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Cost-Benefit and Regulatory Flexibility Analyses: Proposed Regulations for Management of Off Road Vehicles in The Nabesna District of Wrangell-St. Elias National Park and Preserve

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Introduction

This report presents the cost-benefit and regulatory flexibility analyses of the proposed regulatory action to designate trails in the National Preserve for recreational ORV use, designate trail corridors in the designated wilderness for subsistence ORV use, and establish weight and size limits for ORVs pursuant to the Wrangell-St. Elias National Park and Preserve Nabesna Off-Road Vehicle Management Plan Environmental Impact Statement. Quantitative analyses were not conducted due to lack of available data, and because the additional cost of conducting quantitative analyses was not considered to be reasonably related to the expected increase in the quantity and/or quality of relevant information. Nevertheless, the National Park Service (NPS) believes that these analyses provide an adequate assessment of all relevant costs and benefits associated with the regulatory action.

The results of the cost-benefit analysis indicate that the costs of the proposed regulatory action are justified by the associated benefits. Additionally, this proposed regulatory action will not have an annual economic effect of $100 million, and will not adversely affect an economic sector, productivity, jobs, the environment, or other units of government.

The results of the regulatory flexibility analysis indicate no adverse impacts for any sector of the economy or unit of government, including small entities. Given those findings, the proposed regulatory action will not impose a significant economic impact on a substantial number of small entities.

Alternative 6 (NPS selected 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. Effects to trail condition, visitor opportunities, and socioeconomics would be beneficial.

Cost-Benefit Analysis

Statement of Need for the Proposed Plan

Executive Order 12866 (58 FR 51735) directs Federal agencies to demonstrate the need for the regulations they promulgate. In general, regulations should be promulgated only when a "market failure" exists that cannot be resolved effectively through other means. A market failure exists when private markets fail to allocate resources in an economically efficient manner. A significant cause of market failure is an "externality," which occurs when the actions of one individual impose uncompensated impacts on others. Because these costs are not compensated through private markets, both groups have little incentive to change their behavior accordingly. The result is an inefficient allocation of park resources.

Alternatives Considered in the Current Analysis

Complete descriptions of the alternatives are in the Environmental Impact Statement (NPS 2011).

NPS Selected Alternative

Alternative 6: This alternative provides non-motorized recreational opportunities on improved trails in the National Park and motorized/non-motorized recreational opportunities in the National Preserve. Alternative 6 also addresses the resource concerns associated with existing trail condition by improving trails through a combination of re-routes, trail hardening, and trail reconstruction. In doing so, access is provided for backcountry and wilderness activities, accommodating subsistence uses and access to private inholdings.

Other Alternative Considered

Alternative 1: A No-Action Alternative is required by the National Environmental Policy Act for the purposes of providing comparison to the action alternatives considered (Alternatives 2 through 6).

Alternative 2: 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: Recreational ORV use would not be permitted on any of the nine trails. About 2.5 miles would be improved for subsistence ORV use or non-motorized uses. There would be no change to subsistence ORV use.

Alternative 4: Eight of the nine trails would be improved. Recreational ORV use would be permitted on trails in the National Preserve but not on trails in the National Park. Subsistence ORV use would continue but would be subjected to monitoring and management action if resource impacts increased.

Alternative 5: Most degraded segments of the nine trails would be improved. Recreational ORV use would be permitted on both National Park and National Preserve trails. Subsistence ORV use would continue but would be subject to monitoring and management action if resource impacts increased.

Baseline Conditions

The costs and benefits of an action alternative are measured with respect to its baseline conditions. Baseline describes conditions that would exist without the regulatory action. Therefore, all costs and benefits included in this analysis are incremental to the baseline conditions. That is, any future impacts that would occur without the selected alternative, as well as any past impacts that have already occurred, are not included in this analysis. For this regulatory action, the baseline conditions are

described in Alternative 1 in the Nabesna Off-Road Vehicle Management Plan (NPS 2011).

Costs and Benefits

The purpose of this proposed regulatory action is to address impacts to park resources that are occurring because of ORV use in the Nabesna District. This action does not involve fees, or other measures that would increase costs to visitors, businesses, or communities.

Cost-Effectiveness

The action alternatives will generate benefits in the form of enhanced visitor experience and safety for park visitors. Economists term such benefits as consumer surplus[1], which can be measured through benefits transfer meta analysis. A benefits transfer meta analysis combines information from existing valuation studies in the economics literature and statistically estimates the relationships between the consumer surplus estimated in those studies and important characteristics of the studies such as type of activity, type of resource, and type of valuation methodology used (Rosenberger and Loomis 2001). These estimated relationships then allow the analyst to calculate a consumer surplus value that is specific to the activity and resource under consideration. The results of the meta analysis for ORV users are presented in Table 1.

Table 1
Benefits Transfer Meta Analysis of Consumer Surplus per Visitor-Day for ORV Users

Activity	---Consumer Surplus per Visitor-Day--- (1996 dollars)[a]	(August 2012 dollars)[b]
ORV	$28.71	$42.16

[a] Source: Rosenberger and Loomis (2001)
[b] Indexed using the Consumer Price Index for all urban consumers (BLS 2012)

This meta analysis indicates that one visitor-day will generate $42.16 in consumer surplus for off-road driving with trail improvements as outlined in the action alternatives. Those values apply to new visitors that are drawn to the park by implementing the selected alternative. Current visitors, on the other hand, would experience a marginal increase in the consumer surplus they derive from ORV use. For example, current ORV users might experience an increase in consumer surplus equal to half the visitor-day value calculated above ($21.08). To estimate the total consumer surplus generated by an action alternative, the resulting number of new visitors and the marginal increase in value experience by current visitors would have to be estimated. However, the information required to estimate those factors is not available and NPS was not able to estimate the

[1] Consumer surplus equals the maximum willingness to pay for an activity minus the costs involved to participate in that activity.

total consumer surplus generated by the action alternative. Nevertheless, positive benefits would be generated by providing recreational and subsistence motorized access that would improve visitor experience.

The action alternatives will also generate other, resource-based benefits. Establishment of an ORV Management Plan for Wrangell-St. Elias National Park and Preserve is a necessary step to address transportation and access issues according to the General Management Plan, as well as to address the impacts to park resources that are occurring because of ORV use in the Nabesna District. For example, Alternative 6 will improve the trails to one maintainable alignment which will minimize off trail travel and allow recovery of degraded soils, vegetation, stream crossings, and wetlands associated with damaged trails. NPS believes that the avoided costs of wetland restoration associated with this trail improvement could be substantial. For example, typical wetland restoration costs can range from approximately $29,000 to $124,000 per acre, in August 2012 dollars (King and Bohlen 1994; BLS 2012). However, the information required to estimate the total avoided restoration costs is not available.

The implementation cost of NPS for the selected alternative will be $3,810,027 (NPS 2011). Amortized over a ten-year period at a 3 percent discount rate yields an amount of $446,651, which is the level of annual benefits required to make this investment cost-effective over that period. Given the improvements in visitor experience and avoided restoration costs associated with the selected alternative, NPS believes the benefits generated would reasonably off-set these costs. Therefore, NPS believes the selected alternative will generate positive net benefits and thereby improve economic efficiency.

Uncertainty

The number of new visitors and the marginal increase in value experienced by current visitors resulting from implementing the selected alternative is unknown. Additionally, the amount of avoided restoration costs resulting from the selected alternative is also unknown. Therefore, the total benefits generated by this action cannot be estimated. Nevertheless, positive net benefits are likely to be generated as illustrated in the cost-effectiveness analysis above. Any uncertainty involved in this analysis is associated only with the magnitude of those benefits. NPS is not aware of any other sources of uncertainty.

Conclusion

The results of this cost-benefit analysis indicate that net benefits will likely be generated by implementing the selected alternative. Given that, NPS concludes that the benefits associated with implementing the selected alternative justify the associated costs. Further, the selected alternative is not expected to have an annual economic effect of $100 million, or to adversely affect an economic sector, productivity, jobs, the environment, or other units of government. The selected alternative will improve economic efficiency.

Regulatory Flexibility Analysis

The Regulatory Flexibility Act of 1980, as amended in 1996 requires agencies to analyze impacts of regulatory actions on small entities (businesses, non-profit organizations, and governments), and to consider alternatives that minimize such impacts while achieving regulatory objectives. Agencies must first conduct a threshold analysis to determine whether regulatory actions are expected to have significant economic impact on a substantial number of small entities. If the threshold analysis indicates a significant economic impact on a substantial number of small entities, an initial regulatory flexibility analysis must be produced and made available for public review and comment along with the selected regulatory action. A final regulatory flexibility analysis that considers public comments must then be produced and made publicly available with the final regulatory action. Agencies must publish a certification of no significant impact on a substantial number of small entities if the threshold analysis does not indicate such impacts.

This threshold analysis relies on the cost-benefit analysis, which concludes that the selected alternative will likely generate positive benefits and no costs to visitors, businesses, or local communities. In addition, this action will not impose restrictions on local businesses in the form of fees, training, record keeping, or other measures that would increase costs. Rather, this action is expected to improve visitor experience and avoid restoration costs, and thereby generate benefits for businesses, including small entities, through increased visitor spending. Given those findings, the selected alternative will not impose a significant economic impact on a substantial number of small entities.

References

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