

Final Environmental Assessment Troublesome Creek Trail Repair Project

Denali State Park, Alaska

FEMA-1663-DR-AK (Public Assistance)

June 2009



U.S. Department of Homeland Security
FEMA Region X
130 228th Street SW
Bothell, WA 98021



FEMA

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Prepared for:

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Contents

1.0 Purpose and Need for Action.....	1-1
1.1 Introduction.....	1-1
1.2 Authority and Jurisdiction.....	1-1
1.3 Proposed Federal Action.....	1-1
1.4 Purpose and Need	1-2
1.5 Location and Background.....	1-2
1.6 Scoping and Issue Summary.....	1-5
1.6.1 Scoping	1-5
1.6.2 Summary of Issues.....	1-5
1.7 Related Activities.....	1-6
2.0 Alternatives, Including the Proposed Action.....	2-1
2.1 Alternatives Development	2-1
2.2 Alternatives Considered but not Carried Forward.....	2-1
2.3 Alternative A - No Action.....	2-2
2.4 Alternative B - Proposed Action.....	2-2
2.5 Elements Common to Both Alternatives	2-5
2.6 Summary of Effects	2-6
3.0 Affected Environment and Environmental Consequences	3-1
3.1 Geology and Soils.....	3-1
3.1.1 Affected Environment.....	3-1
3.1.2 Environmental Consequences.....	3-1
3.2 Hydrology, Water Quality, and Floodplains.....	3-4
3.2.1 Affected Environment.....	3-4
3.2.2 Environmental Consequences.....	3-4
3.3 Vegetation and Wetlands	3-8
3.3.1 Affected Environment.....	3-8
3.3.2 Environmental Consequences.....	3-9
3.4 Fish and Wildlife.....	3-12
3.4.1 Affected Environment.....	3-12
3.4.2 Environmental Consequences.....	3-13
3.5 Recreation	3-17
3.5.1 Affected Environment.....	3-17
3.5.2 Environmental Consequences.....	3-17
3.6 Environmental Justice.....	3-19
3.6.1 Affected Environment.....	3-19
3.6.2 Environmental Consequences.....	3-19
3.7 Cultural Resources	3-23
3.7.1 Affected Environment.....	3-23
3.7.2 Threshold of Significance.....	3-23
3.7.3 Environmental Consequences.....	3-23
3.8 Cumulative Effects.....	3-25
4.0 Consultation & Coordination.....	4-1
4.1 Public Involvement	4-1
4.1.1 Comments on the Draft EA.....	4-1

4.2 Agency and Tribal Consultation and Coordination 4-1
 4.2.1 Endangered Species Act 4-1
 4.2.2 National Historic Preservation Act 4-1
 4.2.3 Compliance with Executive Orders 11990 and 11988 4-2
 4.2.4 Tribal Coordination..... 4-2
 5.0 Preparers 5-1
 6.0 Distribution 6-1
 7.0 References..... 7-1

Appendices

Appendix A Correspondence and Consultation

Tables

Table 1.6-1. Summary of Public Scoping Response Issues..... 1-5
 Table 2.6-1. Summary of Effects of the No Action and Proposed Action Alternatives..... 2-6
 Table 3.4-1. Species of Concern and Federally Protected Species Potentially Occurring in the Project Area..... 3-13
 Table 3.6-1. Race/Ethnicity in Matanuska-Susitna Borough and Alaska State, 2000..... 3-19
 Table 3.6-2. Income and Poverty in Matanuska Susitna Borough and Alaska State, 2005..... 3-20

Figures

Figure 1.1-1. Project Vicinity. 1-3
 Figure 2.4-1. Location of the existing and proposed alignment of the Troublesome Creek Trail..... 2-3

Acronyms and Abbreviations

AAC	Alaska Administrative Code
ACMP	Alaska Coastal Management Program
ACWA	Alaska Clean Water Actions
ADFG	Alaska Department of Fish and Game
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
ATV	all-terrain vehicle
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DEC	Alaska Department of Environmental Conservation
DNR	Alaska Department of Natural Resources
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
MBTA	Migratory Bird Treaty Act
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NWI	National Wetlands Inventory
PA	Public Assistance
PEM	palustrine emergent
PSS	palustrine scrub-shrub
RPW	Relatively Permanent Water
SC	Species of Special Concern
SHPO	Alaska State Historic Preservation Office
TMDL	Total Maximum Daily Load
TNW	Traditional Navigable Water
U.S.C.	United States Code
USFWS	United States Fish and Wildlife Service

1.0 Purpose and Need for Action

1.1 INTRODUCTION

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) is proposing to support the Alaska Department of Natural Resources (DNR), Division of Parks and Outdoor Recreation, by providing partial funding to repair damaged segments along the existing Troublesome Creek Trail, in Denali State Park (see Figure 1.1-1). Heavy rains in the region in August 2006 caused Troublesome Creek to rise more than 7 feet and overflow its banks onto the Troublesome Creek Trail. The President declared a disaster in the region on October 16, 2006, because of severe storms, flooding, landslides, and mudslides. In some portions of the damaged trail, repair work is needed along the existing alignment. In other portions of the damaged trail, DNR is proposing to realign the trail, moving it out of the active floodplain to minimize the risk of similar damage during future storms. DNR has developed a general layout and route for repair plans for the trail, which is used as the basis for analysis presented in this document.

The Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1973 (Stafford Act), as amended, provides federal assistance programs for both public and private losses sustained in disasters. FEMA provides assistance to private citizens, public entities, and non-profit groups following declared disasters. Under the Federal Disaster Public Assistance (PA) program, FEMA provides federal funding for repairs to restore property and facilities to their pre-disaster condition or function. The purpose of FEMA's Public Assistance program is to assist communities in recovering from damages caused by natural disasters.

1.2 AUTHORITY AND JURISDICTION

The National Environmental Policy Act (NEPA) of 1969 requires FEMA to evaluate the effects of the potential alternatives of a proposed action on the human and natural environments. Two alternatives for the Troublesome Creek Trail repair project are compared in this Environmental Assessment (EA): a No Action Alternative and the Proposed Action.

The NEPA EA process allows FEMA to determine whether to issue a Finding of No Significant Impact (FONSI) or a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS), which is required under NEPA for federal actions that may have a significant effect.

1.3 PROPOSED FEDERAL ACTION

The proposed federal action by FEMA is to provide partial project funding to the DNR to repair portions of Troublesome Creek Trail that were damaged during floods in 2006 (FEMA disaster project 1663-DR-AK).

1.4 PURPOSE AND NEED

The purpose of the FEMA PA program is to assist local communities that request funding to recover from damages caused by presidentially declared disasters. The purpose of the project is for FEMA to provide access to areas of Denali State Park that are limited due to damage to the Troublesome Creek Trail from storms and subsequent floods in 2006. The need for the project is to assist DNR in continuing to provide adequate recreation opportunities and public access in Denali State Park, in particular by providing safe access to the Troublesome Creek drainage and Kesugi Ridge. Because of the storm damage and safety considerations, the trail is currently closed to recreation use. However, some recreation users in the park continue to access the project area despite its official closure, often creating “social trails” outside the alignment of the main trail route to access particular areas. Repairs are required prior to reopening this popular state park trail.

1.5 LOCATION AND BACKGROUND

Troublesome Creek Trail is located in Denali State Park, in the Matanuska-Susitna Borough. Denali State Park encompasses 324,240 acres, adjacent to Denali National Park to the north. Land ownership in the state park includes state and some private inholdings. For most of its length, the trail follows Troublesome Creek.

Troublesome Creek Trail is a primitive, minimally maintained 15.2-mile hiking trail in the southern portion of the state park. The lower portion of the trail (i.e., Lower Troublesome Creek Trail) is 0.5 miles long, located west of the George Parks Highway (Alaska Highway 3), begins at the west side of a walk-in tent campground (with 20 campsites), and terminates where Troublesome Creek joins the Chulitna River, approximately 21 miles upstream of its confluence with the Susitna River.

The upper portion of the trail (i.e., Upper Troublesome Creek Trail), east of Highway 3, follows the west bank of Troublesome Creek and traverses a diversity of habitat types. The trailhead for the upper trail is located at milepost 137.6 of the highway. Some segments of the existing trail are directly adjacent to the creek, within the active floodplain and traverse riparian habitats dominated by willow, alder, and cottonwood. Other segments of the trail are perched on the bluffs directly above the creek, approximately 30 to 40 feet above the active river channel and outside the active floodplain. In some segments, the existing trail departs from the floodplain and crosses through a variety of upland habitats, including forested areas, shrub-dominated areas, and wetlands or wet meadows. The upper portion of the trail emerges on Kesugi Ridge at elevation 2,500 feet, in tundra habitat, and continues to connect with the upper portion of the Cascade Trail and Kesugi Ridge Trails. In the vicinity of the trail, state park lands and streams support numerous fish and wildlife species, including grizzly bear, wolf, spruce grouse, and anadromous fish (in Troublesome Creek).

The trail is used for day hiking, fishing access, wildlife viewing, hunting, and camping. In addition to the main trail, users have created numerous social or informal dispersed trails to access popular sites off the main trail. Although the trail runs parallel to Troublesome Creek on the west bank for much of its length and does not cross the main channel, numerous unnamed tributary streams cross the trail alignment.

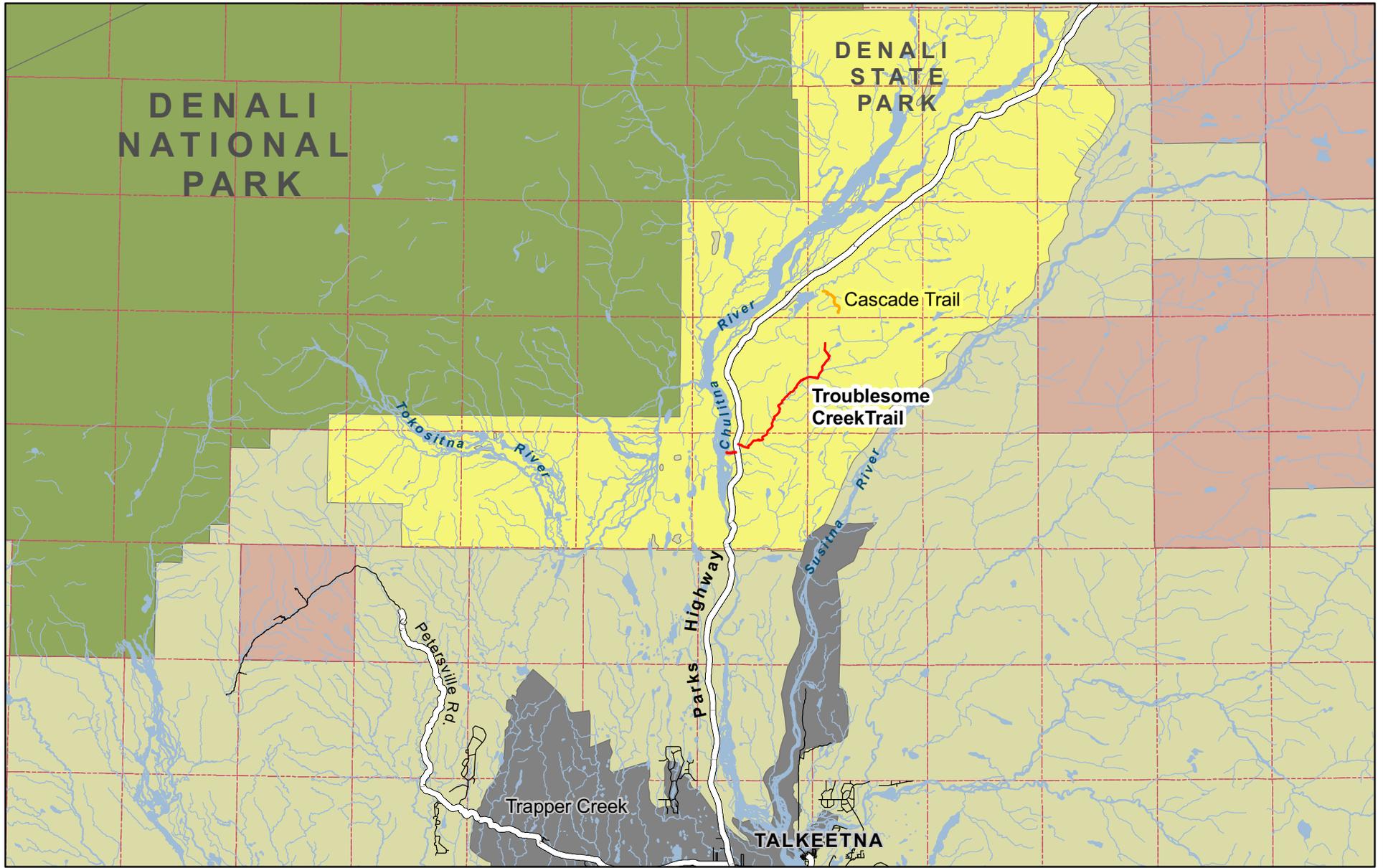
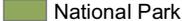
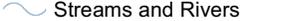
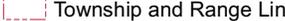
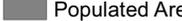


Figure 1.1-1. Project Vicinity

- | | | |
|---|--------------------------|---|
|  | Troublesome Creek Trail | Land Ownership |
|  | Cascade Trail |  Bureau of Land Management (BLM) |
|  | Roads |  National Park Service (NPS) |
|  | Streams and Rivers |  Denali State Park |
|  | Township and Range Lines |  Populated Areas |
| | |  Other |



Simple wooden bridges or crossings are used to span the larger stream crossings; the smaller stream crossings lack such structures. The trail is designated for foot-traffic; all-terrain vehicles (ATVs) and bicycles are not permitted on the trail. In addition, the small tread width (2 feet in most places) does not support equestrian use.

Severe rainstorms during the period of August 15 – 25, 2006, caused flooding in Troublesome Creek (and throughout the region). The flood damaged approximately 22,000 linear feet of the Troublesome Creek Trail, washed away bluffs, deposited woody debris, and eroded the trail and destroyed four wooden stream crossings and three wooden bridges (a total of seven crossing structures). Woody debris has racked up on the remaining stream crossing structures. Much of the damage is concentrated in the upper portion of the trail (east of the highway), with damage along an 8.5-mile segment of the existing trail. In some areas, entire bluffs formerly supporting the trail have washed away into the river channel below.

1.6 SCOPING AND ISSUE SUMMARY

1.6.1 SCOPING

FEMA initiated the scoping process by sending out a scoping letter on November 14, 2008, to agencies and interested parties. The scoping letter explained the NEPA process and the proposal for repairing and realigning the existing trail. The public, agencies, and Tribes were afforded 30 days to provide comments. The scoping letter and all comments received can be found in Appendix A.

The purpose of the scoping process was to inform agencies and stakeholders about the proposed project and allow the public, agencies, and Tribes to provide comments regarding the scope of the project, the proposed alternatives, and any issues of concern that should be considered in the NEPA EA. The public involvement process is fully described in Chapter 4 (*Consultation and Coordination*).

1.6.2 SUMMARY OF ISSUES

FEMA has identified a number of issues that need to be addressed in this EA. There were three responses to the scoping letter regarding the project (Table 1.5-1), all from regulatory agencies. Copies of the response letters are provided in Appendix A.

Table 1.6-1. Summary of Public Scoping Response Issues.

Agency	Issue or Comment Summary	Response in this EA
Department of the Army, U.S. Army Engineer District	Notification of the presence of waters of the U.S. in the project vicinity	See Sections 3.2 and 3.3.
State of AK Department of Military and Veteran Affairs	Notification that no issues or comments on the proposed project.	Comment noted.
Alaska State Historic Preservation Office	Determination of No Historic Properties Affected	Comment noted. See Section 4.2.2.

Based on a preliminary screening of resources in the project area, this EA includes an analysis of the following resources:

- Geology and soils
- Hydrology, water quality, and floodplains
- Vegetation and wetlands
- Fish and wildlife
- Recreation
- Environmental justice
- Cultural resources
- Cumulative effects

The following resources were evaluated during the screening process, and it was determined that these resources would not be affected by the project: land use, transportation and access, visual quality, air quality and noise, endangered species, and topography. Thus, these resource areas are not covered further in this document.

1.7 RELATED ACTIVITIES

The August 2006 storms caused extensive flooding and damage in the region. Other damage in Denali State Park included similar damage to the nearby Cascade Trail (also shown on Figure 1.1-1 for context and comparison), as well as a major washout along Highway 3. These projects are being addressed under separate processes and are unrelated to the Troublesome Creek Trail repair effort. Storm-related damage also occurred in areas outside of the state park within both the Matanuska-Susitna and Denali boroughs.

2.0 Alternatives, Including the Proposed Action

The following section describes the alternatives that are being considered for the repair and realignment of the Troublesome Creek Trail, and the process that was used to develop these alternatives. Two alternatives are analyzed: the No Action Alternative and the Proposed Action. The following narrative describes the alternatives development process, the No Action and Proposed Action alternatives, and elements common to both alternatives.

2.1 ALTERNATIVES DEVELOPMENT

NEPA requires federal agencies to consider a reasonable range of alternatives that meet the purpose and need of a proposed action. The NEPA alternatives development process allows FEMA to work with interested agencies, Tribes, the public, and other stakeholders to develop alternatives that respond to identified issues. The Proposed Action was developed in coordination with DNR.

2.2 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

A number of alternatives were reviewed but eliminated from further consideration in this EA because they did not meet the project purpose and need, they were not practical, or they were not applicable to FEMA funding under its Public Assistance program. These alternatives are listed and described below.

- **Trail Abandonment** – Given the trail’s location near and across several active stream channels and along relatively steep slopes, it is likely that future storm events could continue to wash out segments of the trail and contribute to erosion-related problems in the basin. One alternative would be to permanently close and abandon the trail to avoid such future problems. This potential alternative was eliminated from further consideration, however, as it would not meet the purpose and need of the project – namely, to assist DNR in continuing to provide adequate recreation opportunities and public access in Denali State Park. Troublesome Creek Trail is not an isolated trail segment; rather, it is a popular route that connects to the network of additional state park trails along Kesugi Ridge (including backcountry trails). Abandoning the trail would represent a loss of a valuable and popular trail segment and important access in the state park.
- **Repair Troublesome Creek Trail along its Existing Alignment** – Another potential alternative would be to repair Troublesome Creek Trail along its existing alignment, essentially restoring it to pre-disaster conditions. This alternative was eliminated from further consideration, as the trail location is likely to experience storm-related damage in the future, including washouts and continued erosion on steep slopes. Repairing the damaged segments in the active floodplain and in steep slope problem areas would not alleviate the erosion issues nor meet the purpose of the project or the Public Assistance program.
- **Moving the Entire Trail Alignment** – A final potential alternative initially examined was the rerouting of the entire existing alignment of Troublesome Creek Trail, moving it to a different location within the state park. This potential alternative was eliminated from further

consideration, as it was determined that the effects associated with siting and constructing an entirely new trail were substantially greater than that of the Proposed Action (i.e., rerouting segments of the trail that are prone to storm-related washout, flood damage, and erosion).

2.3 ALTERNATIVE A - NO ACTION

Under the No Action Alternative, FEMA would not provide funding to DNR to repair and realign the Troublesome Creek Trail. The trail would remain in its present condition and would remain officially closed to recreational access and use. However, as described in Section 1.4 (*Purpose and Need*), unauthorized use of the trail and vicinity will likely continue to occur.

2.4 ALTERNATIVE B - PROPOSED ACTION

Under the Proposed Action, FEMA would provide funding to the DNR to repair and realign portions of the Troublesome Creek Trail for continued use as an active recreation trail in the state park. The Proposed Action includes design, construction related to trail repair, and construction related to new trail alignment, all intended to restore the trail to its predisaster function and capability. The design, construction, and long-term maintenance of the trail repair project would comply with applicable rules and regulations and would require DNR to adhere to state and federal regulations regarding best management practices (BMPs) for construction. Construction would not occur when weather and/or ground conditions would cause excessive erosion. Construction would minimize effects on wildlife and sensitive habitats. Clearing of vegetation along the trail would be kept to a minimum to reduce habitat disturbance.

Construction activities associated with trail repair include clearing any debris that currently blocks the trail or infringes upon the right-of-way; clearing areas of overgrown vegetation; and replacing the seven stream crossing structures lost or destroyed during the storm event. Construction activities associated with realigning portions of the trail include route selection and site-specific design; clearing and grubbing existing vegetation within the clearing limits of the new trail alignment; and installing switchbacks in steeper segments of the trail to prevent erosion. It is anticipated that approximately 3.5 miles of new trail alignment would be required as part of the repair project, with a focus of moving portions of the trail outside of the active floodplain and onto higher ground to avoid risk of exposure to future flood events (see Figure 2.4-1).

Construction would be conducted over one season (i.e., approximately 2 or 3 months). A five-person crew would likely be employed to accomplish the repair and realignment activities. Small-scale construction equipment and hand tools (including chainsaws) would primarily be required for the construction work. Trail location, tread width, and the multiple stream crossings make the use of ATVs or larger construction equipment (such as a bobcat) impractical. Each stream crossing would be built using one or two logs from nearby trees (construction techniques might vary based on site-specific conditions). The total estimated cost of the project is approximately \$320,000.

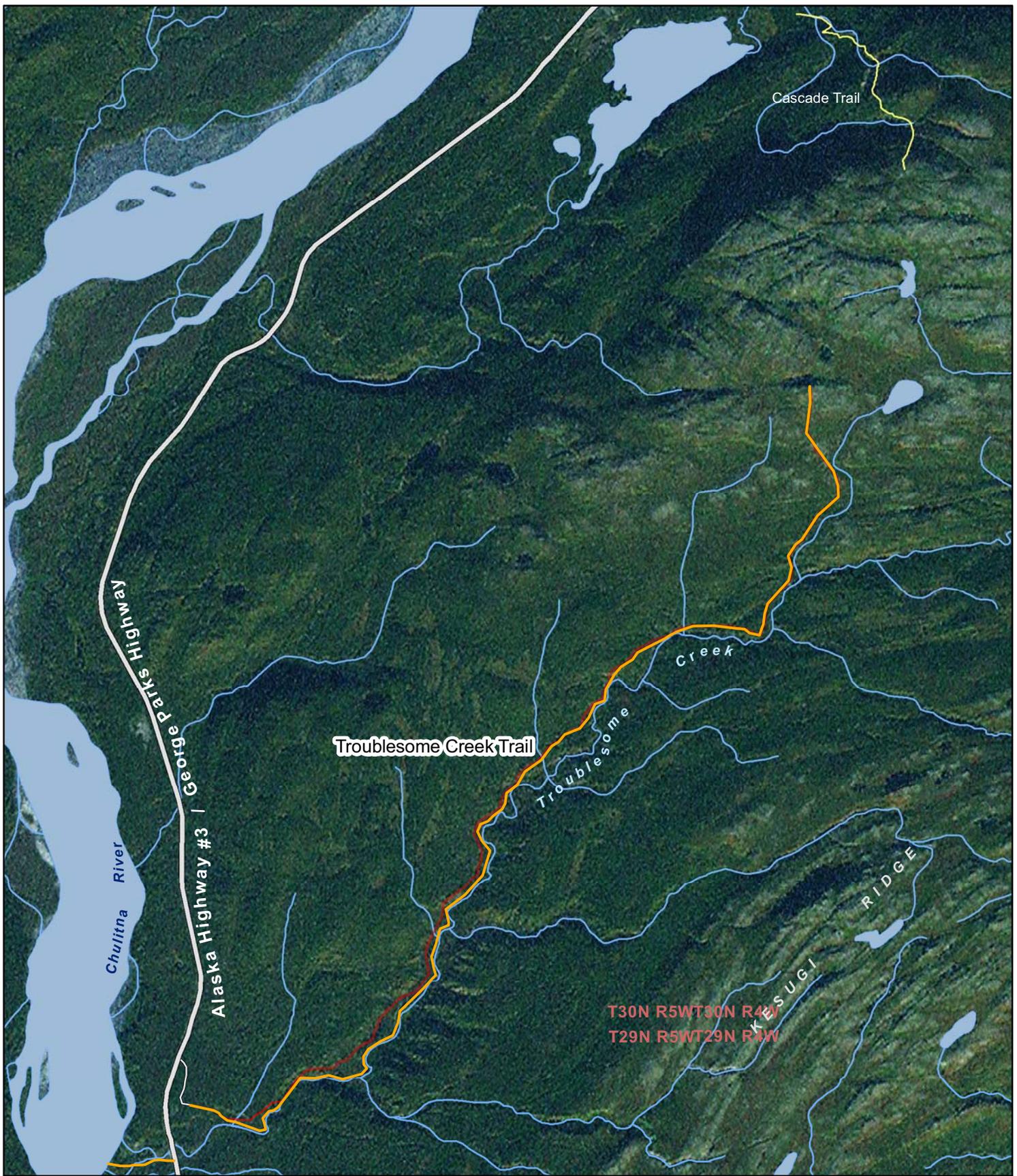
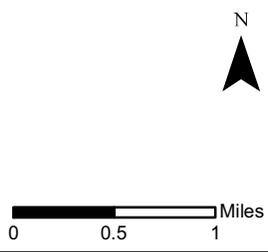


Figure 2.4-1. Project Location

-  Troublesome Creek Trail Current Alignment
-  Proposed General Alignment Corridor
-  Cascade Trail
-  Roads
-  Cities
-  Streams and Rivers
-  Open Water
-  Township Range Lines

The full map extent is within the boundaries of Denali State Park
 T30N, R5W; T30N, R4W; T29N, R5W; T29N, R4W



Specific standards to minimize effects during construction include, but are not limited to: (1) limiting ground disturbance (clearing, grubbing, grading) to that essential for construction of the project; (2) timing construction activities that expose large areas of soil to occur during the dry spring, summer, or early fall when the threat of erosion from disturbed areas is minimal; (3) incorporating erosion control measures such as mulching, seeding, or planting; and (4) completing construction activities prior to the onset of the rainy period, around the middle of October. The new/realigned trail segments will avoid sensitive habitats, especially wetland and wet areas, as well as steep slopes.

2.5 ELEMENTS COMMON TO BOTH ALTERNATIVES

While the No Action and Proposed Action alternatives represent distinctly different alternatives, there are some common elements between the two alternatives. These common elements are:

- **Water Quality, Erosion and Sediment Control** - DNR will continue to implement measures to preserve the water quality of local streams and prevent excess erosion and sedimentation associated with its lands and facilities.
- **Cultural and Historic Resources** - DNR will continue to comply with Sections 106 and 110 of the National Historic Preservation Act (NHPA), the Archaeological Resources Protection Act (ARPA), and the Native American Graves Protection and Repatriation Act (NAGPRA). FEMA and DNR, as required under 36 Code of Federal Regulations (CFR) 800, will consult with the Alaska State Historic Preservation Office (SHPO) and interested Tribes to determine if sites are eligible for inclusion on the National Register of Historic Places (National Register), evaluate effects of an action on eligible properties, and identify preservation or mitigation options. Specifically, DNR will monitor construction activities for any new or upgraded facilities and stop work and consult with the Tribes and the SHPO if any cultural resources are discovered during construction.
- **Access** - The public will continue to have access to DNR lands in the state park in accordance with current policies that consider public safety and protection of cultural and natural resources.
- **Public Information** - DNR will continue to apply its standards for appropriate, clear, and consistent signage regarding public use of their lands and facilities. DNR also will continue to provide information materials through existing entities, websites, and recreation areas.

2.6 SUMMARY OF EFFECTS

Table 2.6-1 provides a summary of the effects described and analyzed in Chapter 3 (*Affected Environment and Environmental Consequences*).

Table 2.6-1. Summary of Effects of the No Action and Proposed Action Alternatives.

Resource Area	Alternative A – No Action Alternative	Alternative B – Proposed Action
Geology and Soils	No significant adverse effects	No significant adverse effects
Hydrology, Water Quality, and Floodplains	No significant adverse effects	Potential for minor, short-term sedimentation associated with construction activities; potential minor sedimentation effects from seasonal use of repaired trail; no significant adverse effects
Vegetation and Wetlands	No significant adverse effects	Approximately 0.6 acres of land would be cleared of existing vegetation for new trail construction; no significant adverse effects
Fish and Wildlife	Potential for minor effects on fish and wildlife from seasonal use of existing trail; no significant adverse effects	Potential for minor, short-term effects on fish and wildlife populations associated with trail construction activities; small amount of habitat loss associated with new trail alignment; potential minor effects from seasonal use of trail; no significant adverse effects
Recreation	Moderate, long-term adverse effect associated with loss of use of state park trail	Beneficial effect associated with repaired trail; no significant adverse effects
Environmental Justice	No significant adverse effects	No significant adverse effects
Cultural Resources	Potential for disturbing previously unidentified cultural resources very unlikely; no significant adverse effects	Potential for disturbing previously unidentified cultural resources very unlikely; no significant adverse effects
Cumulative Effects	No significant adverse cumulative effects	Minor cumulative effects associated with construction of new trail alignment, such as vegetation clearing and removal; no significant adverse cumulative effects

3.0 Affected Environment and Environmental Consequences

3.1 GEOLOGY AND SOILS

3.1.1 AFFECTED ENVIRONMENT

3.1.1.1 Geology

The geology of the Troublesome Creek Trail is dominated by Kesugi Ridge, a foothill formed by uplifting, deformation, and faulting that culminated in the geologic processes forming the Alaska Range near the end of the Tertiary Period (i.e., approximately 65 million to 1.8 million years before present). The current topography of Kesugi Ridge and the adjacent river valleys results largely from the effects of glaciation and associated outflow and sediments during four major glaciations in the Quaternary period (i.e., approximately 2.5 million years ago to the present). The lower slopes of Kesugi Ridge abut some portions of the Troublesome Creek floodplain, creating steep, high banks that are frequently eroded by the river to form tall bluffs. In most areas, the lower slopes of Kesugi Ridge have a more gentle slope that merges with Troublesome Creek via a 10- to 40-foot elevation drop down a short, steep slope or down more gradual ridgelines to the floodplain. The landform along Troublesome Creek is a mixture of glacial moraine deposits and alluvial features in the form of an active floodplain and higher terraces that are infrequently inundated; the higher terraces may approximate the 100-year floodplain.

3.1.1.2 Soils

No soil type maps are available for the area crossed by Troublesome Creek Trail. However, based on soils data compiled in the Denali State Park Management Plan (Alaska State Parks 2006), the following soil types are likely associated with Troublesome Creek Trail and support similar types of vegetation. Kroto and Strandline silt loam soils are well-drained, ash-influenced loess soils overlying glacial till that may support mixed forests of white spruce (*Picea alba*) and paper birch (*Betula papyrifera*) with an understory of alder (*Alnus* sp.) and ferns on lower hillslopes. Spenard silt loam soils, Slikok muck soils, and Chichantna peat soils are generally poorly drained, hydric soils occurring as minority inclusions within Kroto and Strandline silt loam soils; the inclusions generally occur in depressional areas, muskeg borders, seepy slopes of moraines, floodplains, and lake edges that may support a variety of wetland vegetation types. Seepage areas along the lower slopes above the Troublesome Creek floodplain may be associated with one or more of these three included soil types and support communities of Sitka alder (*Alnus viridis* ssp. *sinuata*), wood fern (*Dryopteris dilatata*), and bluejoint reedgrass (*Calamagrostis canadensis*). Permeability and runoff rates for these soils are generally variable although the potential for erosion is always present on steeper slopes. Glacial outwash and alluvial deposits along the creek are obviously highly erodible, as is any soil when undercut by high stream flows.

3.1.2 ENVIRONMENTAL CONSEQUENCES

This section describes the potential effects of the No Action Alternative and the Proposed Action on soil resources within the immediate vicinity of the project. Mitigation measures to offset any identified effects are also described, as applicable.

3.1.2.1 Methodology and Threshold of Significance

Methodology

Two EDAW biologists conducted a site visit on August 25 to 28, 2008, to collect information on general site conditions including steep-angled slopes potentially subject to erosion, eroded landscape features, and vegetation communities in the project area. The assessment of the potential effects of trail repair on geology and soils was made by using information obtained from the field observations of basin and ridge topography and soils as well as the park's written summary of the types and scale of damages along Upper and Lower Troublesome Creek Trail.

Threshold of Significance

Significance under NEPA is determined by assessing the effect of a proposed action in terms of its context and the intensity of its effects. The No Action Alternative and the Proposed Action were determined to result in a significant effect on soil resources if they would:

- Cause long-term erosion of soils that cannot be prevented by the implementation of erosion control measures, best management practices (BMP), sound trail design, and periodic maintenance.

3.1.2.2 Alternative A: No Action

Under the No Action Alternative, the existing trail would remain in its degraded condition in large part due to damage caused by high flows in Troublesome Creek in August 2006. Most of the damage is concentrated along the west bank of Troublesome Creek where high flows washed away long portions of the trail and deposited woody debris across portions of the remaining trail. Damage to trails, such as rills and gullies from surface runoff, was not observed during the August 2008 site visit. Although the trail has been closed since August 2006, hikers continue to access the Troublesome Creek drainage. Hikers have created numerous social trails, but the result has been primarily trampling of sensitive wetland and riparian vegetation. The social trails are generally in flat areas within the floodplain where there is only small potential for erosion and soil loss. Social trails skirting steep eroded banks do, however, facilitate further erosion of already eroding banks.

Proposed Mitigation Measures and Residual Effects

The mitigation recommended under the No Action alternative is for the trail to remain closed and not permit any public access to areas that might facilitate erosion of soils.

Significant and Unavoidable Adverse Effects

The No Action Alternative has a minimal potential for adverse effects, provided the recommended mitigation is implemented.

3.1.2.3 Alternative B: Proposed Action

Under the Proposed Action, the repair of existing trails and the construction of new trails would result in ground disturbance that would create the potential for erosion and soil loss. The final trail design would include erosion control measures, BMPs, and trail design elements to prevent soil

erosion during construction and future operation of the trail. For example, the grade of the rerouted trail would not exceed 12 percent and would be less in most places, which would minimize the erosive force of surface runoff; water bars or other suitable structures would be installed to ensure that runoff is slowed and directed off of the trail to prevent down cutting and soil erosion on or off of the trail. The bridge and crossing replacements would help to mitigate the compaction and erosion of soils along tributary streams caused by hikers who currently cross tributary streams without the aid of bridges. Implementation of appropriate design and construction techniques would help to ensure that soil erosion is a minor, short-term effect.

In summary, implementation of the Proposed Action would result in some short-term erosion effects, but these effects are not considered significant. Over the long term, the Proposed Action would reduce the potential for trail-related erosion, representing a beneficial effect.

Mitigation Measures and Residual Effects

No additional mitigation measures are proposed under the Proposed Action, and residual effects are not anticipated in addition to the normal wear-and-tear and periodic maintenance activities.

Significant and Unavoidable Adverse Effects

There would be no significant and unavoidable adverse effects associated with the Proposed Action.

3.2 HYDROLOGY, WATER QUALITY, AND FLOODPLAINS

3.2.1 AFFECTED ENVIRONMENT

The Troublesome Creek Trail and adjacent lands are in the southern interior region of Alaska, approximately 100 miles north of Anchorage, in the Chulitna basin watershed, a subwatershed of Cook Inlet basin. This basin drains to Cook Inlet and the Pacific Ocean.

Southcentral Alaska, including the Chulitna drainage, has a transitional climate receiving both maritime and arctic climatic influences. The climate is transitional because of the moderating maritime influence on temperature by the Gulf of Alaska, and the cooling continental and arctic influence from the northern winds, although these are often blocked by the Alaska and Talkeetna mountain ranges. The project area is cool during the summer (average temperature around 50⁰F) and cold during winter (average temperature around 0⁰F). Snowfall makes up a large portion of the annual precipitation, although the area also receives a significant amount of rainfall.

Streams and rivers in the Chulitna drainage, including the Troublesome Creek watershed, generally have steep gradients in their headwater sections, and are very flat in their lower reaches. Stream and wetland densities are high within the Chulitna drainage, although the gradient of the Upper Troublesome Creek Trail area does not support many wetlands or stream oxbows. Troublesome Creek crosses multiple biomes, from tundra high on Kesugi Ridge and glacial headwaters, to taiga and boreal forest glacial outwash rivers. Elevations range from approximately 900 to 4,550 feet through the watershed.

Troublesome Creek is not impounded, with no alterations to the natural hydrology in the project area. Recreation is the main activity in the watershed, and few facilities exist that currently affect hydrology or water quality. Some areas of the trail path are very steep and channel some runoff down portions of the trail during storm events. Runoff during high precipitation storm events may carry sediment to Troublesome Creek or one of the smaller tributaries. Numerous small perennial and ephemeral drainages flow down steep slopes and into Troublesome Creek.

No water bodies in the Troublesome Creek Trail project area are listed as having water quality issues (DEC 2008a).

3.2.2 ENVIRONMENTAL CONSEQUENCES

Potential environmental consequences of each alternative on hydrology, water quality, and floodplains are considered from regulatory and ecological perspectives.

3.2.2.1 Regulatory Considerations

Clean Water Act Section 303 and the Alaska Clean Water Actions Policy

The Alaska Department of Environmental Conservation (DEC) administers the federal Clean Water Act (CWA) in Alaska. In addition, DEC participates in the implementation of the Alaska Clean Water Actions (ACWA) policy, which was initiated in 1999. Through the ACWA process, the Departments of Environmental Conservation, Natural Resources, and Fish and Game work together to focus state and federal resources on the waters of greatest need, addressing issues of water quality,

water quantity, and aquatic habitat. Background information on the ACWA can be found at DEC (2008b). Cooperating agencies have developed a water body nomination and ranking process, using established criteria, that prioritizes assessment, stewardship, and corrective action needs for polluted waters and waters at risk of pollution. These criteria include the statutory criteria as well as severity of pollution and uses to be made of the waters, per the Clean Water Act § 303(d)(1)(A). In 2006, the U.S. Environmental Protection Agency (EPA) Region 10 completed a review and accepted DEC's Strategy (DEC 2008a).

CWA Section 303(d) requires identification of waters that do not meet water quality standards where a Total Maximum Daily Load (TMDL) needs to be developed. Alaska's Integrated Report Section 303(d) water bodies list was reviewed to see if it included any water bodies in the project area. No water bodies in the Troublesome Creek Trail project area are listed on DEC's Section 303(d) list (DEC 2008a).

Clean Water Act, Section 401

Section 401 of the Clean Water Act (CWA) requires applicants proposing projects with a federal nexus to obtain certification for activities that could result in the discharge of pollutants into waters of the United States. Certification is obtained from the state in which the discharge would originate. Therefore, all projects that have a federal component and may affect the quality of the state's waters must also comply with CWA Section 401. In Alaska, DEC is tasked with granting CWA 401 certification, and also certifies that applicants meet all state requirements under 18 Alaska Administrative Code (AAC) 72.600.

Section 404 of the Clean Water Act is described under Section 3.3 (*Vegetation and Wetlands*).

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) requires federal agency activities, including federal license or permit activities and federal financial assistance activities, that have reasonably foreseeable effects on any land or water use or natural resource of the coastal zone, to be consistent to the maximum extent practicable with the enforceable policies of a coastal state's federally approved coastal management program. The Alaska Coastal Management Program (ACMP) is administered by the DNR and is revised and updated for compliance by the Matanuska-Susitna Borough. The most recent review occurred through 2006 and 2007, with approval from the DNR completed on March 1 2007 (DNR 2007). Included in the plan are the state statutes for managing Alaska's coastal lands and waters.

The boundary of the Coastal Management Zone extends through the Chulitna River drainage to 1,000 feet of elevation, and to 200 feet perpendicular to the ordinary high water mark of the Chulitna River. The Lower Troublesome Creek Trail is within the CZMA, where the trail meets the confluence of Troublesome Creek with the Chulitna River. The Matanuska-Susitna Borough coastal zone boundary is a Designated Recreation Area. Uses and activities within the coastal zone, as well as physical, biological, and cultural assets within the coastal zone, warrant creation of this designation in accordance with 11 AAC 114. 250(c). Recreation and access are highly valued resources under this coastal zone management designation (DNR 2007).

Executive Order 11988 (Floodplain Management)

Executive Order (EO) 11988 (Floodplain Management), established in May 1977, addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding a project to:

- Avoid incompatible floodplain development;
- Be consistent with the standards and criteria of the National Flood Insurance Program (NFIP);
- Restore and preserve natural and beneficial floodplain values;
- Involve the public in the decision-making process for floodplain activities; and
- Evaluate effects, both by the floodplain and on the floodplain.

Part of the purpose of the project, and in compliance with the Public Assistance program, is to realign portions of the trail outside of the active floodplain.

3.2.2.2 Methodology and Threshold of Significance

Methodology

Two EDAW biologists assessed the affected environment through a 4-day site visit, characterizing the watershed in field notes and through photo-documentation of notable features. Existing information was gathered from the Matanuska-Susitna Borough, Denali State Park, the State of Alaska DEC, and a literature review for applicable scientific literature pertaining to water quality and hydrology within the affected area. The analytic approach focused on:

- The level and intensity of effect(s) due to the proposed trail restoration;
- Current hydrology, water quality, and floodplains; and
- The potential of any project activities to affect flow rates, paths, and pollutant loads.

Threshold of Significance

The No Action Alternative and the Proposed Action would be determined to result in a significant effect on hydrology, water quality, and floodplains if they would:

- Violate any water quality standards or waste discharge requirements, create or contribute runoff water that would provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality;
- Result in a substantial net loss of the 100 year floodplain; or
- Alter the existing drainage pattern of the project site in a manner that would result in substantial erosion or siltation on or off the site, result in flooding on or off the site.

3.2.2.3 Alternative A: No Action

Alternative A would leave the trail as it currently exists, with stretches of intact trail interspersed with stretches of damaged trail. No storm debris cleanup, trail cutting, stream crossing construction, or rerouting of the trail would be made, and the trail would remain officially closed to the public.

Proposed Mitigation Measures

No mitigation measures are proposed under the No Action Alternative. Water quality and hydrology in the project area would remain unaltered.

Significant Unavoidable Adverse Effects

No significant or unavoidable adverse effects on water quality, hydrology, and floodplains (or by floodplains) are anticipated from the No Action Alternative.

3.2.2.4 Alternative B: Proposed Action

The new trail route under the Proposed Action would relocate several stretches of the Troublesome Creek Trail out of the floodplain, and route the trail around wetlands to avoid unnecessary wetland or riparian crossings. No changes in surface hydrology are proposed, and surface hydrology is highly unlikely to be affected by trail clearing, rerouting, or restoration activities. Troublesome Creek recreational access trails (upper and lower portions) are facilities that fall within the Recreational Resource designation of the Coastal Zone Management Plan, providing access to the river drainage for a variety of low-effect recreational activities.

Construction activities (clearing, brushing and grubbing, on-site construction of stream crossings) would create minor increases in soil erosion during and after construction; however, these activities would be performed largely by hand and are not expected to result in a significant increase in sediment to streams in the area or violate any water quality standards. BMPs defined in Alaska State DNR maintenance and construction practices will be employed to reduce or eliminate potential effects on water quality. Erosion and sedimentation will be minimized as well through the utilization of BMPs. Troublesome Creek Trail restoration may be a minor long-term source of sediment to streams down-slope of the project area during heavy rain events. However, the relocation of some trail reaches would reduce sediment loads to below existing levels by moving the trail to more stable areas, out of the floodplain and away from chronically eroding sites. Minor sedimentation may also occur because of seasonal peaks in trail use. Trail construction would employ BMPs to minimize erosion and sediment potential, and steps would be taken to avoid any material from escaping to streams in the area.

Mitigation Measures and Residual Effects

No additional mitigation measures are proposed under the Proposed Action, and residual effects are not anticipated in addition to the normal wear-and-tear and periodic maintenance activities.

Significant and Unavoidable Adverse Effects

No significant or adverse effects on water quality, hydrology, and floodplains (or by floodplains) are anticipated from the Proposed Action on hydrology or water quality.

3.3 VEGETATION AND WETLANDS

3.3.1 AFFECTED ENVIRONMENT

The vegetation associated with Troublesome Creek Trail is primarily mixed forest on older floodplain terraces and surfaces outside what is estimated to be the 100-year floodplain. Tall scrub vegetation is associated with seepage areas on slopes above the floodplain, floodplain surfaces with shallow groundwater, and along tributary streams and small sections of uneroded banks along Troublesome Creek. Broadleaf forest dominates one large floodplain. Small patches of wet meadow habitat are scattered within the tall shrub and mixed forest cover types, and one large wet meadow occurs in an area where beaver (*Castor canadensis*) have created several dams in the past.

3.3.1.1 Upland Vegetation

The tree layer in the upland mixed forest is dominated by paper birch and white spruce. The shrub layer species include highbush cranberry (*Viburnum edule*), devil's club (*Oplopanax horridus*), green mountain-ash (*Sorbus scopulina*), early blueberry (*Vaccinium ovalifolium*), false azalea (*Ferruginea menziesii*), trailing black currant (*Ribes laxiflorum*), and northern black currant (*Ribes hudsonianum*). The herb layer is dense and low with bunchberry (*Cornus canadensis*), western oak fern (*Gymnocarpium dryopteris*), false toadflax (*Geocaulon lividum*), bog blueberry (*Vaccinium uliginosum*), and trailing raspberry (*Rubus pedatus*). A taller herb layer occurs, often in association with the edges of shrubs listed above but also mountain alder (*Alnus crispa*) and Sitka alder. The more common tall herbaceous species are wood fern (*Dryopteris dilatata*), fireweed (*Epilobium angustifolium*), claspleaf twistedstalk (*Streptopus amplexifolius*), monkshood (*Aconitum delphiniifolium*), bluejoint reedgrass, horsetail (*Equisetum* sp.) and ladyfern (*Athyrium filix-femina*).

3.3.1.2 Wetland and Riparian Vegetation

Tall scrub vegetation is generally characterized by dense stands of mountain alder with bluejoint reedgrass, lady fern, and wood fern comprising the dominant cover in the understory. This vegetation type is most often associated with seepage areas on middle and lower slopes above the floodplain and where tributary streams intersect the floodplain. In some areas, ostrich fern (*Matteuccia struthiopteris*) and bluejoint reedgrass each forms dense, pure stands of wet meadow vegetation interposed among the alder stands. One large wet meadow associated with several derelict beaver dams is dominated by sedges (*Carex* sp.) and bluejoint reedgrass. The tall scrub and wet meadow vegetation types represent palustrine scrub shrub (PSS) and palustrine emergent (PEM) wetland vegetation. The National Wetlands Inventory (NWI) data show several small PSS and PEM wetlands along the Troublesome Creek Trail corridor.

Broadleaf forest is a riparian vegetation cover type represented by one large stand in the Troublesome Creek floodplain. Balsam poplar (*Populus balsamifera*) is the dominant tree species, and alder and willow (*Salix* sp.) form a dense shrub cover under openings in the tree canopy. The herb layer is tall and lush with devil's club, ostrich fern, lady fern, red elderberry (*Sambucus racemosa*), currant (*Ribes* sp.), and bluejoint reedgrass. This riparian forest is not mapped as a wetland in the NWI.

The U.S. Army Corps of Engineers (Corps) has provided Approved Jurisdictional Determinations Form (POA_2008-1583_JD3), available at <http://www.poa.usace.army.mil/reg/ApprovedJDs.htm>.

The determination recognizes Troublesome Creek as a Relatively Permanent Water (RPW) that flows into the Chulitna River, a Traditional Navigable Water (TNW). The JD3 determination form identifies in a general way various patches of fresh water forested shrub wetlands adjacent to Troublesome Creek, an anadromous stream that flows into the Chulitna River. The Upper and Lower Troublesome Creek Trails in their current alignment do not overlap but are in close proximity to many of the mapped NWI wetland habitats.

3.3.1.3 Rare Plant Species

For the purposes of this EA, rare plant species include species that are federally listed or proposed for listing as threatened or endangered. There is only one federally listed plant species - Aleutian shield-fern (*Polystichum aleuticum*) - in Alaska, and there is no potential for it to occur in the study area.

3.3.2 ENVIRONMENTAL CONSEQUENCES

This section describes the potential effects of the No Action Alternative and the Proposed Action on vegetation resources within the immediate vicinity of the project.

3.3.2.1 Regulatory Considerations

Section 404 of the Clean Water Act

Actions affecting waters of the United States and the discharge of dredged or fill material into U.S. waters, including wetlands, are regulated by Section 404 of the CWA. The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the waters of the United States. The Corps regulates Section 404 activities and provides approvals, permits, and water quality certifications, as applicable.

Executive Order 11990 Protection of Wetlands

Executive Order (EO) 11990 on Protection of Wetlands defines wetlands as “those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.” The EO directs federal agencies to avoid, to the extent possible, both short-term and long-term adverse effects associated with the occupancy and modifications of wetlands. FEMA uses the Eight-Step Planning Process to meet the requirements for complying with EO 11990 as required by regulation 44 CFR Part 9. Step 1 of the planning process is to determine whether the proposed action is located in a wetland; as described above in Section 3.3.1.2 (*Wetland and Riparian Vegetation*). DNR has carefully planned the route of new trail segments to avoid the crossing of wetlands. In the few areas where the trail is directly adjacent to or crosses a small wetland (< 10 ft length), then a boardwalk/log bridge will be used to avoid wetland effects.

3.3.2.2 Methodology and Threshold of Significance

Methodology

Two EDAW biologists conducted a site visit on August 25 to 28, 2008, to collect information on general site conditions, special habitat features (including wetlands), and vegetation communities at

the project site. Existing information was gathered from Denali State Park staff regarding site conditions at Troublesome Creek and from a literature review for applicable data pertaining to vegetation types in the project vicinity, particularly sensitive wetland habitats. The analytical approach to assessing environmental consequences focuses heavily on project design elements that avoid and minimize the potential for effects on sensitive wetland resources.

Threshold of Significance

The No Action Alternative and the Proposed Action were determined to result in a significant effect on vegetation or wetlands if they would:

- Substantially disturb or degrade a substantial amount of sensitive natural communities such as wetlands and riparian habitats.

3.3.2.3 Alternative A: No Action

Under the No Action Alternative, the existing trail would remain in its degraded condition in large part due to damage caused by high flows in Troublesome Creek in August 2006. The current degraded condition of the trail is likely to continue and worsen over time considering that hikers still use the trail despite its closure by the park. This would have minor adverse effects on upland vegetation and no effects on wetlands.

Significant and Unavoidable Adverse Effects

There would be no significant adverse effects on wetlands or vegetation (including rare plant species) from implementation of the No Action Alternative.

3.3.2.4 Alternative B: Proposed Action

Under the Proposed Action, the repair of existing trails would focus on minimizing the potential for erosion and on providing a clearly defined path for hikers, thus minimizing the potential for creating social trails that are currently observed to be affecting sensitive habitats along Troublesome Creek. A clearly defined, maintained path would also allow the current network of social trails to re-establish natural vegetation cover. The bridge replacements will help to mitigate the erosion and loss of riparian habitat caused by hikers who currently cross tributary streams without the aid of bridges. Bridge replacement would utilize the original bridge crossing wherever possible and would restrict construction activities to avoid effects on riparian vegetation. Bridges constructed over tributary streams in new locations along rerouted portions of the trail would minimize effects on vegetation by minimizing disturbance using hand labor and building simple foot-log crossings.

One of the primary goals of rerouting portions of the Troublesome Creek Trail is to move the trail out of the 100-year floodplain to the greatest extent possible by creating approximately 3.5 miles of new trail. The trail would be 24 inches wide, requiring a total of 0.6 acres of upland vegetation clearing. In the long term, this would help reduce the amount of damage to the trail due to high flow events and reduce maintenance requirements. More importantly, the reroute would lessen the potential for hikers to create social routes that affect riparian and wetland vegetation. The grade of the rerouted trail would not exceed 12 percent and would be less in most places. Appropriate erosion control measures would be specified as part of the final trail design. The rerouted trail would also be designed to avoid sensitive riparian and wetland habitats to the maximum extent possible. In areas

where complete avoidance of sensitive habitats is not possible, then short stretches of boardwalk would be constructed to cross the sensitive habitat. The new alignment for portions of the trail steadfastly avoids several wetlands in the vicinity. The trail would cross a narrow (10-foot) portion of a wetland as it descends off of a ridge and onto a bench. Parks staff would likely use a simple log crossing to span this area. No effects on wetlands are anticipated from the Proposed Action.

In summary, implementation of the Proposed Action would result in some minor habitat modification in the project area. However, these effects are not considered significant.

Mitigation Measures and Residual Effects

No mitigation measures are proposed under the Proposed Action, and residual effects are not anticipated apart from normal wear-and-tear and periodic maintenance activities.

Significant and Unavoidable Adverse Effects

There are no significant and unavoidable adverse effects on wetlands or vegetation (including rare plant species) associated with the Proposed Action.

3.4 FISH AND WILDLIFE

Fish and wildlife in the Troublesome Creek Trail project area are described in this section, including migratory bird species protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act.

3.4.1 AFFECTED ENVIRONMENT

For purposes of the fish and wildlife analysis, the project area includes the Troublesome Creek Trail and all habitat and lands within 200 feet of the trail.

3.4.1.1 General Wildlife Species and Habitat

The project area provides habitat for a variety of mammals and birds, salmon and non-sport fish, many invertebrate species, and one amphibian. Moose (*Alces alces*), brown bear (*Ursus arctos horribilis*), black bear (*Ursus americanus*), gray wolves (*Canis lupus*), and lynx (*Lynx canadensis*) are some of the large mammals in the project area. Beaver, porcupine (*Erythron dorsatum*), red fox (*Vulpes vulpes*), little brown bat (*Myotis lucifugus*), brown lemming (*Lemmus sibiricus*), and several species of voles (*Microtus* spp.), and shrews (*Sorex* spp.) also are supported by habitat in the project area. Game bird species likely to be found in the project vicinity include spruce grouse (*Dendragapus canadensis*) and rock ptarmigan (*Lagopus muta*), and several species of waterfowl. Migratory passerines are present in high numbers in the summer, including warblers, flycatchers, thrushes, waxwings, sparrows, longspurs, shrikes, and woodpeckers. Some migratory bird species are seasonal residents without fidelity to the project vicinity and will use other sites during periods of human disturbance. One amphibian may be present, the wood frog (*Rana sylvatica*).

Habitat in the immediate vicinity of the project is a mix of boreal spruce-fir forests with dense willow and alder shrub thickets in riparian areas. White spruce dominates in drier soils, and balsam poplar (*Populus balsamifera*) is found near Troublesome Creek and in wet areas such as the beaver ponds located approximately 1.76 miles upstream of the trailhead. Small trees (alder, willow) and shrubs (blueberries, grass, fireweed, rose [*Rosa* sp.]) form a single, dense layer in the understory. Snags and downed wood are present in the project area near wetlands, and many downed trees along the existing trail are the result of recent flooding and erosion events.

3.4.1.2 Fish

Troublesome Creek contains five species of anadromous Pacific salmon, including coho (*Oncorhynchus kisutch*), chum (*O. keta*), pink (*O. gorbushca*), sockeye (*O. nerka*), and Chinook (*O. tshawytscha*). Non-salmon fishes include arctic grayling (*Thymallus arcticus*), slimy sculpin (*Cottus cognatus*), rainbow trout (*Oncorhynchus mykiss*), and Dolly Varden (*Salvelinus malma*) (ADFG 2008a). The trail does not cross Troublesome Creek along the mainstem; however, it does cross seven smaller tributaries to Troublesome Creek. Fish likely to inhabit these streams include rainbow trout in the lower reaches, and slimy sculpin throughout the system. Anadromous salmon are not found in the smaller tributaries to the mainstem of Troublesome Creek.

3.4.1.3 Special-Status Species

In this environmental assessment, special-status wildlife species are defined as wildlife species that are protected by federal agencies as part of their land management operations, or that are considered sensitive, rare, or at risk by state resource conservation agencies and organizations. Specifically, this includes species that are state listed as rare, threatened, or endangered; those considered as candidates for listing as threatened or endangered; or species listed by the Alaska Department of Fish and Game (ADFG) as wildlife species of special concern. The special status species that may occur in the project vicinity are listed in Table 3.4-1. There are no species listed or proposed as threatened or endangered under the federal Endangered Species Act in the project vicinity.

Table 3.4-1. Species of Concern and Federally Protected Species Potentially Occurring in the Project Area.

Common name (<i>Scientific name</i>)	ADFG Status	Federal Status	Habitat Association	Protective Statute	Causes of Declines
Olive-sided Flycatcher (<i>Contopus cooperi</i>)	SC	Candidate	Mixed riparian forests	MBTA	Loss of winter habitat ¹
Gray-cheeked Thrush (<i>Catharus minimus</i>)	SC	none	Shrub thickets	MBTA	Loss of winter habitat ²
Blackpoll Warbler (<i>Dendroica striata</i>)	SC	none	Boreal forests and thickets	MBTA	Loss of winter habitat ³
Peregrine Falcon (<i>Falco peregrinus</i>)	SC	none	Cliffs, prairies, tundra	MBTA	Pesticides ²
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	none	none	Boreal and riparian forests	BGEPA	Pesticides ²
Golden Eagle (<i>Aquila chrysaetos</i>)	none	none	Open forests, prairies, cliffs	BGEPA	Pesticides ²

SC=Species of Special Concern; MBTA= Migratory Bird Treaty Act; BGEPA=Bald and Golden Eagle Protection Act.

¹ Peterson and Fichtel 1992; Robertson and Hutto 2007.

² ADFG 2008b.

³ Hunt and Eliason 1999.

3.4.2 ENVIRONMENTAL CONSEQUENCES

3.4.2.1 Regulatory Considerations

Federal regulations with regard to fish, wildlife, and habitat that may apply to the Proposed Action and the affected area are summarized below.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) provides that it shall be unlawful, except as permitted by regulations, “to pursue, take, or kill...any migratory bird, or any part, nest or egg of any such bird, included in the terms of conventions” with certain other countries (16 U.S. Code [U.S.C.] 703). This prohibition includes direct and indirect acts, although harassment and habitat modification are not included unless they result in the direct loss of birds, nests, or eggs. The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds in Alaska, including the recently de-listed bald eagle (USFWS 1995).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act, prohibits the take, possession, sale, purchase, barter, offer to sell, purchase, or barter, transport, export or import, of any bald or golden eagle, alive or

dead, including any part, nest, or egg, unless allowed by permit (16 U.S.C. 668(a); 50 CFR 22). “Take” means to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb” a bald or golden eagle. The term “disturb” under the Bald and Golden Eagle Protection Act was recently defined within a final rule published in the Federal Register on June 5, 2007 (72 FR 31332). “Disturb” means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Regulations enacted at the local and state levels for species and habitat protection are discussed below.

Alaska Species of Special Concern

Alaska maintains a list of species of special concern through an administrative listing established in May 1993 and amended in October 1998 by the Commissioner of Fish and Game (Title 5 AAC 93.001-93.060; AS16.05.050). Under this listing, the ADFG reviews special status species and recommends management actions to protect or mitigate species declines prior to Endangered Species Act (ESA) listing. Management options are broader and may be implemented at an earlier stage and with greater flexibility through the ADFG species of special concern program than under endangered species listings.

3.4.2.2 Methodology and Threshold of Significance

Methodology

Two EDAW biologists assessed the affected environment on August 25-28, 2008, characterizing habitats, plants, and wildlife in field notes and through photo documentation of notable habitat features. Existing information was gathered from the Matanuska-Susitna Borough, Denali State Park, and a literature review for applicable scientific literature pertaining to species and habitats within the affected area. The analytic approach focused on the following:

- The level and intensity of effect(s) associated with the proposed trail restoration,
- The level of species use of the affected environment,
- Home ranges and habitat needs of species using the affected environment,
- Relative importance of the affected environment to species, and
- The uniqueness of the affected environment within the landscape.

Threshold of Significance

The No Action Alternative and the Proposed Action were determined to result in a significant effect on wildlife if they would:

- Have a significant adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by ADFG;
- Substantially degrade the quality of the environment, substantially reduce the habitat of a wildlife species, reduce the number, or restrict the range of a state endangered, rare, or threatened species;
- Interfere substantially with the movement of any native resident or migratory wildlife or fish species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- Conflict with the provisions of an approved local, regional, or state habitat conservation plan.

3.4.2.3 Alternative A: No Action

Environmental Consequences

Under the No Action Alternative, vegetation would likely soon overtake some areas where the trail is damaged or eroded. Unauthorized trail use may occur, creating social trails caused by modest human foot-traffic in the project area, due to the legacy of the existing trail attracting human uses. Human use may occur at a low rate, although more diffusely scattered through the area as the trail is not passable and clear. Unauthorized hunting of some species may occur. It is unlikely that wildlife use or populations in the area would be measurably altered under the No Action Alternative.

Significant and Unavoidable Adverse Effects

No significant or adverse effects on fish, wildlife, or their habitat (including any special status species or species protected by state or federal regulations) are anticipated from the No Action Alternative.

3.4.2.4 Alternative B: Proposed Action

The removal of live trees, snags, or shrubs during repair and construction of the Troublesome Creek Trail may affect songbird species by removing potential nesting or foraging habitat. These effects are considered to be insignificant as higher quality habitat is located nearby, and because repair of the existing trail may discourage social trails from forming near and around the original damaged trail. Additionally, the area of effect is small in comparison to the ample available habitat surrounding the project area.

The project area may also provide foraging habitat and refuge for transient large mammals. The large mammal species that may be present in the project area include moose, brown bear, black bear, red fox, lynx, and beaver. The amount of land cleared under the Proposed Action is insignificant in comparison with the home ranges of these species. As a result, there would be no effect on large mammals from the Proposed Action.

The wood frog is the only amphibian species that may occur in the project area. The Proposed Action would likely have no effect on amphibians because trail repairs would not affect wetland, riparian, or woodland habitat outside of the current footprint of the trail. The rerouted portion of the

trail has been specifically chosen to avoid and minimize effects on wetlands, the breeding habitat for wood frogs.

Trail repairs and rerouting would require vegetation removal and soil work, which could potentially result in sedimentation to the stream and the removal of some vegetation from riparian areas. These actions could affect fish; however, the area of vegetation removal is small and erosion is expected to be the minimum possible because of the use of hand tools, low use of motorized transport, and rerouting the existing trail to avoid riparian areas. For these reasons, effects on fish are anticipated to be insignificant.

Overall, the removal or modification of potential habitat on or adjacent to the project area is expected to result in negligible effects on wildlife. The Proposed Action would have no effect on any special-status species due to minimal vegetation removal, the small size of the project footprint, and the use of low-impact methods such as hand tools, small chainsaws, and foot travel for trail repairs and rebuilding.

Implementation of the Proposed Action would result in some minor disturbances to wildlife during the construction period (a short-term effect), as well as the removal of minor amounts of wildlife habitat (a long-term effect). However, neither of these effects is considered significant given the amount of wildlife habitat in the project area and surrounding region, and the minimal amount of habitat affected by the Proposed Action.

Mitigation Measures and Residual Effects

No additional mitigation measures are proposed under the Proposed Action, and residual effects are not anticipated in addition to the normal wear-and-tear and periodic maintenance activities.

Significant and Unavoidable Adverse Effects

No significant or unavoidable adverse effects on fish, wildlife, or habitats (including any special status species or species protected by state or federal regulations) are anticipated from the Proposed Action.

3.5 RECREATION

3.5.1 AFFECTED ENVIRONMENT

The existing public recreation facilities at Denali National Park are nearing or exceeding capacity. Denali State Park and private sector development provide opportunities essential to meet the public's ever-increasing recreational requirements in the region. The services and facilities at Denali State Park provide views of Denali, campgrounds, trails, waysides, public use cabins, and information centers. While the state park by itself can never hope to meet the ever-increasing recreational needs of the public, its services and facilities require maintenance and improvements of antiquated design elements to remain viable and sustain its future as a recreational attraction even at current usage levels. Park visitation peaks in the summer, although usage in the "shoulder season" and in winter is increasing, along with general increases in resident human populations and off-peak visitors from out-of-state. More visitors during the shoulder season means that more hikers are using state park trails during a time of year when precipitation is on the rise and trails are becoming increasingly wet and susceptible to damage by hikers. Antiquated trail design and heavy trail use by hikers have certainly contributed to the susceptibility of the trail system in the state park to damage from heavy rains in the region, like those that occurred in August 2006 and caused Troublesome Creek to rise more than 7 feet and overflow its banks onto the Troublesome Creek Trail.

The Lower Troublesome Creek Trail is slightly over 0.5 miles long and extends west from the walk-in tent camping area at milepost 137.6 of the Parks Highway to the confluence of Troublesome Creek and the Chulitna River. The trail is used by campers, hikers, and anglers. Upper Troublesome Creek Trail is the southern end of the 36.2-mile Kesugi Ridge Trail and, along with the Cascade Trail, provides the southern access points to the Kesugi Ridge Trail. It is used primarily by hikers, backpackers, and anglers. The trailhead begins at milepost 137.5 of the Parks Highway and extends up Troublesome Creek approximately 7.5 miles before leaving the creek to ascend Kesugi Ridge.

3.5.2 ENVIRONMENTAL CONSEQUENCES

This section describes the potential effects of the No Action Alternative and the Proposed Action on recreation within the immediate vicinity of the project. Mitigation measures to offset any identified effects are also provided, as applicable.

3.5.2.1 Regulatory Considerations

There are no regulatory considerations associated with recreation, although continued use of the lower and upper portions of the Troublesome Creek Trail is consistent with land use goals and objectives specified in the Denali State Park Management Plan (Alaska State Parks 2006).

3.5.2.2 Methodology and Threshold of Significance

Methodology

Two EDAW biologists conducted a site visit on August 25 to 28, 2008, to collect information on general site conditions, recreation facilities and opportunities, and plant and animal communities in the project area. Existing information was gathered from Denali State Park and a literature review for applicable scientific information pertaining to recreation opportunities within the affected area. The analytic approach focused on the following:

- The level and intensity of trail use, and
- Accessibility of the trail for multiple recreational uses.

Threshold of Significance

The No Action Alternative and the Proposed Action were determined to result in a significant effect on recreation if they:

- Would affect the safety of travelers; or
- Would have a direct or indirect effect on the quantity or quality of trails that provide access to and from the popular Kesugi Ridge Trail destination.

3.5.2.3 Alternative A: No Action

Under the No Action Alternative, the remaining 0.35 miles of Lower Troublesome Creek Trail would remain under its current passable condition in its current location. The Upper Troublesome Creek Trail has been closed since August 2006 because of damage caused by the August 2006 storms. Despite the official closure, hikers and anglers still access the trail because there is not sufficient staffing to enforce the closure. Hikers can still access Kesugi Ridge, but passage requires they find their way through long stretches without the aid of a trail. Long-term access to this area will increase the potential for hikers, particularly inexperienced hikers, to encounter difficult topography and generally unsafe conditions. Thus, continuance of the existing conditions would have a long-term, moderate adverse effect on recreation users of the park.

Significant and Unavoidable Adverse Effects

There are no significant and unavoidable adverse effects associated with the No Action Alternative.

3.5.2.4 Alternative B: Proposed Action

The end result of repairs to the current trail and construction of new trails would be to provide an established, durable, well-drained trail that would serve hikers who wish to access upper Troublesome Creek and the Kesugi Ridge backcountry. The Proposed Action represents a long-term beneficial effect for recreation resources in the project area.

Mitigation Measures and Residual Effects

No mitigation measures are proposed under the Proposed Action, and residual effects are not anticipated apart from the normal wear-and-tear and periodic maintenance activities.

Significant and Unavoidable Adverse Effects

There are no significant and unavoidable adverse effects associated with the Proposed Action.

3.6 ENVIRONMENTAL JUSTICE

3.6.1 AFFECTED ENVIRONMENT

Environmental justice refers to the potential effects on minority and low-income populations, especially disproportionate adverse or unfair effects on those populations. The affected environment is defined as the Matanuska-Susitna Borough population for the purpose of evaluating environmental justice effects; statistics for the state of Alaska are also provided for comparison. Table 3.6-1 presents the race and ethnicity of the Matanuska-Susitna Borough and Alaska state residents as reported by the 2000 U.S. Census of Population and Housing. The most prevalent race or ethnicity in the affected area is identified as White, with American Indians and Alaskan Natives the most prevalent minority group at 5.5 percent of the total population.

Table 3.6-1. Race/Ethnicity in Matanuska-Susitna Borough and Alaska State, 2000.

Race/Ethnicity	Matanuska-Susitna Borough (Percent)	Alaska State (Percent)
White	87.6	69.3
Black	0.7	3.5
American Indian and Alaska Native	5.5	15.6
Asian	0.7	4.0
Pacific Islander and Native Hawaiian	0.1	0.5
Some other race	0.9	1.6
Two or more races	4.6	5.4
Hispanic or Latino (of any race)	2.5	4.1

Source: U.S. Census Bureau 2004.

Low-income households are defined by the U.S. Census Bureau as those households with incomes at or below 80 percent of area median household income. For 2005 (the most recent year for which data are available), median household income in Matanuska-Susitna Borough is estimated at \$57,134; for Alaska as a whole, it was \$55,477 (U.S. Census Bureau 2008). Approximately 11.3 percent of the Matanuska-Susitna Borough lived below the poverty threshold (i.e., \$45,707), compared to 10.8 percent of the population of Alaska as a whole (i.e., \$44,382) (see Table 3.6-2).

3.6.2 ENVIRONMENTAL CONSEQUENCES

3.6.2.1 Regulatory Considerations

Under NEPA, federal agencies are required to evaluate their actions for the potential to cause "disproportionately high and adverse human health and environmental effects on minority and low-income populations," as stated in Executive Order 12898 (Environmental Justice, 59 Federal Register 7629 [1994]). Potential effects are evaluated by examining the demographics of the area affected by the proposed action(s) and the potential of those actions to have adverse effects on minority and low-income populations.

Table 3.6-2. Income and Poverty in Matanuska Susitna Borough and Alaska State, 2005.

Low-Income Populations	Matanuska-Susitna Borough	Alaska State
# of Low Income Households	8,414	69,093
Low income population (percentage)	11.3%	10.8%
Median Income	\$57,134	\$55,477

Source: U.S. Census Bureau 2008.

3.6.2.2 Methodology and Threshold of Significance

Methodology

The methodology used to evaluate effects on environmental justice included a review and comparison of minority and low-income populations in the Matanuska-Susitna Borough with Alaska State minority and low-income populations. The Council on Environmental Quality (CEQ) defines “minority” to consist of the following groups: Black/African American, Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaskan Native, and Hispanic/Latino populations (CEQ 1997). For this analysis, “minority” also includes all other non-white racial categories within the U.S. Census Bureau’s 2000 Census of Population and Housing such as “some other race” and “two or more races.” The poverty threshold, or low-income population, is defined by the U.S. Census Bureau as those households living on less than 80 percent of the median income for an area (U.S. Census Bureau 2008).

Data were obtained from the U.S. Census Bureau. The Matanuska-Susitna Borough was the finest scale for which demographic data were available. Quantification for a “significant proportion” of the population is determined by following EPA guidelines published in *Final Guidance for Incorporating Environmental Justice Concerns in EPA’s NEPA Compliance Analysis* (EPA 1998). According to these guidelines, a minority population refers to a minority group or groups that comprise greater than 50 percent of the affected area’s general population. No guidelines are published for determination of a significant low-income population; therefore, we propose that a low-income population exists if there is a community whose general population is comprised of 25 percent or more of households living under the poverty threshold.

Threshold of Significance

The No Action Alternative or the Proposed Action would result in a potential determination of significant effect on environmental justice if the affected environment:

- Would include one or many minority groups as greater than 50 percent of the affected area’s general population; or
- Would include a population with 25 percent or more of its residents living under the poverty threshold; and
- The alternative would result in a “disproportionately high and adverse effect” on either or both of these populations.

3.6.2.3 Alternative A: No Action

Environmental Consequences

Neither minority populations nor low-income populations reach thresholds of significance in the project area. Low-income households comprise 11.3 percent of the Matanuska-Susitna Borough, and do not reach the minimum threshold of 25 percent; therefore no disproportionate adverse effects would be expected. Likewise, minority populations comprise 12.4 percent of the total population, below the 50 percent threshold criteria for determining significant effects on minority populations.

Under the No Action Alternative, the Troublesome Creek Trail would remain closed to the public, including minorities and low-income groups. Environmental justice effects from the No Action Alternative may result in reduced recreational opportunities for low-income and minority populations, although these effects are expected to be below the threshold of significance and on par with the effects on the general population. Therefore, these effects are not considered disproportionate.

Proposed Mitigation Measures

No mitigation measures are proposed for the No Action Alternative.

Significant and Unavoidable Adverse Effects

No significant or unavoidable adverse effects are anticipated from the No Action Alternative.

3.6.2.4 Alternative B: Proposed Action

Environmental Consequences

Neither minority populations nor low-income populations reach thresholds of significance in the project area. Disproportionate effects on minority or low-income populations would not be created through implementation of the project.

The Proposed Action may provide employment opportunities to the general population, including low-income and minority groups, associated with contracting needs for trail construction services through the Alaska State Division of Parks and Outdoor Recreation. The agency's standard bid procedure for trail building projects includes provisions intended to ensure equal opportunities for minority and low-income groups (Alaska Statute 41.21.020).

No significant adverse effects on environmental justice would be created as a result of this proposed method of contracting for construction services, or for other activities associated with the Proposed Action.

Proposed Mitigation Measures

No mitigation measures are proposed for the Proposed Action. Environmental justice effects from the Proposed Action are expected to be below the threshold of significance.

Significant and Unavoidable Adverse Effects

No significant or unavoidable adverse effects are anticipated from the Proposed Action.

3.7 CULTURAL RESOURCES

Cultural resources, also referred to as historic properties, include resources of historical and/or archaeological significance. For purposes of this document, the term “archaeological resources” is used to refer to prehistoric or historical subsurface sites or objects; and the term “historic resources” is used to refer to above-ground historic buildings, sites, objects, structures, or districts.

In determining the Area of Potential Effect (APE) for an undertaking, consideration must be given to those effects that would occur immediately and directly as well as those that are reasonably foreseeable and may occur later, are farther removed in distance, or are cumulative, but might still result from the undertaking. Areas immediately and directly affected by the Proposed Action include those areas within the project footprint. The APE for the Proposed Action has been defined to include the alignment of the existing Troublesome Creek Trail, as well as the alignment of the rerouted trail segments.

3.7.1 AFFECTED ENVIRONMENT

In a letter dated May 4, 2007, the Alaska State Historic Preservation Office (SHPO) indicated that they have no records of reported archaeological or historic sites in the project area, including the Little (*sic*) Troublesome Creek Trail or the Upper Troublesome Creek Trail (see Appendix A). In additional correspondence received from the SHPO dated December 11, 2008, the agency indicated that it has no records of historic properties in the APE of the Troublesome Creek Trail repair project (see Appendix A). As part of the Tribal consultation process, FEMA sent a scoping letter and a separate consultation letter to the Native Village of Cantwell, the Tribal entity closest to the project (Appendix A). No response was received from either inquiry.

During the August 25 through 28, 2008, site visit, an archaeologist working with FEMA conducted a general survey of the project site and observed no previously unreported historic properties. In addition, the archaeologist determined that there is a low likelihood for historic properties to exist in the project area.

3.7.2 THRESHOLD OF SIGNIFICANCE

The National Historic Preservation Act (specifically, Section 106), the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act provide guidance for addressing potential effects on cultural resources. General guidance also is provided by Alaska’s Historic Preservation Plan (DNR 2008). The unanticipated discovery of previously unreported cultural resources during project work would trigger additional consultation with the Alaska SHPO and tribal interests under the appropriate laws and implementing regulations.

3.7.3 ENVIRONMENTAL CONSEQUENCES

3.7.3.1 Alternative A: No Action

Under the No Action Alternative, FEMA would not fund the trail repair project, and there would be no repair or related activities. No ground disturbance or clearing would occur, and previously unreported cultural resources are unlikely to be present within the APE. Therefore, the No Action Alternative would have no significant effect on cultural resources, and associated thresholds of significance would not be exceeded.

3.7.3.2 Alternative B: Proposed Action

Under the Proposed Action, trail repair and rerouting activities (clearing and brushing, grubbing, excavation, and grading) would disturb approximately 0.6 acres within the clearing limits. The level of activity and use at the site would not change from the current condition and is not planned for areas with identified cultural resources. The SHPO and tribes would be notified, and consulted with, if cultural resources were discovered during project activities. However, the possibility of effects on cultural resources is considered unlikely since there are no identified cultural resources within the APE. No significant adverse effects are anticipated, and the associated thresholds of significance would not be exceeded.

In response to the scoping letter associated with this project, the SHPO has issued a determination that there are “no historic properties affected” (see Appendix A).

FEMA will include the following as a condition of any funding associated with the Proposed Action: In the event that historically or archaeologically significant materials or sites (or evidence thereof) are discovered during the implementation of the project, the project shall be halted and all reasonable measures taken to avoid or minimize harm to property until such a time as FEMA, in consultation with the SHPO, determines that appropriate measures have been taken to ensure that the project is in compliance with the National Historic Preservation Act.

3.7.3.3 Mitigation Measures and Residual Effects

No mitigation measures are proposed under either alternative. DNR would implement its standard construction BMPs. If cultural resources were encountered during construction, all ground-disturbance would be stopped and the SHPO would be contacted.

3.8 CUMULATIVE EFFECTS

Cumulative effects are those that result from the incremental effect of a proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other action (40 CFR 1508.7).

The Proposed Action is for FEMA to support DNR by providing partial funding for the reconstruction of the Troublesome Creek Trail in Denali State Park, Alaska. Potential cumulative effects from the Proposed Action in addition to other activities in the area are primarily from clearing of vegetation and soil disturbance associated with the trail restoration activities. These activities could have minor cumulative effects on soils; hydrology, water quality, and floodplains; vegetation and wetlands; fish and aquatic life; and general wildlife. However, these effects are not considered significant given their extent and degree.

Use of the Denali State Park as a site for recreational activities is expected to increase as local and regional populations grow and as the Denali area continues to be an international recreation destination. DNR has developed and will continue to develop long-range recreation plans that address increased demand for recreational facilities in the state park. Implementation of these plans is expected to maintain recreational activities and facilities at a level that does not create significant negative effects.

4.0 Consultation & Coordination

4.1 PUBLIC INVOLVEMENT

FEMA sent a scoping letter to agencies, Tribes, and local interested parties on November 14, 2008. The letter provided a description of the proposed project and requested comments on issues and concerns, the range of alternatives, and potential effects regarding the project. The scoping letter and the comments received are included in Appendix A.

4.1.1 COMMENTS ON THE DRAFT EA

FEMA's Draft EA was released and a notice was published for a 30-day public review and comment period, which ended on June 1, 2009. As of June 9, 2009, FEMA has received no comments on the Draft EA.

4.2 AGENCY AND TRIBAL CONSULTATION AND COORDINATION

FEMA consulted with several federal and local agencies throughout the EA process to gather valuable input and to meet regulatory requirements (see scoping list). This coordination was integrated with the public involvement process.

4.2.1 ENDANGERED SPECIES ACT

The evaluation of endangered species contained in this EA serves as FEMA's biological assessment as required under the Endangered Species Act. There are no federally listed or proposed threatened or endangered species in the project vicinity. FEMA has determined that the Proposed Action will not affect any federally listed or proposed threatened or endangered species.

4.2.2 NATIONAL HISTORIC PRESERVATION ACT

In compliance with Section 106 of the National Historic Preservation Act, DNR sent a letter to the SHPO in April 2007 requesting information on any archaeological or historic sites that might be present in the project area and the Area of Potential Effect. In a letter dated May 4, 2007, the SHPO replied that they have no records of reported archaeological or historic sites in the project area, including the Little (*sic*) Troublesome Creek Trail or the Upper Troublesome Creek Trail (see Appendix A).

During the scoping process, FEMA contacted the Alaska SHPO and requested that they inform FEMA if they were aware of cultural resources or other important sites in the vicinity of the project (scoping letter dated November 14, 2008; see Appendix A). In response to the scoping letter, the SHPO sent a notice dated December 11, 2008, with a "no historic properties affected" determination. On September 29, 2008, FEMA sent a letter to the President of the Native Village of Cantwell explaining the project and requesting information or concerns relevant to the project. No reply was received regarding this request.

4.2.3 COMPLIANCE WITH EXECUTIVE ORDERS 11990 AND 11988

Executive Orders 11990 and 11988 direct federal agencies to consider the effects of their projects on wetlands and floodplains, respectively. CFR 44 Part 9 sets forth the policy, procedure, and responsibilities to implement and enforce both EO 11990 and EO 11988. Part 9.4 of the CFR defines *Actions Affecting or Affected by Floodplains or Wetlands* to mean actions that have the potential to result in the long- or short-term effects associated with: (1) the occupancy or modification of floodplains, and the direct or indirect support of floodplain development; or (2) the destruction and modification of wetlands and the direct or indirect support of new construction in wetlands. The analysis presented in this EA is intended to meet the intent of the two executive orders and the associated policy, procedures, and responsibilities listed in the CFR. As analyzed in Section 3.2 (*Hydrology, Water Quality, and Floodplains*) and Section 3.3 (*Vegetation and Wetlands*), the Proposed Action would have no significant effects on wetland or floodplain resources in the project area.

4.2.4 TRIBAL COORDINATION

The relationship between federal agencies and sovereign Tribes is defined by several laws and regulations addressing the requirement of federal agencies to notify or consult with Native American groups or otherwise consider their interests when planning and implementing federal undertakings. Among these are the following:

- National Environmental Policy Act
- Executive Order 12875, Enhancing the Intergovernmental Partnership
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- Presidential Memorandum: Government-to-Government Relations with Native American Tribal Governments
- Executive Order 13084, Consultation and Coordination with Indian Tribal Governments

FEMA has adhered to these laws and regulations as applicable to the development of the EA.

5.0 Preparers

FEDERAL EMERGENCY MANAGEMENT AGENCY

Jerry Creek, Environmental Specialist

EDAW, INC.

Jim Keany, Senior Ecologist, Project Manager

Richard Dwerlkotte, Botanist

Amberlynn Pauley, Terrestrial Ecologist

Peter Carr, Editor and Planner

6.0 Distribution

FEDERAL AGENCIES

U.S. Fish and Wildlife Service
Attn: Frances Mann
605 West 4th Avenue, Room G-61
Anchorage, AK 99501

NOAA Fisheries' National Marine Fisheries Service
222 West 7th Avenue, Box 43
Anchorage, AK 99513

U.S. Army Corps of Engineers
Department of the Army, U.S. Army Engineer District
Alaska Regulatory Division
Attn: LeRoy Phillips
P.O. Box 6898
Elmendorf AFB, AK 99506-0898

U.S. Department of Homeland Security
FEMA Region X
Attn: Charles Diters, Historic Preservation Specialist
130 228th Street SW
Bothell, WA 98021-9796
(907)764-0062

STATE AGENCIES

Alaska Department of Fish and Game
Attn: Mike Daigneault, Division Manager
333 Raspberry Road
Anchorage, AK 99518

Alaska Department of Natural Resources
Attn: Dick Mylius, Division of Mining, Land and Water
550 West 7th Avenue, Suite 1070
Anchorage, AK 99501-3562

Alaska Division of Homeland Security & Emergency Management
Department of Military and Veteran Affairs
Attn: Mark Passmore
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99505-5750

State of Alaska, Department of Environmental Conservation
Anchorage Office
555 Cordova Street
Anchorage, AK 99501-2617

Alaska Office of History and Archaeology
Attn: Judith Bittner, State Historic Preservation Officer
550 West 7th Avenue, Suite 1310
Anchorage, AK 99501-3565

TRIBAL GOVERNMENTS

Mr. Gordon Carlson, President
Native Village of Cantwell
PO Box 94
Cantwell, AK 99729

MATANUSKA-SUSITNA BOROUGH

Matanuska-Susitna Borough
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350 E. Dahlia Avenue
Palmer, AK 99645

Matanuska-Susitna Borough
Attn: Fran Seager-Boss, Cultural Resources Specialist
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Matanuska-Susitna Borough
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Palmer, AK 99645

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Appendix A
Correspondence and Consultation

MEMORANDUM

Department of Natural Resources

State of Alaska

Division of Parks and Outdoor Recreation
Office of History & Archaeology



TO: Dan Valentine
Denali State Park

DATE: May 4, 2007

FILE NO: 3130-2R DPOR

FILED

FROM: Judith E. Bittner *Judy*
State Historic Preservation Officer

TELEPHONE NO.: 269-8720

SUBJECT: Denali State Park, repair of trails damaged
by August 2006 floods

The Office of History and Archaeology has reviewed your correspondence (received April 27, 2007) regarding the referenced project under Section 41.35.070 of the Alaska Historic Preservation Act. Based on the Alaska Heritage Resources Survey (AHRIS) records in our office, there are no reported archaeological or historic sites in the following trail project areas:

- Ermine Hill Trail, Giardia Creek Bridge
- Little Coal Creek Trail
- Little Troublesome Creek Trail
- Upper Troublesome Creek Trail

Two historic bridges are located in the vicinity of the Montana Creek State Recreation Area:

- TAL-11 Montana Creek Railroad Bridge
- TAL-125 Montana Creek (highway) Bridge

Both of the bridges appear to be outside of the project area.

The following AHRIS sites are reported along the Byers Lake Loop Trail and Cascade Trail:

- TAL-114: Prehistoric lithic flakes-located 0.1 miles north of the Byers Lake Loop Trail, T.31N., R.04W., Section 30
- TAL-119: Byers Lake Cabins-north side of Byers Lake, T.31N., R.05W., Section 25

TAL-114 (lithic flakes) is far enough away to not be impacted by the trail improvements provided that the trail is not rerouted in this area. The nature of the work should not impact TAL-119 (cabins).

We concur that no historic properties will be affected by any of the trail repair projects. It is important to remember however, that most of the trails in Denali State Park have not been systematically surveyed by archaeologists. In the event that previously unreported cultural resources are inadvertently discovered as a result of ground altering activities, work that may disturb these resources should be stopped immediately. The Office of History and Archaeology (269-8721) should be consulted regarding significance of the finds and appropriate actions to be taken to avoid, minimize or mitigate adverse impacts.

Please contact Stefanie Ludwig at 269-8720 if you have any questions or if we can be of further assistance.

TALDI

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region X
130 228th Street SW
Bothell, WA 98021



FEMA RECEIVED

OCT 06 2008

29 September 2008

OHA

Ms. Judith Bittner, State Historic Preservation Officer
Alaska Office of History and Archaeology
550 West 7th Avenue, Suite 1310
Anchorage, AK 99501-3565

Re: NHPA §106 Compliance, FEMA-DR-1663-AK PW 79, Troublesome Creek Trail, and PW 81, Cascade Trail, Denali State Park

Dear Ms. Bittner:

Pursuant to 36 CFR §800, the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) has taken steps necessary to identify historic and archaeological properties located within the Area of Potential Effect (APE) of the above-referenced projects. The purpose of this letter is to request your concurrence with FEMA's determinations in this matter.

Through the Alaska Division of Homeland Security and Emergency Management, the Division of Parks and Outdoor Recreation of the Alaska Department of Natural Resources has applied to FEMA for funding assistance to repair and reconstruct two foot trails in Denali State Park. Severe storms during the period 15-25 August 2006 damaged sections of these trails, as generally depicted on the enclosed maps. This storm event was declared a Presidential disaster as FEMA-1663-DR-AK. FEMA is proposing to fund 75% of the cost for this project through its Public Assistance (PA) program.

Your office has already commented on these projects in a memorandum (File No: 3130-2R DPOR, 4 May 2007) to Dan Valentine. At the time, you concurred with Mr. Valentine's determination that no historic properties would be affected by the proposed trail repair projects. However, the correspondence did not define the APE of the undertakings. FEMA has determined that the APE will consist of a linear right of way less than 20' wide. At Troublesome Creek Trail, the work will encompass about three miles of trail work (within an overall trail length of about 8 1/2 miles), and at Cascade Trail, about 1 1/2 miles. This yields a total of about ten acres between the two projects.

No Historic Properties Affected
Alaska State Historic Preservation Officer
Date. 11-18-2008
File No.: 3130-1R FEMA 52

FEMA Historic Preservation Specialist Charles Diters visited the Cascade Trail project area on 25 August 2008, walking all but the portion of the trail above tree line, and found no indications of any cultural resources not already identified in the earlier correspondence. He did not walk the Troublesome Creek Trail. However, the trail work in both cases will take place on relatively steep slopes not well suited for human habitation.

FEMA will include the following as a condition of funding:

In the event historically or archaeologically significant materials or sites (or evidence thereof) are discovered during the implementation of the project, the project shall be halted and all reasonable measures taken to avoid or minimize harm to property until such time as FEMA, in consultation with the State Historic Preservation Officer (SHPO), determines appropriate measures have been taken to ensure that the project is in compliance with the National Historic Preservation Act.

Based on these conditions, and on your earlier correspondence, FEMA has concluded in accordance with 36 CFR §800.4(d)(1) that there are no historic properties within the APE of this undertaking. Thank you for your review of this project. If you have any questions or comments, please contact Mr. Diters at charles.diters@dhs.gov, or by telephone at (907)764-0062.

Sincerely,



for Mark G. Eberlein
Regional Environmental Officer

Enclosures

Cc: James Keany, EDAW



FEMA

November 14, 2008

See Distribution List

Subject: Scoping of Issues for Two Proposed Projects in Denali State Park: (1) Troublesome Creek Trail (DR-1663-AK PW-79); and (2) Cascade Trail (DR-1663-AK PW-81-1)

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) is proposing to support the Alaska Department of Natural Resources (DNR), Division of Parks and Outdoor Recreation, by providing partial funding to repair damaged segments along two trails in Denali State Park: (1) the Troublesome Creek Trail, and (2) the Cascade Trail. President Bush declared a disaster in the region on October 16, 2006, because of severe storms, flooding, landslides, and mudslides during the period August 15 to August 25, 2006. The purpose of these two proposed projects is to provide FEMA–Public Assistance funding to the DNR to repair and realign the existing trails.

Troublesome Creek Trail

The flood damage to Troublesome Creek Trail extends approximately 22,000 linear feet and includes erosion and deposition of woody debris on segments of the trail in the floodplain, segments on tall bluffs above the river lost when high flows undercut the bluffs causing them to slide, as well as the destruction of four wooden stream crossings and three wooden bridges that span tributaries to Troublesome Creek. In some portions of the damaged trail, repair work is needed along the existing alignment to maintain featured scenic attractions and viewpoints along Troublesome Creek. In other portions of the damaged trail, DNR and FEMA are proposing to realign the trail, moving it out of the active floodplain and away from the edges of tall bluffs to avoid similar damage during future storms. The DNR has not yet finalized the specific repair plans for the trail. Because of the storm damage and safety considerations, the Troublesome Creek Trail is currently closed to recreation use, and repairs are required prior to reopening this popular state park trail. See Figure 1 (attached).

Cascade Trail

The storm damage to Cascade Trail extends approximately 8,000 linear feet and includes the destruction of one bridge and downcutting and widening of many of the steeper trail sections. In the damaged areas, the capacity of water bars and exposed tree root systems to slow stormwater runoff was overwhelmed and unable to prevent degradation of the trail and the adjacent vegetation. In some portions of the damaged trail, repair work is needed along the existing alignment to repair stormwater water diversions such as water bars. In other portions of the damaged trail, DNR and FEMA are proposing to relocate the trail to avoid oversteep sections and similar damage during future storms. The new trail will be about 10,000 feet long (because of relocation and switchbacks), and the new bridge will be 20 feet long and 30

inches wide near the old crossing location. The DNR has not yet finalized the specific repair plans for the trail. Despite the storm-related damage, the Cascade Trail remains open for public use. See Figure 2 (attached)

The Scoping Process

The purpose of this letter is to invite you to participate in the “scoping process” for either or both projects by reviewing the initial proposals as outlined in this letter and providing comments to support the development of two Environmental Assessments (EAs). The National Environmental Policy Act (NEPA) requires FEMA to evaluate the impacts of these proposed actions on the human and natural environments. FEMA intends to develop a separate EA for the action of repairing and partially realigning each of the existing two trails. We are asking your assistance to identify issues and concerns, develop alternatives to the proposed actions, and identify potential impacts of implementing these projects.

Your written comments or, if your agency has not comments, a written confirmation of receipt of this notice stating that your agency has no comments to contribute on this proposal during the project scoping phase (comments must be received by December 14, 2008) should be sent to FEMA’s consultant:

Jim Keany – Jim.Keany@edaw.com
EDAW
815 Western Avenue, #300
Seattle WA, 98104

If you have questions about this letter, the projects, or if you want to receive a copy of the Draft EA documents for review and comment when they are released later during the planning process, please feel free to contact Jerry Creek, Environmental Specialist via email (jerry.creek@dhs.gov) or phone (425-482-3748) or me via email (mark.eberlein@dhs.gov) or phone (425-487-4735).

Sincerely,



Mark Eberlein
Regional Environmental Officer
FEMA Region 10

Enclosure: Project Maps
Distribution List

Figure 1: Proposed Site Location – Troublesome Creek Trail Repair Project

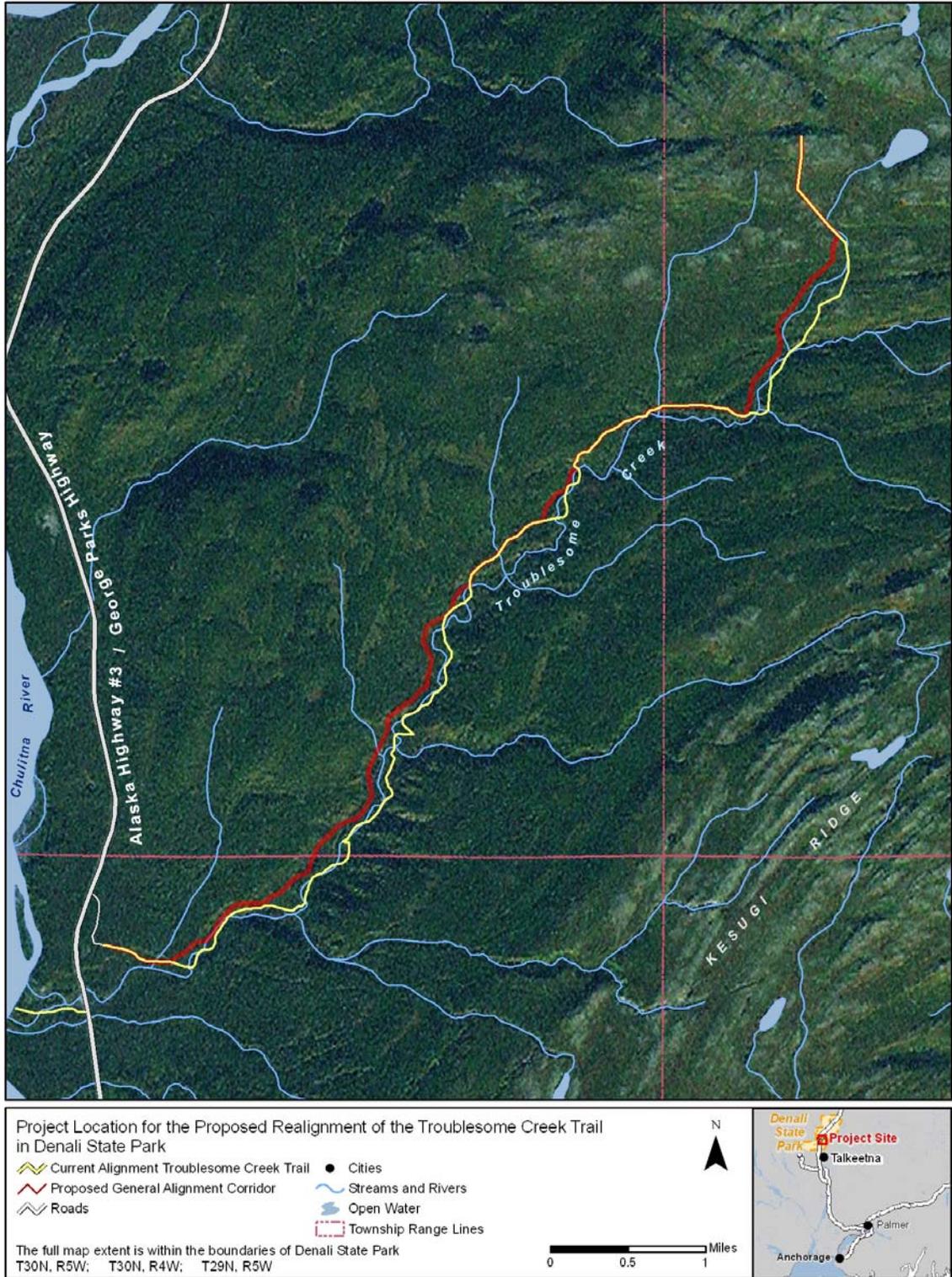
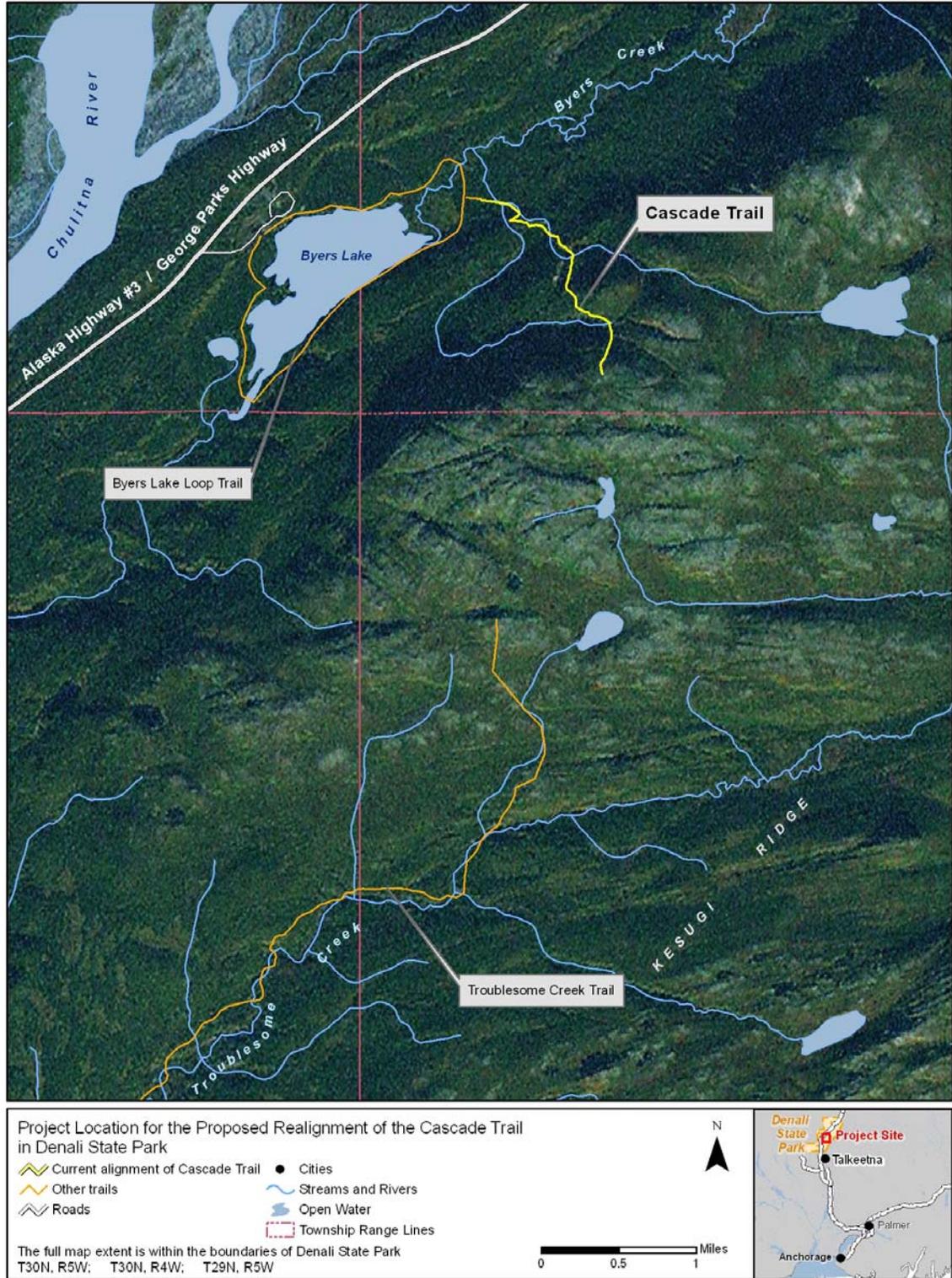


Figure 2: Proposed Site Location – Cascade Trail Repair Project



**Troublesome Creek and Cascade Trail Repair Projects
Environmental Assessment
Scoping Letter Distribution List**

Federal Agencies

U.S. Fish and Wildlife Service
Attn: Frances Mann
605 West 4th Avenue, Room G-61
Anchorage, AK 99501

NOAA Fisheries' National Marine Fisheries Service
222 West 7th Avenue, Box 43
Anchorage, AK 99513

U.S. Army Corps of Engineers
Department of the Army, U.S. Army Engineer District
Alaska Regulatory Division
Attn: LeRoy Phillips
P.O. Box 6898
Elmendorf AFB, AK 99506-0898

US Department of Homeland Security
FEMA Region X
Attn: Charles Diters, Historic Preservation Specialist
130 228th Street SW
Bothell, WA 98021-9796
(907)764-0062

State Agencies

Alaska Department of Fish and Game
Attn: Mike Daigneault, Division Manager
333 Raspberry Road
Anchorage, AK 99518

Alaska Department of Natural Resources
Attn: Dick Mylius, Division of Mining, Land and Water
550 West 7th Avenue, Suite 1070
Anchorage, AK 99501-3562

Alaska Department of Natural Resources
James King, Division of Parks and Outdoor Recreation
550 W. 7th Ave, Ste 1380
Anchorage, AK 99501-3561

Alaska Department of Natural Resources
Division of Parks and Outdoor Recreation, Southcentral Region
Mat-Su/Copper Basin Area Office
Attn: Wayne Biessel
HC 32 Box 6706
Wasilla, AK 99654

Alaska Division of Homeland Security & Emergency Management
Department of Military and Veteran Affairs
Attn: Mark Passmore
PO Box 5750
Ft. Richardson, AK
99505-5750

State of Alaska, Department of Environmental Conservation
Anchorage Office
555 Cordova Street
Anchorage, AK 99501-2617

Alaska Office of History and Archaeology
Attn: Judith Bittner, State Historic Preservation Officer
550 West 7th Avenue, Suite 1310
Anchorage, AK 99501-3565

Tribal Governments

Mr. Gordon Carlson, President
Native Village of Cantwell
PO Box 94
Cantwell, AK 99729



FEMA

29 September 2008

Mr. Gordon Carlson, President
Native Village of Cantwell
PO Box 94
Cantwell, AK 99729

Dear Mr. Carlson:

The Alaska Division of Parks and Outdoor Recreation has applied to the Federal Emergency Management Agency (FEMA) for funding assistance under the Robert T. Stafford Disaster Relief and Emergency Assistance Act to assist in the repair and reconstruction of two trails in Denali State Park. These trails were damaged by flooding during the period 15-25 August 2006, which resulted in a Presidentially declared disaster, FEMA-DR-1663-AK.

These two trails, Troublesome Creek Trail (PW 79) and Cascade Trail (PW 81), are shown on the enclosed maps. In accordance with §106 of the National Historic Preservation Act and the regulations in 36 CFR §800, FEMA is taking steps to identify any properties of historic, archaeological, or cultural interest in the vicinity of these projects.

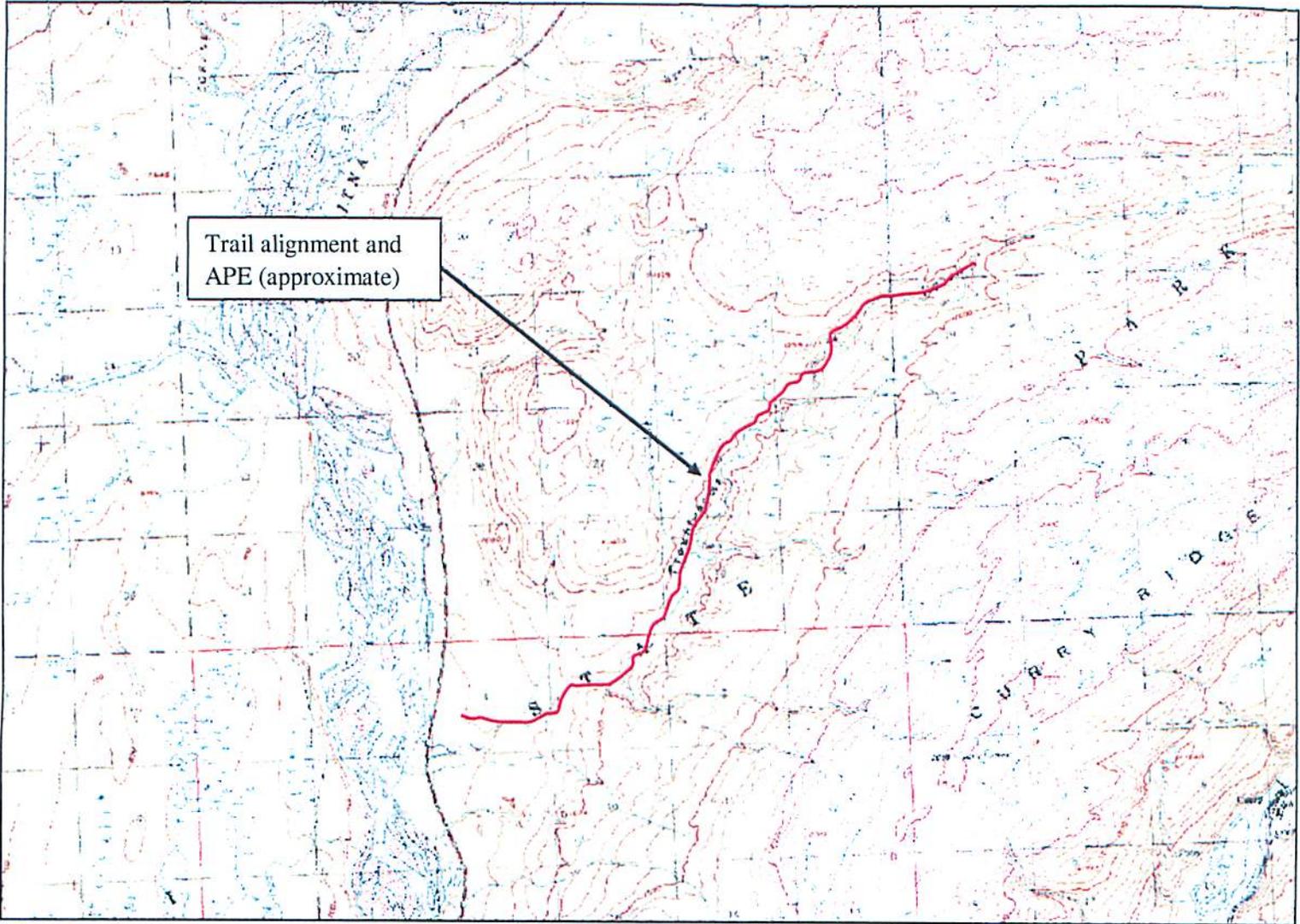
FEMA would appreciate any information or concerns you may have regarding Native cultural values in these project areas. Please address any correspondence to me at the above address. If you have any questions, please contact Mr. Charles Diters, Historic Preservation Specialist, at charles.diters@dhs.gov, or by telephone at (907)764-0062. Thank you very much.

Sincerely,

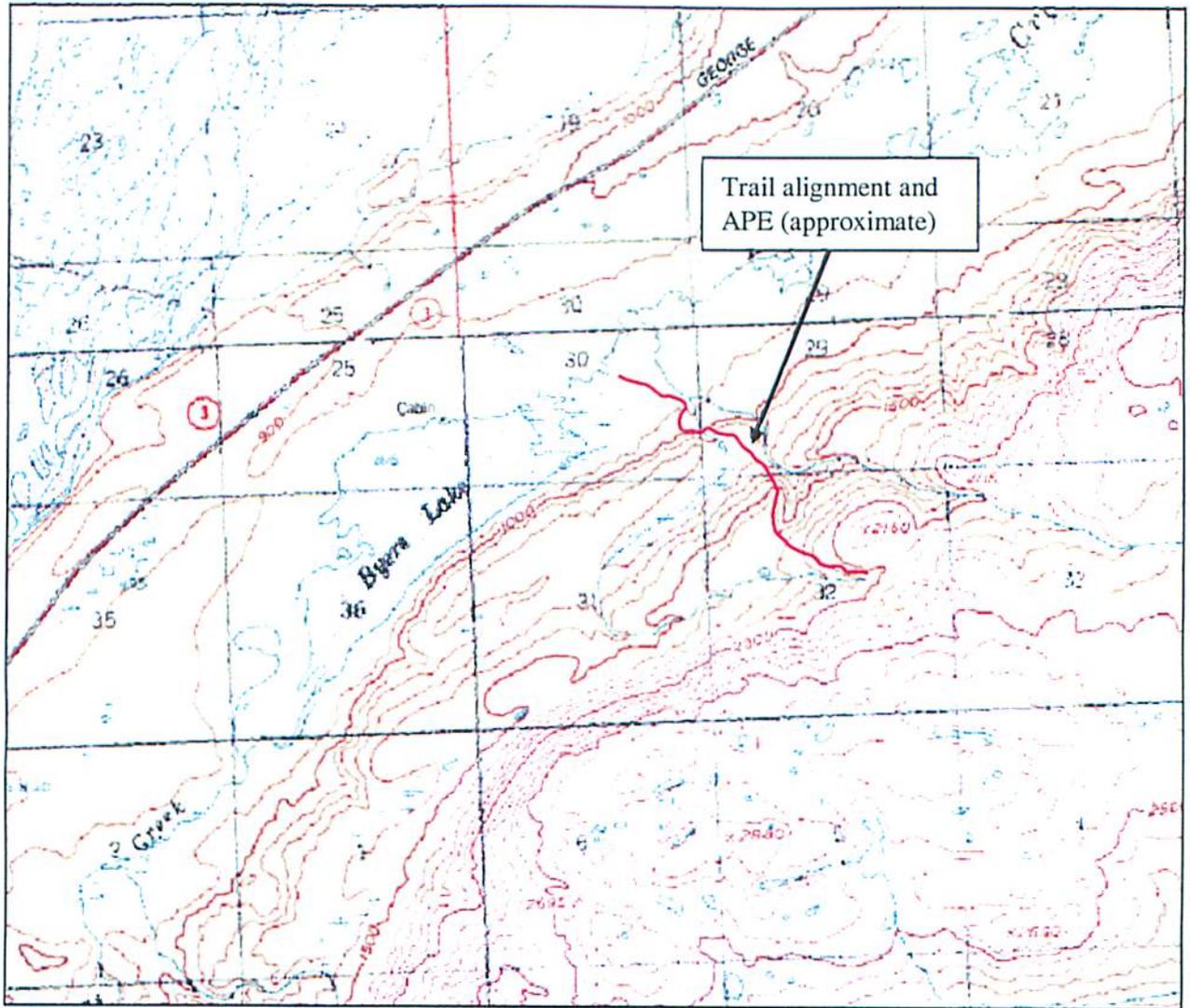

for Mark G Eberlein
Regional Environmental Officer

Enclosures

Cc: James Keany, EDAW



Map 1: Location of Troublesome Creek Trail, Denali State Park
FEMA DR-1663-AK PW 79



Map 2: Location of Cascade Trail, Denali State Park
FEMA DR-1663-AK PW 81

Due to the high volume of reviews, our office is no longer writing letters of concurrence in cases where there are no historic properties affected by a given project. Instead, the cover letter is being stamped with **"No historic properties affected"** and being returned to the applicant. The stamp will serve as evidence of consultation with the State Historic Preservation Officer as required by Section 106 of the National Historic Preservation Act. We will continue writing letters in situations where there are historic properties that may be affected by a given project.

If the project design is altered in any way, we will need to review the undertaking again.

If cultural resources are inadvertently discovered as a result of ground altering activities, work that may disturb these resources should be stopped immediately. The State Historic Preservation Office (907-269-8721) should be consulted regarding significance of the find and appropriate actions to be taken.

3130-1R FEMA

U.S. Department of Homeland Security
Region X
130 228th Street SW
Bothell, WA 98021-9796

No Historic Properties Affected
Alaska State Historic Preservation Officer
Date. 12-11-2008
File No.: 3130-1R FEMA
TK



FEMA

RECEIVED

November 14, 2008

NOV 19 2008

See Distribution List

OHA

Subject: Scoping of Issues for Two Proposed Projects in Denali State Park: (1) Troublesome Creek Trail (DR-1663-AK PW-79); and (2) Cascade Trail (DR-1663-AK PW-81-1)

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) is proposing to support the Alaska Department of Natural Resources (DNR), Division of Parks and Outdoor Recreation, by providing partial funding to repair damaged segments along two trails in Denali State Park: (1) the Troublesome Creek Trail, and (2) the Cascade Trail. President Bush declared a disaster in the region on October 16, 2006, because of severe storms, flooding, landslides, and mudslides during the period August 15 to August 25, 2006. The purpose of these two proposed projects is to provide FEMA-Public Assistance funding to the DNR to repair and realign the existing trails.

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Cascade Trail

The storm damage to Cascade Trail extends approximately 8,000 linear feet and includes the destruction of one bridge and downcutting and widening of many of the steeper trail sections. In the damaged areas, the capacity of water bars and exposed tree root systems to slow stormwater runoff was overwhelmed and unable to prevent degradation of the trail and the adjacent vegetation. In some portions of the damaged trail, repair work is needed along the existing alignment to repair stormwater water diversions such as water bars. In other portions of the damaged trail, DNR and FEMA are proposing to relocate the trail to avoid oversteep sections and similar damage during future storms. The new trail will be about 10,000 feet long (because of relocation and switchbacks), and the new bridge will be 20 feet long and 30

inches wide near the old crossing location. The DNR has not yet finalized the specific repair plans for the trail. Despite the storm-related damage, the Cascade Trail remains open for public use. See Figure 2 (attached)

The Scoping Process

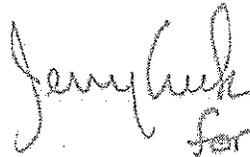
The purpose of this letter is to invite you to participate in the "scoping process" for either or both projects by reviewing the initial proposals as outlined in this letter and providing comments to support the development of two Environmental Assessments (EAs). The National Environmental Policy Act (NEPA) requires FEMA to evaluate the impacts of these proposed actions on the human and natural environments. FEMA intends to develop a separate EA for the action of repairing and partially realigning each of the existing two trails. We are asking your assistance to identify issues and concerns, develop alternatives to the proposed actions, and identify potential impacts of implementing these projects.

Your written comments or, if your agency has not comments, a written confirmation of receipt of this notice stating that your agency has no comments to contribute on this proposal during the project scoping phase (comments must be received by December 14, 2008) should be sent to FEMA's consultant:

Jim Keany – Jim.Keany@edaw.com
EDAW
815 Western Avenue, #300
Seattle WA, 98104

If you have questions about this letter, the projects, or if you want to receive a copy of the Draft EA documents for review and comment when they are released later during the planning process, please feel free to contact Jerry Creek, Environmental Specialist via email (jerry.creek@dhs.gov) or phone (425-482-3748) or me via email (mark.eberlein@dhs.gov) or phone (425-487-4735).

Sincerely,



Mark Eberlein
Regional Environmental Officer
FEMA Region 10

Enclosure: Project Maps
Distribution List

MEMORANDUM

Department of Natural Resources

State of Alaska

Division of Parks and Outdoor Recreation
Office of History & Archaeology



TO: Dan Valentine
Denali State Park

DATE: May 4, 2007

FILE NO: 3150-2R DPOR

PAID

FROM: Judith E. Bittner *Judy*
State Historic Preservation Officer

TELEPHONE NO.: 269-8720

SUBJECT: Denali State Park, repair of trails damaged
by August 2006 floods

The Office of History and Archaeology has reviewed your correspondence (received April 27, 2007) regarding the referenced project under Section 41.35.070 of the Alaska Historic Preservation Act. Based on the Alaska Heritage Resources Survey (AHRs) records in our office, there are no reported archaeological or historic sites in the following trail project areas:

- > Ermine Hill Trail, Giardia Creek Bridge
- > Little Coal Creek Trail
- > Little Troublesome Creek Trail
- > Upper Troublesome Creek Trail

Two historic bridges are located in the vicinity of the Montana Creek State Recreation Area:

- > TAL-11 Montana Creek Railroad Bridge
- > TAL-125 Montana Creek (highway) Bridge

Both of the bridges appear to be outside of the project area.

The following AHRs sites are reported along the Byers Lake Loop Trail and Cascade Trail:

- > TAL-114: Prehistoric lithic flakes-located 0.1 miles north of the Byers Lake Loop Trail, T.31N., R.04W., Section 30
- > TAL-119: Byers Lake Cabins-north side of Byers Lake, T.31N., R.05W., Section 25

TAL-114 (lithic flakes) is far enough away to not be impacted by the trail improvements provided that the trail is not rerouted in this area. The nature of the work should not impact TAL-119 (cabins).

We concur that no historic properties will be affected by any of the trail repair projects. It is important to remember however, that most of the trails in Denali State Park have not been systematically surveyed by archaeologists. In the event that previously unreported cultural resources are inadvertently discovered as a result of ground altering activities, work that may disturb these resources should be stopped immediately. The Office of History and Archaeology (269-8721) should be consulted regarding significance of the finds and appropriate actions to be taken to avoid, minimize or mitigate adverse impacts.

Please contact Stefanie Ludwig at 269-8720 if you have any questions or if we can be of further assistance.



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, ALASKA
REGULATORY DIVISION
P.O. BOX 6898
ELMENDORF AFB, ALASKA 99506-0898

Regulatory Division
POA-2008-1583

Mr. Jim Keany
EDAW
815 Western Ave., # 300
Seattle, WA 98104

DEC 09 2008

Dear Mr. Keany:

**SUBJECT: Scoping of Issues for Two Proposed Projects in Denali State Park:
(1) Troublesome Creek Trail and (2) Cascade Trail**

Thank you for the opportunity to provide scoping comments with regard to repair and realignment of damaged segments along two trails in Denali State Park. These are known as the Troublesome Creek Trail and the Cascade Trail. The location for the Troublesome Creek Trail is Section 3,4,34,35,26,25,24, 19,18,17,8., T. 29,30 N., R.4W.,5W., Seward Meridian, Quad Map Mt. Talkeetna B-1, Latitude 62.6710 N., Longitude -150.1306 W. The location for the Cascade Trail is Section 30,29,32, T. 30 N., R.5 W., Quad Map Talkeetna B-1, Latitude 62.7434 N., Longitude -150.0922. Access to both trails is from the Parks Highway in Denali State Park north of Talkeetna, Alaska.

This proposed project has been assigned the file number POA-2008-1583, Cascade Trail Repair Project which should be referred to in future correspondence.

Based on our review of the information you furnished and available to us, we have determined the above property contains waters of the U.S., including wetlands, under the Corps' regulatory jurisdiction. Under the above file number, a copy of the Approved Jurisdictional Determination form is available at <http://www.poa.usace.army.mil/reg/ApprovedJDs.htm>

Therefore, DA authorization is required if you propose to place fill material into waters of the U.S., including wetlands and/or perform work in navigable waters of the U.S. Enclosed is a pamphlet to assist you in applying for a DA permit.

Section 404 of the Clean Water Act requires that a DA permit be obtained for the placement or discharge of dredged and/or fill material into waters of the U.S., including jurisdictional wetlands (33 U.S.C. 1344). The Corps defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Section 10 of the Rivers and Harbors Act of 1899 requires that a DA permit be obtained for structures or work in or affecting navigable waters of the U.S. (33 U.S.C. 403). Section 10 waters are those waters subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or other waters identified by the Alaska District.

This approved jurisdictional determination is valid for five (5) years from the date of this letter, unless new information supporting a revision is provided to us before the expiration date. Enclosed is a Notification of Administrative Appeal Options and Process and Request for Appeal form (see section titled "Approved Jurisdictional Determination").

Nothing in this letter excuses you from compliance with other Federal, State, or local statutes, ordinances, or regulations.

You may contact me via email at Valanne.glooschenko@usace.army.mil, by mail at the address above, by phone at (907) 753-2786, or toll free from within Alaska at (800) 478-2712, if you have questions. For additional information about our Regulatory Program, visit our web site at www.poa.usace.army.mil/reg.

Sincerely,



Valanne Glooschenko
Regulatory Specialist

Enclosures

STATE OF ALASKA

**DEPARTMENT OF MILITARY
AND VETERANS AFFAIRS**
*DIVISION OF HOMELAND SECURITY
AND EMERGENCY MANAGEMENT*

SARAH PALIN, GOVERNOR

P.O. Box 5750
Ft. Richardson, AK 99505-5750
Phone: (907) 428-7000
Fax: (907) 428-7009
Toll Free: (800)478-2337
www.ak-prepared.com

December 16, 2008

Mr. Jim Keany
EDAW
815 Western Avenue, #300
Seattle, WA 98104

Subject: Scoping of Issues – For Two Proposed Projects in Denali State Park:
Troublesome Creek Trail (DR-1663-AK PW-79) and Cascade Trail
(DR-1663-AK, PW – 81-1)

Dear Mr. Keany:

The State of Alaska Division of Homeland Security and Emergency Management (DHS&EM) received the Scoping of Issues letter for the above subject dated November 14, 2008. DHS&EM has no comments regarding the proposed projects.

I understand the State has missed the deadline. The State has no issues regarding the scoping of issues.

If you have any questions about this letter, please feel free to contact me via email at mark.passmore@alaska.gov or by telephone at 907-428-7053.

Sincerely,



Mark L. Passmore
State Public Assistance Officer

mlp:dms

CC: Mark Eberlein, Regional Environmental Officer, FEMA Region X