NATIONAL WILDLIFE FEDERATION®

People and Nature: Our Future Is in the Balance

November 12, 2004

RE: July 16, 2004 State Petitions for Inventoried Roadless Area Management (69 FR 42636)

IMPACTS TO WILDLIFE AND WILDLIFE HABITAT

Introduction

The decision to allow development of roads in previously roadless areas of our public lands will have lasting impacts. The change in protection status of these nearly 60 million acres will result in development that will not only change the landscape, but will have serious consequences to wildlife. The inevitable consequences of this decision is that lands which currently provide prime habitat for a multitude of wildlife will soon be carved by roads, clearcuts, power lines, pipelines, off-road vehicles trails, and other incidents of human development. The impacts of this decision are far reaching and will have a cumulative effect on our landscape. Ecologists studying the cumulative effects of development on wildlife have found that while each single land use change results in a negligible impact, the accumulation of these individual changes over time and within a landscape or region may constitute a major impact. As noted on page 3-125 of the EIS, the "inventoried roadless areas alone and/or in combination with protected areas (e.g. Wilderness) function as biological strongholds supporting a diversity of species…. Biological strongholds play a key role in maintaining native species and biodiversity."

Impacts to wildlife and wildlife habitat

The most significant impacts to wildlife and wildlife habitat flowing from this decision will be those associated with road construction for providing access for industrial uses such as oil and gas development and logging. Although the direct conversion of land for roads may directly affect only a small percent of the acres of these inventoried roadless lands, the cumulative loss of land resulting from the miles of constructed roads will be significant. Roads and associated human activities results in habitat fragmentation which often leads to local extinctions of some species and overall ecosystem degradation. Roads promote the spread of non-native invasive species and are a major source of air and water pollution causing serious declines in aquatic biodiversity. Roads cause direct mortality of many species and modify animal behavior. More important than these direct impacts, roads provide human access to otherwise natural ecosystems resulting in even more serious consequences to native species and natural processes.

Direct Mortality

Roads tend to affect wildlife in various ways. The most obvious effect is the presence of dead animals along a road. Scientists have reported that within the last three decades, roads with vehicles likely overtook hunting as the leading direct cause of vertebrate mortality on land (Forman and Alexander, 1998). The Forest Service acknowledges (EIS, Page 3-150) that the "short- and long-term effects [of temporary roads] can be extensive to terrestrial species and habitats."

Furthermore, the construction of roads in these biological strongholds would have the potential to impact less mobile species of mammals, amphibians and reptiles. Construction equipment will be excavating areas that provide habitat for these species and the potential exists for animals to be killed during the construction.

The introduction of vehicles to and the construction of roads in the inventoried roadless areas will result in mortality of species. The level of the impact will depend on the number of roads constructed and the level of traffic on these roads.

Modification of Animal Behavior - Vehicle Disturbance and Road Avoidance

Although vehicles are prolific killers of terrestrial vertebrates, more disturbing to wildlife populations is the effect of road avoidance and vehicle/human disturbance. Road avoidance can be attributed to traffic noise, visual disturbance, pollutants, and predators. As acknowledged in the EIS (Page 3-144), these types of disturbances can "disrupt species migration, reproduction and rearing of young, and can increase physiological stress." Furthermore, the EIS (Page 3-150) acknowledges that roads "could result in substantial changes in the kinds and amount of human uses in an area."

Elk were studied to determine the effects disturbance has on their daily movements. Elk normally do not range widely within their home range in the course of daily activities. Rocky Mountain elk (*Cervus elaphus nelsoni)* typically move less than a mile in 24 hours (Edge and Marcum, 1985). When under pressure from human disturbance, elk will flee preferred habitat and the amount of movement may increase with increased disturbance. Vehicle access has also shown to cause large-scale movements by elk. (Cole, et al., 1997) have shown that eliminating

disturbance from vehicles reduced these large-scale movements, and that road closures reduced "en masse" elk movements to less accessible areas. As reported by Joslin and Youmans (1999), a substantial number of studies have demonstrated that vehicle traffic on forest roads establishes a pattern of habitat use in which the areas nearest the road are not fully available for use by elk. The extent of reduced habitat use can be very substantial.

Accompanying the development of new roads is noise produced in both constructing and using the roads. Kuck, et al., (1985) studied elk calf movements, habitat selection patterns, and survival of elk when exposed to sounds similar to those encountered in mining operations. They found that elk calves exposed to the noise moved greater distances, used larger areas, showed greater use of coniferous forest, and lacked selection for more favorable habitat. The research also concluded that when calves were subjected to human disturbance they showed significant deviation in movements and habitat use. Persistent human disturbance can result in voluntary withdrawal from available habitat and use of less favorable areas by elk.

The EIS (Page 3-152) discusses the importance to the public of big game species. "The public interest in providing and maintaining game species habitat on NFS lands is evidenced by the various program initiatives that focus on these species. The Forest Service has partnered with a number of organizations (for example Wild Turkey Federation, Rocky Mountain Elk Foundation, Quail Unlimited) to implement wildlife program initiatives such as: 'Answer the Call,' 'Elk Country', 'Dancers in the Forest', 'A Million Bucks', and 'Making Tracks.' These initiatives have resulted in substantial amounts of game species-habitat improvement." However, this decision can be expected to degrade big game habitat to such a degree over such large areas, that the efforts of these organizations may be futile.

In the absence of the roadless rule, the inventoried roadless areas will managed by individual forest plans. Local forest supervisors and district rangers face the difficult task of balancing the exceptional ecological values of roadless areas against local development demands. Without lasting protection, and despite the best efforts of local managers, these roadless areas will face the death of a thousand cuts by forest plans that cumulatively erode ecological integrity of these lands. For example, existing forest plans allow road construction in 61 percent of Idaho's roadless lands; this, in spite of the fact that the maintenance and reconstruction backlog on Idaho's national forest roads exceeds a billion dollars annually (Trout Unlimited, 2004).

Habitat Fragmentation

Fragmentation of habitat is a frequent result of developments, such as roads and clear cuts. This development affects species by dissecting previously large landscapes into smaller ones. Birds and mammals that depend on specific habitats, such as interior forest or old growth stands, clearcuts and roads can result in a quantitative and qualitative reduction in suitable habitat. The EIS (Page 3-128) recognizes that "as human-caused fragmentation increases, the amount of unaltered central or core habitat decreases, which increase adverse edge-effects…."

Repealing the roadless rule will result in "habitat fragmentation across large areas" and "increasing the risk of local extirpations or extinctions (Noss and Cooperider, 1994)," (EIS Page 3-133). Not implementing the roadless rule according to the EIS (3-133) "would result in the greatest degree of fragmentation and largest negative impact on biodiversity."

Fragmentation affects animal populations in a variety of ways, including decreasing species diversity and lowering densities of some animal species. Elk populations directly decline with increased road density. Researchers found that two miles of roads per square mile leads to a 50 percent reduction in the elk population and six miles of roads per square mile eradicates virtually all elk in that area (Lyon, 1983). Based on these findings, the reversal of the roadless rule could result in significant impacts to elk populations throughout the west. As disclosed in the EIS (Page 3-134), the Intermountain region would "have the highest [tree] harvest levels and road construction" in the continental United States.

The repeal of the roadless rule will result in a significant increase in habitat fragmentation. This will result in degradation wildlife habitat for a variety of species, decrease biodiversity, and impede wildlife migrations.

Introduction and spread of non-native and invasive species

In addition to habitat fragmentation, construction of roads and associated other uses such as clear cutting allowed under this decision will cause the spread of non-native and invasive plant and animal species. Roads provide a major conduit for the spread of exotic plants into natural areas. According to the 2001 Management Plan prepared by the National Invasive Species Council, a federal interagency organization, the environmental costs of invasive species can be staggering. The EIS (Page 3-175) acknowledges that not implementing the roadless rule poses the "greatest degree of risk for increased introduction and spread [of] nonnative invasive species."

As discussed in the EIS (Page 3-175), the use of vehicles can facilitate the spread of invasive plant species, because seeds can temporarily become attached to vehicles, and then drop

in areas without invasive plants. A Trunkle and Fay (1991) study showed that a vehicle driven through a spotted knapweed infestation could pick up an average of 1,644 knapweed seeds. After driving this truck for one mile only 14% (226 seeds) were still attached to the truck, and after ten miles only 8% (138 seeds) were still attached. Based on this study it is easy to see how the BLM (1996) reports "every day, up to 4,600 acres of additional Federal public natural areas in the western continental United States are negatively impacted by invasive plant species."

The decision to repeal the roadless rule will result in an increase in the introduction and spread of invasive species. This will result in degradation and loss of wildlife habitat, reduction in biodiversity, changes in vegetation and changes in fire behavior. Since the Forest Service currently has limited funding and staff to address non-native plant issues, this increase in the spread of invasive species will further strain the Forest Service limited resources.

Impacts to Hydrology and Aquatic Habitats

Major physical and chemical effects to aquatic ecosystems result from roads near waterways. Because roads impact streams and other aquatic systems most directly through water runoff and sediment yield, the integrity of stream ecosystems near new roadways undergoes major physical and chemical assaults.

Paved and compacted dirt roads create impervious surfaces over which water runs rapidly, especially in storm and snowmelt events. The increased sediment flowing into water bodies, especially fine sediment, negatively affects aquatic ecosystems by increasing turbidity, which adversely affects aquatic plants, macro-invertebrates, and fish.

Sediment carried by runoff into the watershed also changes water chemistry and degrades habitats and spawning sites for fish. In studies conducted in Montana, biologists found a 94 percent reduction in numbers and weight in large game fish due to sedimentation from roads. In addition to altering the water within stream banks, roads may also alter surface and subsurface water flow patterns. When a roadbed is higher than the surrounding land surface, it can act as a dam and alter surface sheet flow patterns. Because the engineering of roads over streams generally involves diverting, channeling, or altering the stream flow, this artificial alteration in water flow patterns can restrict the passage of fish.

According to a recent report by Trout Unlimited (2004), trout and salmon require clean, cold water, and none require it more than bull trout. Because of their low tolerance for disturbance, bull trout are a valuable indicator of habitat quality. It is a sign of degraded habitat that bull trout have been eliminated from almost half their historic distribution in Idaho. In Idaho, nearly 70 percent of existing bull trout habitat is in roadless areas. Still, bull trout are struggling. Only 7 percent of Idaho's bull trout populations are stable and productive according to the Interior Columbia Basin Ecosystem Management Project (ICBEMP). Roadless areas contain 87 percent of those strong populations. The bottom line: bull trout will not survive without intact roadless lands.

The repeal of the roadless rule will significantly impact the riparian areas located within the inventoried roadless areas. These waters will be subjected to increased sedimentation, loss of spawning areas, loss of sensitive fish species, such as the bull trout and the introduction of pollutants.

Increased Human Access into Natural Ecosystems

When roads are built into wild areas an increase in wildlife – human interactions often is a result. For example, roads provide easy access for illegal hunting or plant collecting. Human disturbance in wildlife habitat has been shown to negatively impact wildlife. Excessive disturbance of wildlife by humans negatively affects their health, growth, and reproductive fitness (MacArthur, et al., 1982). Even if an isolated disturbance event is not significant, the energy costs associated with repeated disturbances may be considerable. Human disturbance, such as that facilitated by the roading of previously wild areas, will cause elk to prematurely leave preferred feeding areas and increase movements (Edge and Marcum, 1985).

As wildlife habitat is further fragmented by road construction, biologists have increased their attention to the influence of hunter access on the mortality of game. Generally, hunting mortality of game species, including ruffed grouse (*Bonasa umbellus)*, white-tailed deer (*Odocoileus virginianus*), and elk (*Cervus elaphus*) has been greater along roads open to motorized vehicles and where these roads provide access to more habitat (Cole, et al., 1997). Gratson and Whitman (2000) evaluated road closures and the density of and success of hunters in Idaho. They determined that areas closed to vehicles resulted in significantly reduced densities of hunters compared to areas open to vehicles. Furthermore, they found that lack of vehicles could lead to increased success rates of elk hunters. In addition, "reduced disturbance by motorized vehicles, reduced hunter numbers, and potentially greater success rates may provide a greater "quality" hunting experience for many hunters" (Gratson and Whitman, 2000).

Several studies have evaluated road access as it relates to poaching. When biologists studied Roosevelt elk survival and mortality causes in areas accessible by vehicles versus areas closed to vehicles, they found that in areas open to vehicles, poaching was the highest known

cause of death. In areas where vehicles were limited, however, no animals were determined to be lost to poaching (Cole, et al., 1997).

A study conducted by Trout Unlimited (2004) in Idaho found that mule deer rely on undisturbed habitat to maintain good health and grow to maturity. The highest proportions of the bucks are harvested in hunting units rich in roadless areas:

- 51 percent of the land in units yielding more than 70 percent bucks is roadless;
- 72 percent of the land in units yielding more than 40 percent 4+ point bucks is roadless;
- 94 percent of the land in units yielding both 70 percent bucks and 40 percent 4+ point bucks is roadless.

The Trout Unlimited study also looked at elk harvest data. The harvest of a high percentage of branch bulls is an indication of quality habitat and hunting. Branch bulls are usually two or more years of age and possess "branched" antlers. Research shows a strong correlation between roadless areas and mature bull elk. Eighty-eight percent of the land in the wildlife management units yielding more than 90 percent branch bulls is roadless.

Conclusion

The change in protection status and resulting development of these roadless areas will have serious consequences for the wildlife that inhabit these lands. To forever change these areas from their pristine state to lands that are fragmented by roads, logging, and oil and gas infrastructure is a decision that once made can never be taken back. When the decision is made to open these lands to development, wildlife must try to adapt to smaller and smaller areas for

survival. Impacts such as direct mortality, loss of habitat, degradation of aquatic habitat, and behavioral changes will be the result.

These lands which are protected by the roadless rule are part of our landscape and offer places of solitude, as well as places which are undisturbed by man's influence. They are important for the survival of species, and to the well being of humans who share the land.

References

Bureau of Land Management (BLM). (1996). *Partners Against Weeds – An Action Plan for the Bureau of Land Management*. http://www.blm.gov/education/weed/paws/exotic6.html Retrieved September 7, 2004.

Cole, E.K., M.D. Pope, and R.G. Anthony. (1997). Effects of road management on movement and survival of Roosevelt elk. *Journal of Wildlife Management* 61: 1115-1126.

Edge, W.D. and C.L. Marcum. (1985). Movements of elk in relation to logging disturbances. *Journal of Wildlife Management* 49: 926-930.

Forman, R.T.T. and L.E. Alexander. (1998). Roads and their major ecological effects. *Annual Review of Ecology and Sytematics* 29: 207-231.

Gratson, M.W. and C.L. Whitman. (2000). Road Closures and Density and Success of Elk Hunters in Idaho. *Wildlife Society Bulletin* 28: 302-310.

Joslin, G. and H. Youmans, coordinators. (1999). *Effects of recreation on Rocky Mountain Wildlife: A Review for Montana.* Committee of Effects of Recreation on Wildlife, Montana Chapter of TheWilderness Society. 307pp.

Kuck, L., G.L. Hompland and E.H. Merrill. (1985) Elk calf response to simulated mine disturbance in southeast Idaho. *Journal of Wildlife Management* 49: 751-757.

Lyon, L.J. (1983). Road density models describing habitat effectiveness for elk. *Journal of Forestry* 81: 592-595.

MacArthur, R.A., V. Geist and R.H. Johnston. (1982). Cardiac and Behavioral Responses of Mountain Sheep to Human Disturbance. *Journal of Wildlife Management* 46: 351-358.

Strouder, S. (2004). *Where the wild lands are: Idaho. The importance of roadless areas to Idaho's fish, wildlife, hunting & angling.* Trout Unlimited Report.

Trunkle, T. and P. Fay (1991). *Transportation of spotted knapweed seeds by vehicles*, Proceedings: Montana Weed Control Association.

LEGAL ANALYSIS

I. The Proposed Rule Requires an Environmental Impact Statement under the National Environmental Policy Act

The National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321 *et seq.*, requires each federal agency to prepare a detailed statement regarding the environmental impact (Environmental Impact Statement, or "EIS") of any "major Federal action significantly affecting the quality of the human environment," 42 U.S.C. § 4332(C). The Department of Agriculture's current proposed to replace the Roadless Area Conservation Rule, 36 C.F.R. § 294, Subpart B, is clearly such a major action, and one with very significant negative consequences for wildlife, as discussed below. NEPA further requires that the agency evaluate reasonable alternatives to the proposed action. 42 U.S.C. § 4332(C)(iii).

The Department of Agriculture's proposed rule would replace the Roadless Area Conservation Rule, which generally (but with certain exceptions) barred new road construction and timber harvest in identified Inventoried Roadless Areas ("IRAs"), with a new regulatory scheme providing no protection for the roadless values of IRAs apart from those that might be present in previously-applicable forest-by-forest planning documents. As a substitute, the proposed rule would create a process whereby the Governor of a State could, although only within 18 months of the effective date of the rule (proposed 36 C.F.R. § 294.12) petition the Secretary of Agriculture "to promulgate regulations establishing management requirements for all or any portion of National Forest System inventoried roadless areas within that State," proposed 36 C.F.R. § 294.12. This petition process imposes extensive costs and burdens on the petitioning state, setting forth detailed requirements for petition contents and requiring State participation in further rulemaking. Proposed 36 C.F.R. § 294.14. Even if a Governor were to

complete the requirements within the 18-month time limit, the ultimate decision would lie with the Secretary. Proposed 36 C.F.R. § 294.15. Moreover, nothing in the proposed rule ensures that the resulting rule would protect roadless values better than the previously-applicable Forest Plan; rather, it seems entirely feasible that a Governor could petition to eliminate existing protective measures, rather than to institute new ones.

The original Roadless Area Conservation Rule was the result of a combination of scientific data regarding the value of roadless areas for ecological health, and unprecedented public involvement in the rule-making process. As the Forest Service recognized in the original Roadless Area Conservation Rule, case-by-case decision-making had seen the loss of 2.8 million acres of roadless land in 20 years, and a failure ensure the continuation of the ecological values roadless areas provide. As the Forest Service recognized, "[w]hile individual decisions to build roads may achieve local management objectives, collectively they may result in a continued net loss of the quality and quantity of inventoried roadless areas nationally." The new proposed rule would, without any analysis of the consequences, return our nation's forest management policy to that failed approach of making road-building decisions on a purely local basis.

As befitting a rule with nationwide impacts, the Forest Service conducted an extensive public comment process for the original Roadless Area Conservation rule, including more than 600 public meetings, receipt of 1.2 million written public comments on the draft rule and draft EIS. The Forest Service also compared extensive Draft and Final EIS documents assessing the comparative effects of three various levels of protection for IRAs and continued management under existing Forest Plans. As a result of this process, the Forest Service concluded that the Roadless Area Conservation Rule best satisfied its objective of protecting the ecological values of roadless areas. As the Ninth Circuit Court of Appeals acknowledged in reversing the United

States District Court for the District of Idaho's preliminary injunction against the Roadless Rule, the final Roadless Area Conservation rule promotes important objectives of protecting desirable characteristics of inventoried roadless areas:

> roadless areas contribute to the health of the public because they help preserve the forest system's watersheds, the rivers, streams, lakes, and wetlands that "are the circulatory system of ecosystems, and water is the vital fluid for inhabitants of these ecosystems, including people." The roadless areas also provide "important habitat for a variety of terrestrial and aquatic wildlife and plants, including hundreds of threatened, endangered, and sensitive species." Roadless areas in our national forests also help conserve some of the last unspoiled wilderness in our country. The unspoiled forest provides not only sheltering shade for the visitor and sustenance for its diverse wildlife but also pure water and fresh oxygen for humankind. In contrast, road construction and reconstruction facilitates forest management by timber harvest and possibly aiding fire prevention, but it is to a degree inimical to conservation.

Kootenai Tribe of Idaho v. Veneman, 313 F.3d 1094, 1121 (9th Cir. 2002). The rule was supported by an extensive compilation of scientific evidence supporting a sound basic judgment: that banning road construction was the best means of protecting the desirable ecological and social characteristics of inventoried roadless areas.

Abandoning the Roadless Area Conservation Rule for a return to case-by-case local decision-making regarding road construction, with the theoretical possibility of additional management changes in response to State petitions, abandons all the benefits of the Roadless Area Conservation Rule identified in the EIS and Final Rule. Indeed, the proposed rule acknowledges that "[t]he environmental impacts of revising 36 CFR part 294 are essentially those disclosed and discussed for the no action alternative displayed in the FEIS" for the Roadless Area Conservation Rule. 69 Fed. Reg. 42,636 (July 16, 2004). The no action alternative, in turn, was previously rejected by the Forest Service for failure to achieve the objective of protecting the desirable characteristics of inventoried roadless areas. By refusing to conduct any environmental analysis for its "revision" of the Roadless Area Conservation Rule,

the Forest Service now both violates the requirements of NEPA and fails to provide a reasoned justification for eliminating the Roadless Area Conservation Rule.

The fact that the proposed revision (in fact, effective elimination) of the Roadless Area Conservation Rule is largely similar in its impacts to never having adopted the Rule in the first place does not excuse the Forest Service from compliance with NEPA. NEPA requires not merely disclosure, but reasoned decision-making. The fact that the deleterious impacts of no protection for roadless areas has been previously disclosed in the Draft and Final EISs for the Roadless Rule hardly establishes that the proposed decision to eliminate the rule properly takes those consequences into account. More importantly, the proposed rule's rejection of NEPA compliance results in no analysis whatsoever of whether its purported objectives ("address[ing] those activities having the greatest likelihood of altering, fragmenting, or otherwise degrading roadless area values and characteristics") are best achieved by the proposed approach (leaving even the possibility of protection to the discretion of the States, with a rigid time limit on even seeking protection) rather than the current Roadless Rule or other alternative approaches (for example, an "opt-out" approach protecting roadless areas but allowing Governors to seek exemptions for specified purposes).

We reject the Forest Service's explanation that the proposed rule is "merely procedural in nature and scope" and therefore categorically excluded from NEPA documentation. The plain effect of the proposed rule will be to eliminate the Roadless Area Conservation Rule's protection for IRAs, unless and until such time as a Governor successfully petitions to reinstate those protections for particular areas. Eliminating an environmental protection and replacing it with a procedure that might, in theory, some day reinstate that protection (or eliminate other protections, such as those in existing Forest Plans) does not render the rule "merely procedural."

The fact that a procedure is to be put in place that might, in theory, reduce the effect of eliminating the Roadless Rule in no way obscures the fact that the principal effect of the current proposed rule is just that—elimination of current 36 C.F.R. Section 294, Subpart B.

II. The Proposed Rule is Arbitrary, Capricious, and Contrary to Substantial Scientific Evidence

The Forest Service's decision not to prepare an Environmental Impact Statement and analysis of alternatives for the proposed rule is accompanied by a failure to provide any reasoned justification for replacing the Roadless Area Conservation Rule with a cumbersome, time-limited, and discretionary process of State petitions. The proposed rule claims that "USDA is committed to conserving and managing roadless areas," but fails to provide any evidence that its proposed approach will have any more success in ensuring such conservation that the forest-by-forest management process already found inadequate in the EIS process for the original Roadless Area Conservation Rule. The proposed rule is not accompanied by any analysis of the probable result of the petition process, save for its passing acknowledgment that it is likely to be essentially equivalent to the previously-rejected no action alternative. The Administrative Procedure Act and NEPA do not permit the Forest Service to simply eliminate the Roadless Area Conservation Rule, and offer up a petition process of uncertain outcome, without some explanation of the rationale for this decision. The bottom line is that extensive analysis and public involvement have shown that roadless area protection is both ecologically beneficial and important to the public. If the proposed rule is somehow intended to protect roadless values, it fails entirely to demonstrate and if and how it will do so. If instead the Forest Service now takes the position that those values should not be protected unless a State Governor elects to do so, it

has failed to present a reasoned justification for why that is the case. As discussed below, the original Roadless Rule EIS and its supporting scientific documentation demonstrated that roadless areas foster ecological and wildlife values of nationwide importance. The Forest Service's proposed rule offers no justification for why those values should be secondary to the preferences of individual states during one 18-month period, and therefore is arbitrary and capricious, and therefore unlawful under the Administrative Procedure Act, 5 U.S.C. § 706(2)(A).