National Park Service
U.S. Department of the Interior

Denali National Park and Preserve
Alaska

Finding of No Significant Impact

Gorge Creek Trail

April 2015

Recommended: _____ 4/6/15
Superintendent, Denali National Park and Preserve — Date

Approved: _____ 4/7/2015
Regional Director, Alaska — Date

FINDING OF NO SIGNIFICANT IMPACT

Gorge Creek Trail

Denali National Park and Preserve, Alaska
March 2015

The National Park Service (NPS) prepared an environmental assessment (EA) to evaluate alternatives for trail additions and improvements to the Gorge Creek Trail in Denali National Park and Preserve.

The NPS has selected Alternative 2, to reroute and improve sections of Gorge Creek Trail

Responses to public comments are found in Attachment A. An Errata section has been provided in Attachment B that provides clarifications, modifications or additional information to the EA.

ALTERNATIVES

Two alternatives were evaluated in the EA.

Alternative 1 – No Action – Existing Conditions
The NPS would not reroute or improve the Gorge Creek Trail and visitors would continue to travel on the existing trails and possibly create additional social trails.

Alternative 2 – Reroute sections and improve Gorge Creek Trail (Selected Alternative)
This Alternative will replace the braided network of social trails below Eielson Visitor Center (EVC) with a formal hiking trail to reach the Gorge Creek gravel bar. Redundant trails in the area will be abandoned and revegetated.

Environmentally Preferable Alternative
Alternative 2 is identified as the Environmentally Preferable Alternative because it places the trail on a more sustainable route and prevents further social trail creation. It also protects and improves natural resources such as vegetation, wetlands, wildlife, geologic resources, and wilderness character.

PUBLIC INVOLVEMENT

The public comment period for this project occurred from January 28, 2015 – March 1, 2015. The EA was posted on the NPS's Planning, Environment and Public Comment (PEPC) website. A news release was sent to 40 media outlets which included newspapers, wire services, radio, TV, and online publications. The news release was also sent to local, state, and federal agencies, Alaskan military bases, and political officials. In addition, more than 100 businesses and organizations received the news release.

The NPS received six pieces of correspondence on the EA. Correspondence was received through the PEPC website and email. One government agency/representative responded. Two comments were received from environmental organizations. The remaining three pieces of correspondence were from area business owners. The six comments received were supportive of the project, however, clarification was requested on some aspects of the project and those have been addressed to in Appendix A.

DECISION

The NPS decision is to select Alternative 2 as described above (Reroute sections and improve Gorge Creek Trail) along with the mitigating measures identified in the EA.

Mitigation Measures

Mitigation measures are specific actions that when implemented reduce impacts, protect park resources, and protect visitors. The following mitigation measures apply to the selected Alternative 2.

Vegetation

-Vegetation mats that need to be removed from the trail surface will be saved and relocated to abandoned trail segments.

- Tundra mats from exposed slopes along the Park Road between Grassy Pass and Stony Hill will be collected and used to revegetate areas of similar habitat.

-Periodic surveys will be conducted to determine the presence of exotic plants. If exotic plants are found, the Vegetation Specialist will be consulted to determine the best course of action.

-A Trails Supervisor will work with a Vegetation Specialist to determine best course of action for revegetation efforts.

Wildlife and Habitat

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

-To avoid destroying and/or disturbing occupied bird nests and cavity trees within the project area in accordance with the Migratory Bird Treaty Act (MBTA), the project leader will work with the park's wildlife biologist to determine if nest surveys are needed; when vegetation clearing can be done; and to develop any additional measures to protect birds.

-The construction area will be kept free of debris and will be checked at the end of each day for small objects that could be ingested by wildlife.

-To avoid bear-hiker conflicts, the trail route will not go through large soapberry patches.

Cultural Resources

-The Park archaeologist will determine if periodic monitoring of ground disturbance for the trail will be needed.

-The National Historic Preservation Act (NHPA) requires that if newly discovered cultural resources are identified during project implementation, work in that area must stop and the Superintendent be notified immediately (36 CFR 800.13).

-The Native American Graves Protection and Repatriation Act (NAGPRA) requires that if previously undocumented cultural resources or items protected by NAGPRA are encountered during project implementation all work in that area must stop and the Superintendent and park archaeologist will be

notified immediately. Procedures laid out in the 2008 National Park Service Programmatic Agreement Section VI will be implemented.

Visitor Experience and Opportunity
-Visitors will be advised in park announcements, programs, and publications that there will be temporary inconveniences from construction work on the trail.
-If helicopters are used to transport materials, efforts will be made to complete flights prior to opening of the EVC to visitors. This can be done either prior to EVC's opening day or early in the day prior to visitor arrivals.

Wilderness Character
-Use of compactors, power wheel barrows, and other mechanized equipment will be completed in the mornings prior to visitors arriving and will not be used in designated wilderness.

Rationale for the Decision
The selected action (Alternative 2, reroute and improve sections of Gorge Creek Trail) will satisfy the purpose and need of the project better than the other alternative because it protects resources while providing a safer and sustainable trail for visitors to enjoy. This trail work is needed because substantial pedestrian use has caused resource damage on unsustainable route locations.

This alternative places the trail on a more sustainable route and prevents further social trail creation/development. It protects and improves natural resources such as vegetation, wetlands, wildlife, geologic resources, and wilderness character. The short term use of a helicopter for delivery of gravel does not contribute significantly to the overall use of helicopters in the park for purposes of management, research, and maintenance; and greatly reduces the presence of trail crew in the area.

The No Action Alternative was not selected since continued resource damage will occur. Visitors will continue to travel the unsafe and steep route or find alternate routes creating new social trails.

Significance Criteria
The selected alternative (Alternative 2) will not have a significant effect on the human environment. This conclusion is based on the following examination of the significance criteria as defined in 40 CFR Section 1508.27.

The project consists of building a new trail segment and repairs to existing trails in an area that is heavily used by visitors to the park. The amount of area that will be rehabilitated and revegetated is much greater than the new area of disturbance.

(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

Alternative 2 will have negligible to minor beneficial impacts to floodplains; vegetation, soils, and wetlands; and wilderness character. Evaluations also included minor benefits to visitor experience and opportunity.

(2) The degree to which the proposed action affects public health or safety.

Minor beneficial impacts to public health and safety will occur since visitors will be able to use a well-constructed trail instead of steep social trails.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetland, wild and scenic rivers, or ecologically critical areas.

The environmental effects of Alternative 2 will not have a significant effect on historic or cultural resources. Known cultural resource sites are in the area but the trail was surveyed in 2015 and no resources were discovered. The State Historic Preservation Office determined that no adverse effect will occur and standard mitigations measures will be followed if an unknown resource is discovered.

The environmental effects of Alternative 2 will not have a significant effect on wetlands but will be beneficial to wetlands due to the small area affected by trail construction and the large number of social trails to be rehabilitated to a natural condition.

The environmental effects of Alternative 2 will not have a significant effect on rivers, or other critical areas since a only a small amount of gravel from the Gorge Creek's floodplain will be extracted. The area can heal naturally within a few years.

(4) The degree to which effects on the quality of the human environment are likely to be highly controversial.

The effects on the quality of the human environment are not controversial. The EA was distributed to more than 200 agencies, organizations, and individuals for review. The NPS received six comments that were supportive of the project to extend the trail. The environmental analysis concluded that Alternative 2 will have no more than minor impacts.

The area is heavily used by visitors. Making the trail safer and more sustainable is the responsible thing to do in this situation.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The environmental effects of the selected alternative (Alternative 2) will not involve unique or unknown risks.

(6) The degree to which the action may establish a precedent of future actions with significant effects or represents a decision in principle about a future consideration.

Alternative 2 will not establish a precedent since many visitors already use this area for day hiking and accessing the backcountry. The concept of a trail from the visitor center to the river was approved in the 2006 Backcountry Management Plan (BCMP). It was determined to be necessary due to the high visitor use in the area. This does not mean other social trails in the park will become improved trails. Social trails will continue to be managed as outlined in the 2006 BCMP.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

The actions in Alternative 2 will not significantly contribute to cumulative impacts of any of the impact topics evaluated. These impact topics included visitor experience and opportunity; wilderness character; floodplains; and vegetation, wetlands, and soils.

(8) Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

The selected alternative will have no adverse effect on historic properties. Concurrence from the State Historic Preservation Officer was received on January 30, 2015.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

The selected alternative will not adversely affect an endangered or threatened species or critical habitat.

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The selected alternative (Alternative 2) will not violate any Federal, State, or local law.

FINDINGS

The selected alternative complies with the NPS Organic Act, the Alaska National Interest Lands Conservation Act, and the park's General Management Plan. There will be no restriction of subsistence activities since subsistence use is not allowed in the project area under Title VII of ANILCA.

The National Park Service has determined that the selected alternative does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, in accordance with the National Environmental Policy Act of 1969 and regulations of the Council on Environmental Quality (40 CFR 1508.9), an environmental impact statement is not needed and will not be prepared for this project.

ATTACHMENT A

NPS RESPONSES TO PUBLIC COMMENTS
for the Environmental Assessment
for the Gorge Creek Trail
in Denali National Park & Preserve

The NPS has read and considered all comments received on the environmental assessment for the Gorge Creek Trail. A substantive comment is defined as one which leads the NPS to: (1) modify an alternative, including the proposed action; (2) develop and evaluate an alternative not previously given serious consideration; (3) supplement, improve, or modify the environmental analysis; (4) make factual corrections. The NPS received six comments on the plan and all were generally supportive of the preferred alternative. Substantive comments are addressed individually here. Additional substantive comments regarding trails were received that were out of scope with this project. They will be considered in the development of the park's master trails planning effort.

General

Comment: Please provide a big picture look at what is planned for Denali's trails in the future and how we can be involved in the process.

Response: Denali is currently working on a Master Trails Plan to address trail ideas and needs for the near future. A draft of this document is anticipated for public review within the next year.

Habitat

Comment: Please define "full bench cut" and "half bench cut".

Response: Full bench construction is the most important construction technique to ensure sustainability. Half bench trails are typically unsustainable because the filled portion of the trail tends to erode adding to maintenance needs and usually requiring eventual upgrade to a full bench cut trail. (From Sustainability of National Park Service Backcountry Trails, Minimizing Resource Impacts, May 2012)

Trail professionals almost always prefer full-bench construction. A full bench is constructed by cutting the full width of the tread into the hillside. It requires more excavation and leaves a larger backslope than partial-bench construction, but the trail bed will be more durable and require less maintenance.

Comment: Please define "formal" and "informal" trail.

Response: Formal trails are those that are designated and regularly maintained. Informal trails, also known as social trails, are unmaintained trails used by visitors. Many social trails originated as and are still in use as game trails. They tend to follow the path of least resistance to

a destination.

At Denali, formal hiking trails are designed, constructed and maintained to maximize sustainability. Full bench construction, curvilinear alignment within maximum sustainable grades, integrated water control, and durable tread surfaces are all generally recognized as essential elements of sustainable trail design.

Sustainable trail design minimizes the need for imported materials and trail structures, reduces long term maintenance costs and prevents trail widening and tread erosion while preserving natural water flow patterns.

Comment: Provide more information on using Gorge Creek as a gravel source.

Response: The Gorge Creek site was selected because of its alluvial nature, proximity to the project and reduced impacts compared to upland sources. Borrow pit extraction methods will insure that upstream and downstream channel stability will not be affected; water quality and aquatic and terrestrial habitats will not be adversely impacted; extraction pits will be designed to resemble natural geographic and hydrologic features, and function in a manner that does not encourage morphologic or vegetative changes; the extraction site will refill with mineral materials similar in characteristics to the removed borrow; and replenishment will occur in a reasonable timeframe. On site managers will make determinations on gravel acquisition based on minimum impact to the resource, appropriate material to need, efficiency and worker safety.

Comment: Provide more information on total gravel needs and transportation of gravel.

Response: We estimate 40 cubic yards of river bed gravel will be needed to fill in the most heavily impacted social trails and will be transported from the Toklat area. Additionally, a former extraction site at Mile 57 on the park road (2003 Gravel Acquisition Plan) has received reject materials (organics and mixed dirt/gravel) from local road improvement projects. 40 cubic yards of this material will be removed and used for reclamation on social trails. This source will be the best match for seeding and transplants. The site will continue to receive reject materials from future road projects, and eventually the site will be restored and abandoned. Organic soils, rocks, and vegetation will be harvested from roadside sources between miles 62 and 70 as they become available.

Comment: Provide more information on the use of helicopters.

Response: We estimate that 50 flights or 150 trips with a power wheelbarrow will be needed to move the gravel and organic material necessary to fill in the existing social trail scars. Because helicopters can move the material over the course of a few hours rather than several days with power wheelbarrows, NPS hopes to accomplish most of the material hauling using helicopters when the Eielson Visitor Center is closed. Using a helicopter to haul gravel is considered to reduce impacts to visitors and improve safety for the trail crew. Hauling gravel by helicopter can be done in a relatively short period of time compared to weeks of hauling gravel by wheelbarrow and disrupting traffic on the trail.

Comment: Can NPS be more specific on which of the other social trails identified in Figure 5 are likely to be closed and rehabilitated?

Response: The "ridge trail" east of Gorge Creek that was rehabilitated in 2001 is not on the map. That trail was replaced with the Tundra Spur Trail, and rehabilitation of that trail has been a success.

Comment: Table 2 discusses an "Abandoned Existing Upper Trail" and "Abandoned social trails." Could these be identified on the map?

Response: The "Abandoned existing upper trail" in Figure 5 is the segment prioritized for revegetation that will be replaced by the "Upper Section" in Red.

Comment: The "Alternatives Considered and Eliminated from Further Evaluation" section mentions an existing social trail between Gorge Creek Trail and Tundra Spur trail. When will NPS reexamine whether a connector trail is needed? What is the fate of the second route departing from the Tundra Spur Trail?

Response: All of the "social trails" in Figure 5 will be abandoned as described in Table 2. Both trails will be abandoned as described in Table 2. NPS will reexamine formalizing the connector trail from the Tundra Spur once the Gorge Creek Trail has been established and resource impacts from continued visitor use can be evaluated.

Wilderness Character/Visitor Experience

Comment: What will the indicators and standards of trail use for the newly created, formalized trail be? How will it be managed?

Response: No changes to the management of the area are proposed in the EA. Creation of this trail was suggested in the 2006 Backcountry Management Plan to be built 'if needed'. This area is heavily visited by day hikers which are not used to calculate backcountry encounter rates. Calculation of encounter rates for backcountry users will not change.

Comment: Sounds from mechanized equipment (including helicopters) impact the wilderness regardless of whether visitors are present or not and are not fully mitigated by conducting these activities when visitors are not in the area.

Response: A Minimum Requirement Analysis for this project was completed and it was determined that, although the short term use of a helicopter and equipment does produce man-made noise, it will greatly reduce the amount of time the trail crew will be present in the area. It is a tradeoff between creating some disturbance and creating a more sustainable route that prevents further resource damage. The chosen alternative also improves natural resources such as vegetation, wetlands, wildlife, geologic resources, in addition to overall wilderness character.

Comment: Provide clarification on the use of mechanized wheelbarrows in the trail building process.

Response: Two kinds of wheelbarrows may be used – the traditional human-powered wheelbarrow, and a power wheelbarrow. Neither will be used in designated wilderness.

Comment: Provide clarification on noise produced by helicopters and power wheelbarrows on wilderness and wildlife.

Response: Helicopters will produce noise during their short-term use. However, the use of the helicopter allows the project to be completed in one year instead of multiple years. The overall impact on wildlife in the area and wilderness character may be negligible when comparing these choices. The use of power wheelbarrows will only occur in the upper most section of the trail outside of designated wilderness. This is an area where bus and human noise is prevalent.

Cumulative Impacts

Comment: The EA does not provide a cost analysis of the project or how monitoring and maintenance will add to the maintenance budget of NPS.

Response: An EA requires evaluation of the environmental impacts of the proposed action and alternatives and, as such, does not require evaluation of park operations or costs. The trail has been designed to be sustainable and to minimize long-term maintenance costs.

Comment: An existing informal trail exists south of Gorge Creek, likely formed by hikers traveling to areas upstream on the Thorofare River in Unit 12. The EA should list increased use and potential damage along this social trail and other social trails as a cumulative impact.

Response: Backcountry user rates for these areas will remain the same. Additional day users may travel on this route; however, the new trail will end at the river bar which is a durable walking surface. It is unknown whether the increased number of day users will access that particular trail when there are many options to disperse once visitors reach the river bar. The park can monitor the existing social trail and take appropriate actions according to the current Decision Guide for Addressing Social Trail Formation from the 2006 Backcountry Management Plan.

ATTACHMENT B

ERRATA

An errata section provides clarifications, modifications or additional information to the EA. The modifications here do not significantly change the analysis of the EA and, therefore a new or revised EA is not needed and will not be produced.

- Clarification. Page 13 – description of Alternative 2. Wheelbarrows and power wheelbarrows will only be used along the uppermost section of the trail that is outside of designated wilderness.

ATTACHMENT C

Determination of Non-Impairment
Additions and Improvements to Gorge Creek Trail

The NPS Organic Act of 1916 and reaffirmed by the General Authorities Act of 1970 prohibits impairment of park resources and values. The 2006 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 an unimpaired condition that will allow people to have present and future opportunities for enjoyment of them.

A determination of non-impairment is made for each of the resource impact topics carried forward and analyzed in the Gorge Creek Trail environmental assessment for the selected alternative (Alternative 2). The description of park significance in Chapter 1 was used as a basis for determining if a resource 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.

Impairment determinations are not provided for visitor experience/opportunity, socioeconomic resources, or park operations because impairment determinations relate back to park resources and values. These impact topics are not considered to be park resources or values subject to the non-impairment standard.

Floodplains
Gorge Creek is a tributary of the much larger Thorofare River with a willow dominated riparian edge. It has a flow of approximately 10-12 cubic feet per second (cfs) and is braided and often changing course within the 100' to 120' wide floodplain.

Alternative 2 will result in negligible adverse effects to floodplains due to the small amount of gravel to be extracted and the ability of the floodplain to recover.

Vegetation, Wetlands, and Soils
At 3,733 feet, the Eielson area exemplifies dry tundra, with low forbs and shrubs predominating. Mountain avens, alpine heather, blackish oxytrope, blueberries, numerous saxifrages and composites and a wide variety of other forbs and shrubs cover the slopes. Tall shrubs, such as feltleaf and other tall willows, are common in the creek beds and in a narrow band adjacent to the fill slope of the park road where warmer soils and runoff from the road increases the water

and nutrients available to plants at the toe of the slope.

Mountain or tundra soils form directly from bedrock and the slow accumulation of organic matter. The sparseness of these soils is attributable to cold weather extremes and steepness of slopes. The soils in the project area are generally thin and dry.

Springs above the road east and west of Eielson combine with the dry environments to produce a mosaic of microhabitats. This range of wet and dry soils has provided a large variety of plant species within a short distance from the visitor center, including the parking island.

Wetlands in meadows (mixed herb vegetation on seasonally saturated soil) occur in the project area.

Alternative 2 will be beneficial to vegetation, wetlands, and soils due to the small area affected by trail construction and the large number of social trails to be rehabilitated to a natural condition.

Wilderness Character

About 95% of the former Mt. McKinley National Park was designated in 1980 as wilderness by Section 701 of the Alaska National Interest Lands Conservation Act. Wilderness is an area "without permanent improvements" and with outstanding opportunities for solitude. An 80-acre area straddling the park road at Eielson was excluded from wilderness designation to provide room for the visitor center grounds and to provide a threshold experience for those visitors willing to leave the buildings and buses and who desire an introduction to classic alpine tundra.

Alternative 2 will not significantly affect wilderness character and may improve it by reducing the overall number of trails in the area.

SUMMARY

The level of impacts to floodplains, vegetation, wetlands and soils; and wilderness character from implementing Alternative 2 will not result in an impairment of park resources that fulfill specific purposes identified in the establishing legislation or that are key to the integrity of the park.