantages of preserving cultural resources. Monitoring and mitigation standards would be established to limit any damage to the cultural information present at the sites. No cultural resources are known from the Savage Alpine Trail alignment.

Should presently unidentified cultural resources be discovered during the project, the superintendent and cultural resources manager would be notified immediately.

*Cumulative Effects:* Historic sites that have been affected by modern activities, mainly accidental fire, include the Morino Roadhouse and Kennedy site. All known significant archeological and historic sites in the entrance area would remain intact.

*Conclusion:* The proposed projects would not adversely impact known cultural resources. There would be a positive impact from education about cultural resources. The project would not result in

an impairment of park cultural resources that fulfill specific purposes identified in legislation establishing the park and effects would be consistent with the mandates of the NHPA.

### Visitor Use and Recreation

There would be a temporary impact to recreational opportunities for entrance area visitors from the construction activities at the Hines Creek bridge site. The impact would last a full summer for re-routing and rehabilitation for the Triple Lakes Trail at the south trailhead. Visitors could still use the trail while it's under construction but the new trail could be muddy until the drainage work and tread work are finished and the park experience would not be peaceful during gravel hauling. Noise and visual impacts in the construction or rehabilitation areas in the middle of the trail would temporarily inconvenience fewer park visitors because that section of the trail is not advertised or signed. The finished trail would re-open an historic trail through a ridgeline wilderness with great views in all directions. The new bridges would improve visitor safety by providing a means of access across Riley Creek that does not include using the railroad trestle. The trail length of 7 miles would provide a significant time and space immersion into the Denali landscape and would be an important link in the opportunity matrix of the park's entrance area.

The visitor experience on the east side of the Savage River would be affected during much of the summer by construction of the Savage Alpine Trail. Although the parking area on the road has some level of constant activity from vehicles and pedestrians, the alpine area above is relatively quiet. The construction of a trail would, however, provide an east end alpine experience for many visitors staying at the Savage Campground, riding the Savage Shuttle, and for those driving as far as the Savage River.

The terrain would prevent the Savage Alpine Trail and most of the Triple Lakes Trail from being built to accessible standards. The connection to the old park headquarters would, however, be made accessible and would make a significant cultural resources connection to the already accessible McKinley Station Trail.

*Cumulative Effects:* Additional projects to enhance recreational opportunities in the eastern end of the park are recently opened or are under construction. They would include the new Visitor Center, Murie Science and Learning Center, new or upgraded hiking trails, a skiing trail in the Headquarters area, and rehabilitated and new campsites at the Riley Creek Campground. All of these projects, including the proposed Triple Lakes Trail and the Savage Alpine Trail, are considered to benefit park visitor experiences and recreational opportunities.

*Conclusion:* This alternative would provide visitors with the positive benefit of intermediate length backcountry trails easily accessible from the park's frontcountry. There would be temporary impacts to recreational opportunities from the construction activities at the bridge sites and the trail re-route areas.

### Wilderness Resource Values

Both proposed trails would be constructed almost entirely in designated wilderness. There would be temporary impacts to the visitor's expectation of solitude over the course of a summer during construction, especially noticeable during construction on the Triple Lakes Trail where most of the trail is out of sight and sound of roadside activities. There would also be an impact

on the opportunity for the expectation of primitive recreation when the trails are constructed and maintained. The Triple Lakes Trail existed long before wilderness designation and the effort to reduce resource impacts by re-routing from the unsustainable sections would have a beneficial impact. The formalizing of a Savage Alpine Trail would also be beneficial by eliminating the accelerating damage to the slopes above the popular destination.

*Cumulative Effects:* The wilderness resources near the Denali National Park entrance area and eastern road corridor have been affected by a continuous low level of visitation on most of the landscape, although some areas, such as above Savage Rock, above the Savage Check Station, and along the wetter sections of the Triple Lakes Trail show resources damage from increased or concentrated use. The proposed projects would improve access into wilderness and reduce much of the notable resource damage, but would also invite an increased level of use that may spill over into off-trail areas and create additional resource damage.

*Conclusion:* Construction of the Savage Alpine Trail and re-routing sections of the Triple Lakes Trail would have a beneficial impact on wilderness resource values by eliminating trail braiding at areas of increasing visitor use. There would be temporary impacts to solitude from the construction projects. The project would not result in an impairment of park wilderness resource values that fulfill specific purposes identified in legislation establishing the park and the effects would be consistent with the mandates of the Wilderness Act.

## **CONSULTATION AND COORDINATION**

### **List of Persons and Agencies Consulted:**

Don Rice, Unit Leader, Regulatory Branch, Alaska District, U.S. Army Corps of Engineers, Anchorage, AK  
Ted Swem, U.S. Fish and Wildlife Service, Endangered Species Coordinator, Ecological Services Office, Fairbanks, AK  
Chuck Tomkiewicz, Trails Foreman, Denali National Park and Preserve  
Ann Kain, Cultural Resources Program Manager, Denali National Park and Preserve  
Paul R. Anderson, Superintendent, Denali National Park and Preserve

### **List of Preparers:**

Steve Carwile, Compliance Program Manager, Denali National Park and Preserve  
Jon Paynter, GIS Specialist, Denali National Park and Preserve  
Joe Van Horn, Wilderness Program Manager, Denali National Park and Preserve

## **SELECTED REFERENCES**

- Cowardin, Lewis M., Virginia Carter, Francis C. Golet, and Edward T. LaRoe  
1979. Classification of Wetlands and Deepwater Habitats of the United States. For the U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services, FWS/OBS-79/31.
- U.S. Department of the Interior, National Park Service (NPS)  
1986. General Management Plan, Land Protection Plan, Wilderness Suitability Review, Denali National Park and Preserve, Alaska. Denver Service Center, NPS D-96-A.
1988. Final Environmental Impact Statement, Wilderness Recommendation, Denali National Park and Preserve, Alaska. Denver Service Center, NPS D-114A.
1996. Draft Development Concept Plan/Environmental Impact Statement, Entrance Area and Road Corridor, Denali National Park, Alaska. NPS Denver Service Center, NPS D-244.
2000. Management Policies 2001, USDO, NPS, NPS D1416.
2001. Environmental Assessment for Construction of New Visitor Facilities in the Entrance Area of Denali National Park, Denali National Park and Preserve, Alaska, Denali Park, Alaska
2005. Environmental Assessment for Construction of Two New Trails in the Entrance Area of Denali National Park, Denali National Park and Preserve, Alaska, Denali Park, Alaska

APPENDIX A  
**SUBSISTENCE - SECTION 810(a) OF ANILCA**  
SUMMARY 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 evaluation of potential restrictions to subsistence activities that could result from the construction of two new trails in the entrance area of Denali National Park and Preserve.

**II. THE EVALUATION PROCESS**

Section 810(a) of ANILCA states:

"In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands . . . 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 of, 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. Denali National Park and Preserve was created by ANILCA Section 202(3)(a):

"The park additions and preserve shall be managed for the following purposes, among others: To protect and interpret the entire mountain massif, and additional scenic mountain peaks and formations; and 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; and to provide continued opportunities, including reasonable access, for mountain climbing, mountaineering, and other wilderness recreational activities."

Title I of ANILCA established national parks for the following purposes:

". . . to preserve unrivaled scenic and geological values associated with natural landscapes; to provide for the maintenance of sound populations of, and habitat for, wildlife species of inestimable value to the citizens of Alaska and the Nation, including those species dependent on vast relatively undeveloped areas; to preserve in their natural state extensive unaltered arctic tundra, boreal forest, and coastal rainforest ecosystems to protect the resources related to subsistence needs; to protect and preserve historic and archeological sites, rivers, and lands, and to preserve wilderness resource values and related recreational opportunities including but not limited to hiking, canoeing, fishing, and sport hunting, within large arctic and subarctic wildlands and on free-flowing rivers; and to maintain opportunities for scientific research and undisturbed ecosystems.

". . . consistent with management of fish and wildlife in accordance with recognized scientific principles and the purposes for which each conservation system unit is established, designated, or expanded by or pursuant to this Act, to provide the opportunity for rural residents engaged in a subsistence way of life to continue to do so."

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 which would reduce or eliminate the use. . . ." (Section 810(a))

### **III. PROPOSED ACTION ON FEDERAL LANDS**

Alternatives 1 and 2 are described in detail in the environmental assessment. Customary and traditional subsistence use on NPS lands will continue as authorized by federal law under all alternatives. Federal regulations implement a subsistence priority for rural residents of Alaska under Title VIII of ANILCA.

The NPS proposes to re-route and create two recreational trails totaling 8.2 miles within the entrance area of Denali National Park and Preserve. The sites are in the former Mount McKinley National Park wherein subsistence activities are not allowed.

### **IV. AFFECTED ENVIRONMENT**

Subsistence uses within Denali National Park and Preserve are permitted in accordance with Titles II and VIII of ANILCA. Section 202(3)(a) of ANILCA authorizes subsistence uses, where traditional, in the northwestern and southwestern preserves of Denali National Preserve. Lands within former Mount McKinley National Park are closed to subsistence uses.

A regional population of approximately 300 eligible local rural residents qualifies for subsistence use of park resources. Resident zone communities for Denali National Park and Preserve are Cantwell, Minchumina, Nikolai, and Telida. By virtue of their residence, local rural residents of

these communities are eligible to pursue subsistence activities in the new park additions. Local rural residents who do not live in the designated resident zone communities, but who have customarily and traditionally engaged in subsistence activities within the park additions, may continue to do so pursuant to a subsistence permit issued by the Park Superintendent in accordance with state law and regulations.

The NPS realizes that Denali National Park and Preserve may be especially important to certain communities and households in the area for subsistence purposes. The resident zone communities of Minchumina (population 22) and Telida (population 11) use park and preserve lands for trapping and occasional moose hunting along area rivers. Nikolai (population 122) is a growing community and has used park resources in the past. Cantwell (population 147) is the largest resident zone community for Denali National Park and Preserve, and local residents hunt moose and caribou, trap, and harvest firewood and other subsistence resources in the new park area.

The main subsistence species, by edible weight, are moose, caribou, furbearers, and fish. Varieties of subsistence fish include coho, king, pink and sockeye salmon. Burbot, dolly varden, grayling, lake trout, northern pike, rainbow trout and whitefish are also among the variety of fish used by local people. Beaver, coyote, land otter, weasel, lynx, marten, mink, muskrat, red fox, wolf and wolverine are important furbearer resources. Rock and willow ptarmigan, grouse, ducks and geese complete the park/preserve subsistence small game list.

The NPS recognizes that patterns of subsistence use vary from time to time and from place to place depending on the availability of wildlife and other renewable natural resources. A subsistence harvest in any given year may vary considerably from previous years because of such factors as weather, migration patterns and natural population cycles. However, the pattern is assumed to be generally applicable to harvests in recent years with variations of reasonable magnitude.

## **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 are:

- the potential to reduce important subsistence fish and wildlife populations by (a) reductions in numbers; (b) redistribution of subsistence resources; or (c) habitat losses;
- the affect the action might have on subsistence fishing or hunting access; and
- the potential to increase fishing or hunting competition for subsistence resources.

The potential to reduce populations:

Construction and use of a new multi-purpose trail in the entrance area would have a long-term but minor impact on wildlife habitat and populations. The use of the trail would supplant existing use by pedestrians on the Roadside Path and by some bicyclists on the park road.

The alternatives would not adversely affect the distribution or migration patterns of subsistence resources. Therefore, no change in the availability of subsistence resources is anticipated as a result of the implementation of this proposed action.

#### Restriction of Access:

All rights of access for subsistence harvests on NPS lands are granted by Section 811 of ANILCA. Denali National Park and Preserve is managed according to legislative mandates, NPS management policies and the park's General Management Plan. No actions under the alternatives described in the environmental assessment should affect the access of subsistence users to natural resources in the park and preserve.

#### Increase in Competition:

The alternatives should not produce any increase in competition for resources to subsistence users.

If, and when, it is necessary to restrict taking, subsistence uses are the priority consumptive users on public lands of Alaska and will be given preference on such lands over other consumptive uses (ANILCA, Section 802(2)).

Continued implementation of provisions of ANILCA should mitigate any increased competition, however significant, from resource users other than subsistence users. Therefore, the proposed action would not adversely affect resource competition.

## **VI. AVAILABILITY OF OTHER LANDS**

Choosing a different alternative would not decrease the impacts to park resources for subsistence. The preferred alternative is consistent with the mandates of ANILCA, including Title VIII, and the NPS Organic Act.

## **VII. ALTERNATIVES CONSIDERED**

The alternatives considered for this project were limited to the lands in the entrance area of the park. The alternatives are: 1) continue the existing conditions (No Action) which includes increasing pedestrian use of the alpine slopes above Savage Rock and a steady but low pedestrian use of the southern end of the Triple Lakes Trail; and 2) rehabilitation of the 7-mile long Triple Lakes Trail, to include 2 new bridges, and also including approximately 10,000 feet of re-routing the trail around wet areas, to improve drainage, and to take the trail off of the Alaska Railroad Riley Creek Trestle. This alternative also includes construction of a new 1.2 mile long Savage Alpine Trail above Savage Rock to concentrate use in an area of spreading pedestrian resource damage and to create a recreational opportunity approved in the 1997 Entrance Area and Road Corridor Development Concept Plan/Environmental Impact Statement.

## **VIII. FINDINGS**

This analysis concludes that the preferred alternative would not result in a significant restriction of subsistence uses.

**MINIMUM REQUIREMENTS  
DECISION GUIDE**

**WORKSHEETS**

*“ . . . except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act...”*

– the Wilderness Act, 1964

---

**Step 1:** Determine if any administrative action is necessary.

*Description: Briefly describe the situation that may prompt action.*

The Triple Lakes trail is a popular day hiking route on the eastern edge of the Denali Wilderness. The lakes are within 1 ½ miles of the Parks Highway and also provide a popular overnight camping destination for groups that are seeking a more trail based trip rather than the crosscountry travel that is typical in the remainder of the wilderness area. The trail was constructed in the 1930's and is one of the few constructed trails within the wilderness area. Significant sections of the trail cross wet forested areas and meadows, particularly at the very southern end of the trail, near the lakes, and then again at the very northern end of the trail near Riley Creek. There is extensive parallel trail formation created in these areas by hikers who are trying to avoid the muddy conditions that have developed in the primary trail alignment. An additional issue is the lack of an authorized crossing for Riley Creek. The Alaska Railroad has requested that the NPS no longer direct visitors toward the Riley Creek railroad bridge as a means to cross to the northern end of the Triple Lakes trail.

To help determine if administrative action is necessary, answer the questions listed on the following pages.

**A.** Is the Situation an Emergency that Demands Immediate Action?

**Explain:**

**B. Describe any Provisions for Valid Existing Rights in Wilderness Legislation**

Are there valid existing rights in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws) that allows consideration of action involving Section 4(c) uses? Cite law and section.

**Explain:**

**C. Describe Requirements or Special Provisions of Other Legislation**

How are other applicable laws for the unit relevant to the need for resolution of the situation?

**Explain:**

**D. Describe Other Guidance**

**How does taking action conform to and implement relevant standards and guidelines and direction contained in agency policy, unit and wilderness management plans, species recovery plans, tribal government agreements, state and local government and interagency agreements that have received appropriate level of NEPA review.?**

**Explain:**

The Triple Lakes trail was an established and maintained trail at the time the Denali Wilderness was designated. It is identified in the recent Denali Backcountry/Wilderness Management plan and Front Country Development Concept Plan as a trail that will be retained over time in the Denali Wilderness.

**E. Describe Options Outside of Wilderness**

Can the necessary information be obtained or the situation resolved by an administrative activity outside of wilderness?

**Explain:**

**F. Describe How Resolving the Situation is Related to the Purpose of the Act**

Is action to resolve the situation necessary to accomplish the purpose of the Act which is: "...to secure for the American people of present and future generations the benefits of an enduring resource of wilderness."?

**As applicable, explain how resolving the situation will conflict or be consistent with the direction in the Act to administer the area in a way that provides for:**

**1) The use and enjoyment of the public in such a manner as will leave it unimpaired for future use and enjoyment as wilderness (see #2 for factors that define wilderness)**

**2) The protection of the wilderness area and its wilderness character, considering such factors that define the wilderness and contrast it from other public lands such as**

- "untrammeled",
- "undeveloped",
- "...outstanding opportunities for solitude or a primitive and unconfined type of recreation...",
- "natural conditions",
- "...ecological, geological, or other features of scientific, educational, scenic, or historical value...." that are specific to the area

**3) The gathering and dissemination of information regarding the area's use and enjoyment as wilderness(see #2 for factors that define wilderness)**

Elimination of parallel trail development with appropriate trail maintenance techniques that are sensitive to wilderness character could improve natural conditions and the visibility of human use by confining travel to the minimum amount of impacted area that is necessary to facilitate access. Reducing the impact to the minimum level possible would serve to protect or provide for elements of wilderness character such as "untrammeled", "undeveloped", "...outstanding opportunities for solitude or a primitive and unconfined type of recreation...".

**Step 1 Decision: Is any administrative action necessary?**

**An affirmative answer to one or more of the previous questions is required to proceed to Step 2 to determine the minimum activity.**

Yes:  No:   
Yes, provided Step 2 shows no compromise of wilderness character   
More information needed:

**Provide a summary explanation:**

The Triple Lakes trail has been authorized in wilderness by approved planning documents. Maintenance and the development of an alternative for crossing Riley Creek is consistent with

the management direction for this trail that was presented in those planning documents. Maintenance is currently necessary to reduce the impact associated with human use of this trail to the minimum level that is necessary to provide for that access.

**Step 2:** Determine the minimum activity.

Description of Alternatives

*For each alternative, describe what methods and techniques will be used, when the activity will take place, where the activity will take place, what mitigation measures are necessary, and the general effects to the wilderness resource and character.*

**Actions Common to All Alternatives**

- Re-routing to reduce the amount of trail tread repairs such as graveling or plank boardwalk
  - Major re-reroute on first ½ of southern end of trail
  - Major re-route on first 1 mile of northern end of trail
- Preferred use of small local borrow sources rather than imported gravel. If imported gravel is used, it will be from sources that have been inspected for exotics.
- Bridge types
  - 36”wide steel beam stringer bridge faced with wood over Hines Creek
  - Cable suspension bridge with running plank walking deck over Riley Creek
- Trail Widths
  - 18” or less from Parks Hwy to Riley Creek section
  - Width and packed gravel surface appropriate for wheelchair use from Riley Creek to Hines Creek section
- Spike campers for workers as needed

<b>Alternative # __A No Action__</b>
--------------------------------------

**Description:**

No maintenance action would be taken to correct unnecessary erosion, trail widening and parallel trail formation.

**Effects:**

Continued development of additional damage would occur. This would create additional impacts to soils and vegetation, as well as diminish wilderness character by creating a more visible reminder of human use than is necessary to achieve access through the area.

<b>Alternative # <u>  B  </u> No Motorized Equipment</b>
--

**Description:**

Motorized equipment would be used in wilderness under this alternative. All repair materials would be obtained locally adjacent to worksites or imported to worksites by nonmotorized means.

**Effects:**

Wilderness Character

Positive effects would be realized by the lack of motorized noise from tools and the placement of materials at the site. However, significant sections of the Triple Lakes trail where the majority of the work will occur are adjacent to the main highway in Alaska, the primary railroad corridor, and a major aircraft travel corridor. Traditional tool skills would be preserved, and there would be opportunities to show the public the use of traditional tools in wilderness along this well used trail.

Vegetation and Soils

Overall benefits to soils and vegetation would be moderate. There would continue to be negative effects to vegetation and soils because it is unlikely that all damaged sections of trail could be adequately repaired to prevent further parallel trail development or erosion. Adequate local gravel sources or appropriate local materials for walkways would not be available. Terrain and distance would preclude moving materials to all sites by non motorized means. Significant new resource impacts to soils and vegetation would occur if horses were used to pack materials. Appropriately graded new routes would need to be cleared to use dog teams to transport gravel or walkway materials. The only solution would be to leave some sections unrepaired. This alternative implies a more extensive use of local gravel sources, so there is likely to be a moderate level of disturbance to soils and vegetation. However, the smaller quantities of imported gravel reduce the risk of importing exotics.

Recreational Use of the area as Wilderness

Overall improvements to current conditions would be realized from the repair work that would benefit wilderness recreation. However, as described above, some sections would continue to show the effects of human use in a way that could detract from a wilderness recreational experience.

## Alternative # \_\_C Limited use of Motorized Equipment\_\_

### Description:

Under this alternative motorized equipment would be selective used at those locations where 1) the repair could not be accomplished if only nonmotorized equipment was used, 2) where a short term use of motorized equipment does not represent a significant increase over existing background conditions and can be effectively scheduled to avoid the public, or 3) where a significant savings in personnel time can be realized that would allow more time to be dedicated to the use of traditional tools on other aspects of the total project. Examples include:

- Use of helicopters to place bridge materials, walkway planking, and gravel for trail tread repairs at selected locations where local borrow sources cannot be developed due to impact concerns or lack of appropriate materials. Imported gravel would be placed at frequent enough location so that all other transport of the material could be accomplished with nonmotorized equipment.
- Use of a motorized plate compactor on ADA accessible sections of trail, bridge abutments, and other sections of trail where gravel will be lost if it is not immediately compacted, or a specific surface condition is required.
- Intermittent use of power drills, small generator, and chainsaw for bridge and walkway construction.

### Effects:

#### Wilderness Character

The negative effect on wilderness character from the level of motorized equipment use in this alternative would be negligible to minor do to the location and duration of the likely activity. The primary work sites where helicopters or other motorized equipment would be used are typically within ¼ mile of the park airport, major roads, a railroad, and the primary frontcountry development of the park. Major aspects of the project would still use traditional tools, so there would be ample opportunity to preserve those skills and interpret them to the public.

#### Soils and Vegetation

The strategic use of some motorized equipment would allow for more repairs and a major reduction of trail impacts to soils and vegetation that are the primary situation this project is designed to resolve. Local borrow pit impacts would be minor because the option of importing some materials would reduce the need to develop borrow sources in locations that are problematic for visibility or reclamation. There would be a minor risk of importing exotics.

## Recreational Use of the area as Wilderness

Benefits to recreation would be major because repairs would be completed to a level that will confine trail impacts to a single trailread. Unnecessary signs of human use will be reduced as a result, improving the wilderness recreation experience. Strategic use of some motorized equipment on extremely labor intensive portions of the project would reduce the overall time that trail workers would be actively working in areas where visitors are also recreating.

### **Step 2 Decision: What is the Minimum Activity?**

The selected alternative is:

#### **Alternative C is selected**

Describe the rationale for selecting this alternative:

Alternative C represents the most complete long term solution to the problems that were identified. Even though some motorized tools are used, the overall negative long term impact to wilderness character, resource values, and visitor experience will be less because a more complete solution is possible. Short term impact of motorized equipment use is also substantially mitigated by the specific soundscape context of this trail. Major aspects of the project would still use traditional tools, so there would be ample opportunity to preserve those skills and interpret them to the public. A significant savings in personnel time can be realized that would allow more time to be dedicated to the use of traditional tools on other aspects of the total project.

Describe any monitoring and reporting requirements:

Please check any Wilderness Act Section 4(c) uses approved in this alternative:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> mechanical transport | <input type="checkbox"/> landing of aircraft       |
| <input checked="" type="checkbox"/> motorized equipment  | <input type="checkbox"/> temporary road            |
| <input type="checkbox"/> motor vehicles                  | <input type="checkbox"/> structure or installation |
| <input type="checkbox"/> motorboats                      |  |

Be sure to record and report any authorizations of Wilderness Act Section 4(c) uses according to agency procedures.

<u>Approvals</u>	Signature	Name	Position	Date
Prepared by:	/s/ Joe Van Horn	Joe Van Horn	Wilderness Program Coordinator	6/1/06
Approved:		Paul Anderson	Superintendent	

**MINIMUM REQUIREMENTS  
DECISION GUIDE**

**WORKSHEETS**

*“ . . . except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act...”*

– the Wilderness Act, 1964

---

**Step 1: Determine if any administrative action is necessary.**

*Description: Briefly describe the situation that may prompt action.*

The Savage River area is now a major destination and use area because it is the last location for private vehicle access along the park road during much of the summer season. Social trail impacts increased dramatically in the early 1990’s when park management allowed unrestricted levels of private vehicle use to this location without adequate planning or facilities to control it. Trail improvements have been made since then along the Savage River and uphill to Savage Rock. These have helped confine use to designated trail corridors and eliminate social trails and erosion in the area below Savage Rock. However, social trails are continuing to develop on steep unstable alpine slope above Savage Rock as visitors attempt to reach the next high point that has a view of Denali. The level of use off designated trails in this area is not sustainable and impacts such as erosion and expansion of vegetation damage is occurring. The primary problem areas are within ¼ mile of the park road and a busy parking lot.

To help determine if administrative action is necessary, answer the questions listed on the following pages.

**A. Is the Situation an Emergency that Demands Immediate Action?**

**Explain:**

**B. Describe any Provisions for Valid Existing Rights in Wilderness Legislation**

Are there valid existing rights in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws) that allows consideration of action involving Section 4(c) uses? Cite law and section.

**Explain:**

**C. Describe Requirements or Special Provisions of Other Legislation**

How are other applicable laws for the unit relevant to the need for resolution of the situation?

**Explain:**

**D. Describe Other Guidance**

**How does taking action conform to and implement relevant standards and guidelines and direction contained in agency policy, unit and wilderness management plans, species recovery plans, tribal government agreements, state and local government and interagency agreements that have received appropriate level of NEPA review?**

**Explain:**

The proposed Savage Alpine is identified in the recent Denali Backcountry/Wilderness Management plan and the Frontcountry Development Concept Plan as a trail that will be retained over time in the Denali Wilderness.

**E. Describe Options Outside of Wilderness**

Can the necessary information be obtained or the situation resolved by an administrative activity outside of wilderness?

Explain:

**F. Describe How Resolving the Situation is Related to the Purpose of the Act**

Is action to resolve the situation necessary to accomplish the purpose of the Act which is: "...to secure for the American people of present and future generations the benefits of an enduring resource of wilderness."?

As applicable, explain how resolving the situation will conflict or be consistent with the direction in the Act to administer the area in a way that provides for:

1) The use and enjoyment of the public in such a manner as will leave it unimpaired for future use and enjoyment as wilderness (see #2 for factors that define wilderness)

2) The protection of the wilderness area and its wilderness character, considering such factors that define the wilderness and contrast it from other public lands such as

- "untrammeled",
- "undeveloped",
- "...outstanding opportunities for solitude or a primitive and unconfined type of recreation...",
- "natural conditions",
- "...ecological, geological, or other features of scientific, educational, scenic, or historical value...." that are specific to the area

3) The gathering and dissemination of information regarding the area's use and enjoyment as wilderness(see #2 for factors that define wilderness)

Elimination of parallel trail development with appropriate trail maintenance techniques that are sensitive to wilderness character could improve natural conditions and the visibility of human use by confining travel to the minimum amount of impacted area that is necessary to facilitate access. Reducing the impact to the minimum level possible would serve to protect or provide for elements of wilderness character such as "untrammeled", "undeveloped", "...outstanding opportunities for solitude or a primitive and unconfined type of recreation...".

**Step 1 Decision: Is any administrative action necessary?**

An affirmative answer to one or more of the previous questions is required to proceed to Step 2 to determine the minimum activity.

Yes:  No:

Yes, provided Step 2 shows no compromise of wilderness character

More information needed:

Provide a summary explanation:

The Savage Alpine trail has been authorized in wilderness by approved planning documents. Development of the trail will confine the impact associated with human use of this area to the minimum amount of disturbance that is necessary to provide for that access.

## Step 2: Determine the minimum activity.

Description of Alternatives

*For each alternative, describe what methods and techniques will be used, when the activity will take place, where the activity will take place, what mitigation measures are necessary, and the general effects to the wilderness resource and character.*

Actions Common to All Alternatives

- Re-routing to reduce the amount of trail tread repairs
- Preferred use of small local borrow sources rather than imported gravel. If imported gravel is used, it will be from sources that have been inspected for exotics.
- Trail Widths
  - 18” or less

<b>Alternative # __A No Action__</b>
--------------------------------------

**Description:**

No maintenance action would be taken to correct unnecessary erosion, trail widening and parallel trail formation.

**Effects:**

Continued development of additional damage would occur. This would create additional impacts to soils and vegetation, as well as diminish wilderness character by creating a more visible reminder of human use than is necessary to achieve access through the area.

<b>Alternative # __B No Motorized Equipment__</b>
---

**Description:**

Motorized equipment would be used in wilderness under this alternative. All repair materials would be obtained locally adjacent to worksites or imported to worksites by nonmotorized means.

**Effects:**

Wilderness Character

Positive effects would be realized by lack of motorized noise from tools and the placement of materials at the site. However, the area where the majority of the work will occur is adjacent to the main park road and a busy parking lot. Traditional tool skills would be preserved, and there would be opportunities to show the public the use of traditional tools in wilderness along in this well used trail.

Vegetation and Soils

Overall benefits to soils and vegetation would be moderate. There would continue to be negative effects to vegetation and soils because it is unlikely that all damaged sections of trail could be adequately repaired to prevent further parallel trail development or erosion. Adequate local gravel sources would not be available. Terrain and distance would preclude moving materials to all sites by non motorized means. This alternative implies a more extensive use of local gravel sources, so there is likely to be a moderate level of disturbance to soils and vegetation. However, the smaller quantities of imported gravel reduce the risk of importing exotics.

Recreational Use of the area as Wilderness

Overall improvements to current conditions would be realized from the repair work that would benefit wilderness recreation. However, as described above, some sections would continue to show the effects of human use in a way that could detract from a wilderness recreational experience.

**Alternative #   C   Limited use of Motorized Equipment**

**Description:**

Under this alternative motorized equipment would be selective used at those locations where 1) the repair could not be accomplished if only nonmotorized equipment was used, 2) where a short term use of motorized equipment does not represent a significant increase over existing background conditions and can be effectively scheduled to avoid the public, or 3) where a significant savings in personnel time can be realized that would allow more time to be dedicated to the use of traditional tools on other aspects of the total project. Examples include:

- Use of helicopters to place gravel for trail tread repairs at selected locations where local borrow sources cannot be developed due to impact concerns or lack of appropriate materials. Imported gravel would be placed at frequent enough location so that all other transport of the material could be accomplished with nonmotorized equipment.
- Use of a motorized plate compactor on sections of trail where gravel will be lost if it is not immediately compacted or a specific surface condition is required.

**Effects:**

**Wilderness Character**

The negative effect on wilderness character from the level of motorized equipment use in this alternative would be negligible to minor due to the location and duration of the likely activity. The primary work sites where helicopters or other motorized equipment would be used are typically within ¼ mile of the main park road and a busy parking lot. Major aspects of the project would still use traditional tools, so there would be ample opportunity to preserve those skills and interpret them to the public.

**Soils and Vegetation**

The strategic use of some motorized equipment would allow for more repairs and a major reduction of trail impacts to soils and vegetation that are the primary situation this project is designed to resolve. Local borrow pit impacts would be minor because the option of importing some materials would reduce the need to develop borrow sources in locations that are problematic for visibility or reclamation. There would be a minor risk of importing exotics.

**Recreational Use of the area as Wilderness**

Benefits to recreation would be major because repairs would be completed to a level that will confine trail impacts to a single trail tread. Unnecessary signs of human use will be reduced as a result, improving the wilderness recreation experience. Strategic use of some motorized equipment on extremely labor intensive portions of the project would reduce the overall time that trail workers would be actively working in areas where visitors are also recreating.

**Step 2 Decision: What is the Minimum Activity?**

The selected alternative is:

**Alternative C is selected**

Describe the rationale for selecting this alternative:

Alternative C represents the most complete long term solution to the problems that were identified. Even though some motorized tools are used, the overall negative long term impact to wilderness character, resource values, and visitor experience will be less because a more complete solution is possible. Short term impact of motorized equipment use is also substantially mitigated by the specific soundscape context of this trail. Major aspects of the project would still use traditional tools, so there would be ample opportunity to preserve those skills and interpret them to the public. A significant savings in personnel time can be realized that would allow more time to be dedicated to the use of traditional tools on other aspects of the total project.

Describe any monitoring and reporting requirements:

Please check any Wilderness Act Section 4(c) uses approved in this alternative:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> mechanical transport | <input type="checkbox"/> landing of aircraft       |
| <input checked="" type="checkbox"/> motorized equipment  | <input type="checkbox"/> temporary road            |
| <input type="checkbox"/> motor vehicles                  | <input type="checkbox"/> structure or installation |
| <input type="checkbox"/> motorboats                      |  |

Be sure to record and report any authorizations of Wilderness Act Section 4(c) uses according to agency procedures.

<u>Approvals</u>	Signature	Name	Position	Date
Prepared by:	/s/ Joe Van Horn	Joe Van Horn	Wilderness Program Coordinator	6/1/06
Approved:		Paul Anderson	Superintendent	