

**FINAL ENVIRONMENTAL IMPACT STATEMENT
NABESNA OFF-ROAD VEHICLE MANAGEMENT PLAN,
WRANGELL-ST. ELIAS NATIONAL PARK AND PRESERVE, ALASKA**

Lead Agency: U.S. Department of the Interior, National Park Service

Proposed Action: The National Park Service (NPS) is preparing an Environmental Impact Statement (EIS) for an Off-Road Vehicle (ORV) Management Plan for the Nabesna District of Wrangell-St. Elias National Park and Preserve.

Abstract: This final Plan/EIS incorporates information from other agencies and organizations, the public, and the NPS into six alternatives. Substantive changes made between the draft and final EIS are shaded in gray. Alternative 1 is the No Action alternative. Significant environmental issues include moderate, adverse impacts to soil, wetlands, vegetation, fish habitat, and wilderness. Socioeconomic effects would be beneficial. Alternative 2 would permit recreational and subsistence ORV use on nine unimproved trails with no trail improvement. Alternative 2 would result in major impacts to soil, wetlands, and vegetation, and moderate impacts to fish habitat and wilderness. Socioeconomic effects would be beneficial. Alternative 3 would not permit any recreational ORV use, would permit subsistence ORV use, and proposes few trail improvements. Impacts to soils, wetlands, vegetation, fish habitat, and wilderness would be moderate, and to recreational ORV users would be moderate to major. Effects to non-motorized users, socioeconomics, and natural soundscape would be beneficial. Alternative 4 would improve most trails to a maintainable standard and would permit recreational ORV use on improved trails in the National Preserve, but not the National Park. Subsistence ORV use would be permitted before and after improvements. Alternative 4 would result in moderate impacts to wildlife and subsistence, and major impacts to wilderness character. Effects to trail condition, visitor opportunities, and socioeconomics would be beneficial. Alternative 5 would improve most trails to a maintainable standard and permit recreational ORV use on improved trails in the National Park and Preserve. Subsistence ORV use would be permitted before and after improvements. Alternative 5 would result in moderate effects to wildlife, subsistence, and wilderness character. Effects to trail condition, visitor opportunities, and socioeconomics would be beneficial. Alternative 6, the NPS preferred alternative, would improve all trails to a maintainable standard and permit recreational ORV use on improved trails in the National Preserve, but not in the National Park. Subsistence ORV use would be permitted before and after improvements. Alternative 6 would result in moderate effects to cultural resources, wildlife, subsistence, and wilderness character. Effects to trail condition, visitor opportunities, and socioeconomics would be beneficial.

Public Comment: The draft ORV Management Plan/EIS was available for public review and comment from August 11, 2010, to November 10, 2010. NPS responses to public comment on the draft EIS are included in this final ORV Management Plan/EIS. A 30-day no-action period will follow the U.S. Environmental Protection Agency's publication of a Notice of Availability of this final Plan/EIS in the Federal Register. Following the 30-day no-action period, a Record of Decision (ROD) describing the actions to be taken (selected alternative) will be signed by the Regional Director of the NPS's Alaska Region. Both the final Plan/EIS and ROD will be made available to the public.

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EXECUTIVE SUMMARY

This **final** Off-Road Vehicle (ORV) Management Plan/Environmental Impact Statement (Plan/EIS) was prepared as required by the National Environmental Policy Act (NEPA) of 1969 and regulations of the Council of Environmental Quality (CEQ) (Title 40 Code of Federal Regulations [CFR] Part 1500). It describes a reasonable range of alternatives, characterizes the affected environment, and presents a detailed analysis of environmental consequences of the alternatives.

PURPOSE AND NEED FOR ACTION

The purpose of this Plan/EIS is to describe a strategy to provide continued opportunities for appropriate and reasonable access to wilderness and backcountry recreational activities, that also accommodates subsistence use and access to inholdings, while protecting scenic quality, fish and wildlife habitat, and other park resource values.

There are three reasons why an ORV management plan is needed at this time:

1. The General Management Plan for Wrangell-St. Elias National Park and Preserve (GMP) (NPS 1986) recognized the need to conduct future planning to address transportation and access issues.

The GMP recognized that the Alaska National Interest Lands Conservation Act (ANILCA) authorized ORV use for subsistence purposes and access to inholdings in WRST under certain circumstances. For recreational ORV use, the GMP cited the need for designation of specific areas for ORV use and a determination that ORV use in these areas would not adversely affect the natural, aesthetic, or scenic values, consistent with Executive Order 11644. The GMP also called for further trail inventory, assessment of ORV impacts, and access and transportation planning.

2. There is a need to address the impacts to park resources that are occurring because of ORV use in the Nabesna District.

ORV use in the Nabesna area has been occurring since before the establishment of the park. Since 1986, the park has conducted two major studies (Happe et al. 1998, Connery 1987) of ORV impacts and mitigation and a detailed survey and inventory of physical conditions along the existing trails in the Nabesna District (Meyer and Anderson 2007). These studies demonstrated that ORV use over wet areas leads to trail braiding and widening. Vegetation does not recover quickly, soils erode, permafrost depth changes, and impacts to surface hydrology occur. Of the nine ORV trails where recreational use has been permitted in the Nabesna District, the Suslota, Tanada Lake, Copper Lake, and Reeve Field trails all have substantial sections with degraded conditions. Where this occurs, trails can become impassable, resulting in the formation of multiple alignments or braiding. There is a need to evaluate mitigation options and adopt a strategy for effective trail management in the Nabesna District that minimizes impacts to park resources.

3. There is a need to consider other recreational opportunities and address user conflicts.

Some of the trails where ORV use has occurred are in a degraded condition. This discourages non-motorized uses such as hiking, horseback riding, or mountain biking. Consideration will be given to constructing or designing non-motorized backcountry trails and routes.

THE ALTERNATIVES

The National Park Service (NPS) is considering five action alternatives and a No Action alternative for managing ORV use on nine trails in the Nabesna District of Wrangell-St. Elias National Park and Preserve. Each action alternative presents a different means of meeting the purpose and needs through various combinations of trail improvement, trail administration, and identification of other trail opportunities.

Alternative 1 (No Action)

Recreational ORV use would be permitted on portions of seven of the nine trails and authorized under Title 43 CFR 36.11(g)(2). Recreational ORV use would not be permitted on the most degraded trails (Suslota, Tanada Lake, and part of Copper Lake trails). There would be no change in administration of subsistence ORV use and no trail improvements.

Alternative 2 (Permit Recreational ORV Use)

Recreational ORV use would be permitted on all nine trails. There would be no change to subsistence ORV use and no trail improvements.

Alternative 3 (No Recreational ORV Use Permitted)

Recreational ORV use would not be permitted on any of the nine trails. About 2.5 miles of motorized trail (part of Soda Lake trail) would be improved for subsistence ORV use or non-motorized uses. Subsistence ORV use would continue to occur but resource impacts would be monitored. If monitoring showed resource impacts increasing over time, management action would be taken. Management actions could include spot maintenance targeting resource impacts, vehicle class restrictions, seasonal closures, and area closures.

Alternative 4 (Improve Trails, Permit Recreational ORV Use in Preserve)

Eight of the nine trails would be improved to at least a maintainable condition through trail hardening, tread improvement, or constructed re-routes. After improvements are completed, recreational ORV use would be permitted on trails in the National Preserve (Caribou Creek, Lost Creek, Trail Creek, Soda Lake, and Reeve Field trails) but not on trails in the National Park (Tanada Lake, Copper Lake, and Boomerang trails). Until improvements are done, recreational ORV use would only be permitted on trails in fair or better condition (Lost Creek and Trail Creek trails). Subsistence ORV use would continue but would be subject to monitoring and management action if resource impacts increased.

Alternative 5 (Improve Trails, Permit Recreational ORV Use on Improved Trails)

Most degraded segments of the nine trails would be improved to at least a maintainable condition through trail hardening, tread improvement, or constructed re-routes. After improvements are completed, recreational ORV use would be permitted on both National Park and National Preserve trails. Recreational ORV use would not be permitted on Suslota trail (7.3 miles). Until improvements are done, recreational ORV use would only be permitted on trails in fair or better condition. Subsistence ORV use would continue but would be subject to monitoring and management action if resource impacts increased. On the trail systems in the designated wilderness, subsistence ORV users would be required to stay on designated trails. For wilderness lands outside of the designated trails, this would be accomplished by an area closure under 36 CFR 13.460(b).

Alternative 6 (Combines Alternatives 4 and 5)

This alternative responds to public comment on the draft EIS. All nine trails would be improved to at least a maintainable condition through trail hardening, tread improvement, or constructed re-routes. After improvements are completed, recreational ORV use would be permitted on trails in the National Preserve (Suslota, Caribou Creek, Lost Creek, Trail Creek, and Reeve Field trails) but not on trails in the National Park (Tanada Lake, Copper Lake, and Boomerang trails). Until improvements are completed, recreational ORV use would only be permitted on trails in fair or better condition (Lost Creek and Trail Creek trails). Subsistence ORV use would continue but would be subject to monitoring and management action if resource impacts increased. On the trails in the designated wilderness, subsistence ORV users would be required to stay on designated trails, with allowance for game retrieval. In designated wilderness subsistence user restrictions would be accomplished by closures pursuant to 36 CFR 13.460.

Actions Common to all Action Alternatives

Revised Wilderness Eligibility Map: Proposes revisions to the 1986 wilderness eligibility assessment and map from the GMP.

Recreational ORV Use: Establishes vehicle size and weight restrictions. If authorized, recreational ORV users would be required to stay on designated trails and obtain a permit.

Subsistence ORV Use: Establishes vehicle size and weight restrictions.

ORVs Used for Accessing Private Inholdings: Addresses how this use would be authorized. Also discusses how actions proposed within the range of alternatives relate to ORV use for accessing private inholdings.

Recreational ORV Limits: Explains that closures to recreational ORV use would be maintained at current locations (at the end of Trail Creek, Lost Creek, and Caribou Creek trails and beyond Boomerang Lake) for non-motorized opportunities and resource protection. These areas would remain open to subsistence ORV use.

Non-motorized Trails or Routes: Indicates that the Skookum Volcano trail and the Trail Creek to Lost Creek route would remain closed to recreational ORV use.

Reeve Field Alaska Native Claims Settlement Act (ANCSA) Easement: Explains that the Reeve Field trail crosses private property before reaching the Nabesna River. There is an existing ANCSA 17(b) easement across the private property. The NPS would work with the private landowners to ensure that the easement is properly marked and signed and that it is connected with the ORV trail location upon entry to private lands.

NPS Administrative use of ORVs: Presents guidelines for administrative use of ORVs.

AFFECTED ENVIRONMENT

Physical Environment

The analysis area falls within the Nabesna District of Wrangell-St. Elias National Park and Preserve and is bounded by the Mentasta Mountains to the north and the Wrangell Mountains to the south. The climate is subarctic. This area is traversed by the Nabesna Road, a 42-mile gravel road from Slana to Nabesna that crosses the headwaters of the Copper and Tanana drainages. The trailheads for seven of the nine analysis area trails can be accessed directly from Nabesna Road. The other two

trails, Boomerang and Soda Lake, are accessed from the Copper Lake trail and Lost Creek trail, respectively.

Soils: Soils in the analysis area overlie a variety of complex geological materials. Shallow permafrost occurs in many areas, including degraded trail segments. In these areas, soils are cold, saturated with surface water, and low in nutrients. At least 50 percent of Boomerang, Copper Lake, Suslota, and Tanada Lake trails were assessed with mud and muck-holes, rutting and subsidence, poor soil drainage, and trail surfaces that generally do not support ORV use. Reeve Field trail has developed muddy areas and muck-holes with poor drainage. Gravel substrates dominate Lost Creek and Trail Creek trails. Caribou Creek and Soda Lake trails also have relatively few degraded areas.

Trail Condition: Out of 116 miles of analysis area trails inventoried, almost half (54 miles) were assessed as degraded, very degraded, or extremely degraded. Another 20 percent were considered in good condition and 33 percent in fair condition. Six trails (Boomerang, Copper Lake, Reeve Field, Soda Creek, Suslota, and Tanada Lake) had trail segments with widths greater than 20 feet, indicating trail braiding. Current ORV use is fairly evenly split between recreational and subsistence, with 437 and 480 round trips, respectively, on average each year. Trails with the greatest percentages of recreational ORV use (over 70 percent) include Caribou Creek, Lost Creek, Soda Lake, and Trail Creek. Trails with the greatest percentages of subsistence ORV users include Black Mountain, Copper Lake, Suslota, and Tanada Lake, and the trail system south of Tanada Lake, which are closed to recreational ORV use.

Biological Environment

Wetlands: Due to the remoteness of the area and the lack of human activity, most of the 217,590 acres of wetlands within the analysis area are undisturbed. The system of roads and trails is the primary source of impact to wetlands. ORVs can disturb shallow root systems, and trail braiding can impact many acres of wetlands. Most of the wetlands found within the analysis area are high quality in regards to their function within the landscape and their support of flood-flow alteration and storage, erosion control and sediment stabilization, groundwater recharge and discharge, nutrient cycling, carbon/detrital export, and fish and wildlife habitat.

Vegetation: Vegetation types found within the park include a variety of forest, shrub, and herbaceous communities. ORV use in the analysis area has resulted in changes to the vegetation along trails, including direct mortality, reduction in cover and biomass, alterations to soil structure, and changes in the composition of dominant species found along trails. The low shrub, needleleaf forest, and graminoid-dominated herbaceous communities have had the most acres impacted by ORV trails. The mesic herbaceous and low shrub communities are the most sensitive and have experienced the greatest severity of impacts from ORV use. To date, 10 exotic plant species (none designated as noxious weeds) have been documented within the analysis area, including white sweetclover, a highly invasive species of concern to park managers. The Alaska Natural Heritage Program identifies 90 rare plants in the Wrangell-St. Elias National Park and Preserve, which also could be present in the analysis area. No federally listed plant species have been documented in the analysis area.

Water Quality and Fish Habitat: The surface waters of the analysis area drain into the upper Copper and the upper Nabesna watersheds. Fish resources in the region include anadromous species (in the Copper River watershed only) and several species of resident fish (in both watersheds). The anadromous Chinook and sockeye salmon fish resources of the Copper River system are recognized as a world class resource. Most streams, lakes, and ponds in the analysis area have low to moderate turbidity. The Copper River and Drop Creek, both glacially fed streams, are more turbid. Most streams are low gradient, providing easy access by fish. They are connected to lakes or ponds,

providing overwintering and rearing habitat, and they have riparian vegetation. Twenty-two existing ORV trail-stream crossing sites in the analysis area are currently considered to be functioning at reduced habitat capacity, due to existing or past trail use. The Alaska Department of Fish and Game recommends repairing or bypassing all but seven of those crossings to avoid impacts from current ORV use levels.

Wildlife: The principal wildlife concerns are game species; no federally listed species are present in the analysis area. Sport hunting is allowed only in the National Preserve, while subsistence hunting is allowed in both the National Park and National Preserve, and both subsistence and sport hunters use the ORV trails. The main big game species sought are moose and Dall's sheep, although brown and black bears are also taken, as are furbearers and small game. The analysis area experiences high hunting pressure due to the presence of the Nabesna Road and ORV trails that provide accessibility. Other important wildlife species in the area are wolves, waterfowl including trumpeter swans, and raptors including bald and golden eagles. Potential impacts to these wildlife species from ORV use in the analysis area include disturbance, habitat loss, and increased risk of mortality.

Human Environment

Scenic Quality: The opportunities to view outstanding scenery and wildlife are among the main visitor attractions at Wrangell-St. Elias National Park and Preserve. Scenic quality is one of the foundations of the park's enabling legislation. Potential viewers can access the analysis area by vehicle on the Nabesna Road (the predominant access route) and the Tok Cut-off highway, aircraft travel on trips to landing strips or lakes or as flight-seeing activity, snowmobile and/or ORV travel, and non-motorized travel on trails and off-trail routes. Most of the landscape disturbance in the National Park and Preserve within the analysis area is due to the presence of the Nabesna Road, the trails (and trail braids) that originate from the road, and development (e.g., houses, outbuildings, vegetation clearing) associated with private inholdings along the road. As a result, the scenic views available to park visitors in the analysis area typically show moderate modification of the natural landscape because they are views from developed features (the road and/or trails) looking out towards the undeveloped areas.

Cultural Resources: The park includes cultural resources from the American Paleoarctic (10,000 to 4,000 years ago), Northern Archaic (5,000 to 2,000 years ago), and Athabascan (2,000 years ago to the present) traditions. The people of the Athabascan Tradition are early ancestors of the Upper Tanana in the northern and eastern analysis area and the Upper Ahtna in the southwestern analysis area. Many of the trails used by the Upper Tanana and Upper Ahtna were likely originally game trails, and even after roads were developed in the area, trails were used for hunting, fishing, trapping, berry picking, and wood gathering. The historic period in the analysis area began in the late 1700s when Russian explorers entered the upper Copper River area. The American period began in 1885. Cultural resources are known to occur within 15 meters of the Suslota and Copper Lake trails. Cultural resource sites were recorded more than 15 meters away from the Trail Creek and Lost Creek trails. Materials recovered along existing trails are within 16 inches of the current ground surface.

Subsistence: Subsistence use is allowed within Wrangell-St. Elias National Park and Preserve in accordance with Titles II and VIII of ANILCA. Local residents rely upon the resources from the park for personal consumption, cultural identity, and to maintain a subsistence way of life. Only qualified subsistence users may hunt or trap within the National Park. These requirements also apply to fishing in the National Park under federal subsistence regulations. Sport fishing under state regulations is also allowed in the National Park. The National Preserve is open to both federal subsistence and state authorized sport hunting and trapping activities, as well as both subsistence and state authorized sport fishing. Approximately 6,000 individuals are eligible to engage in subsistence activities in Wrangell-

St. Elias National Park and Preserve. The region's main subsistence resources are salmon, moose, caribou, Dall's sheep, mountain goat, ptarmigan, grouse, snowshoe hare, furbearing animals, berries, mushrooms, and dead and green logs for construction and firewood. Most subsistence fishing in the park takes place along the Copper River. Permits are not required for subsistence ORV use and users are not required to stay on existing trails.

Wilderness: The Wrangell-St. Elias National Park and Preserve wilderness was designated by ANILCA in 1980, and its size and scope give it national and international recognition. ANILCA provided for the use of motorized vehicles and construction of structures in wilderness areas. Approximately 365,000 acres of designated wilderness form an irregular band in the southern third of the analysis area, including National Park and Preserve areas. The park included its wilderness eligibility review in the GMP, which concluded that 617,966 acres within the analysis area were considered eligible for future wilderness designation. Under the proposed eligibility revision, 634,895 acres would be eligible. It is NPS policy to manage eligible wilderness as if it were wilderness until Congress acts. Within designated wilderness in the analysis area, the untrammeled quality and natural quality are high, the diminishment in the undeveloped quality has been moderate, and the diminishment in the quality for solitude or primitive and unconfined recreation has been minor to moderate. Within the eligible wilderness (as mapped in the GMP), the diminishment in the untrammeled quality has been minor, and the diminishment in the natural quality, undeveloped quality, and quality for solitude or primitive and unconfined recreation has been moderate.

Visitor Opportunities/Access: Recreational opportunities abound in Wrangell-St. Elias National Park and Preserve. Although the majority of opportunities could be considered backcountry activities, frontcountry activities do exist, such as stopping at visitor centers, driving the scenic roads, enjoying a picnic, or fishing along the road corridor. Use of the analysis area may represent 5 to 10 percent of total park use, or roughly 3,500 to 6,500 visitors per year. Access to the analysis area is achieved primarily via the Nabesna Road. Away from the road corridor, access is by airplane, snowmobile, and/or ORV (the latter subject to permits for recreational use). Numerous landing strips and lakes in the area allow visitors to get further into the backcountry. Most access to designated wilderness occurs via small planes.

Socioeconomics: Five communities have relatively easy access to the analysis area. Chistochina, Slana, and Mentasta Lake are located along or off the Tok Cut-off; Nabesna is located at the end of Nabesna Road; and Tok is located north of the analysis area at the junction of the Tok Cut-off and the Alaska Highway. The local economies may be described as "mixed, subsistence-market" characterized by income from paid employment and subsistence food harvest. Recreation and tourism are important sources of paid employment. The analysis area includes 43 private inholdings (2,486 acres). Access to inholdings is authorized in the National Park and Preserve under ANILCA. Soda Lake, Reeve Field, Tanada Lake, and Copper Lake trails serve as ORV access routes to private inholdings.

Natural Soundscapes: Except for the occasional non-natural sources of noise from vehicle traffic, ORV use, or aircraft, the park has a relatively natural soundscape. Considering the typical range of distances over which ORV noises can be heard by humans and the extensive tree and shrub cover within the analysis area, ORV sound likely would not be heard beyond approximately 0.5 mile of an active motorized trail.

ENVIRONMENTAL CONSEQUENCES

This Plan/EIS considers the environmental consequences of the actions proposed in each of the six alternatives. This analysis evaluates the magnitude of direct, indirect, and cumulative impacts and

compares them to existing conditions. The cumulative impact assessment outlines overall impacts resulting from past, current, proposed, and reasonably foreseeable management and other actions. The analysis is intended to guide the decision-maker in choosing a management action based on an objective understanding of environmental consequences.

The NPS analyzed potential effects to the 13 impact topics described above under Affected Environment. The environmental consequences are presented in detail in Chapter 4 and summarized in Table 2-7, which appears at the end of Chapter 2. Conclusions for each alternative may be stated as follows.

Alternative 1 (No Action)

Although recreational ORV use of the three most degraded trails (Suslota, Tanada Lake, and Copper Lake) is only permitted when the trail is sufficiently frozen, resource impacts associated with degraded trail segments are predicted to expand, resulting in overall moderate impacts to soils, trail condition, wetlands, vegetation, and fish habitat. Because recreational ORV use is not permitted in the summer and because the trail conditions are poor, hunting pressure in the area would not increase and impacts to wildlife would be minor. Because the degraded trail segments are generally not visible from the Nabesna road, impacts to scenic quality would be minor. ORV use levels would result in minor to moderate impacts to cultural resources and minor impacts to subsistence users. Effects to wilderness would be moderate because of the impact of existing ORV trails on both the undeveloped character of designated wilderness and on the wilderness character of areas eligible for wilderness designation. Visitor opportunities in the area would continue to be oriented towards motorized use, and few non-motorized opportunities would be available on existing trails. Because of projected increases in visitor use and related benefits to local businesses, impacts to socioeconomics would be beneficial. Predicted levels of ORV use would have minor impacts on the natural soundscape.

Alternative 2 (Permit Recreational ORV Use)

The permitting of recreational ORV use on all nine unimproved trails would result in the expansion of resource impacts associated with existing degraded trails, resulting in major impacts to soils, trail condition, wetlands, and vegetation and moderate impacts to fish habitat. Because of limited access associated with the poor and deteriorating trail conditions, hunting pressure in the area would not be expected to increase and impacts to wildlife would be minor. Despite a gradually increasing trail footprint, impacts on scenic quality would be minor because the existing trails are difficult to see, except from the air. ORV use levels would result in minor to moderate impacts to cultural resources and minor impacts to subsistence users. Effects to wilderness would be moderate because of the impact of existing ORV trails on both the undeveloped character of designated wilderness and on the wilderness character of areas eligible for wilderness designation. Visitor opportunities in the area would continue to be oriented towards motorized use, and few non-motorized opportunities would be available on developed trails. Because of projected increases in visitor use and related benefits to local businesses, impacts to socioeconomics would be beneficial. Predicted levels of ORV use would have minor impacts on the natural soundscape.

Alternative 3 (No Recreational ORV Use Permitted)

Not permitting recreational ORV use on any of the trails in the area would reduce the level of ORV use. Subsistence ORV use would still be allowed, and monitoring would occur to ensure that resource impacts associated with degraded trails did not increase. These actions would result in moderate impacts to soils, wetlands, vegetation, and fish habitat and minor to moderate impacts to trail condition. Although access for sport hunters who use ORVs would be severely curtailed,

subsistence hunting would continue, and overall hunting pressure would not decrease substantially, resulting in minor effects on wildlife. Effects to scenic quality would be minor based on the few trail development activities and reduced levels of ORV use. Improved access through some trail improvements and ORV use would result in minor impacts to cultural resources and subsistence users. Potential impacts from construction of a re-route for the Soda Lake trail to cultural resources would be mitigated by pre-construction clearance. Effects to wilderness are considered moderate because of the impact of existing ORV trails on both the undeveloped character of designated wilderness and the wilderness character of areas eligible for wilderness designation. Opportunities for non-motorized users would increase with new non-motorized trails or routes. Trail closures would have moderate to major, adverse impacts to recreational ORV users. Because of the benefits to inholders and businesses that rely on wilderness experiences, impacts to socioeconomics would be beneficial. The natural soundscape would benefit from reduction of ORV use.

Alternative 4 (Improve Trails, Permit Recreational ORV Use in Preserve)

Improving existing trails to at least a maintainable condition would largely reverse the progression of ongoing adverse impacts to resources from degraded trail segments. Trail construction or improvement would result in short-term impacts to soils, vegetation, and wetlands but would be offset by the long-term maintenance of one trail alignment and partial recovery of degraded trail segments (such as braided areas). This would result in minor impacts to soils, wetlands, vegetation, and fish habitat and a benefit to trail condition. Improved ORV access for sport hunters in the National Preserve and subsistence hunters in the National Park and Preserve could result in increased hunting pressure and moderate impacts to wildlife. Reductions in scarring because of trail improvements and relocations would benefit scenic quality. Only very small segments of new trail construction would be visible from the Nabesna Road; and so overall impacts to scenic quality would be minor. New trail construction or construction of re-routes has the potential to disturb cultural resources, but pre-construction cultural clearance would mitigate the effects to a minor impact. Cultural resources would benefit from the keeping ORV users on one alignment. An increased number of sport hunters could potentially compete with subsistence hunters, with a moderate impact to subsistence. Improving trails in the park to the wilderness boundary would increase the level of ORV use for subsistence purposes in the designated wilderness. Increased subsistence ORV use with no proposed control over off-trail motorized use, combined with the existing impacts on the undeveloped character in designated wilderness and areas eligible for wilderness designation, would have a major impact on wilderness character. Opportunities for non-motorized users would increase with new non-motorized trails or routes. Even though recreational ORV use would not be permitted in the National Park, beneficial impacts overall for recreational ORV users are expected based on projected increases in total and recreational ORV use. Because of the projected increases in visitor use and related benefits to local businesses, impacts to socioeconomics would be beneficial. Predicted levels of ORV use would have minor impacts on the natural soundscape.

Alternative 5 (Improve Trails, Permit Recreational ORV Use on Improved Trails)

Improving all ORV trails to at least a maintainable condition would largely reverse the progression of ongoing adverse impacts to resources from degraded trail segments. Trail construction or improvement would result in short-term impacts to soils, vegetation, and wetlands but would be offset by the long-term maintenance of one trail alignment and partial recovery of degraded trails segments (such as braided areas). This would result in minor impacts to soils, wetlands, vegetation, and fish habitat and a benefit to trail condition. Improved motorized access for sport and subsistence hunters in the National Park and Preserve could result in increased hunting pressure and moderate impacts to wildlife. Reductions in scarring because of trail improvements and relocations would benefit scenic quality. Visitors potentially would be exposed to temporary views of land disturbance during trail improvements and construction of the non-motorized trails. Overall, impacts to scenic

quality would be minor. New trail construction or construction of re-routes has the potential to disturb cultural resources, but pre-construction cultural clearance would mitigate the effects to a minor impact. Cultural resources would benefit from the keeping ORV users on one alignment. An increased number of sport hunters could potentially compete with subsistence hunters, with a moderate impact to subsistence. Improving trails in the park to the wilderness boundary would increase access to the wilderness boundary by recreational ORV users and consequently could increase non-motorized use in the designated wilderness. Additionally, a slight increase in subsistence ORV use (with no off-trail use) in the wilderness would minimize off-trail impacts and effects on the undeveloped character. Combined with impacts on the undeveloped character in areas eligible for wilderness designation, the overall impact on wilderness would be moderate. Opportunities for non-motorized users would increase substantially with a variety of new non-motorized trails or routes. Even though recreational ORV use of the Suslota trail would not be permitted, beneficial impacts overall for recreational ORV users are expected based on projected increases in total and recreational ORV use. Because of the benefits to wilderness-related business from limiting off-trail use and the projected increases in visitor use and related benefits to local businesses, impacts to socioeconomics would be beneficial. Predicted levels of ORV use would have minor impacts on the natural soundscape.

Alternative 6 (Combination of Alternatives 4 and 5)

Improving all ORV trails to at least a maintainable condition would largely reverse the progression of ongoing adverse impacts to resources from degraded trail segments. Trail construction or improvement would result in short-term impacts to soils, vegetation, and wetlands but would be offset by the long-term maintenance of one trail alignment and partial recovery of degraded trails segments (such as braided areas). This would result in minor impacts to soils, wetlands, vegetation, and fish habitat and a benefit to trail condition. Improved motorized access for subsistence hunters in the National Park and sport hunters in the National Preserve could result in increased hunting pressure and moderate impacts to wildlife. Reductions in scarring because of trail improvements and relocations would benefit scenic quality. Visitors potentially would be exposed to temporary views of land disturbance during trail improvements and construction of the non-motorized trails. Overall, impacts to scenic quality would be minor. New trail construction or construction of re-routes has the potential to disturb cultural resources, but pre-construction cultural clearance would mitigate the effects to a minor impact. Cultural resources would benefit from keeping ORV users on one alignment. However, increased ORV use on an improved Suslota trail could lead to off-park impacts to Old Suslota, the National Historic eligible village site on Suslota Lake. An increased number of sport and subsistence hunters could increase hunting pressure and competition, with a moderate impact to subsistence. An increase in subsistence ORV use (with limited off-trail use) in the wilderness would minimize off-trail impacts and effects on the undeveloped character of wilderness. Combined with impacts on the undeveloped character in areas eligible for wilderness designation, the overall impact on wilderness would be moderate. Opportunities for non-motorized users would increase substantially with a variety of new non-motorized trails or routes. Even though recreational ORV use in the National Park would not be permitted, beneficial impacts overall for recreational ORV users are expected based on projected increases in total and recreational ORV use. Because of the benefits to wilderness-related business from limiting off-trail use and the projected increases in visitor use and related benefits to local businesses, impacts to socioeconomics would be beneficial. Predicted levels of ORV use would have minor impacts on the natural soundscape.

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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
ADOT&PF	Alaska Department of Transportation and Public Facilities
AIRFA	American Indian Religious Freedom Act
AKEPIC	Alaska Exotic Plant Information Clearinghouse
AKNHP	Alaska Natural Heritage Program
ANCSA	Alaska Native Claims Settlement Act
ANILCA	Alaska National Interest Lands Conservation Act
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
ATV	All-terrain vehicle
BLM	Bureau of Land Management
°C	Degrees Celsius
CA	Census area
CDP	Census Designated Place
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO ₂	Carbon dioxide
Corps	U.S. Army Corps of Engineers
°F	Degrees Fahrenheit
dB	Decibel
dBA	Decibel level
DCED	Department of Community and Economic Development
DCRA	Department of Community and Regional Affairs
DEM	Digital Elevation Model
DO-12	Director's Order 12
EA	Environmental Assessment
EDC	Economic Development Council
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FR	Federal Register
GIS	Geographic Information System
GMP	General Management Plan
GMU	Game Management Unit
GPS	Global Positioning System
LWD	Large woody debris
MBTA	Migratory Bird Treaty Act
mg/L	Milligrams per liter
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NLUR	Northern Land Use Research
NOAA-NMFS	National Oceanic and Atmospheric Administration Fisheries Service
NOI	Notice of Intent
NPS	National Park Service
NRHP	National Register of Historic Places
NTU	Nephelometric turbidity unit

NWI	National Wetland Inventory
ORV	Off-road vehicle
Plan	ORV Management Plan
RAC	Regional Advisory Council
RPM	Revolutions per minute
ROW	Right-of-way
SHPO	State Historic Preservation Office
SMU	St. Mary's University of Minnesota
SRC	Subsistence Resource Commission
UNESCO	United Nations Educational, Scientific, and Cultural Organization
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
UTV	Utility vehicle
Wrangell-St. Elias	Wrangell-St. Elias National Park and Preserve Park
ZVI	Zone of Visual Influence