

### 3. FIRE

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#### Natural Fire

***1. The Forest Service should refine its open-ended definition of wildfire on page 3-99 and drop the term “catastrophic.”***

**Response:** The term “catastrophic fire” was defined on p. 3-99 of the DEIS. It has been replaced in the FEIS by the term: “*Uncharacteristic wildfire effects—An increase in wildfire size, severity, and resistance to control, and the associated impacts to people and property.*” The definition is broad enough to include the harm a wildfire may do to both the ecosystem and humans (and their communities).

***2. The Forest Service should explain how vegetation and tree stocking will be managed to protect roadless areas from catastrophic disturbance and allow for the return of natural fires that are an integral part of the natural ecosystem processes.***

**Response:** Ecological structure, composition, and process were discussed in the DEIS and used to identify a variety of ecological factors to analyze and qualitatively rate relative differences between alternatives (DEIS pp. 3-20 through 3-21). While disturbances such as fire are a natural part of the ecosystem, human activities have influenced the size, intensity, frequency, and effects of these natural processes. The Forest Service has recently completed intensive national fire regime mapping (Hardy and others 2000) to help determine which vegetation management strategies are most appropriate for increasing an area’s resilience to disturbances such as fire (DEIS p. 3-99), and for maintaining and improving biodiversity by conserving habitat for threatened, endangered, proposed, and sensitive species (DEIS p. 3-97). Chapter 3 of the FEIS contains an expanded discussion of the effects of restoring natural fire within roadless areas.

The implementation guide to national fire policy (Zimmerman and Bunnell 1998) acknowledges how past land use and fire management actions have affected modern fire management (DEIS p. 3-149). The report of the U.S. General Accounting Office (GAO/RCED-99-65) focused national attention on the increasing size and severity of wildfires occurring on National Forest System (NFS) lands (DEIS p. 3-98). The Forest Service response to that draft report, *Protecting People and Sustaining Resources in Fire Adapted Ecosystems – A Cohesive Strategy* (Lavery and Williams 2000), outlines an implementation schedule for reducing some of these wildland fire threats (DEIS p. 3-99). Information from these sources and other sources was used in the DEIS and FEIS to identify the risk of fire starts becoming large enough to harm one or more key ecological factors within inventoried roadless areas, and to conduct the fuel management effects analysis.

One factor used in the fuels management analysis was how each alternative would affect the use of appropriate vegetation management techniques (such as thinning the density of overstocked stands and prescribed fire) to restore and maintain ecosystem health and lessen the chance of uncharacteristic wildfire effects (DEIS pp. 3-99 through 3-100; 3-103). The cost of implementing fuel management work for ecosystem restoration was another factor used to analyze fuel management effects. Any alternative that makes it more difficult and time consuming to complete fuel treatment work, by either limiting access or by removing a direct treatment technique such as thinning (as proposed in Alternative 4), would hinder restoration efforts – both logistically and economically – and have incremental negative cumulative effects in inventoried roadless areas (DEIS pp. 3-105 through 3-107).

The FEIS addresses natural fire in the analysis. Wildland Fire Use for Resource Benefit (WFURB) is a lightning-ignited wildland fire that can be allowed to burn if it meets land management plan objectives. WFURB is commonly used in Wilderness as a fire management action that is as close to natural as possible. Many people think that WFURB is more “natural” than human ignited prescribed fires. Using WFURB as a primary fuel treatment tool to reduce the occurrence of uncharacteristic wildfire within roadless areas is feasible, especially in inventoried roadless areas that are large and are located adjacent

to existing Wilderness (FEIS Chapter 3, Fuel Management section, Indirect Effects section, Alternatives 2 through 4).

***3. The Forest Service should use vegetation management that allows for natural fires appropriate to the forest type.***

**Response:** For each alternative in the FEIS, the Fuel Management section of Chapter 3 discusses Wildland Fire Use for Resource Benefit (WFURB). The FEIS states that there is a distinct possibility that WFURB can be used in roadless areas, particularly in large roadless areas that border Wildernesses where land management plans allow lightning fires to burn.

***4. The Forest Service should consider the effects of long-interval fire regimes.***

**Response:** Long-interval fire regimes are discussed in the Fire Ecology and Fuel Management sections of the FEIS at both the National and Regional scales. It is also noted that long fire return interval forests – Fire Regimes III, IV, and V – were not considered fuel treatment priorities for purposes of the FEIS.

## **Fuel Management – General**

***5. The Forest Service should clear away excessive growth and burned or bug-killed stands through forest management to prevent catastrophic fires.***

**Response:** The DEIS analyzed alternatives for effectiveness in reducing levels of hazardous fuels to restore and maintain sustainable, healthy vegetation (DEIS pp. 3-97 through 3-98). Alternative 1 (No Action) provides the highest potential to meet these goals because it permits a full range of vegetative manipulation. The type of vegetation manipulation used would be determined by site-specific analysis. Less than 1% of all moderate- to high-risk forests in inventoried roadless areas would be manipulated using timber harvest to meet fuel management objectives over the next five years (DEIS p. 3-104).

Alternative 4 provides the fewest fuel management options because it prohibits road construction and reconstruction (including temporary roads) and most timber harvest. Without thinning of timber as a pretreatment, prescribed burning in many inventoried roadless areas of the West would pose a high risk of

unwanted, severe damage due to the denser forest stands.

Each alternative analyzes how timber harvest can be used to reduce the risk from fire, insects, and disease. In Alternative 1, timber harvest could be used to mechanically treat as many as 94,000 acres; in Alternative 2, as many as 40,000 acres; and in Alternative 3, as many as 14,000 acres. Prescribed burning remains an option under Alternative 4 (DEIS pp. 3-104, 3-106, 3-108, and 3-109). The FEIS contains expanded descriptions of the effects of the alternatives on fuels management.

***6. The Forest Service should not allow timber harvest on public land to protect private property.***

**Response:** The responsibilities for and methods of fuel treatment on boundaries between private property and Forest Service inventoried roadless areas would be determined at the local level. As noted in the FEIS, currently there are few intersections of the wildland-urban interface and inventoried roadless areas.

***7. Given the changes in forest structure and increased catastrophic fire hazard caused by cattle grazing, the Forest Service should prohibit this activity in roadless areas targeted for fireproofing treatments.***

**Response:** Whether grazing increases or decreases fire hazard is an analysis beyond this EIS. The DEIS considered, but did not analyze in detail, alternatives that prohibit more activities (such as grazing) than just road construction, reconstruction, and timber harvest. See DEIS and FEIS Chapter 2, Alternatives Considered but Eliminated From Detailed Study, Alternative Sets of Prohibitions.

***8. The Forest Service needs to do active, restoration management of Beaver Park to protect this small area from fire; but it should be done without the influence of loggers or roads.***

**Response:** There are many site-specific areas needing special management considerations in the inventoried roadless areas covered by this analysis. Local decision-makers would consider the specific social and ecological characteristics of those areas through local planning efforts. Site-specific decisions are made outside the scope of this EIS. A State-specific breakdown of acres at risk of

uncharacteristic wildfire as outlined by the *Cohesive Strategy* (Lavery and Williams 2000) was added to the FEIS (Table 3-14).

Local responsible officials could not authorize the construction or reconstruction of roads but would retain discretion to consider appropriate additional management protection for inventoried roadless areas.

**9. The Forest Service should clarify the data presented in Table 3-20 of the Draft EIS.**

**Response:** The percentage error for the State of South Dakota in Table 3-20 of the DEIS has been corrected. The FEIS now contains a revised Table 3-14 that portrays the high priority treatment by condition class for inventoried roadless areas located in each State.

**10. The final plan should include effects analysis on the social and environmental impacts of insect and disease infestations and urban-wildfire interactions.**

**Response:** Insect and disease interactions with fuels were analyzed and discussed in the DEIS (pp. 3-97 through 3-100; and pp. 3-107 through 3-109). The Forest Service's ability to manage fuels to ensure public safety was a key factor throughout the analysis. For further discussion of this concern, refer to Response 5 in this section.

**11. The cumulative effects discussion in the Fuel Management section (DEIS p. 3-107) does not address potential impacts of catastrophic fire on public safety, property, and air quality.**

**Response:** As explained in the DEIS (p. 3-103), several factors were addressed as priorities for fuel treatment areas identified as high risk from uncharacteristic wildfire: human life, private property, threatened and endangered species, watershed protection, and local considerations. In addition, potential fuel management effects on air quality were addressed in the Air Quality section (DEIS pp. 3-44 through 3-45). An expanded cumulative effects analysis of impacts to all of these resources has been added to the FEIS.

**12. The Forest Service should disclose where the personnel and equipment resources will come from to implement a fuels reduction program.**

**Response:** Discussion or analysis of personnel and equipment for fuel reduction or fire suppression availability, assignments, and inventory is outside the scope of this analysis. Rather, decisions on budget and personnel allocations are made at the national level and the local forest or grassland level through normal planning and budgeting processes.

## Fuel Management – Techniques

**13. The Forest Service should allow controlled burns to be used as a forest management tool.**

**Response:** The alternatives do not prohibit any actions other than road construction, reconstruction, and timber harvest. The appropriate use of controlled burning would be decided at the local level during the site-specific analysis.

**14. The proposed rule should include fire as the key USFS management tool in roadless areas with exceptions for thinning from current roads in special cases.**

**Response:** A full range of alternatives concerning fire and thinning is presented in the FEIS. Prescribed fire and wildland fire are the key management tools in all alternatives. Thinning, either pre-commercial or commercial, is allowed in all alternatives except Alternative 4.

**15. Prescribed burning is not as economically viable for reducing excess forest fuels as is judicious timber harvesting or grazing; and**

**16. Restricting access eliminates sound forest management practices, specifically timber harvest and thinning, which are needed to control forest density, pests, and disease, and for reducing fire risk.**

**Response:** The scientific community recognizes the restoration of fire as an ecosystem process that is vital for sustaining many forest ecosystems, especially in the West (Smith and Arno 1989). Validation of prescribed fire as a forest management tool is outside the scope of this project. The DEIS did not analyze the effectiveness of one fuel treatment option over another. The discussion in this analysis is whether road construction and/or timber harvest should be prohibited in inventoried roadless areas (DEIS p. 1-12).

Timber harvest is permitted in three of the four alternatives (DEIS pp. 3-112 through 3-116). Some control of stocking levels to reduce the “fuel ladder” caused by overstocking of small, understory trees would be necessary in some areas before prescribed fire could be safely used (DEIS p. 3-103). The ability to implement a fuel reduction program to lessen the chance of uncharacteristic wildfire would be adversely affected under Alternative 4, which prohibits all timber harvest activities associated with tree removal, including the cutting of small diameter understory trees (DEIS p. 2-6; pp. 3-106 through 3-107).

The fuel management effects analysis in the DEIS revealed the need for thinning to reduce the risk of uncharacteristic wildfire. The DEIS analyzed how each alternative for managing roadless areas affects both the fuel management options and fire suppression capability (DEIS pp. 3-98 through 3-107; pp. 3-149 through 3-153). Costs for completing fuel management work necessary to reduce this risk was calculated for each alternative (DEIS pp. 3-104 through 3-107). Any changes to these costs are updated in the FEIS. In addition, see Responses 9 and 25 in the Timber section.

***17. The Forest Service should not rely on managing National Forest lands with prescribed fire, and needs to redefine and narrow the parameters for its use or put a moratorium on burning.***

**Response:** Prescribed fire and timber harvest can serve as tools used to manage forest fuels and to restore the ecological factors (structure, composition, and process) that contribute to an area’s resilience to natural disturbances (DEIS pp. 3-20 through 3-21). Prescribed fire is recognized as an essential tool for reducing fire hazard and increasing the sustainability of many national forest ecosystems, and it would be allowed in all the alternatives. In 1999, 95% of the 1.4 million acres of National Forest System lands treated for fuel management purposes were treated by prescribed burning (DEIS p. 3-104).

Discussion on the use of prescribed fire as a tool for fire hazard reduction, and for maintenance and restoration of forest health, appear throughout the DEIS and FEIS. The analysis indicates how each alternative affects fuel and fire suppression capability.

A redefinition of national fire management policy, or implementation of a moratorium on prescribed burning, is outside the scope of this analysis. The decision to result from this analysis is whether road construction and/or timber harvest should be prohibited in inventoried roadless areas (DEIS p. 1-12).

***18. Timber harvest, through its effects on forest structure, local microclimate, and fuel accumulation, has caused an increase in fire hazard more than any other recent human activity.***

**Response:** Removing biomass through harvesting trees does affect forest structure, microclimate, and fuel loading – which, in turn, affect fire behavior on a site. The removal of large fuels, whether live tree trunks or dead and down logs, can reduce how hot (severe) a forest fire will become. Timber harvest can also open up a forest to drying of fine fuels, as well as moisture during snow and rain, and penetration by wind. Then, once a fire starts, it can sometimes spread faster and grow larger (Countryman 1955, DEIS p. 3-156).

Timber harvest also reduces ladder fuels that can cause fires to enter tree crowns. In addition, logging an area at high risk from uncharacteristic wildfire coupled with prescribed burning would lower the fire hazard and possibility of severe wildland fire (DEIS p. 3-106).

The DEIS and FEIS analyze how restricting timber harvest would affect fuel management and fire suppression. Prohibiting timber harvest would limit one option for treating forest fuels. However, because the amount of acres expected to be treated the first five years through timber harvest is less than 1% of all inventoried roadless area lands needing fuel treatment, the effect of timber harvesting would be negligible to the overall fire suppression program (DEIS p. 3-156). This discussion has been expanded in the FEIS.

***19. The proposed rule will cause a concurrent buildup of fuels due to restricted access that will increase potential wildfire risk.***

**Response:** The DEIS and FEIS analyze how lack of access would affect fuel management potential and wildfire occurrence. Incremental negative cumulative effects are expected under Alternative 4, which prohibits timber cutting and road construction. As a

result of that prohibition, fuels in forests affected by insects, disease, windthrow, dense over-stocking of sapling trees, or trees killed by wildfire, could accumulate to hazardous levels (DEIS pp. 3-100 through 3-107). This discussion has been expanded in the FEIS. Also see Response 36.

## Fuel Management – Funding

**20. Restoration harvesting, controlled burning, and other measures to reduce fire risk are expensive and grossly under-funded. The Forest Service should request more funds from Congress, and prioritize use of limited funds in currently roaded areas, particularly on the "urban interface" where there is high risk to private property. If funds increase dramatically, fire control can be expanded to roadless areas in the future.**

**Response:** The agency used the *Cohesive Strategy* to frame the evaluation of the effects for all four alternatives in the Fuel Management section of the FEIS. Linking the strategic guidelines implied in the *Cohesive Strategy*, the FEIS assumed that the high priorities for fuel treatment would occur outside of roadless areas where resource and human values are higher. For purposes of the FEIS analysis, it is doubtful that fire hazard reduction work would occur within inventoried roadless areas for at least 20 years.

The effect on the wildland-urban interface (WUI) and the cost of completing necessary fuel treatment to reduce wildfire hazard were primary factors used to analyze each alternative. An assumption common to all alternatives was that inventoried roadless areas would be a low priority for treatment unless there was an imminent threat to public safety, private property, water quality, or threatened and endangered species (DEIS pp. 3-100 through 3-107). The basis for this assumption is that little to no human infrastructure is located within most inventoried roadless areas. On a national scale, 86.7% of the land within one mile of NFS inventoried roadless area boundaries has fewer than three people per square mile. The FEIS contains a table showing population density classes in the wildland-urban interface (Chapter 3, Fuel Management, Affected Environment).

Although budgets to treat fuels have risen over the last decade, the analysis revealed costs for doing work in areas at risk from uncharacteristic wildfire

will increase from a low of \$15-\$150 per acre to a high of \$500-\$1,800 per acre (DEIS p. 3-104). The FEIS references an interagency report to the President and the need for accelerated fuel reduction work outside inventoried roadless areas. The report is: *Managing the Impact of Wildfires on Communities and the Environment: A Report to the President in Response to the Wildfires of 2000* (September 8, 2000).

**21. The cost of fuel hazard mitigation and regeneration should be taken from the value of the timber products harvested.**

**Response:** Timber sales have often been used as a "least-cost" method to manage vegetation to meet resource objectives (DEIS p. 3-112). Existing legislation, including the Organic Act (which includes brush disposal provisions) and the Knutsen-Vandenburg (KV) Act, provides for collection of funds from timber receipts for fuel hazard reduction and regeneration. The FEIS notes that rarely has fire management paid for road construction costs. The determination of other funding methods for these programs is beyond the scope of this proposal.

**22. The Forest Service should lobby Congress for funding to address the issue of thinning in fire prone areas.**

**Response:** Lobbying Congress for dollars to thin fire prone areas is outside the scope of the FEIS. However, the FEIS noted that the recent interagency report to the President indicated the need for "significant investments to treat landscapes through thinning and prescribed fire."

## Fire Suppression – General

**23. The Forest Service should clarify what constitutes "imminent" threat.**

**Response:** When the phrase "an imminent threat" is used in the context of wildfire suppression in the FEIS, it means that a wildfire is burning or threatening humans and/or private or public property.

**24. The Forest Service should consider the cost of not controlling fires.**

**Response:** Under current fire management policy, the level of suppression carried out on any fire depends on the local forest or grassland land and

resource management planning direction and local Fire Management Plans. While the value of the resources at risk and the cost of fire suppression are always considered, firefighter and public safety are always the highest priorities (DEIS p. 3-150).

To analyze risk from uncharacteristic wildfire for inventoried roadless areas, the FEIS utilized the *Cohesive Strategy* for fire management (see Response 2), which outlines an implementation schedule to reduce wildland fire risks and consequences on human life, private property, watersheds, and threatened and endangered species. Also used were national wildland fire trend information and information from the national fire regime mapping effort (DEIS pp. 3-99, 3-150). Costs for completing fuel management work necessary to reduce this risk were calculated for each alternative (DEIS pp. 3-104 through 3-107).

The DEIS and FEIS displayed the annual average expenditure for emergency fire suppression graphically (DEIS Figure 3-27). The analysis revealed that under a national prohibition on road construction and reconstruction, any increase in wildland fires escaping initial attack would not rise above the 11 year average of 17 large (1,000 acres or larger) fires per year. It further revealed that 98% of all fires ignited inside inventoried roadless areas would be successfully controlled at a relatively small size. The DEIS and FEIS describe an example from northern California in which size and cost can be affected when a wildfire ignited in an unroaded, remote area is allowed to burn due to priority setting (DEIS p. 3-158). In addition, see Response 36.

**25. *The Forest Service should update its analysis of the cost of fire suppression versus the cost of fuel treatment.***

**Response:** The issue that fuel management costs should be balanced with fire suppression costs is a legitimate concern in all national fire management programs, but it is outside the scope of this FEIS. Fire hazard reduction costs were portrayed in the Affected Environment of the DEIS and FEIS, and for each alternative in the Fuel Management section of the FEIS. The average emergency costs for suppressing wildfires will continue to fluctuate around the extremes displayed in Figure 3-27 of the DEIS. That data set in Figure 3-27 is representative of both high- and low- fire years for both total cost and total acres burned. It includes such large fire

years as 1987 (Pacific Northwest), and 1988 (Western Montana and Yellowstone Park), and 1994 (Central Idaho and Western Montana) balanced with fire years with extremely low acreages burned (1983 and 1984).

**26. *The Forest Service should develop plans for managing large-scale disturbances in roadless areas.***

**Response:** It is beyond the scope of this analysis to determine how the Forest Service would manage large-scale disturbances in roadless areas. However, the FEIS does show the fire occurrence probability for areas that are essentially roadless (Wilderness and inventoried roadless areas) and areas that are essentially roaded (lands outside of Wilderness and inventoried roadless areas). Among fuel management practitioners and researchers, uncertainty exists over how to design and spatially locate fuel management projects, particularly at the landscape level, to prevent uncharacteristic wildfire (FEIS, Chapter 3, Fuel Management section).

**27. *The Forest Service should explain the dynamics and control of forest fires.***

**Response:** While there are many outstanding references available that discuss wildland fire dynamics and fire suppression techniques, further discussion in this EIS would be beyond the scope and purpose of the proposed rule.

**28. *Many roadless areas are at high risk of catastrophic fire, despite the fire statistic implication in the DEIS's Table 3-19 that this is not so.***

**Response:** The DEIS and FEIS analyses concluded that an abundance of high and moderate risk acres occur on National Forest System lands. Specifically, as the FEIS Table 3-13 confirms, 22 million acres in inventoried roadless areas are presently at risk in these two categories. For further discussion related to this concern, see Response 36.

**29. *The Forest Service analysis should include the potential for large catastrophic wildfire caused by lightning.***

**Response:** A description of large fires started by lightning (as well as human-caused, and all causes) has been added to Table 3-22 in the FEIS.

**30. *The Forest Service should address the effects each alternative would have on fire suppression tactics.***

**Response:** The DEIS and FEIS alternatives do not limit the implementation of any fire suppression tactics. Evaluation or determination of such tactics would be made locally for each individual wildfire and would therefore not be within the scope of this analysis.

## Fire Suppression – Private Property

**31. *The rulemaking and the DEIS fail to adequately address the effects of catastrophic fires and increased incidence of insects and disease on surrounding properties and communities, including the potential liability resulting from restricted access.***

**Response:** Risk of uncharacteristic wildfire was a major factor used to compare alternatives for the protection of roadless areas within the National Forest System (DEIS p. 3-105). The fuel management effects analysis focused on private property located at the wildland-urban interface. The analysis showed that few populated areas are near inventoried roadless areas of the national forests and grasslands (DEIS p. 3-154). On a national scale, 86.7% of the land within one mile of NFS inventoried roadless area boundaries has fewer than three people per square mile. The FEIS contains a table showing population density classes in the wildland-urban interface (Chapter 3, Fuel Management, Affected Environment). The actual number of fire-hazard reduction projects in roadless areas needed to protect private property along the border of the WUI is very low.

Protection of private property has always been and will continue to be a high priority (see FEIS Chapter 3). Each alternative in the DEIS and FEIS was analyzed to determine how it affects the agency's ability to efficiently manage fuels in the WUI and to implement an aggressive fuel reduction program to lessen the chance of uncharacteristic wildfire. The FEIS updates this analysis.

The issue of liability (who is responsible and who should pay for damages) for a wildland fire escaping from an inventoried roadless area is addressed on a

case-by-case basis and is outside the scope of this analysis.

**32. *The Forest Service should narrow the exception language for catastrophic fire to include a requirement for private property owners to fire-proof their property.***

**Response:** An exception to the road construction and reconstruction prohibition in Alternatives 2, 3, and 4 allow a fire manager to build a road into a roadless area when there is imminent threat to life or property while a wildland fire is burning.

Whether private landowners should be responsible for fire-proofing their property is beyond the scope of the analysis for this roadless area conservation rulemaking.

**33. *What emergency response and evacuation procedures and replanned compensation program has the Forest Service developed for property owners if a wildfire should move from roadless areas into communities?***

**Response:** The Forest Service's liability for fire damage to private property resulting from wildfire occurrence is outside the scope of this analysis. The risk of uncharacteristic wildfire, however, was a major factor used to compare alternatives. In addition, constructing a road if an imminent threat of fire exists that poses a risk to life or property was a design element common to all EIS alternatives. For further discussion of this concern, see Response 31.

**34. *The Forest Service should consult with local communities about prevention of and planning for catastrophic wildfires.***

**Response:** The Forest Service is committed to collaboration and planning with local communities, and does so whenever possible. Consultation and collaboration with the public regarding site-specific planning for the prevention of uncharacteristic wildfire is outside the scope of this proposal.

## Fire Suppression – Road Access

**35. *The Forest Service should not allow timber harvest or road building in unroaded areas because these human activities increase the catastrophic fire potential.***

**Response:** The Forest Service generally constructs roads for multiple uses. Few roads, however, are constructed for solely fire management purposes (DEIS p. 3-13). Roading an area does not necessarily safeguard it from uncharacteristic wildfire occurrence (DEIS p. 3-157). Scientific analysis in the DEIS revealed that building roads into high-risk fire areas can actually increase the risk of human-caused fires (DEIS p. 3-158).

Whether or not timber harvest and thinning can reduce the number of acres burned each year by wildfires is also analyzed in the DEIS and FEIS. While removal or thinning of trees can reduce a fire's intensity, this removal does not necessarily preclude the potential spread of fire. In some cases, if not treated, this fuel could even increase the fire spread potential (DEIS p. 3-156). The FEIS updates this analysis.

**36. *The proposed rule and preferred alternative increases the susceptibility of our forests to catastrophic wildfire, threatens multiple uses and resources, and restricts access which compromises firefighter safety.***

**Response:** The DEIS and FEIS analyze whether building roads into roadless areas was a strategically effective pre-suppression action to limit the size, number, and intensity of future wildfires. A design element (exception) common to all alternatives allows a road to be constructed if an imminent threat of fire exists that would cause loss of life or property (FEIS Chapter 2, Exceptions Common to All Action Alternatives). Thus, the proposed rule allows for the use of mechanical equipment during wildfire situations.

The DEIS and other national assessments reveal that areas with more roads actually have a higher potential for uncharacteristic wildfire than unroaded areas (USDA Forest Service 1996B). Fire management trends were used to determine the effect the proposed action would have on fire suppression capability (DEIS p. 3-156). The analysis revealed that a national prohibition on road construction and reconstruction would not result in an increase in wildland fires escaping initial attack. A review of fire occurrence data for inventoried roadless areas further revealed that 98% of all fires ignited inside inventoried roadless areas would be successfully controlled at a relatively small size (Tables 3-31 and 3-32 on DEIS p. 3-152).

Because the amount of land area at risk to large wildland fires is large compared to the small amount of road that would be built into these same areas, the effect of the road construction prohibition on the fire suppression program is expected to be negligible (DEIS p. 3-156). In addition, because firefighter and public safety are always highest priorities, high hazard threats would be mitigated before a suppression action is taken (DEIS p. 3-150). The FEIS reiterated this analysis.

**37. *The Forest Service should address the need for a complex system of roads to insure firefighter safety.***

**Response:** Firefighter safety was a key issue taken into account in the analysis of all three road prohibition alternatives (2, 3, and 4). As stated in the fire assumption portion of Chapter 3 of the FEIS: "Firefighter and public safety are always the highest priority. Regardless of the selected fire management strategy... all high hazard threats affecting firefighter... safety would be mitigated before a suppression action is taken." During a wildfire, if an imminent threat to firefighter safety exists, a road could be constructed or reconstructed in inventoried roadless areas.

**38. *The Forest Service should address the economic impacts of aerial firefighting in roadless areas that would be necessitated by this proposed rule.***

**Response:** The rugged terrain of many inventoried roadless areas necessitates support from aerial firefighting equipment to remain an essential tactical tool. In the fire management effects analysis in the DEIS, "annual expenditure for fire pre-suppression and emergency fire suppression" served as one of the components used to compare alternatives against no action (DEIS pp. 3-149 through 3-150). Current cost trends under the No Action Alternative 1 are projected to continue with Alternatives 2, 3, and 4 (DEIS p. 3-156). In addition, see Response 36.

**39. *The Forest Service should disclose the costs of managing roads versus the costs of fire management.***

**Response:** The Fire Suppression section of the FEIS addresses the costs of managing roads versus the costs of fire management. The effects analysis in the FEIS (Chapter 3) determined that, even if one knew

where a future uncharacteristic wildfire would occur, the environmental and economic cost of building a road into this high-risk area could be higher than the value of the resource protected. Furthermore, past road construction was paid for by the use that benefited most from the initial access, mainly timber harvesting. Therefore, the location of the current NFS road system was based more on the accessing commodities for commercial use than on creating a route for the speedy delivery of firefighters to forests at risk from fire.

*End of Fire Section*