

6. LANDSCAPE ECOLOGY

General.....	48
Biodiversity.....	52
Cumulative Effects.....	54
Fire Ecology.....	55
Research and Monitoring.....	55
Restoration.....	56
Scale of Analysis.....	57
Science.....	57
Size and Distribution.....	58
Special Designated Areas.....	59

General

1. The Forest Service priorities should be shifted from resource extraction to resource conservation.

Response: The Forest Service is directed by laws including the Organic Act of 1897, the Multiple-Use Sustained Yield Act of 1960, and the National Forest Management Act of 1976. Within that direction, the agency has been in the process of shifting its conservation priorities for more than a decade. These changes were described throughout the DEIS. For example, timber harvest on the national forests has declined from more than 11 billion board feet in 1987 to 2.2 in 1999 (DEIS p. 3-114), and an increasing number of timber sales are designed to accomplish stewardship purposes (DEIS pp. 3-11 and 3-112; FEIS Chapter 3). These changes are also reflected in the Forest Service Natural Resource Agenda, new Planning Regulations (36 CFR 219), the proposed Roads Policy, and other initiatives described in the cumulative effects section of the DEIS and FEIS.

2. If resource extraction is allowed, then the techniques used should minimize the destruction of the forests.

Response: The Forest Service considers environmental effects of its activities during forest and grassland and site-specific project planning. The Forest Service plans and implements activities consistent with applicable laws and regulations, including the National Forest Management Act, the Endangered Species Act, the National Environment Policy Act, and the Clean Water Act. The proposed rule specifically addresses the effects of prohibiting timber harvest, road construction, and road

reconstruction. The overall potential effects of timber harvest and roads, and the effects of prohibiting these activities in inventoried roadless areas were described in Chapter 3 of the DEIS and FEIS.

Proposed activities such as road building or timber harvest outside inventoried roadless will be analyzed site-specifically at the local level.

3. Do not cite agricultural land lost to urban sprawl as a reason for restricting road building and timber harvest on roadless areas in national forests; they are two separate issues.

Response: The reference to cropland in Chapter 1 (p. 1-3) of the DEIS was to help provide an explanation of why demand for open space recreational experiences on public land is increasing. Based on the available literature, this growing demand appears to be at least partly related to an increasing human population and declining open spaces in the private sector due to urbanization of private land. The FEIS contains an expanded discussion of land conversion in the U.S. from rural to urban uses, and the relevance of this trend to roadless area conservation.

4. The Forest Service should address whether the real goal of this proposed rule is to save ecosystems or to appease environmentalists while still allowing destructive activities to continue.

Response: The purpose and need section of the DEIS (pp. 1-10 through 1-12) described the goals of the roadless conservation proposal. The intent of the proposal is to protect roadless areas by prohibiting activities that pose the greatest risk to roadless characteristics: road construction, reconstruction, and in some cases, timber harvest. Decisions about specific activities not prohibited by this proposal, within inventoried roadless areas and unroaded areas, will be made locally with full public involvement under the new Planning Regulations (36 CFR 219). See also Response 5.

5. Many activities, including road construction, threaten the health and integrity of the ecosystem. The Forest Service should restrict these activities.

Response: A number of comments requested prohibitions on a wide variety of activities that they felt damaged ecosystems. Rationale for limiting the scope of the prohibition alternatives was outlined in the DEIS in Chapter 1 and Chapter 2.

Chapter 1 (pp. 1-10, 11, Purpose and Need) stated:

... only those uses and activities that are likely to significantly alter landscapes and cause landscape fragmentation on a national scale be considered for prohibition in this proposal.

Other activities identified by the public, such as motorized vehicle use, grazing, mining, and developed recreation facilities, were determined by the agency to either not pose the same level of national risk for adversely impacting roadless areas, as do road construction, reconstruction, and timber harvesting, or some of these activities, such as mining, are already governed by law.

Chapter 2 (p. 2-18), the second and third paragraphs, provided the rationale for limiting the scope of prohibited activities to those described in the alternatives:

The scope of prohibition actions considered in detail has been limited to road construction, road reconstruction, and timber harvesting because these activities pose disproportionately greater risks of alteration and fragmentation of natural landscapes....

In addition, data on uses in roadless areas including OHVs, rights-of-ways, and special uses, are not available, nor have the protocols been established for collecting this information. Until the protocols are established and these data are available, it is premature to address these other uses at this time.

6. Restricting access and use of some areas will concentrate uses in other areas, which will lead to more environmental damage than if the uses were dispersed.

Response: There are currently over 380,000 miles of roads in the National Forest System. The projected miles of road that will not be constructed because of this rule is less than 1% of the existing roads within the National Forest System. Therefore, the overall effect of the rule on access would be limited. The rule does not restrict existing access in inventoried roadless areas, and therefore does not shift existing human uses from these areas to other areas. The road prohibition would not allow for expansion of roaded recreation into inventoried roadless areas, so

increased congestion in existing roaded areas is possible in the future. A majority of the projected timber harvest (220 million board feet annually) that would not be harvested under the alternatives would not be replaced on other NFS lands, so potential effects of timber harvest are not likely to be concentrated in other areas of the NFS. Adverse environmental effects that could result from concentrated or shifting of human use are addressed through local management decisions, either during forest and grassland planning or during site-specific project planning. The effects of restricting future roaded access and related human uses in inventoried roadless areas were discussed in the DEIS, and have been expanded in the cumulative effects section in the FEIS.

7. Natural phenomena cause more environmental damage than human recreational or commercial activities, so restricting human activities will not solve these environmental problems.

Response: The important role of disturbance processes in shaping ecological systems is well described in the scientific literature. See the References Cited section in the FEIS for a partial list. Typically, disturbance is characterized by type, frequency, intensity, and size. Current literature suggests that human disturbance should be within historical or “natural” levels in order to maintain the full suite of native plants and animals. The impacts on ecosystems from recreational activities and natural disturbances such as wildfires are discussed in the biodiversity cumulative effects section of Chapter 3 in the FEIS. The DEIS (p. 3-92) discussed the high level of extinction rates associated with relatively recent human activities.

8. The proposal would trigger the need for alternatives to wood and paper products with resulting adverse environmental consequences.

Response: The timber offer affected by Alternatives 2 through 4 is less than 0.5% of total U.S. production (DEIS p. 3-189). The DEIS recognized there would likely be some substitution of timber from private or foreign lands (DEIS p. 3-243) from implementing the alternatives, but the overall effect would be small. The supply to replace this amount could be made up from both domestic and imported sources. It is possible that any shortfall could be made up for by alternatives to forest products, but the amounts are unknown. Additional recycling could also

compensate for the predicted reduction from the national forests.

9. Roads should not be banned except where necessary; and

10. Ending road building will not solve any problems.

Response: The DEIS considered the option of allowing road construction in all inventoried roadless areas (p. 2-17). The DEIS also considered allowing new roads in some geographical areas, and for some selected activities (DEIS p. 2-20). Alternatives 2 through 4 restrict road construction in inventoried roadless areas; in some of these areas the applicable forest or grassland plan currently allows new road construction. Those alternatives were considered in detail in the effects analysis (DEIS Chapter 3). Chapter 3 described the beneficial and adverse effects of allowing and of prohibiting road construction. This description has been updated in the FEIS.

11. The Forest Service should use the Northern Rockies Ecosystem Protection Act as a template for realistic ecosystem protection to be applied throughout our nation.

Response: The decision on whether to enact the proposed Northern Rockies Ecosystem Protection Act (NREPA) would be made by Congress. Thus far, this bill has not been passed. The NREPA was not used as a template for analysis in the DEIS. The NREPA, this proposed rule, and other current and proposed laws and regulations seek to conserve biodiversity because of its ecological significance. Analyses of the effects of the prohibitions on biodiversity considered connectivity, fragmentation, size and types of habitat protected, risk of nonnative invasive species establishment, and conservation of habitat for threatened, endangered and proposed species (DEIS pp. 3-47 through 3-97). See the specialist reports: *Landscape Analysis of Inventoried Roadless Areas and Biodiversity (May 2000)*, *Analysis of Effects to Terrestrial and Aquatic Species (May 2000)*, and *Analysis of Effects for Biological Resources on the Tongass National Forest (May 2000)*. The FEIS has updated this analysis.

12. The Forest Service's roadless area conservation project contributes important environmental values.

Response: The benefits of roadless area conservation are part of the purpose and need described in Chapter 1 of the DEIS on p. 1-10. These values were described in detail in Chapter 3 of the DEIS on pp. 3-21 through 3-110.

13. The Forest Service should preserve ecosystems by establishing laws without loopholes.

Response: The DEIS analyzed a wide array of alternatives to decide how best to protect roadless characteristics of inventoried roadless areas on National Forest System lands. The diversity of landscapes and uses on these lands requires some exceptions to deal with legal matters that override agency authority, such as outstanding rights of citizens to access private in-holdings, and to respond to emergency needs, such as flood or fire response. These few exceptions were listed on p. A-27 of the DEIS. This list has been expanded in the FEIS.

14. The Forest Service should consider the fact that the importance of roadless areas does not follow solely from their being roadless, but from the contribution they make to wildlife, watersheds, fisheries, habitat, and recreation, etc.

Response: All of these factors were considered in the analysis (DEIS pp. 3-20 through 3-97; 3-117 through 3-141).

15. The Forest Service should not intervene, but should allow forests to remain wild and let nature manage itself.

Response: The DEIS considered the inherent values of roadless areas (devoid of road construction or timber harvest). A discussion of active and passive (natural) management has been added to the fire management section of the FEIS. For further information regarding this concern, see Responses 61 and 63 in the Social section.

16. National Forests should be kept in a pristine, natural condition to ensure more ecological balance between the open and the naturally forested spaces; and

17. The Forest Service should prevent sectioning of the few remaining roadless forests by roads.

Response: The national forests and grasslands are managed under the multiple-use concept that allows

a wide range of management options across its 192 million acres. Currently about 35 million acres are in Congressionally-designated Wilderness. Another 58.5 million acres are currently in some form of inventoried roadless area status. The DEIS analyzed the effects of prohibitions on road construction and reconstruction and timber harvest on inventoried roadless area characteristics and values.

18. The Forest Service should not assume that human activity negatively impacts the resource.

Response: The social, economic, and ecological effects of human activity under a full range of alternatives are analyzed and described in Chapter 3 of the DEIS and FEIS.

19. The Forest Service must protect and preserve our roadless areas as they are important to the survival of the human species.

Response: The reasons for the proposal to conserve roadless areas were described in the purpose and need in Chapter 1. The ecological, social, and economic importance of roadless areas to humans was addressed in the affected environment and consequences in Chapter 3. See also Response 31.

20. The Forest Service parks, trails, and roads should not be removed until it can be proven that they kill flora and fauna.

Response: None of the alternatives would close any parks (that is, campgrounds and related facilities), roads, or trails that already exist. Any decision to do so would be at the local level after a forest or grassland plan or site-specific project analysis with full public participation. The Forest Service's proposed Roads Policy would establish procedures for addressing management of existing roads.

21. The Forest Service should conserve non-renewable landscapes by not harvesting trees like the Tongass has done.

Response: The DEIS analyzed a broad array of alternatives to address management of inventoried roadless areas and unroaded areas across the national forests and grasslands. The effects of these alternatives were disclosed in detail in Chapter 3. The alternatives consider a mix of no-action and action alternatives that place a range of limits on road construction, reconstruction, and timber harvest

in the inventoried roadless areas. Because the agency has made the decision on procedures for roadless areas in the new Planning Regulations (36 CFR 219), the FEIS has modified its range of alternatives to include only the prohibitions, and the exemption possibilities for the Tongass.

22. The Forest Service should apply "good husbandry," an old English word meaning "to-husband," to care, tend, plan and be willing to protect and pass on this precious environmental heritage to the next generation – intact. This is different from stewardship that means to manage another's property, finances, etc. as an administrator or supervisor.

Response: Stewardship is defined in the DEIS (pp. G-6 and G-7). Husbandry is not a term that was used in the DEIS. However, it is the intent of the Forest Service to protect and pass on a valuable heritage found in some of the last remaining roadless areas in its jurisdiction, as described in the purpose and need for the proposal (DEIS p. 1-10).

The debate over roadless areas has been ongoing for over 100 years. It has become clear over the past 20 years that the RARE II process did not fully resolve this issue, nor have other large-scale assessments such as the Northwest Forest Plan. Appeals, litigation, and protests continue. The Roadless Area Conservation proposal is designed to bring closure to this debate so the agency can focus its limited resources on management of a wide array of issues in high priority areas to meet the needs of the American public. The DEIS presented a wide array of alternatives to address these roadless areas and resolve the debate and controversy.

23. The Forest Service should clearly state the overarching long-term goal of the proposed rule.

Response: The purpose and need for the Roadless Area Conservation Project was described in the DEIS (pp. 1-1 through 1-3) and in the preamble to the proposed rule (pp. A-4 to A-5).

24. The Forest Service should include uninventoried roadless areas near the Sawtooth roadless complex of the Gifford Pinchot National Forest.

Response: There is currently no inventory of unroaded areas; therefore it was not possible or

appropriate to include them in the alternatives and this analysis. Rather, unroaded areas will be identified during local forest and grassland planning under the new Planning Regulations (36 CFR 219).

25. *The Forest Service should use findings from the World Wildlife Fund Klamath/Siskiyou project to manage roadless areas in Region 6.*

Response: These findings along with other pertinent information were considered in the biodiversity analysis of the DEIS. This information will be available to local managers when considering management of roadless areas in the Pacific Northwest Region (Region 6).

26. *The Forest Service should completely rewrite Ecological Factors in the Draft EIS in an objective manner, providing specific quantitative analysis and evidence.*

Response: We have revised the ecological factors section in the FEIS.

27. *The Forest Service should ensure protection of the San Joaquin roadless area.*

Response: The San Joaquin roadless area on the Sierra National Forest is included within all the prohibition alternatives in the FEIS.

28. *The Forest Service should clarify its authority to designate conservation reserves.*

Response: The Forest Service is not designating conservation reserves in this FEIS. This term has been used in the analysis to describe many of the conservation values that would be protected in roadless areas.

29. *The Forest Service should clearly distinguish between conservation and preservation. The project is too focused on preservation (no use) rather than conservation (wise use).*

Response: We reviewed and clarified the choice and application of these words where needed throughout the FEIS.

Biodiversity

30. *The Forest Service should designate roadless areas based on their biological value, not on their roaded status.*

Response: Roaded status was just one criteria used to identify inventoried roadless areas. The Forest Service has conducted evaluations of the biological and social values of inventoried roadless areas in RARE, RARE II, forest and grassland planning, regional assessments, and in this EIS. The new 36 CFR 219 Planning Regulations provide direction on evaluating inventoried roadless areas and unroaded areas during forest and grassland plan revisions.

31. *The Forest Service should protect roadless areas in order to protect and preserve their biodiversity, genetic reservoirs, and the reserves of medicines, food, and other resources they represent.*

Response: Genetic composition was recognized as an important part of biodiversity in the DEIS. The effects of habitat fragmentation on genetic diversity were described on pp. 3-47, 3-82, and 3-89.

32. *No further lands need to be set aside for ecological purposes by the Forest Service. The President’s Plan of these areas (Northwest forests) found them lacking in the ecological values needed to warrant long-term preservation.*

Response: The Northwest Forest Plan (NWFP) analyzed inventoried roadless areas and acknowledged the ecological value of these areas in several places. For example, page 3&4-64 of the NWFP stated: “roadless areas, are also important in terms of maintaining and restoring ecosystem processes and functions throughout the range of the northern spotted owl.” Page 3&4-70 stated: “To protect the highest quality habitat in Key Watersheds, all alternatives except 7 and 8 [alternative 9 was selected] stipulate that no new roads will be constructed in inventoried roadless areas within Key Watersheds....” Page 3&4-280 stated: “Currently there are approximately 3 million acres (Table 3&4-47) of inventoried roadless areas on Forest Service administered lands within the planning area, although a small portion of these have been roaded since the RARE II inventory. Roadless areas provide diverse, undisturbed habitats for fish and wildlife, and can be especially important for species sensitive to human disturbance. For

recreationists, roadless areas offer opportunities not available in more developed settings. Streams in roadless areas are often a source of high quality water for communities.”

33. *The Forest Service should provide stronger protection for biodiversity than is proposed in the DEIS and the “Preferred Alternative.”*

Response: The Forest Service analyzed a wide range of alternatives and their effects on biodiversity (DEIS pp. 3-47 through 3-69). Alternative 2, which was the preferred alternative in the DEIS, would prohibit road construction and reconstruction except in the few cases where laws may override this proposed rule or for public health and safety. The exceptions from the prohibitions (DEIS p. 2-4) will have little effect on the overall conservation of roadless areas. The DEIS considered Alternatives 3 and 4, more restrictive alternatives than Alternative 2. It also considered alternatives that would prohibit more activities than road construction and timber harvest but eliminated them from detailed study for the reasons described in the DEIS (pp. 2-15 through 2-20).

34. *The Forest Service should preserve roadless areas because they are important to the health and well being of ecosystems.*

Response: The value of roadless areas for ecosystem health is analyzed in the Ecological Factors section of the Affected Environment and Environmental Consequences chapters of the DEIS and FEIS.

35. *The proposed rule will not benefit biodiversity in the long term because of potential for wildfire in roadless areas.*

Response: Fire is a natural component of ecosystems and can have beneficial effects on wildlife habitat and biodiversity. The effects on biodiversity from uncharacteristic wildfire, fires that may harm habitat, were discussed in the DEIS (pp. 3-58; 3-59; 3-66; 3-69). The discussion of fire effects on biodiversity has been expanded in Chapter 3 of the FEIS.

36. *The Forest Service should develop a management plan that assures wildlife corridors between key Wilderness areas; and*

37. *The Forest Service should permanently protect important roadless areas, such as those around the*

Skagit River Bald Eagle Natural Areas because of its importance as a biological corridor.

Response: Establishment of corridors was not a stated objective of this proposal. However, corridors are important for many species; especially for connecting isolated habitats. Connectivity was discussed in the DEIS on pp. 3-56 through 3-59 and on p. 3-65. Over 34% of the inventoried roadless areas are adjacent to Wilderness areas (DEIS p. 3-61). Inventoried roadless areas greatly improve the connectivity between Wildernesses (DEIS pp. 3-63 through 3-65) in the example of grizzly bear recovery areas. A site-specific analysis of all the species benefited by corridors was not done in this national-level EIS. The specific local characteristics such as the Skagit River Bald Eagle Natural Area would be considered in forest and grassland planning at the local level.

38. *The Forest Service should consider the aesthetic experience that old-growth forest offers and that are not present in other management areas.*

Response: Restrictions on logging in inventoried roadless areas are part of Alternatives 3 and 4 as analyzed in the DEIS and FEIS. Local forest and grassland planning processes would consider the option to conserve older trees within roadless and unroaded areas for a variety of site-specific values including aesthetic ones.

39. *The Forest Service should address the effects of the proposed rule on loss of vegetative diversity and water availability due to encroachment of conifers in the Targhee and Beaverhead National Forests.*

Response: The prohibition on timber harvest in the proposed rule is not likely to have a significant affect on conifer encroachment occurring on the almost 5.2 million acre Targhee and Beaverhead-Deerlodge National Forests. These forests have projected very little timber harvest (about 1 million board feet combined per year) from inventoried roadless areas over the next five years. This amount of vegetation removal is likely to have little to no effect on the effects of conifer encroachment on landscape vegetative diversity. The DEIS section on watershed health, particularly the subsection on water quantity and timing (pp. 3-23 through 3-26), addressed the concern about water in detail. The last two paragraphs on p. 3-24 focused directly on this

question. In summary, the volume of water consumed by encroaching conifer vegetation would not be detectable, particularly in semi-arid portions of the intermountain west.

40. *The proposed rule should more clearly distinguish between natural and human caused fragmentation.*

Response: Human-caused fragmentation was discussed in the DEIS (pp. 3-56 through 3-59). Natural fragmentation was discussed on p. 3-227. The distinction between human caused and naturally occurring fragmentation has been clarified in Chapter 3 of the FEIS.

41. *The Forest Service should apply a landscape/ecoregion approach to biodiversity protection.*

Response: The relationship between inventoried roadless areas and landscape characteristics (ecoregions, elevation, size, adjacency, connectivity, etc.) were analyzed in the biodiversity section of Chapter 3 (DEIS pp. 3-47 through 3-69). While inventoried roadless areas greatly improve the conservation of biodiversity, significant gaps remain in the representation of habitats nationally.

42. *The Forest Service should only manage areas below 2500 feet in elevation.*

Response: National Forest System lands cover a full range of elevations from sea level to well over 12,000 feet elevation. Inventoried roadless areas likewise cover the full range of elevations. The Forest Service is legally responsible for the management of all of these lands.

43. *The proposed rule should consider the management of other adjoining roadless areas.*

Response: The Special Designated Area section of the FEIS discusses all classes of land (special designated areas) that are similar to inventoried roadless areas within the NFS. The landscape analysis of biodiversity considered the extent of inventoried roadless areas adjacent to other special designated areas such as Wilderness. This analysis is described in the FEIS section on Biodiversity and in the specialist report available on the roadless web site (*Landscape Analysis of Inventoried Roadless Areas and Biodiversity, May 2000*). The science

paper (DeVelice and Martin, 2000) cited in the FEIS was used in the analysis and contains information for all lands in the U.S. Management of unroaded areas will be addressed by local decision-makers.

Cumulative Effects

44. *The Forest Service should address the resource pressures the proposed rule would place on global forests.*

Response: The FEIS has an expanded description of effects of the alternatives on lands outside the U.S. in the cumulative effects discussion of the FEIS Chapter 3. While most of the timber and other forest products imported into the United States today come from Canada, the timber harvest volume affected by Alternatives 2 through 4 is less than 0.5% of total U.S. production (DEIS p. 3-189). The DEIS recognized that there is likely to be some substitution of timber from private or foreign lands (DEIS p. 3-243) from implementing the proposed rule, but the overall effect on imports would be small. Imports would continue mainly from Canada, with minor amounts from Chile and New Zealand.

45. *The cumulative effects analysis ignores the biological and ecological components of the forests and does not give adequate information regarding the true consequences of the proposal for any area; and*

46. *The Forest Service should address the cumulative effects of the different timber harvesting alternatives on drinking water, wildlife, air quality, etc.*

Response: The direct, indirect, and cumulative effects analyses for these and other resources has been expanded in Chapter 3 of the FEIS.

47. *The Forest Service should promote wise use management on Forests internationally.*

Response: The Timber cumulative effects section of the FEIS addresses the issue of increasing imports caused from increased demand and reductions in production from U.S. forests. The Forest Service International Forestry program does work with other countries on issues of sustainability, but they have no decision authority in other countries and can only advise them.

Fire Ecology

48. The Roadless Area Conservation DEIS should address the fact that ecosystems are dynamic.

Response: This was discussed in Chapter 3 of the DEIS. We have expanded the descriptions of the dynamic nature of ecosystems in Chapter 3, “Ecological Factors” section of the FEIS.

49. The Forest Service should develop plans for managing large scale disturbances in roadless areas.

Response: This level of analysis and planning is beyond the scope of this EIS. Research and planning efforts to improve the agency’s ability to address wildland fire and other large-scale disturbances are underway at multiple levels of the agency.

50. The Forest Service should justify its claim that roadless areas are better able to respond to natural disturbances than roaded areas.

Response: There is less human-caused disturbance in roadless areas than in roaded areas. Therefore, in general, many natural ecosystems are more resilient to natural disturbance events than human-altered ecosystems would be. For example, because roadless areas are generally large and often adjacent to other special designated areas such as Wilderness, wildfire has been allowed to play more of a natural role in roadless areas than in roaded areas. It is reasonable to expect that wildfire will continue to play more of a natural role in these larger areas. See the Fire section of Chapter 3 of the FEIS for more specifics on this topic.

Research and Monitoring

51. The Forest Service should manage natural resources in such a way as to serve as an example to emerging nations.

Response: This concern is not considered to be within the scope of the NOI or the proposed action in the DEIS. However, the agency is recognized internationally for its leadership and innovation in sustainable ecosystem management. The proposed rule is consistent with ecosystem management principles and with the agency’s legislative authority, mission, and draft strategic plan.

52. The Forest Service should study and use our forest resources wisely.

Response: The purpose and need for this project, described on p. 1-10 of the DEIS, is two-fold: 1) to immediately stop activities that have the greatest likelihood of degrading desirable characteristics of inventoried roadless areas, and 2) to ensure that ecological and social characteristics of inventoried roadless and unroaded areas are identified and evaluated through local forest and grassland planning efforts. The value of roadless areas for scientific study was described in the DEIS on pp. 3-110 and 3-164. The new Planning Regulations (36 CFR 219) have made the decisions on the procedures for further protection of roadless areas.

53. The Forest Service should preserve wild forests as places for recreation and scientific study.

Response: Conservation of wild forests for recreation and study are part of the purpose and need described in Chapter 1 of the DEIS on p. 1-10. These values were described in detail in Chapter 3 of the DEIS in the recreation section on pp. 3-117 through 3-126 and for scientific study on pp. 3-110 and 3-164.

54. The Forest Service should conduct and support research to provide a better understanding of the effects of habitat degradation.

Response: The Forest Service research branch has hundreds of highly skilled scientists and has produced thousands of publications on the effects of human activities on the environment. Many of the more than 300 publications cited in the DEIS are authored by Forest Service supported researchers. The Forest Service research branch is recognized worldwide for its innovation in science.

55. The Forest Service should clarify the difference between reference landscapes and research natural areas.

Response: This has been clarified in the Research, Monitoring, and Reference Landscape section of the FEIS, Chapter 3.

56. Roadless areas should not be protected as reference areas for research and teaching as Research Natural Areas and Experimental Forests are better for that purpose.

Response: A research, monitoring, and reference landscape discussion has been added to Chapter 3 of the FEIS. Differences between these areas and roaded areas for purposes of research and monitoring are discussed.

57. I am very concerned that roadless areas are just lines on a map, without regard for the organisms and habitats they contain. The Forest Service should perform biological assessments (inventories) and monitor forest resources to determine what organisms and habitat is really contained within inventoried roadless areas. I would gladly pay more taxes if I could guarantee that some of the money would go to these efforts.

Response: Monitoring and evaluation is an integral part of planning, decision-making, and implementation. The Forest Service budget for monitoring and inventory is limited. Local-level forest and grassland managers are best suited to determine how to prioritize and spend these limited funds.

58. The Forest Service should use roadless areas to study ambient noise on a forest-by-forest basis.

Response: Although roadless areas would provide opportunity for such studies, this proposal is outside the scope of this action. The research, monitoring, and reference landscape section in the FEIS discusses the benefits and value of roadless areas for acquiring new information about ecosystems and human related impacts.

Restoration

59. The Forest Service should focus on restoration.

Response: This analysis focuses on conserving current inventoried roadless areas from future road construction and timber harvest. Restoration of roaded portions of NFS lands would be covered under the proposed Roads Policy and the new NFMA Planning Regulations (36 CFR 219). The agency considered such an alternative but did not analyze it in detail (DEIS Chapter 2, Alternatives Considered But Eliminated From Detailed Study). See also Response 52.

60. The Forest Service should define what it means by restoration forestry. Independent scientists

should be contracted to assist the Forest Service in determining what forest types and specific areas might benefit from active restoration and management and how such projects could be designed and implemented to maximize benefits to biodiversity while minimizing risks. Some combination of Alternatives 3 and 4 in the DEIS would provide the standards necessary to assure competent and cautious stewardship of roadless areas.

Response: The term “restoration forestry” was not used in the DEIS. There are several references in the DEIS to other types of restoration and to stewardship-purpose timber sales. We have clarified the use of the term “stewardship” in the FEIS. In broad terms, the primary purpose of stewardship-purpose timber sales is to achieve ecological objectives such as reducing dense numbers of small trees that act as ladder-fuels in the forest understory, or to obtain some non-timber resource objectives such as enhancing beargrass production for American Indian basketweavers. The term “stewardship-purpose timber sales” is defined in the glossary of the FEIS. Finally, any decision to manipulate vegetation within an inventoried roadless area must be preceded by an environmental analysis at the local level with full public involvement under NEPA.

61. Under no condition should new roads be built to conduct restoration activities. Restoration experiments must proceed cautiously, targeting mainly small roadless areas or portions of larger roadless areas first in order to test treatments in an adaptive management framework.

Response: Road construction would be prohibited in Alternatives 2 through 4 with minor exceptions to comply with other laws, to protect public health and safety, and to prevent environmental damage. The section on Reference Landscapes in Chapter 3 of the FEIS has been expanded to discuss approaches to using an adaptive management framework to test treatments in inventoried roadless areas.

62. The Forest Service cannot restore the forests to pre-Columbian condition.

Response: It would be ecologically impossible to restore the national forests and grasslands to pre-Columbian conditions. Scientists have developed a concept referred to as the “historic (or natural) range

of variability” that is used by managers as a relatively recent baseline to compare current landscapes against. The basic idea is that if the land manager can maintain ecosystem processes (such as fire) and conditions within a range that existed prior to settlement, then the manager will have a better chance of maintaining biological diversity. This principle is a basis for bringing fire back into the ecosystem. We have expanded the discussion about fire ecology in the FEIS (Chapter 3, Fire Ecology section).

Scale of Analysis

63. The proposed rule and supporting environmental analysis, as written, would just not fit the facts as uncovered when the roadless areas are examined on-the-ground; and

64. We do not believe the Forest Service can make a reasonably informed decision based on this significant lack of information that is necessary to adequately analyze and disclose effects.

Response: Because this analysis covers all inventoried roadless areas in the National Forest System, the level of information required is different from that required for a local decision about only one roadless area. The level of information in this analysis is state-of-the-science and appropriate for the types of decisions being made.

In this analysis, maps of each inventoried roadless area were obtained from each national forest. From these maps, a national map of all inventoried roadless areas was constructed. Subsequently, ecological, social, and economic data bases were developed and used in the analysis of roadless areas. For example, a digital terrain model was used to describe the elevations of all the inventoried roadless areas. Likewise, planned timber harvest levels were obtained from each national forest. Other examples are described in the DEIS and specialist reports.

Using this information, the Forest Service interdisciplinary team conducted multiple effects analyses using the state-of-the-art data and analysis. Each of the inventoried roadless areas was previously analyzed during RARE II, in forest or grassland plans, and other assessments.

65. Areas should be viewed in their entirety rather than on a piecemeal basis. To make decisions at a

national scale about only one aspect (roadless) of the ecosystem, without locally analyzing the rest of the surrounding landscape, doesn't seem appropriate.

Response: Natural resource planning on public lands is complex. It involves consideration at a variety of national, regional, and local scales. The appropriate scale of analysis and information varies with the issues and from one type of decision to another.

The management of inventoried roadless areas has been a local, regional, and national issue for decades. The Forest Service used the most recent, public-reviewed inventory available for each national forest and grassland to identify the inventoried roadless areas addressed by this rulemaking. It used forest and grassland plans, other assessments, and the Roadless Area Review and Evaluation (RARE) II inventory. The Forest Service began identifying roadless areas through the RARE in 1972. In 1979, the agency completed RARE II, a more extensive national inventory of roadless areas. National forest and grassland plans updated the RARE II inventories, and local assessments in some cases updated those plan inventories. These planning efforts have all had extensive public involvement.

Science

66. The information and methodologies used to evaluate this proposal are unscientific or nonexistent; it does not represent input and good science from the professional managers and people who work on the national forests;

67. The policy is easily defensible and uses good science from a Wilderness and biological perspective;

68. The Forest Service should rely on sound science in its management of forest lands, and not on the political process. It should make use of input from its research stations and sustainable policies;

69. The Forest Service should not proceed with the proposed rule until it is reviewed by a committee of scientists;

70. The Forest Service should cite studies which support the preferred alternative; and

71. *The Forest Service should support statements in the Draft EIS with references.*

Response: The EIS has a strong basis in science. Many statements in the DEIS rely on scientific research and professional judgment that is based on years of field experience. A team of experienced natural resource specialists prepared this analysis. Many of them have advanced science degrees (DEIS pp. 4-4 through 4-8). Scientists from universities and the Forest Service Research Stations assisted the team. Forest Service and other agency scientists were contacted to peer review portions of the DEIS and supporting documentation. Over 340 references are included in Appendix R of the DEIS. Over 65% of these references are from peer reviewed scientific journals or books and scientific conferences, and 25% are unpublished technical reports. The analyses conducted for the DEIS and FEIS used state-of-science databases describing the composition and pattern of biophysical features (for example, vegetation, elevation, ecological regions) at the national level.

72. *Many of the tables of comparison of effects in the DEIS contain conjectures which are not science based.*

Response: Most scientific studies about nature have some degree of uncertainty, especially when it comes to predicting outcomes of human actions on complex ecosystems. This leaves natural resource managers with the job of trying to make reasonable judgments about the likely or possible effects on ecosystems with the best available science, professional judgment based on management experience, and analysis of pattern and trends from existing data. Typically, when hard data are not available, estimates of the relative direction and magnitude of change are appropriate. This results in statements such as “may increase,” “will likely decrease,” or “could increase.”

73. *The Forest Service should establish a scientific advisory committee specializing in conservation biology.*

Response: This suggestion is outside the scope of the roadless area conservation project. The Forest Service does work with many scientific advisory panels. For example, scientific panels were used extensively in the Tongass National Forest Plan Revision, the Northwest Forest Plan, and the Interior

Columbia Basin Ecosystem Management Project. Conservation biology methods were used in the analysis of biodiversity in this DEIS (pp. 3-47 through 3-69).

74. *The Forest Service should allow wise stewardship and management of forest resources based on scientific data and carried out by professional foresters and loggers.*

Response: The Forest Service uses the best scientific information available, working in collaboration with a wide variety of publics across the spectrum of demographics and professions, to develop policy and management direction.

75. *The Forest Service should provide the science, information, and incentive programs necessary for private timber producers to provide an increased, sustainable share of the timber and livestock production in the United States.*

Response: The State and Private Forestry branch of the Forest Service is responsible for working with non-Federal interests in addressing these issues. Visit their website (www.fs.fed.us/spf) for contacts and a full description of their mission. The provision of information and incentives to private producers is beyond the scope of the Roadless Area Conservation Project.

Size and Distribution

76. *The Forest Service should protect areas of any size that are of special biological importance.*

Response: Page 2-19 of the DEIS discussed size options for applying prohibitions or procedures to roadless areas. Over 800 of the more than 2500 inventoried roadless areas are smaller than 5000 acres. While size of an area is one criterion, many other factors must be considered before deciding to manage an area for its roadless characteristics. Protection of other areas of any size may be provided locally following the direction provided in the new Planning Regulations (36 CFR 219).

77. *Ensure the protection of a wide range of ecosystem types and elevations; and*

78. *The Forest Service should protect low elevation roadless areas as they contain valuable tracts of*

land in which many species reside during the winter months.

Response: The distribution and abundance of ecosystem types, including an analysis by elevation, within inventoried roadless areas, was described in the DEIS (pp. 3- 47 through 3-69). The effects of the alternatives are described by ecoregion, which expresses elevational differences. Prohibiting road construction and reconstruction in inventoried roadless areas, or timber harvest, would greatly increase the area of low elevation lands and range of ecosystem types conserved. Specific local characteristics such as elevation could be considered in forest and grassland planning at the local level.

79. The Forest Service should manage ecological buffer zones of at least one kilometer around roadless areas.

Response: Application of a one-kilometer buffer in all directions around a roadless area would be outside the scope of this analysis. This suggestion would be most appropriate for consideration at the forest and grassland planning level.

80. The goal of the proposed rule should be to increase the “effective size” of Wilderness and “core habitat conservation areas.”

Response: This goal is beyond the purpose and need of the Roadless Area Conservation Project. That purpose and need was described in the DEIS (pp. 1-1 through 1-3). About 34% of the inventoried roadless areas occur adjacent to Wilderness. Size and habitat relationships of the inventoried roadless areas were evaluated in Chapter 3 of the DEIS.

Special Designated Areas

81. The Forest Service should preserve Wilderness areas to stop habitat destruction and the undesirable processes that follow.

Response: Designation or recommendation of additional areas for Wilderness is outside the scope of the Roadless Area Conservation Project (DEIS p. 2-17). Only Congress can designate an area as Wilderness.

82. Special designations should be clarified.

Response: In response to comments, we have clarified the overlap between special designated areas and inventoried roadless areas in the Recreation section of the FEIS. Special designations include Wilderness study areas, primitive areas, wild and scenic rivers, scenic areas, research natural areas, national recreation areas, and others. The maps in Volume 2 have been updated and clarified between DEIS and FEIS to show the designated special areas such as National Monuments and Seashores.

End of Landscape Ecology Section