

Chapter 5 Environmental Effects

This chapter covers public comment concerning the potential biological and physical environmental effects of the proposed rule. These comments are divided into 15 sections: 5.1 General Environment; 5.2 Forest Health; 5.3 Weeds, Insects and Disease; 5.4 Fire; 5.5 Biodiversity; 5.6 Vegetation; 5.7 Wildlife; 5.8 Habitat; 5.9 Connectivity and Fragmentation; 5.10 Aquatic Wildlife; 5.11 Threatened and Endangered Species; 5.12 Watersheds; 5.13 Soils; 5.14 Air Quality; and 5.15 Global Effects. Some sections contain additional subdivisions including Pollution, and Environmental Preservation under General Environment.

5.1 General Environment

The environmental value of the roadless areas and the way in which they should be managed is a topic eliciting a range of comment from the public. According to several respondents, the Forest Service should consider the ecological value of roadless areas. It is the opinion of one business that roadless areas lack “the ecological values needed to warrant long-term preservation,” while others claim the forests and roadless areas retain environmental values. An individual from California claims studies show roadless areas are valuable for inhibiting undesirable environmental processes linked to habitat fragmentation, while another feels retaining forests in a natural condition will ensure a balance between developed and forested lands. An additional environmental value cited by an individual from Vermont is the ability of the forests to prevent acid rain.

The Forest Service should include humans as an inextricable part of the ecosystem according to some. These respondents believe human resource needs and existing impacts on the ecosystem make it impossible to remove man and his activities from the forest environment. In related concerns, a number of comments include recommendations the Forest Service reconsider the historic range of variability, particularly with regard to fire frequency, as a viable management goal. One respondent calls the goal absurd due to the legal and practical limitations of such things as the urban interface and clean air laws. Others feel the Forest Service is operating under the mistaken assumption that the pre-European environment was static. The dynamic nature of the environment, according to one county agency, precludes any accurate judgment regarding the “most stable and productive condition” of the land. An individual from Colorado believes the management proposals do not take into consideration the dynamics of community evolution, which supports different suites of organisms at different stages, and so may not be in the best interests of some endangered species.

There are several suggestions the Forest Service develop plans for managing large-scale disturbances in roadless areas including catastrophic fire and flood events. One county official suggests the Forest Service should address long-interval fire regimes and their often catastrophic nature. The same county official points out that only in the No Action alternative does the Forest Service address precipitation and runoff events, and recommends including the discussion in all alternatives. Conversely, there are several suggestions the Forest Service consider creating

environmental buffer zones to shelter roadless and wilderness areas from actively managed forest. One respondent, however, takes the Forest Service to task for implying that roadless areas may serve as wilderness buffers, and contends the agency must delete any discussion and reference to buffer zones around wilderness.

In addition to these general concerns, respondents also address Pollution, Subsection 5.1.1; Environmental Preservation, Subsection 5.1.2; Effects of Other Activities on the Environment, Subsection 5.1.3; and Adequacy of the Environmental Analysis, Subsection 5.1.4.

Public Concern: The Forest Service should consider the ecological value of roadless areas.

ROADLESS AREAS LACK ECOLOGICAL VALUE

The President's Northwest Forest Plan allocated only 3 of 24 million acres for the sustained production of forest products. No further lands need to be set-a-side for ecological purposes. The President's Plan was the last of five different reviews of these areas which found them lacking in the ecological values needed to warrant long-term preservation. (Business/Business Association, Petersburg, AK - #7542.72230)

ROADLESS AREAS HAVE ECOLOGICAL VALUE

...I have read many studies that have found direct links between habitat fragmentation and several undesirable processes, including the loss of pollination mutualisms, the establishment of invasive plant species and the reduction in the home ranges of charismatic megafauna considered important by the public as a whole. The preservation of wilderness areas is thus of great ecological importance in addition to being important in our western aesthetic and ethical system. (Individual, Mystic, CA - #8132.83000)

FORESTS PREVENT ACID RAIN

You probably know that trees absorb greenhouse gases which in turn PREVENTS ACID RAIN. ACID RAIN DOESN'T JUST FALL ON TREES - IT ALSO FALLS ON OUR CROPS SLOWLY DEVITALIZING THE CROPS AND THE SOIL THAT THEY ARE IN. (Individual, Colchester, VT - #7279.90000)

FORESTS IN A NATURAL CONDITION PRESERVE ECOLOGICAL BALANCE

With our American landscape becoming more and more crowded with the activities of a growing population, keeping these national forests in a pristine, natural condition will ensure more ECOLOGICAL BALANCE between the open and the naturally forested spaces. (Individual, Chattanooga, TN - #11352.83000)

Public Concern: The Forest Service should include humans as part of the ecosystem.

I implore you...What would a lion be, without his claws? A peacock without it's feathers? An anteater without It's tongue? Or a cheetah without it's speed?

OUR human advantage, in this world, is our brains! It's what's given us the capacity to even invent Bulldozers, jeeps, cars +ATV'S. C'mon! , Think! ! ! ! ! !

You act as if humans are an alien plague upon this planet.

I KNOW! ! ! Let's de-claw the lions, to save the zebras! Let's snip the anteater's tongue to "save the ants", Let's clip the Achilles tendon of the cheetah to save the antelope...Better yet! ! ! Let's deny that humans can think! ! !

And, are inquisitive. And inventive. LET'S HATE HUMANTIY, AND THEIR DAMNED ATV'S AND THEIR LUST FOR WOOD PRODUCTS, AND THEIR RAPE OF THE PLANET! ! !

Your philosophy is based on a hatred of mankind, can't you see that?? Hate the lion for his claws and jaws--hate mankind for his brains. We belong on this Earth just as much as all other life. I'm sad that the only species that you hate, is your own. (Individual, No Address - #6963.90000)

Environmental scientists often leave out an integral component of the ecosystems they want to protect: People. The human being has not yet been invented that can exist without consuming natural resources. Humans are a part of the earth's ecosystem and cannot arbitrarily be separated from it. People harvesting timber to erect shelter is just as "natural" as beavers building dams and birds building nests. Any public forest management policy must include people and their natural resource requirements. (Individual, Bend, OR - #5725.90000)

Bio-diversity is indeed an important issue and protecting what is left of our public lands is crucial. Trying to remove humans from bio-diversity is not realistic or practical. We must remember like it or not, humans have already drastically changed our environment and the only chance we have of having bio-diversity is through education. People are an important factor and will always be part of bio-diversity. We must protect the lands for the people and not from the people. (Individual, Van Nuys, CA - #2728.83400)

Public Concern: The Forest Service should reconsider the historic range of variability as a viable management goal.

We cannot, nor should we restore our National Forests to Pre-Columbian condition. We must return to a balanced multiple use concept. (Individual, Tucson, AZ - #18183.21000)

This action is predicated on the discredited concept of "estimated historic range of variability (based on conditions prior to European settlement) (pg. 3-21)." This concept is based on the unfounded idea the ecological conditions prior to European contact were stable and ideal. This paradigm begs the question of what is the most stable and productive condition of public lands. It is influenced by nostalgia and the 19th Century concept of the noble savage living in harmony with the land. Science has little to do with the underlying assumptions. This concept will undoubtedly fall aside in time like the paradigm of the "super organism," the popular old-time notion that forest stands induced rainfall, or the popular notions about fire suppression. The problems created in the meantime may vastly overshadow those caused by fire suppression. (County Agency, Pahrump, NV - #16093.82000)

DUE TO LEGAL AND PRACTICAL LIMITATIONS

The obsession of many people in the upper echelons of the Forest Service with pre-European conditions for the National Forests is absurd. There were no mandates for clean air nor physical threats to that society and it's infrastructure during those times. If a forest fire raged for several months no one cared except for the story-tellers who spoke of days without sun. The frequency rate for fires was high in dryer environments and fuel builds-ups were low because there weren't any of these consequences and they were free to burn. Do you seriously believe that we have the where-with-all to replicate these fire frequencies? I think not. You haven't disclosed this in your document and you must. (Individual, Naches, WA - #28371.82000)

DUE TO THE DYNAMIC NATURE OF THE HISTORIC ENVIRONMENT

Alternatives other than #1 presume that ecological and biological communities are static while in reality they are very dynamic. Some rare, endangered or threatened species depend on given stages of ecological evolution. When the community evolves, those species will disappear with it. Old growth timber and dependant species is a good example of this. What happens to the dependant species with the old growth stands pass from existence? (Individual, Pueblo, CO - #2884.81000)

Public Concern: The Forest Service should develop plans for managing large-scale disturbances in roadless areas.

The more land that is managed in an "unmanned" condition, the more often these natural or man-made disasters will happen. The recent huge fire near Los Alamos, NM, is simply one example of what is going to happen with increasing frequency as use of prescribed fire increases. I have used enough prescribed fire, and fought enough fires to know that when you've got a large burn going, anything can happen. The more unroaded areas we have, the fewer firebreaks we have. The larger the roadless area, the more difficult and costly it becomes to fight it because of poor access. (Individual, Philipsburg, MT - 9369.84200)

As ecologists have finally come to accept, disturbance is a very real part of forest growth, development and demise. The forests in the roadless areas are all products of disturbance of one kind or another, often fire. I wonder how you plan to or if you plan to protect those forests from catastrophic disturbances. (Individual, Albany, OR - #5675.80000)

LONG-INTERVAL FIRE REGIMES

Size Considerations Comment: Page 3-66, first paragraph-- This section on Size Considerations, and other sections, addresses that stewardship activities can have local beneficial effects to ecosystem health and biodiversity. However, the discussion always focuses on the benefits of reducing fire intensity in Ponderosa Pine forests and never addresses the impacts of long-interval fire regimes that make up a significant amount of the forests-- particularly in the West. Fire intervals in these Lodgepole Pine forests are 100 years or more and naturally catastrophic as witnessed during the 1988 fire season. These events are not conducive to increasing the survivability of large, old growth pines, reducing mortality from moisture stress, or reducing outbreaks of insects and diseases. Relief: The Forest Service must address long-interval regimes and disclose how they intend to reduce the threat of catastrophic fires. Only one side of the fire interval regime (short-interval fires) is evaluated in the entire document. (County Elected Official, Worland, WY - #16185.84100)

CATASTROPHIC PRECIPITATION AND RUNOFF EVENTS

Comment: Page 3-32, last paragraph-- The discussion on risk of precipitation and runoff events is only included in the "No Action" alternative. This discussion is not included in other alternatives. The discussion, itself, fails to address the probability of precipitation and runoff events, e.g., 10 year, 100 year, or 1,000 year events. This information would lead to an objective discussion of the probability of these events and possible impacts from the "Action Alternatives". Relief: The Forest Service must evaluate the probability of these natural events and provide an objective discussion for all alternatives. (County Elected Official, Worland, WY - #16185.83130)

Public Concern: The Forest Service should consider the use of environmental buffer zones.

AROUND ROADLESS AREAS

The final points I wish to make are to emphasize the importance of future management for the lands immediately adjacent to designated roadless areas and the relationship of roadless areas to other ecologically intact portions of their landscape. It is absolutely critical that these roadless areas not become isolated ecological islands surrounded by a sea of intensively managed lands. An integral part of the future management of these landscapes must include appropriate attention to and management of ecological buffers surrounding each roadless area and extending outward for at least one kilometer in all directions from the roadless area boundaries. (Environmental/Preservation Organization, Bend, OR - #6724.21000)

USE ROADLESS AREAS AS BUFFER ZONES ADJACENT TO WILDERNESS

Establishing roadless areas adjacent to the BWCAW enables us to provide a "Transition" zone between wilderness & non-wilderness areas, thereby lessening the impact of non-wilderness activities, such as logging & motorized use, on the wilderness itself. (Individual, Boulder, CO - #13302.90240)

DELETE ANY DISCUSSION AND REFERENCE TO BUFFER ZONES AROUND WILDERNESS

Page 3-137, fourth paragraph--Even though the document contains a disclaimer at the bottom of Page 3-137 regarding buffer zones around wilderness, the argument presented for preserving roadless areas looks, smells, and sounds like a buffer zone. The text states, "These areas (roadless) serve as a natural transition between lands affected by resource management activities and lands affected substantially by natural processes" and "...the additional distance from intense management activities provides more opportunities for natural processes to occur uninterrupted" supports the idea that they are being supported as buffer zones.

Relief: The Forest Service must delete any discussion and reference to "buffer zones around wilderness. Many state wilderness acts also prohibit the management of surrounding areas as "buffer zones" to further protect wilderness. (County Elected Officials, Worland, WY - #16185.90240)

5.1.1 Pollution

Peace and quiet is considered not only an environmental, but also a human requirement in the forest, according to a number of people. They assert the Forest Service should control noise pollution on system lands by prohibiting road building and restricting off-highway vehicles (OHV) use. Forest users also address other sources of pollution. The problem of litter left by recreational users is a priority concern to many. The public offers a range of proposals to solve the backcountry litter problem, including forest user financed litter management. Some writers believe the motorized community is largely to blame for the litter problem, and recommend reducing road access and limiting motorized use of the backcountry. However, there are those who contend the problem has reached a point where non-motorized users cannot pick up the volume of garbage accumulating in the backcountry, and motorized users should retain access because they can remove large quantities of trash.

Public Concern: The Forest Service should address the litter left by recreational users.

THROUGH USER FINANCED LITTER MANAGEMENT

I think that trash receptacles should be distributed around, and tied down, in all popular places, and financed by private "Environmentalist" clubs and other private citizens who use the forest and other public grounds (entrance fees or other means). [They should be] encouraged by a public (federal) campaign to be responsible for the private citizens who use the public lands for whatever reason, to remove their own trash and fix their own booboos to the land and equipment. This is to be enforced by peer pressure, education, and rewards, and in severe cases by law enforcement officers. (Individual, No Address, #2416.93642)

BY REDUCING ROAD ACCESS

The amount of litter, trash, and human waste need to be brought under control and I feel that with less roads into the back country this can be accomplished. (Individual, Victorville, CA - #6004.81000)

BY LIMITING MOTORIZED USE OF THE BACKCOUNTRY

I'm out backpacking and hiking/camping a lot in the Kaibab Forest of northern Arizona, and many of the areas of the Dixie National Forest and you can hear the ORVs from miles and miles away and unfortunately--where they go it seems to leave lots of evidence of their travels with them; beer and pop cans, misc. trash, targets for shooting practice. Not to mention just the constant roar of their motors running non-stop. (Individual, No Address - #1182.91500)

We are in favor of the ban of snowmobiles (and 4-wheelers) in national parks...As users of national parks and forestlands in the West and Midwest, we consistently observe disruption of property, the environment, and people by users of these machines. As an example, we recently walked several miles of a snowmobile trail in the Superior National Forest near our cabin on the edge of BWCA. We hauled out four bags of trash (all we could carry...there was more) that had accumulated over the winter. We have seen this repeated wherever we have walked the trails. (Individual, Shoreview, MN - #1498.91612)

BY ALLOWING MOTORIZED USERS TO CLEAN UP THE BACKCOUNTRY

I'd like to note that I and my friends always leave a clean campsite, and because we have vehicles, we are able to haul out the trash left behind by others. I think that this is an important note. Because we have vehicles, we are able to haul out other people's trash, trash that backpackers simply wouldn't be able to pack out. Because we have vehicles, we are able to leave the lands in their unspoiled state, and improve upon the lands by removing trash. (Individual, Gardena, CA - #1755.44020)

Public Concern: The Forest Service should control noise pollution on system lands.

In addition to the invaluable benefits for wildlife habitat, water & air resources, it's becoming more apparent all the time that the peace, quiet, and silence found in these areas is respectfully becoming an endangered resource. (Individual, Big Fork, MT - #5797.90220)

BY PROHIBITING ROADBUILDING

It took nearly 3 miles of climbing to escape the sound of traffic since the roads encroach so heavily into the mountains. Several hikes are never silent. This is profound for the recreationalist who seeks refuge from the modern world, but it is far more profound for the many species who depend on hearing calls of a possible mate, or the oncoming predator. Please stop all future roadbuilding. (Individual, Leverett, MA - #5075.90200)

Please, leave our remaining roadless areas as they are. There are almost no places left on earth where I can even imagine true peace and quiet. Every day technology results in yet another way to generate ear-assaulting noise. And with each new gadget, the decibel of sound pollution rises another notch or three. As an ornithologist, it is my job to study birds. The work entails much listening--often the only means of "seeing" and counting birds. But the air often fills with so much human-generated racket that I cannot hear nature's voices at all. Even deep in our national forests, my hearing is harassed by stereos, TVs, video games, and now cellular phones. Shooting and generators further erode my auditory nerves. And then the snowmobiles, dirt bikes, RVs, SUVs, and ATVs all grind away at the inside of my head as well as the landscape. They shatter opportunities for bow-hunting, hiking, back-county skiing, watching wildlife, or just seeking solace. Build a forest road, and the raid against peace and quiet will follow. Some people adjust to the loss of quiet by forgetting how to listen. Others descend into a dark fear of quiet, which they push away by turning up the volume. Then there are those of us who desperately seek asylum from the tyranny of road-induced noise. (Individual, No Address - #6307.90200)

BY RESTRICTING OFF-HIGHWAY VEHICLE USE

Besides the physical and environmental impacts of allowing ATV's in forest areas, they also cause considerable noise and annoyance to others who wish a quiet outdoor experience. (I doubt if the animals like them either.) (Individual, Duluth, MN - #5243.90220)

My main concern with motorized activities is actually the loud sounds that they produce, and the very pervasive disturbing effects they have throughout the forest, not only on the humans that visit the forest, but [also on] the wildlife that lives there and depends on various forms of communication. These forms of communication are disrupted by the loud engines of many of the vehicles that are taken back into our forests. (Individual, No Address - #21170.83500)

5.1.2 Environmental Preservation

The Forest Service should preserve roadless areas for environmental reasons, a number of respondents claim. One cites the rapid encroachment of development on open space, and the increasing value of the ecosystem services roadless areas provide. Another supports the protection the proposed rule provides to geographically limited plant and animal populations. A third supports permanent protection for roadless areas as viable examples of wild unroaded ecosystems, which are becoming increasingly important as global warming increases. Other writers endorse protecting a wide range of ecosystem types and elevations, particularly in the lower and middle elevations, which are at the greatest risk of exploitation. This includes the low elevation old-growth forest of the Tongass. One individual endorses an "Alternative 5," which prohibits road building, motorized use, and extractive industry, as the most effective way to preserve wild areas.

Public Concern: The Forest Service should preserve roadless areas.

FOR ECOSYSTEM SERVICES

You have a great responsibility and I would hope that you feel that you represent me and thousands of other people like me, not just those who can throw money and power around. Every time I see another patch of woodland bulldozed, another pond or water area filled in, another farm turned into a housing development, I shake my head in amazement. Don't people realize that our air, clean water and food supply depend on these areas? Are they so crazed with greed that these people can't think straight?

I realize that there are people who are afraid of natural environments, just as there are others who are afraid of city streets. There are those who don't think about food having to be grown somewhere before they buy it off a shelf. But I trust that you have a greater awareness of life on this planet. (Individual, Whiting, NJ - 5620.41200)

FOR ECOSYSTEM HEALTH

I want to express my approval of the proposed Roadless Area Rule primarily for the fact that it will provide extra needed protection which is important to the health and well-being of ecosystems both here in western North Carolina and elsewhere in the nation.

Considering our area, it is a center of evolution and the home of a large variety of plants and animals, many of them unique to this area.

From a human perspective, it is the variety of local ecosystems which makes this one of the best places in our country for living. In addition, the area is an important source of water for the region and is important for its role in regional weather control. (Individual, Brevard, NC - #7376.83000)

AS VIABLE EXAMPLES OF WILD UNROADED ECOSYSTEMS

Among the reasons for permanent protection for these areas, is to provide viable examples of wild unroaded ecosystems for an unpredictable future -- a future of climate change. Global Warming is a factor now at play in our decisions which put at-risk habitat for threatened and endangered species. (Individual, Yoncalla, OR - #7214.85100)

Public Concern: The Forest Service should protect a wide range of ecosystem types and elevations.

An important criteria in the wilderness preservation process should be to include areas representing a wide range of life zones, elevations, geology, and ecosystems. Unfortunately, very little of our low and middle elevation areas in the West remain in a pristine state. Those that do exist need permanent protection as quickly as possible. (Individual, Boise, ID - #380.80000)

When these timber barons speak of an 'excessive amount of wilderness' they are talking about pure acreages. As I'm sure that you know, if you examine the forest protected by wilderness status, these for the most part are high elevation forest – alpine, and not considered valuable commercial timber. (Individual, Neosten, OR - #392.83422)

Only 4% of the remaining Tongass roadless landbase encompasses low elevation, large old growth forest most important to fish and wildlife, and now the greedy timber industry wants this too! (Individual, Sitka, AK - #1083.83422)

Public Concern: The Forest Service should consider "Alternative 5" as the most effective way to preserve the wild areas.

It would be wise to heed the words of men like Muir and Thoreau before there is no wild land left. Walking through a forest, listening to a mountain stream, observing wild animals in their normal habitat are some of my fondest memories. Will future generations experience wildlife only in zoos? Will captive breeding be the only way many animals are allowed to exist? We should set aside areas that do not have roads, where mining, logging and the internal combustion engine are not allowed. The existence of the human race may depend on these wild areas free from pollution where native plants and animals can continue to survive. Please, consider "Alternative 5" as the most effective way to preserve the wild areas we still have. (Individual, Santa Barbara, CA - #9216.92300)

5.1.3 Effects of Other Activities on the Environment

There are some who believe the roadless initiative is incorrect in its conclusion that “human activity is detrimental to the health of the ecosystem.” One feels managed forests are responsible for the healthy populations of large game, and for the rebound in wolf and coyote populations. Roads and active management are the only way to improve forest health and promote awareness of, and caring for the resource, according to this individual. Another person challenges the Forest Service to prove that minor road construction adversely impacts fish habitat, and that nitrogen from gasoline engines adversely effects the environment. There are others who feel very differently, encouraging the Forest Service to address the negative effects of road construction and other management and extractive activities on the forest environment. One individual believes the Forest Service should address the impacts of building roads on small sized ecosystems. Another feels the Forest Service should address the impacts of cattle on springs, streams, and native grasses from overgrazing and overstocking.

Public Concern: The Forest Service should consider the benefits of human activity to the ecosystem.

I oppose the roadless initiative on its assumption that all human activity is detrimental to the health of the ecosystem. The forests are overrunning with deer, elk, mountain lions, and black bear thanks to the intervention of humans. Wolves and coyotes are starting to make a comeback too. Construction of firebreaks prevents the spread of disastrous wildfires. Logging and grazing can be used to manage the health of the forests and prevent the spread of fires too. Controlled burns and cutting are needed to prevent the spread of noxious weeds and pine-beetle infestations. These management practices will be significantly more difficult and costly without the ability to construct roads. Human activity is beneficial in another way too: people who recreate, rejuvenate, and volunteer in the National Forest also tend to care greatly about the health of the forest, their access to the forest, and indeed, even the very existence of the forest. (Individual, Fort Collins, CO - #11334.10200)

Public Concern: The Forest Service should explain how nitrogen from gasoline impacts the environment.

Atmospheric emissions are also said to adversely impact the environment.

. . . Provide a reason why nitrogen from gasoline engines adversely impacts the environment. (Individual, Twain Harte, CA - #1632.83510)

Public Concern: The Forest Service should address the impacts of building roads on small sized ecosystems.

Please consider seriously the impact of building more roads in smaller areas & the deleterious impact on wildlife habitat and smaller eco-systems. (Individual, North Middlesex, VT - #14361.83500)

Public Concern: The Forest Service should consider the impacts of cattle on springs, streams, and native grasses.

I have had the great pleasure of using the Forests all of my life. My family has had range rights for live stock grazing since the 1870's in the San Juan Forest of southern Colorado and still run cattle there. I have personally seen how the cattle have ruined the springs and the stream sides. The over grazing has killed the native grasses in the meadows and now the noxious weeds and thistle are taking over. (Individual, Eugene, OR - #18753.90340)

5.1.4 Adequacy of Environmental Analysis

County officials from Wyoming accuse the Forest Service of being “so biased against roads and timber harvesting that one cannot begin to identify all the discrepancies.” They go on to enumerate a list of deficiencies including inadequate discussion of the benefits of active management, lack of quantitative cumulative effects, and use of subjective terminology on the basis of which the Forest Service cannot make reasonable decisions. They conclude the Forest Service should rewrite Ecological Factors in the Draft EIS in an objective manner, providing specific quantitative analysis and evidence. In a related concern, a range organization feels species diversity will be lost, with mature monocultures of fir, lodgepole, spruce, and sagebrush replacing herbaceous species, aspen, and whitebark pine if the proposed rule is implemented.

They also contend increasing the timber and brush component inhibits the water cycle and results in decreased groundwater and instream flows.

The Forest Service should separate the discussion of the effects of roads from the effects of road uses according to one timber industry representative, which requests the Forest Service clearly define road uses and their individual effects. They go on to point out that proper surfacing and low emission vehicles eliminate most of the negative effects listed in the Draft EIS. Others feel the Forest Service needs to provide data supporting and quantifying the negative effects of roads on the environment. One claims the Forest Service has not considered alternatives such as designing roads for minimal maintenance. In contrast, one conservation organization calls the analysis of effects flawed because the proposed rule fails to address the impacts of OHVs on roadless areas and wilderness values, particularly the potential for introducing diseases and invasive non-native species into rare plant habitat. Another two conservation groups request the Forest Service use the best available scientific data to develop plans to manage the environment of roadless areas. One group specifically requests this for uninventoried roadless areas in Region 6 which they identify as an area of global biodiversity importance. The groups promote the use of recent literature to assess the importance of roadless areas and for fire and timber management. They also advocate the use of special geographic analyses, remote sensing, and adaptive management.

One county official believes the identification of reference landscapes and research natural areas represents a duplicate effort intended to justify the proposed action. The official recommends the Forest Service clarify the difference between reference landscapes and research natural areas.

Some view the proposed rule as an opportunity for the Forest Service to engage in research. One individual recommends studying the effects of off-road vehicles by allowing various intensities of use on ecologically similar sites for a fixed period of time and using the resulting data to make management decisions that will protect diversity and ecosystem services while allowing the use of off-road vehicles. A conservation organization recommends using roadless areas as a laboratory to study ambient noise levels on a forest-by-forest basis.

Public Concern: The Forest Service should rewrite the ecological factors section in the Draft EIS in an objective manner, providing specific quantitative analysis and evidence.

Ecological Factors General Comment: This entire section is so biased against roads and timber harvesting that one cannot begin to identify all the discrepancies. The entire section focuses on the negative aspects of roads and timber harvest and rarely addresses the benefit of these activities, such as increased water for municipal use, irrigation, providing access for water related recreational activities, access for fire suppression activities and fuel management, vegetative management, etc. Cumulative effects are rarely quantified. Subjective conclusions are provided, such as small increments, most benefits, lowers the likelihood, increased incidence, slightly increasing, sharp reductions, minimizing, measurable, lower risk, etc. that are essentially meaningless. What do these mean? The Forest Service cannot make a reasonable decision on effects using these subjective conclusions. On the other hand, local government officials cannot adequately interpret these conclusions and determine what effects they may have within their jurisdictions. This provides even more reason for these decisions to be made at the local level where cumulative effects can be quantified. Relief: The Forest Service must completely rewrite these sections in an objective manner, provide a specific quantitative analysis of impacts, and replace subjective evaluations with quantitative evidence. (County Elected Official, Worland, WY - #16185.70000)

Public Concern: The Final EIS should include an analysis of the effects of the proposed rule on species diversification and the water cycle.

LOSS OF SPECIES DIVERSIFICATION AND INSTREAM FLOWS. Roadless and wilderness means no management. In these areas being proposed for roadless in the Targhee and the Beaverhead forests, species diversification is being lost. These areas are becoming mature monocultures of fir, lodgepole, spruce and sagebrush at the expense of the herbaceous species, aspen and white bark pine. We cannot afford to lose this diversification and the action being proposed insures this diversification will be lost. Increase of the timber and brush component of the environment decreases the water cycle due to evapotranspiration resulting in decreased ground water and instream flows. THIS EIS DOES NOT INCLUDE AN ADEQUATE ANALYSIS OF THE PROPOSED ACTION'S EFFECT UPON ALL OF THE ABOVE CONCERNS. (Range/Grazing Organization, Dillon, MT - #26044.83400)

Public Concern: The Forest Service should separate the discussion of the effects of roads from the effects of road uses.

The statement that "roadless areas also have less dust and vehicle emissions, which reduce air quality, elevate human health risks and diminish water quality" is in error. You have defined the scope of this discussion to an area with roads or without a road. The road does not have any of these effects. If you are going to define the discussion beyond just the road to the uses that may occur you need to clearly define what those uses are and how each has an effect. If the proper surface is constructed, and the vehicles using the road are electric or of similar design, use of the road does not have to produce any of the effects listed. (Timber Association, No Address - #52501.83320)

Public Concern: The Forest Service should provide data indicating the negative effect of the road system on the environment.

Not having seen data to support the assertion that the existing road/roadless system is negatively affecting the environment, why then are you suggesting the closure of thousands of our existing roads and trails? Why are you attempting to deprive the motorized recreational public from those same trails? Why would you destroy our natural resource industries--timber, mining, ranching--through the elimination of roads? (Individual, Golden Valley, AZ - #11327.10200)

No data is presented to support the assertion that the existing road system is having a significant negative affect on the environment or to quantify that impact. Neither have they considered alternatives, such as doing the maintenance job and constructing roads to minimize the need for maintenance. Many of those roads are gated, used only to support periodic management activities; many need little maintenance because of good drainage and stable surfaces. This infrastructure was designed to facilitate management, protection and access by the American public. It is needed, sound and, for the most part, a valuable asset for the national forests. (Individual, San Diego, CA - #10547.93610)

Public Concern: The Forest Service should address the effects of off-highway vehicle use on roadless areas and wilderness values.

The analysis of the effects on potential wilderness is also flawed because the proposed rule fails to address ORVs and their impacts on roadless area and wilderness values. At the very least the DEIS must disclose the impacts of ORVs to the public rather than continue its archaic "head-in-the-sand" approach. An example of the huge implication of ORV use in inventoried Roadless Areas is the South Kalmiopsis Roadless Area on the Siskiyou National Forest. The South Kalmiopsis is one of the largest inventoried roadless areas in the nation (105,000 acres), and may also contain the highest concentration of rare, sensitive, threatened and endangered plant species in the nation. The roadless area is currently being impacted by ORV use on old "pre-inventory" mining roads. There

is no NEPA analysis of this use. Its only a matter of time before the increasing ORVs use in the South Kalmiopsis introduces a fatal non-native root pathogen, specific to Port Orford cedar and Pacific yew, and invasive non-native plant species into this ecologically significant roadless area. ORVs also threaten rare plant species and their habitat directly. Most of the South Kalmiopsis Roadless area is directly adjacent to the Kalmiopsis Wilderness adding to its significance as a refugia for rare and sensitive plants and wild salmon and steelhead. (Environmental/Preservation Organization, Cave Junction, OR - #16188.83620)

Public Concern: The Forest Service should use best available science to manage roadless areas.

TO ASSESS THE IMPORTANCE OF ROADLESS AREAS

Attached is a copy of our most recent findings for roadless area conservation in the Klamath-Siskiyou ecoregion. THIS MANUSCRIPT IS CURRENTLY IN REVIEW WITH CONSERVATION BIOLOGY AND WE REQUEST THAT YOU INCORPORATE THE FINDINGS INTO THE FEIS TO PROVIDE FURTHER GUIDANCE TO REGIONAL MANAGERS ON HOW TO INVENTORY AND ASSESS THE IMPORTANCE OF ROADLESS AREAS IN AN AREA OF GLOBAL BIODIVERSITY IMPORTANCE. In particular, we request that this information be used to develop standards and criteria by which roadless areas in Region 6 are managed, particularly the uninventoried areas documented in our analysis. Electronic copies of all relevant databases are available upon request. Further, WWF/DBI is now extending this roadless assessment to the entire Cascade region--from the coastal forests of northern California to the Olympic Peninsula east to eastern Washington and Oregon. (Environmental/Preservation Organization, Ashland, OR - #13522.83400)

FOR TIMBER AND FIRE MANAGEMENT

We recommend that the Forest Service book of instruction for fuels and fire management personnel, called "FIRE WEATHER", Agriculture Handbook 360, should be used as the basis for timber and fuel management decisions. FIRE WEATHER defines the fire prevention conditions of the forest and states the reasons why logging changes the fire prevention characteristics of the forest, increases the chance of wildland fire, increases the flammability of forest fuels and critically influences the behavior of wildland fires. While this science was developed in 1970 through the joint effort of many scientists from the Weather Bureau, Environmental ciieces Administration, U.S. Commerce Department and the Forest Service, U.S. Department of Agriculture (USDA), it has been overlooked or ignored as a scientific source of information on the conditions of the forest which should not be removed or changed because their presence will help reduce fire severity. (Environmental/Preservation Organization, Weldon, CA - #16041.82000)

The DEIS fails to assign adequate habitat values of retaining the tree trunks and tree canopy, so they remain in the forest with benefits of habitat, carbon sequestration, oxygen production, soil retention, visual quality and beauty, and the fire prevention values of the forest. Forest Service analysis documents should separately analyze and compare the Cutting, Chipping, and Scattering method and other treatment methods, in addition to logging, for their impacts to the environment, the treasury, and the society, so the public and the decision maker are provided with sufficient information upon which to base their decision. An analysis document that fails to analyze a full range of alternatives provides incomplete analysis and is poor planning. A proposal that recommends increased amounts of logging without separately considering other treatments to reduce forest fuels is only analyzing logging, which is not a full range of alternatives, is not really considering the negative impacts to the environment, is not dealing with the most flammable fuels, and is unacceptable, especially when the timber harvest program annually reduces the area useable for recreation and wildlife habitat by thousands of acres, annually costs the American taxpayers \$1.2 billion dollars, and increases wildfire intensity and severity. (Environmental/Preservation Organization, Weldon, CA - #16041.82000)

FOR GEOGRAPHIC AREA ANALYSIS

We recommend that the sub-watershed geographic analysis scale necessary to accurately sustain and enhance the forest ecosystem should be defined as the topologically sensitive submicroclimates made up of a "mosaic of

topoclimates", consisting of east, west, north, and south macrofaces, which are sensitive to the site-specific climate variables of topography, including elevation, slope, aspect, soils, soil moisture, insulation and vegetation. Each differently facing slope is a different microclimate with different light, soil, stability, nutrient, moisture and vegetation characteristics. Contiguous topoclimates are the foundation for long-term ecosystem stability and sustainability, requiring quantitative climatic water budget analysis. (Environmental/Preservation Organization, Weldon, CA - #16041.82000)

REMOTE SENSING TECHNOLOGY

We believe the use of remote sensing might be used to help sustain and enhance roadless area ecosystems. We recommend that either low-altitude aerial or the U.S. Military's zero-meter resolution remote sensing be utilized to identify all National Forest characteristics and assets for preservation. Since the U.S. Department of Agriculture (USDA) expects to complete a monochromatic one-meter resolution grid of the entire country, by the year 2002, zero-meter resolution scans of forest assets would easily be nested in this USDA database array for retrieval by Forest Service personnel for managing the National Forests.

The National Forest personnel should be given appropriate priority training for acquiring frequent and regular zero-meter resolution surveys of all forests watersheds, sub-watersheds and project sites for successful implementation of adaptive management and monitoring. A system should be developed by the Forest Service, which uses a zero-meter resolution MRS satellite or low-altitude aircraft IR scan and computer sort to confirm the exact location, characteristics and condition of each stream, the location of each sensitive species nest site, the location of all historical and archeological sites and artifacts, down to the arrowhead shard, as well as the wellness of the forest, down to each tree and the condition and moisture level of each topoclimate, which is georeferenced through Global Positioning System (GPS) and made up of many microclimates with different conditions of soil, stability, nutrients, moisture, light, and vegetation, for all of the proposed sale and action areas. Implementing species and habitat recovery programs, without logging, roadbuilding, grazing, etc., is the mechanism to use to improve and favor long-term fiscal commitments to adaptive management and monitoring, because the fiscal dollar costs and the habitat and species non-dollar costs will be dramatically lower and the dollar incomes will be dramatically higher. The remote sensing watershed database programs, used by Remote Sensing Labs, Sacramento, can serve to integrate monitoring objectives. Participation in mapping forest asset characteristics with zero-meter resolution remote sensing low altitude aircraft or satellite scans of the forest can eliminate inaccurate data from broad area averaging techniques, can provide exact knowledge about the conditions of the forest and can promote community, county and state interagency coordination with local partnerships, special interest groups and communities. (Environmental/Preservation Organization, Weldon, CA - #16041.82000)

We recommend that, in addition to the "remote sensing" suggestion, the "pattern recognition" technology should also be utilized as the standard for determining and monitoring forest asset conditions in all proposed action areas. "Pattern recognition" locates objects or characteristics of objects, like diseased trees, stressed watersheds, obsidian shards and grinding holes, by analyzing and identifying the "specular reflectance" of the radiation which reflects off each object. Specular reflectance can locate objects which are smaller than the optical resolution of the system, because it only identifies the presence of scattered light from an object or from the characteristic of an object in the area being observed by the system. So, even though the object has not actually been located, the "speckle pattern" confirms the presence of the object. Once the speckle pattern is located within the area, then magnification can be increased to pinpoint the actual object within the inspection area. (Environmental/Preservation Organization, Weldon, CA - #16041.82000)

ADAPTIVE MANAGEMENT AND MONITORING

We are concerned that the Forest Service does not heed the growing body of scientific evidence of species decline and habitat loss, caused largely by management actions. The evidence cited about management and monitoring in the Sierra Nevada Science Review, Pacific Southwest Research Center, July 24, 1998, on pages 54 and 55, states, "In its most skeletal form, adaptive management involves predicting the effects of an action on various outcomes; assuring that the action is implemented as planned; monitoring the effects of an action on a set of structural and functional attributes of the resource ecosystem; assuring that the action is implemented as planned; monitoring the effects of the action to determine which predictions were accurate and which were not; and using the results to better understand the ecosystem and to do better planning the next time. Thus monitoring provides the feedback loop to improve future planning and management. Without effective monitoring, whatever else we do is not adaptive

management. Consequently, monitoring must be integral to a conceptual model of how the ecosystem works (including the human element) and to management actions, and its benefits must be clear in that context. Because of the highly complex nature of ecosystem components and functions, often a lack of technical understanding about how to do monitoring in a sufficiently rigorous way, and generally high costs, monitoring is one of the most challenging tasks mandated to the national forests. Effective monitoring programs must be comprehensive yet implementable. They must be designed to track key indicators of ecosystem conditions and trends and to establish whether management actions have attained stated goals. They must be designed to track key indicators of ecosystem conditions and trends and to establish whether management actions have attained stated goals. They must also include feedback loops that evaluate and incorporate new information as it is obtained. Given the potentially high costs of monitoring, the investment in what to measure, at what expected precision, and how often, must be guided by an assessment of the risks associated with assumptions made when formulating plans, including the level of uncertainty in the science that undergirds those plans. Based on such a risk assessment, priorities for monitoring may be set. Close collaboration with science communities will better enable national forests to conduct effective monitoring and meet sustainable science-based management goals. A common information problem encountered in landscape and ecosystem planning efforts is poor identification and integration of geographic and temporal scales of data. Effective monitoring would generate information at appropriate spatial scales of ecosystem and social relevance and use this to adjust management. Declining federal budgets and shrinking specialist workforces on the Sierra Nevada national forests have affected their ability to implement monitoring programs. This is especially critical in situations where laws dictate surveys and evaluations prior to projects (e.g., NEPA, National Historic Preservation Act) that would be assumed to provide protection, but skeletal staffs and budgets compromise the adequacy of compliance. The challenge here is to design a monitoring system that can and will be implemented within likely budget and human resources. Broad-based conveners of monitoring and adaptive management programs, as well as central caretakers of data, are lacking in the Sierra Nevada. Centralized data access and distribution of new data are keys to successful local and regional implementation. (Environmental/Preservation Organization, Weldon, CA - #16041.82000)

Public Concern: The Forest Service should clarify the difference between reference landscapes and research natural areas.

Comment: Entire Section-- The current forest planning process addresses the concept of “reference landscapes” through identification, evaluation, and allocation of Research Natural Areas. This concept appears to be a duplicate effort intended to justify the “Proposed Action”. None of the “adaptive management” concepts discussed identify road management and design concepts or timber harvest management or design concepts. Relief: The Forest Service must clarify the difference between “reference landscapes” and “research natural areas...” (County Elected Official, Worland, WY - #16185.84400)

Public Concern: The Forest Service should study the impacts of off-highway vehicles by allowing various intensities of use on ecologically similar sites.

In a variety of regions throughout the forest service, select ecologically similar sites and allow various intensities of off-road vehicle use as part of a Forest Service-wide study to examine the impacts of off-road use in a scientific manner. For example, one might choose ecologically similar sites in a particular region (e.g. Wyoming) and allow unrestricted off-road vehicle use in some of them, ban use by off-road vehicles in others, allow only snowmobiles in others, and allow only ATVs in others (other designs agreed upon by forest service personnel, independent scientists, and citizen groups could obviously be used). Gather baseline data on all forests included in the study, and then monitor changes over a 5-10 year period (or longer depending upon the specifics of the system under study). At the conclusion of the study, we will be much more likely to understand the impacts of various types of off-road activities on national forests of different types. This will allow Forest Service employees to make better plans and more informed decisions to protect diversity and ecosystem services in national forests while allowing for use by citizens who enjoy use of off-road vehicles. (Individual, Colleeville, MN - #19744.91610)

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

Roadless areas are the perfect place for the Forest Service to study the natural ambient level of noise on a forest-by-forest basis, this is in keeping with the identified characterization of roadless areas as related to reference landscapes for research, study or interpretation. The Sierra Club urges the Forest Service to begin baseline natural ambient studies as have been done in national parks like the Grand Canyon. (Environmental/Preservation Organization, Washington, D.C. - #43731.82000)

5.2 Forest Health

The Forest Service should maintain healthy forests through active management of roadless areas according to a number of respondents. Some concerns are focused on loss of merchantable timber. They also are concerned with insects, disease, and wildfire risks associated with what one person calls “benign neglect.” One individual recommends additional alternatives considering limited access under specific circumstances to treat insect infestations, disease, and fire. Conversely, a conservation organization argues there is no existing data supporting harvest of old trees for forest health; quite the opposite, their data concludes artificial reduction of average tree size increases the risk of stand replacing fire. Another conservation organization recommends banning herbicides from roadless areas as a harmful activity.

In addition to these general concerns, respondents also address the Adequacy of the Forest Health Analysis, Subsection 5.2.1.

Additional concerns regarding forest health and timber management can be found in Chapter 6.

Public Concern: The Forest Service should maintain healthy forests through active management of roadless areas.

Increase foresting activity to have more diverse and healthy forests, and diverse habitat for more animals and plants. (Individual, Solidew, WY - #3509.84000)

BEGNIGN NEGLECT WILL NOT RESTORE HEALTHY FORESTS. Walling off tens of millions of acres of forest will doom them to a cycle of overstocked stands, disease and insect infestation, and wildfire. (Timber Company, Woodruff, WI - #1983.84000)

The “roadless initiative” proposed by President Clinton is bad news for forests within the western United States. By restricting access, the management of forest density as well as the control of pests and diseases by means other than prescribed burning become non-existent. Our forests have been neglected and mismanaged for far too long, and the utilization of prescribed burning is the worst excuse for forestry management ever devised.

There is no logical justification for wanton destruction of a natural resource, watershed, wildlife habitat, personal property and the quality of life for nearby inhabitants. Even the most severely infested, diseased and overgrown forests can be harvested and utilized, whether it is for paper, particle board or firewood. (Individual, Garden Valley, ID - #7101.84000)

My second major concern is the fire danger development where good, sound forest management practices are not followed. Again it is not good conservation to allow usable timber to burn needlessly. Forest managers should be encouraged to develop sound management plans for our national forests and then given adequate resources to carry out those plans. (Wise Use or Land Rights Organization, No Address - #8332.9999)

Let us manage our forests! Without management mother nature will only carry out the same process in a more detrimental way and we will receive no benefits from the deal but a crispy forest. (Individual, Kalispell, MT - #10401.84200)

BY CONSIDERING ADDITIONAL ALTERNATIVES

I believe that the Forest Service has not prepared a reasonable range of alternatives. Why haven't they developed an alternative that permits road construction in specific roadless areas threatened by insects, disease, and fire. To comply with NEPA and the DEIS, it should include a range of alternatives that vary the amount of roadless acres or the number of roadless areas where environmentally sensitive, multiple use road conditions can be allowed. (Individual, Wallace, ID - #21167.61000)

Public Concern: The Forest Service should eliminate timber harvest for "forest health."

We [Society for Conservation Biology] know of no case where existing data or scientific opinion support logging of old trees for "forest health" purposes. A statement from a forthcoming report by a panel of eminent scientists (Scientific Panel on Ecosystem-based Forest Management, 2000, "Logging to maintain forest health: a critique") summarizes our concerns:

Any logging that reduces average tree size, at either the stand or landscape scale--including clearcutting, shelterwoods, seed tree cuts, selective cutting of larger trees, or thinning that lowers average stand diameter--will increase the risk of stand-replacement fires rather than decrease it. Thinning only small and intermediate trees less than 100 years old could decrease fire risk, depending on how much new risk is introduced by logging slash (or its disposal). Under-thinning done carefully can be a useful tool to reduce fire risk in dry forest types. Logging that compacts soils, creates roads, or depletes nutrient stocks simply trades one kind of problem for others. The challenge is to alleviate one problem without exacerbating others or creating new ones. Therefore, each project requires careful thought and analysis. (Environmental/Preservation Organization, Corvallis, OR - #6130.84000)

Logging causes the loss of forest health and, as described above, a loss of the fire prevention characteristics of the forest and logging increases wildfire severity and intensity. Again, this is never even given a cursory analysis in the DEIS; never is any detail given to describing how the activities proposed will accomplish the underlying goal to which the agency is responding. The DEIS states on page 3-53, that, "By retaining the ability to mechanically manipulate vegetation for stewardship purposes, the agency's capability to directly and indirectly enhance habitat would be maintained. Timber harvest for stewardship purposes is described in the Timber Sale Program Information Reporting System as ". . . sales being made primarily to help achieve desired ecological conditions and/or to attain some non-timber resource objective that requires manipulating the existing vegetation - for example, improving forest health or reducing forest fuels" (USDA 1998c)." A mechanism stating how the proposed activities of logging will accomplish improving forest health is never described in any more detail. This violates NEPA and its implementing regulations 40 CFR § 1500.1(b). "An EIS must be sufficiently detailed to allow a responsible official to arrive at a reasonably accurate decision regarding the environmental benefits and detriments to be expected from implementation." (Sierra Club v. Froehlke (1973) 486 F.2d 946.) (Environmental/Preservation Organization, Weldon, CA - #16041.82000)

Public Concern: Herbicide and pesticide use should be banned in roadless areas.

Roadless areas should be protected from being subject to any and all herbicide, pesticide, or biocide spraying programs. (Environmental/Preservation Organization, Fossil, OR - #52433.80000)

5.2.1 Adequacy of the Forest Health Analysis

A county official demands the Forest Service justify its claim that roadless areas are better able to respond to natural disturbances such as fire or windstorm than roaded areas. In a related concern, a timber association believes the Final EIS should include an alternative-by-alternative analysis of projected wildfires and projected insect and disease concerns for each roadless area, adjacent national forest lands, other public lands, and private lands.

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

Comment: Page 1-1, last paragraph-- What is the reference for these statements that roadless areas are better able to respond to natural disturbances? Why are roadless areas better able to respond to natural disturbances like windstorms and fire? Why are they better able to respond over any other area that has been logged, roaded, grazed, or developed and then burned or blown down? Can these assumptions be proven? Relief: The Forest Service needs to add citations and clarify these assumptions. In addition, they need to address the questions presented. (County Elected Official, Worland, WY - #16185.82000)

Public Concern: The Final EIS should include an alternative-by-alternative analysis of projected wildfires and projected insect and disease concerns.

The environmental analysis should include, at a minimum: The current and projected potential for catastrophic wildfires and the current and projected mortality from insects and diseases for each of the proposed alternatives for the Roadless Areas themselves, as well as adjacent national forest lands, other public lands, and private lands. (Timber Association, Rapid City, SD - #15900.84000)

5.3 Weeds, Insects, and Disease

Several respondents believe the Forest Service should use active management, particularly roads, to control invasive weeds, insects and disease vectors, specifically the pine beetle, Canadian Thistle, Houndstongue, leafy spurge, and blister rust. Others take the Forest Service to task for lax weed control, and recommend the agency increase the priority of invasive weed management. One individual questions the agencies ability to conduct disease surveys with the limited road access of the proposed rule. Another person suggests the agency might succeed at controlling non-native species by managing people, as opposed to their largely unsuccessful management of the forest.

In addition to these general concerns, respondents' comments are divided into two subsections: Subsection 5.3.1 Effects of Other Activities on Weeds, Insects, and Disease; and Subsection 5.3.2 Adequacy of the Analysis of Weeds, Insects, and Disease.

Public Concern: The Forest Service should use active management to control invasive weeds and disease vectors.

Another concern I have is the weed control and the control of the pine beetle on the national forests. Canadian thistle alone is taking over much land and if it isn't controlled, will take everything. Leafy spurge and Hounds Tongue are also noxious weeds needing control. These areas need access in order to control problem areas. (Individual, Newcastle, WY - #597.83620)

We also need to rid some of the area of undergrowth and to cut diseased trees before they infect other timber. (State Elected Official, Sandpoint, ID - #10682.84300)

TO PREVENT BLISTER RUST

Objections to Roadless Areas in the Chequamegon and Nicolet National Forests: When the chestnut blight was allowed to kill a quarter of the eastern forest in the United States, roads allowed the salvage of the dead trees 80 years ago. Now the white pines are dying of blister rust because the gooseberries are not killed. They are the alternate host which allow the blister rust to spread. People need roads so they can kill the gooseberries. The American Elms are mostly dead except in cities where they have roads to work to save their elms. They died of Dutch Elm disease. (Individual, Park Falls, WI - #13676.84300)

Public Concern: The Forest Service should mitigate the spread of weeds.

The U. S. Forest Service has been especially lax in dealing with and monitoring the expansion of weeds. (Individual, Corvallis, MT - #8092.83620)

Increase priority status of combating non native species. (Individual, Missoula, MT - #10873.83620)

Public Concern: The Forest Service should address how disease surveys will be conducted after implementation of the proposed rule.

How will the Forest Service survey forest areas for disease when road access will be limited and personnel is already downsized? (Individual, Douglas, AZ - #13311.84300)

Public Concern: The Forest Service should manage humans to mitigate disturbance of native species.

We've already lost too much. Once an area is opened up, disturbed, it can never be restored. Pernicious aggressive non-natives fill the niche and the delicate and fragile natives stand no chance. Scotch Broom -Blackberry is almost impossible to get rid of once an area has been opened up. The use of herbicides become a toxic and deadly solution. When will the ridiculous cycle end? The forests are fragile, our human arrogance believes we can "manage" something so intricate and complex that science can not yet completely understand. We should be managing humans and our intervention. (Individual, Cottage Grove, OR - #759.83600)

5.3.1 Effects of Other Activities on Weeds, Insects, and Disease

Respondents diverge in their opinion about the influence of roadless areas on the spread of weeds. Some believe roadless designation is an effective and cost saving alternative to roads and herbicides, while others believe birds and animals are effective vectors for spreading invasive

weeds, eliminating any benefit roadlessness might otherwise contribute in the fight against weeds. Foot traffic, motorized traffic, livestock, and “weed wildlife” such as robins and magpies introduce invasive species, weakening native ecosystems, according to many respondents. According to one conservation organization, the disturbing activity of road construction itself is also a vector in both weed dispersal, and disease, as in the case of Port-Orford-Cedar root disease,.

Public Concern: The Forest Service should consider the influence of roadless areas on the spread of invasive plant species.

THEY PREVENT SPREAD OF WEEDS

Natural roadless areas also help prevent the intrusion of invasive plant species. (Individual, Hailey, ID - #7381.83620)

The aspect of maintaining smaller acreage that is roadless is, I believe, becoming increasingly important. I am one who is very concerned about the invasion of alien species. I see the destruction locally on National Park Service lands. I am also aware of the terrible cost to eradicate. I have tried to get some action regarding one species. In most cases ignoring the problem seems the way of operation today. Is there a lesson for the forest service here? I believe so. Thus keeping smaller areas roadless helps keep an area as a refuge against the spread of invasives. These small areas also help maintain biodiversity, conserve species with limited ranges, protect those with special habitat needs and provide linkage to larger areas--especially necessary for neo-tropical migration/nesting, for instance. Invasive weeds are spreading at about 4600 acres a day on federal lands in the West. To get rid of them is often limited by human power/funds as I mentioned above. Keeping these small areas roadless and protected from ORV's also is important. One ORV on a back country trail can spread millions of knapweed seeds. (Individual, Alexandria, VA - #10889.83620)

THEY HAVE NO EFFECT ON THE SPREAD OF WEEDS

In your publication FS-670 under the heading Background you list six public benefits [of roadless areas] my comments on each follows:

Barriers against noxious weeds - This shows an utter disregard of the force of nature. The wind in conjunction with bird and animal droppings will continue to spread plants irregardless of the whims of a bureaucrat. (Individual, Idaho Falls, ID - #7108.83000)

Weed seeds can as easily be spread by birds and animals as by humans! (Individual, Clancy, MT - #11329.83500)

Public Concern: The Forest Service should address the role roads and trails play in the introduction and spread of noxious weeds.

As a citizen who has been involved in Forest Service roadless area planning and management for 20 years, I have been increasingly aware of the changes in native ecosystems due to roads, trails, and routes - basically any motorized or non-motorized routes into unroaded areas. Invasive weeds are brought into areas by foot traffic, motorized traffic and livestock. If you look, dandelions, invasive thistles and other non-native plants can be seen more and more along the edges of trails and dirt roads. Robins, magpies and other weed wildlife follow the human routes into roadless areas. Weed plants and weed wildlife reduce the habitat of native species thereby pushing out native plants and animals, particularly along the edges of trails and roads. Weed plants and weed wildlife reproduce quickly and begin to change the character and make-up of an ecosystem. As human activity, both motorized and non-motorized continue, native ecosystems are further weakened. (Individual, Boulder, CO - 6755.83620)

Clearly, the Forest Service must ensure that its policies support rather than hinder the important campaign to minimize damage caused by invasive exotic plants. Protecting roadless areas is one of the most important "weed control" policies because of the intimate connection between roads and the spread of invasive plants. Weeds spread is greatly facilitated by human activities which disturb the soil, open the canopy, and injure vulnerable native vegetation. Road building directly disturbs vegetation, creates disturbed soils in which invasive plants often have advantage, changes water courses and opens the canopy to light. Weed propagules are often transported on the construction equipment or in fill or gravel. The impact of roads is not short-term, but permanent. Roads open the area to heavier human use of all types -- and those activities themselves contribute both further disturbance of soils and vegetation and modes for transporting weed seeds to these welcoming sites. Weed propagules can be carried on any truck, car, ATV, logging equipment, boat, and livestock. Hikers, mountain bikers, and horseback riders also transport seeds. The increased presence of people also increases the likelihood of unplanned fires -- which, again, can open opportunities for plant invasions. Weeds are spread from centers of infection by wildlife, wind, and water. These centers are often established by the deliberate planting of the invasive species, including unwise choices for revegetation of disturbed, overgrazed, or burned areas. The link between roads and invasions is less clear for most exotic insects and fungal pathogens. In some cases, however, roadbuilding is directly linked to damaging infestations; the most prominent example is Port-Orford-cedar root disease, caused by *Phytophthora lateralis*. (Environmental/Preservation Organization, Nevada City, CA - #50392.84300)

BY ROADS

I am greatly concerned with the spread of noxious weeds. Roads are the main avenues through which weeds travel and motor vehicles provide the mechanism to accelerate the pace of weed invasion. (Individual, Corvallis, MT - #8092.83620)

Roads provide a way for alien and invasive species to gain a foothold in undisturbed areas adjacent to the roads. (Environmental/Preservation Organization, No Address - #1826.83620)

There is no other impact more hideous for the introduction of noxious weeds into a "weed-less" area than the presence of a new road. Weeds follow roads. We hear of various economic arguments about this initiative, yet the Forest Service spends a considerable amount of our tax dollars every year trying to reduce and eliminate harmful weeds. Weeds are a huge problem, not only for wildlife forage, but as a threat to keeping natural diversity intact. The areas of our forests that have yet to be invaded by noxious weeds are almost exclusively found with in road-less lands. Building roads into them will only allow the weeds an avenue of spread. This is truly a case where "an ounce of prevention (no new roads) is worth more than a pound of cure (expensive weed removal)." (Individual, Missoula, MT - #10557.83620)

The spread of noxious weeds in Montana is horrific, as you know. Roads into forests are the main arteries of introduction of weeds seeds. Closing them will help. The USFS can't afford to keep up a weed program and can't afford to maintain its existing roads, no less create and maintain new ones. (Individual, Basin, MT - #7381.83620)

The absence of roads will minimize the threat that aggressive invasive weeds will be introduced to these pristine areas, thereby helping assure the survival of native habitats. (Individual, ID - #10509.83620)

BY VEHICLES

I have spent many days hiking Northwest wilderness and adjacent areas since 1953 and have visited many roaded areas of National Forest and have been active in noxious weed control in my local area. I have seen a lot of off road ground disturbance and spread of noxious weeds by motorcycles and 4 wheeled vehicles. I have seen a lot of large fragments of plants (knapweed particularly) spread by snowmobiles. (Individual, Cashmere, WA - #13478.83620)

5.3.2 Adequacy of Analysis of Weeds, Insects, and Disease

The Forest Service should not assume that limiting roads will curtail the spread of insect and disease infestations, according to one respondent who goes on to comment he has "yet to see an

insect or disease that uses a road.” One timber industry representative requests the Forest Service analyze the risk for insects and disease in each roadless area.

Public Concern: The Forest Service should not assume that limiting roads will curtail the spread of insect and disease infestations.

It also states on page 3-22 that the forest health will be benefited by reducing the spread of damaging insects and diseases into intact areas. I have yet to see an insect or disease that uses a road. There are many dead trees in the Manti-LaSal that have been killed by insects, and they are in areas that currently have no roads into them. I think it is ridiculous to make the assumption that not having roads is going to affect the damage from insects and disease. (Individual, Manti, UT - #26036.84300)

Public Concern: The Forest Service should analyze the risk of insects and disease in each roadless area.

As a member of the timber industry who does business with the USFS in Colorado, particularly on the Grand Mesa, Uncompahgre and Gunnison National Forest (GMUG) and the White River National Forest (WR), I would request that the USFS analyze the following items for each of the roadless areas referenced below as identified in this Roadless Area Conservation Proposed Rulemaking change: Risk of insects and disease for each specific area. (Timber Industry, Montrose, CO - #13091.70000)

5.4 Fire

Several respondents believe the Forest Service should retain fire access roads, both for public safety, and as a practical consideration to reduce the need for the additional disturbance of bulldozer firebreaks. Another respondent recommends fire management without roads should be based on the needs of each roadless area, and that additional funding should be pursued to effectively manage these areas for fire.

In addition to these general concerns, respondents’ comments are divided into two subsections: Subsection 5.4.1 Effects of Other Activities on Fire; and Subsection 5.4.2 Adequacy of the Analysis of Fire.

Public Concern: The Forest Service should retain fire access roads.

FOR PUBLIC SAFETY

Roads offer access to manage the national forests with prescribed burning, timber harvesting and also wildfire control. Roads are needed for accessibility for fire suppression forces. States have supplied significant firefighting resources on federal lands, but if safety concerns over access are not alleviated this may be greatly reduced in the future. People cannot be placed in harm’s way with no retreat route (no roads). (Individual, West Point, UT - #4008.84000)

TO REDUCE THE NEED FOR BULLDOZER FIREBREAKS

Roaded areas provide access for firefighting vehicles. The last forest fire I worked on was near Idaho City, Idaho. I worked in the capacity of dozer boss. We constructed fire lines 3 dozer-blades wide, which went for miles. We dozed off safe areas for firefighters to retreat to that were the size of football fields. A suitable road system gives firefighters a better opportunity to attack a wildfire quickly, before it blows up and requires a lot of dozer line. I should point out that road locations are carefully selected to minimize erosion. A dozer line goes the shortest distance to get around a fire, often going straight up and down steep hillsides. There is a lot more soil disturbance to a dozer line than to a well constructed road. (Individual, Sundance, WY - #18441.84200)

Public Concern: The criteria for fire management should be based on the needs of each roadless area.

FIRE Criteria for fire management without roads should be based on the particular needs of each roadless area, and strong appeals by land managers and the public for adequate funding, should be pursued, including the use of programs like "Jobs in the Woods", which was pioneered here in the Rogue Valley. (Individual, Ashland, OR - #13107.84100)

5.4.1 Effects of Other Activities on Fire

One individual contends timber companies should be required to remove slash to reduce fire danger. Another recommends the Forest Service ban grazing in order to reduce the effects of fires.

Public Concern: Slash from timber harvest operations should be removed to reduce fire danger.

At the same time, the slash left by timber company irresponsible logging should be removed to reduce the increased fire danger resulting from logging operations. (Individual, Spokane, WA - #8989.84100)

Public Concern: The Forest Service should ban grazing in order to reduce the effects of fires.

All roadless areas should be protected from logging, grazing, mining, or off-road vehicles, due to their serious impact on native fish, plants and wildlife. Because cattle grazing has been proven to lead to more destructive forest fires, it is vital that it not be allowed to resume. (Individual, No Address - #15236.80000)

5.4.2 Adequacy of Analysis of Fire

A county official contends the Forest Service must reevaluate its discussion in the Draft EIS regarding the effects of the proposed rule on the occurrence of wildfires, the incidence of human caused, as opposed to lightning caused fires in roadless areas, and the potential for large catastrophic lightning caused wildfires. He further contends the Forest Service should provide evidence for its conclusions. Timber industry representatives recommend the Forest Service complete site-specific analyses of fire risk in roadless areas.

Public Concern: The Forest Service should reevaluate its discussion on page 3-22 of the Draft EIS regarding the effects of the proposed rule on the occurrence of wildfires.

Comment: Page 3-22, second bullet list on Forest Health-- The statement that protecting more inventoried roadless areas from roading would result in a reduction in the occurrence of human caused fires, without disclosing the potential for increases in large catastrophic wildfires caused by lightning, is misleading. Lightning is responsible for approximately 75% (Page 3-152) of the annual acreage burned by wild fires in inventoried roadless areas in the West. Relief: The Forest Service must provide evidence for this assumption and clarify the discrepancy. (County Elected Official, Worland, WY - #16185.84200)

Public Concern: The Forest Service should complete a site-specific analysis of fire risk in roadless areas.

If there were more time to complete additional assessments, we would no doubt find that the DEIS failed to adequately evaluate the consequences of the proposed prohibition on most other roadless areas across the nation. SKY LAKES B ROADLESS AREA, WINEMA NATIONAL FOREST, OREGON. Evaluation Criteria (Selected from Table S-4. Summary of Combined Effects of the Proposed Action): Roadless Areas At Risk From Catastrophic Fire(acres) DEIS SAYS "LOW PRIORITY FOR FUELS TREATMENT..." Sky Lakes B not currently high risk; although over time risk increases and DEIS would preclude any treatment (all future road access to reduce risk, improve suppression and speed restoration are forgone by DEIS) (Timber Industry or Association, Eugene, OR - #15879.7000)

As a member of the timber industry who does business with the USFS in Colorado, particularly on the Grand Mesa, Uncompahgre and Gunnison National Forest (GMUG) and the White River National Forest (WR), I would request that the USFS analyze the following items for each of the roadless areas referenced below as identified in this Roadless Area Conservation Proposed Rulemaking change: Risk of fire if left untreated for each specific area (Timber Industry, Montrose, CO - #13091.70000)

5.5 Biodiversity

The Forest Service should consider the importance of roadless areas for protecting biodiversity, according to conservation groups and individuals. One group contends roadless areas act as genetic reserves, and de facto refuges for sensitive plant and animal species. Another conservation organization asserts the proposed roadless area protection "would go a long way toward meeting the goal of representing all major ecosystem types in biological reserves." Lands containing endemic flora and fauna should be conserved as living laboratories, including degraded lands that are restorable, one individual advocates. Another argues roadless areas are a reservoir from which medicines, food, and other resources can be drawn in the future. Some feel the Forest Service should provide stronger protection for biodiversity than is proposed in the DEIS and the "Preferred Alternative," including all human-caused disturbances. In a related concern, one individual urges the Forest Service to adopt Alternative 4 because it has the most substantial benefits for biological diversity through reduction of human impact and increased habitat conservation. Another person advocates a landscape/ecoregion approach to biodiversity protection as necessary to preserve a biodiversity network. A more moderate respondent recommends restricting road construction only where necessary to preserve biodiversity.

In addition to these general concerns, respondents' comments are divided an additional subsection: Subsection 5.5.1 Effects of Other Activities on Biodiversity.

Public Concern: The Forest Service should consider the importance of roadless areas for protecting biodiversity.

Large roadless areas are the key to providing habitat for America's biodiversity. The value of the forest is much greater for the natural services it provides above and beyond paper. (Individual, Newburyport, MA - #2651.83400)

The February 2000 issue of 'Conservation Biology' devoted an entire special section to articles on the impacts of roads and the benefits that roadless areas provide to biodiversity. Among other important issues, these peer-reviewed scientific papers reveal that roadless areas are among the least-disturbed landscapes on the planet and may act as de facto refuges for numerous sensitive plant and animal species. The distributions of several species, such as large carnivores, are closely associated with roadless areas and landscapes with low road density. Streams flowing from these areas provide the highest quality habitat for aquatic organisms and maintain clean drinking-water supplies. A recent study by two Forest Service scientists (R.L. DeVelice and J.R. Martin, "Assessing the extent that roadless areas complement the conservation of biological diversity," 'Ecological Applications' shows that protecting roadless areas on national forests would go a long way toward meeting the goal of representing all major ecosystem types in biological reserves. This is especially true in the West (unfortunately, in the East, roadless areas and public land generally are presently too scarce to allow adequate representation) (Environmental/Preservation Organization, Corvallis, OR - #6130.83410)

Roadless areas are the last best place to protect threatened biodiversity from the detrimental effects of fragmentation and habitat destruction caused by man's intervention in wilderness areas. Migratory corridors will remain intact. (Environmental/Preservation Organization, ID - #10509.83421)

All remaining lands that contain endemic biota and fauna, or are critical habitat for native fish and wildlife, should be conserved as living laboratories. These lands can provide humankind with genetic reserves and ecological tools to restore biological diversity, and productivity, to adjacent lands that have been degraded. Adjacent lands that can be restored cost-effectively, should be adjoined to roadless areas as wildlife migration corridors and for fisheries restoration. Fish and wildlife scientists should be consulted to determine if lands and waters in these core areas can be enhanced for native species recovery. Critical habitats and adjacent recoverable lands should be delineated on a map and distinguished from areas with less recovery potential. Other public lands can be managed for their current uses as provided by law. (Individual, Kalispell, MT - #1580.64420)

PROVIDING MEDICINES, FOOD AND OTHER RESOURCES

These areas are critical for our future survival because they are a reservoir of biodiversity that we will need to draw on for medicines, food and other resources, and for repairing damaged ecosystems in the other 99% of the world. (Individual, Pocatello, ID - #733.83400)

Public Concern: The Forest Service should provide stronger protection for biodiversity than is proposed in the DEIS and the "Preferred Alternative."

The Forest Service must provide stronger protection for biodiversity than is proposed in its DEIS "Preferred Alternative." (Individual, Tromso, Norway - #5868.83400)

I am writing to urge the Forest Service to provide stronger protection for biodiversity in the National Forest System. As an ecologist, I am particularly sensitive to the importance of preserving areas of land free from roads and other human-created disturbances. Roads not only fragment ecosystems and reduce habitat suitability for many plant and animal species, but also permit development and facilitate the invasion of exotic species. Roads are also responsible

for increasing fire risk and the occurrence of other human disturbances (including poaching). The current Draft Environmental Impact Statement still contains many loopholes that will severely compromise the biodiversity in currently undisturbed, roadless areas of National Forest. (Individual, No Address - #6110.83400)

Public Concern: The Forest Service should adopt Alternative 4 because it has the most substantial benefits for biological diversity.

Alternative 4 has substantial benefits for biological diversity due to reduced human impact and increased conservation of important fish, wildlife, and plant habitats. This Alternative will have substantial benefits for nearly 200 threatened, endangered or proposed species and will substantially reduce the risk of increased introduction and establishment of non-native invasive species (S-22). (Environmental/Preservation Organization, Seattle, WA - #10788.83400)

Public Concern: The Forest Service should apply a landscape/ecoregion approach to biodiversity protection.

A landscape/ecoregion approach to biodiversity preservation networks is necessary. Regional ecosystem representation within reserves is an important concept. The coterminous states need much more, and public lands are the only feasible place for this to occur on such a large scale. (Individual, Leavenworth, WA - #15897.83000)

Public Concern: Road construction in roadless areas should be restricted only where necessary to preserve biodiversity.

I am not in favor of a full ban [on road construction in roadless areas] except in areas where the value of the biodiversity objectively justifies such a ban. (Individual, Fort Collins, CO - #358.83400)

5.5.1 Effects of Other Activities on Biodiversity

Respondents hold conflicting opinions regarding the effects of roadlessness on biodiversity. Some feel roads benefit biodiversity, by allowing access for fire suppression, providing habitat that functions as a wildlife and plant corridor, and providing disturbed habitat for rare species that require it. Others feel roads have a negative effect on biodiversity, and urge the Forest Service to limit new road construction.

Public Concern: The Forest Service should evaluate the effects of roadlessness on biodiversity.

ROADS BENEFIT BIODIVERSITY

I don't agree with your claim that biological diversity, in the long term, will be better in roadless areas especially when these areas are ravaged by wildfires. Wildfires on the Payette burned over 300,000 acres in the last decade. More than 80% of these acres were in roadless areas. (Individual, McCall, ID - #6484.83400)

The USFS cites preservation of biological diversity as a benefit of a roadless area. While undisturbed land areas can provide important wildlife and plant habitat, roads and rights-of-way (especially with relatively little traffic) also can provide important habitat and can act as wildlife and plant corridors that promote both biological diversity and

healthy populations of species. Rare species that thrive on meadow or disturbed habitat often rely on utility rights-of-way for their very survival. (Utility Group, Washington, DC - #52503.83400)

ROADS NEGATIVELY EFFECT BIODIVERSITY

I am a biologist by background and recognize the urgent need to preserve biodiversity and wilderness. I believe that building new roads into roadless areas will negatively affect biological diversity of both plants and animals. I applaud the draft policy and believe the Forest Service is on the right track in limiting new roads into these areas. (Individual, Blacksburg, VA - #8607.83400)

5.6 Vegetation

One individual urges the Forest to conserve non-renewable landscapes. Some believe the Forest Service should limit active management for specific seral stages, including early successional stages in mature forest systems. Others contend the Forest Service should preserve successional stages such as old-growth forest, including that on the Tongass National Forest. A couple of people advocate returning natural fire to roadless areas, but caution the area should be managed for fire resistance to protect it from catastrophic fire. One individual notes mushrooms thrive in young forests, and suggests the Forest Service manage forests to protect fungi.

In addition to these general concerns, respondents' comments are divided into an additional subsection: Subsection 5.6.1 Effects of Other Activities on Vegetation.

Public Concern: The Forest Service should conserve non-renewable landscapes.

After seeing the Tongass myself and the impacts that harvesting has not upon the trees, but the forest, I urge you to consider making efforts to conserve these non-renewable landscapes. (Individual, Juneau, AK - #5915.80000)

Public Concern: The Forest Service should reconsider actively managing for specific successional stages.

EARLY SUCCESSIONAL STAGES SHOULD NOT BE ARTIFICIALLY MAINTAINED

Early successional stages should not be artificially maintained in mature stable forest systems. (Individual, New River, AZ - #10550.83600)

PROTECT OLD GROWTH FORESTS

We have in our unfortunate history some of the most abominable destruction of nature that this planet has ever seen. Therefore, with so many of the world's oldest trees felled, and so much of our quiet, undisturbed space gone forever, the people and the government need to end the destruction -- now. The fact that there are people logging this nations last old growth forests is shocking and outrageous. The government needs to seize these lands from the timber companies and protect them. After all, these trees are far older than we, and do not truly belong to anyone. (Individual, Northville, MI - #6677.83610)

My concern is that without the canopy old-growth trees provide, young seedlings will not flourish in our semi-arid West. (Individual, Kernville, CA - #10966.93300)

PROTECT TONGASS OLD GROWTH

I believe the policy should include the Tongass for the following reason: .The timber companies have already cut the best old growth stand of the Tongass almost 70% of it. Less than 5% of the original old-growth forest remain in the United States. The Tongass has the most and the best of America's remaining old growth roadless areas. (Individual, Juneau, AK - #6413.83610)

Public Concern: The Forest Service should consider the role of fire in roadless area vegetation management.

If an area is truly a roadless area, I believe that vegetative characteristics and tree stocking should be in a regime naturally somewhat resistant to fire or able to accept fire as a natural component of its genesis as a vegetative community. Dog-haired stands or stands in need of thinning to enhance 'roadless characteristics' should not exist although I understand the imperative of protecting against catastrophic fire due to historic fire suppression and protecting certain human communities in forested areas. (Individual, Corvallis, OR - #5157.84100)

I would like to see vegetation management that allows for the return of natural fires in our historic fire regime appropriate to the forest type. (Individual, Carlton, WA - #6873.84200)

Public Concern: The Forest Service should manage forests to protect fungi.

I enjoy the forests and spend much of my time in the study of fungi. I find hundreds of varieties of mushrooms in young forests that have been managed wisely. Surprisingly, mushrooms don't seem to thrive as well where the trees have matured and fallen into decay. (Individual, No Address - #15616.83640)

5.6.1 Effects of Other Activities on Vegetation

One individual notes that roads allow sun in to nurture low growing wildlife forage, and recommends the Forest Service consider the beneficial effects of roads on vegetation.

Public Concern: The Forest Service should consider the beneficial effects of roads on vegetation.

Roads make openings in the forest to let in the sun for sun loving vegetation that is nutritious to wildlife. (Individual, Vonore, TN - #7525.83500)

5.7 Wildlife

Wildlife management is a fundamental concern for many respondents. Many feel the Forest Service should protect roadless areas for wildlife. They point out that roadless areas contain habitat unique to some species, and if those species are extirpated it disrupts the environmental cycle, leading to additional extinctions. One individual points to hunting research as an indicator that roadless areas provide optimum conditions for maximizing species genetic variability and long term species health. Another person feels maximizing undisturbed areas for wildlife will reduce the wildlife-human conflicts at the urban interface. A third respondent feels non-game

species should be given the same attention as game species. One person raises a similar concern regarding single species management. This respondent believes using keystone species is adequate for large-scale planning, but that smaller areas are functionally adequate for other species and can enhance connectivity between the larger areas. In counterpoint to the preceding arguments, one individual implies that working to preserve rare plants and animals is a futile attempt to thwart the natural cycle of species evolution and extinction.

In support of wildlife preservation, many writers offer management suggestions to help ensure adequate wildlife protection. One respondent suggests timber harvest requirements include provisions protecting the “basic character of the forest” so no species are displaced by timber management. Others recommend the Forest Service prohibit disturbance of wildlife during nesting and calving seasons through seasonal closures for motorized vehicles. Another advocates designated wildlife refuge areas rather than the proposed roadless areas, in order to protect wildlife from all human activity. Similarly, one person recommends buffer zones to protect wildlife diversity.

Protection of wildlife on the Tongass is an issue to one writer who feels the Forest Service should provide comprehensive protection to wildlife populations on the Tongass National Forest which, they feel, is not provided by the most recent Land Management Plan.

There is some confusion on the part of the public regarding the purpose and effect of wildlife closures. One individual cites personal experience with wildlife closures which, to that person, did not appear to protect any wildlife. This respondent requests clarification of the extent of road closures for wildlife management under the proposed rule.

In addition to these general concerns, respondents’ comments are divided into three subsections: Subsection 5.7.1 Species of Public Concern; 5.7.2 Effects of Other Activities on Wildlife; and Subsection 5.3.2 Adequacy of the Analysis of Wildlife.

Public Concern: The Forest Service should protect roadless areas for wildlife.

If you are sincere about saving the forest, then it must be saved untouched! The wildlife in America is having less and less habitat to survive in. Intrusions into untouched forest destroys the last remaining habitat we have for many species. As the different species die off the chain is disrupted and other species will die as a result. (Individual, Fort Pierce, FL - #4131.83500)

It had been indicated that the primitive, roadless areas tend to produce more trophy size bull elk which is an indicator that they may play a vital role in preserving an optimum situation for species genetic variability and long term species health. (Individual, Meeteetse, WY - #523.83530)

Once a road has been introduced into a forested area, the rhythm of the forest is forever altered to the distinct disadvantage of wildlife.

People are complaining about wildlife in their yards-bears, moose, etc., and their solution is to kill the animals. Well, isn't it long past time for us to respect other forms of life. We have been infringing upon their space so badly, what can you expect? They have their place and NEED to live undisturbed. (Individual, Brevard, NC - #6161.83500)

NON-GAME SPECIES.

There is more to wildlife than ruffed grouse, whitetail deer, and other game species. There are micro-organisms in the soil, salamanders, and numerous avian species dependent on large interior forests with as little edge habitat as possible. (Individual, Barnardsville, NC - #6136.93300)

Public Concern: The Forest Service should avoid focusing on single species management.

The use of flagship/keystone species is practical for large-scale planning such as this, but smaller areas can provide adequate habitat for other species. This must not be ignored. Connectivity can be enhanced by smaller areas between larger areas; don't focus too much on single species management. (Individual, Leavenworth, WA - #15897.83500)

Public Concern: The Forest Service should reconsider preserving roadless areas based on the assumption that species are static.

In your publication FS-670 under the heading Background you list six public benefits [of roadless areas] my comments on each follows:

Habitat for rare plant and animals -Plants and animals go through cycles where new species are created while others become extinct. This shows the arrogance of a bureaucratic mind. (Individual, Idaho Falls, ID - #7108.83000)

Public Concern: The Forest Service should ensure that wildlife is not displaced by timber harvest operations.

Responsible forestry practices should ensure that the basic character of the forest remains the same after being managed (i.e. logged). This should include the same species of animals remaining after the logging, or management, not being forced to relocate due to their habitat being destroyed. (Individual, Stillwater, MN - #1533.83500)

Public Concern: The Forest Service should prohibit disturbance of wildlife during nesting and calving season.

If humans disturb wildlife during crucial times of the year, such as when birds are nesting, it can cause abandonment of the young. This is a problem with sensitive species such as the bald eagle. (Environmental/Preservation Organization, No Address - #1826.83520)

BY INSTITUTING SEASONAL CLOSURES FOR MOTORIZED VEHICLES

I am not in favor of leaving the roads open for continuous access by the off road rv's, errant travelers nor the snowmobiles. Some of these areas should be closed to vehicular travel during the rearing seasons of the indigenous animals and upland game birds. Off road vehicles should be isolated to areas designated for that type of recreational use. The snowmobiles should be only used in areas where there are no wintering big game animals. (Individual, Nampa, ID - #13184.91000)

Public Concern: The Forest Service should create Designated Wildlife Refuge Areas.

There are only a few places preserved for wildlife. If the few places left are destroyed, where will the animals roam? We must do something NOW, in order to help tomorrow's destruction of nature's precious land. Designated Wildlife Refuge Areas must be created or spared for the natural environment. Yes, it is great to have a place to camp and hike, but we are still infringing on nature. (Individual, Rock Hill, SC - #3836.83500)

Public Concern: The Forest Service should maintain buffer zones to protect wildlife diversity.

It is important to maintain buffer zones to protect the diversity of wildlife. (Individual, Pelican, AK - #7179.93300)

Public Concern: The Forest Service should provide comprehensive protection to wildlife populations on the Tongass National Forest.

Standards and guidelines in the 1999 Tongass Land Management Plan are not comprehensive enough to ensure that [wildlife] populations can remain viable. (Individual, Sitka, AK - #25029.53900)

Public Concern: The Forest Service should explain whether the roadless policy will block roads with gates for wildlife management purposes.

Some years back I went hunting in Mendocino national forest in northern California, I was driving down a secondary road when I came to a locked gate with a sign attached to it that read "road closed due to wildlife habitat protection" I walked to the end of the road but didn't see any sign of wildlife except one small set of deer tracks, is this what I can expect from this roadless policy? (Individual, No Address - #7870.83500)

5.7.1 Species of Public Concern

One individual takes issue with the Forest Service's contention that elk require large tracts of land, and requests the Forest Service remove elk as an example of species dependent on large roadless areas. Another recommends the Forest Service use tools such as timber harvest and controlled burns to enhance forage for declining elk herds.

The Forest Service should preserve habitat for all birds dependent on riparian and old-growth habitat, including migrating neotropicals according to a bird watcher from Arizona. Roadless areas on the Tongass, in the opinion of another person, should be protected to provide habitat for the northern flying squirrel which, in their opinion, is at risk under the current Tongass Land Management Plan.

Public Concern: The Forest Service should remove elk as an example of species dependent on large tracts of roadless areas.

Within the document, you use elk, grizzly bears, and wolves as examples of species dependent on large tracts of roadless areas. This is completely false in our area, at least in the case of elk, and I ask that elk be removed as an example in this context. (Individual, Cottonwood, ID - #10567.83500)

Public Concern: The Forest Service should use tools such as timber harvesting and controlled burning to aid declining elk herds.

Idaho Department of Fish and Game Biologists, as well as those serving in the U. S. Forest Service, report low forage quantity and quality throughout many unmanaged areas of the Clearwater National Forest and the Nez Perce National Forests.

Since the early 1900's Clearwater Basin elk herds have declined to half of their former levels and they continue to decline at a rate of 10% per year. Black bears, mountain lions and, now, wolves are having a heightened effect on those depleted elk herds. In some areas, elk are experiencing predator suppression. Disturbance to the land has not been allowed to occur. For elk herds to rebound, the forest must experience timber harvest and controlled burning across a broad range of landscape. Those treatments must be judiciously chosen and professionally carried out. Openings must come to the closed overstory of many forest stands so that elk can have adequate and good quality forage on the winter and summer range. (Environmental/Preservation Organization, Moscow, ID - #13043.90000)

Public Concern: The Forest Service should preserve habitat for all birds including migrating neotropicals.

I have hiked and "birded" over much of Arizona and am very concerned about the destruction that is going on in our riparian and old growth habitats. We must do all we can to save the forests, and preserve habitat for all birds, not only forest species but the neotropicals which migrate through these areas. (Individual, Scottsdale, AZ - #8088.83500)

Public Concern: The proposed rule should ensure protection for the Northern flying squirrel.

I will give one reason why remaining roadless areas in the Tongass must be protected in order for the northern flying squirrel to survive. For the 1997 TLMP, the plan that is currently being used by the Forest Service to manage the Tongass, Alternative 11 was chosen as the preferred alternative. Before making that choice, a risk assessment was conducted for various wildlife species to determine how they would be affected by the level of logging in each alternative. Logging, of course, includes road building. This risk assessment determined the "likelihood of maintaining habitat to support viable and well distributed populations of widely distributed mammals." Under Alternative 11, for the northern flying squirrel, it was determined that, at best, there was an 82% likelihood of maintaining these populations; at worst, there was only a 38% likelihood. For the subspecies on Prince of Wales Island--where much road building and logging has already taken place and is planned for the future--the likelihood estimates were even more alarming. At best, there is less than a 55% likelihood and at worst only an 18% likelihood that viable and well distributed populations of the subspecies will be maintained! Because of habitat fragmentation from logging and road building that is taking place throughout the forest, it can be safely assumed that the northern flying squirrel is already on the low end of these estimates.

These numbers represent unacceptable risks to the squirrel. Now, as you know, in April of 1999, Undersecretary of the Interior Jim Lyons made a final Record of Decision based on Alternative 11, but which also included a number of changes. Some of these changes will result in less road building, less logging, and greater protection for wildlife and other resources. The timber industry claims that Lyons went too far, that no more protection is needed, that

there is enough already. Lyons' decision, however, was mostly a political decision, and not a scientific one. The potential improvements resulting from the changes are purely speculative. There are no new risk estimates provided. There is no new scientific data included in his decision to demonstrate that the northern flying squirrel is really any better off at all. Just for fun, however, let's assume that changes proposed in the Record of Decision WILL raise the lower likelihood numbers for both populations, to, say 50%; up from 38% for the general population, and up from 18% for the squirrels on Prince of Wales. Well, a 50% likelihood is still unacceptable; 60% or 70% would be unacceptable. These numbers simply represent too much risk. And I am sure the northern flying squirrel would agree. The only way to protect the squirrel and all the other animals at risk in the Tongass is to protect all remaining roadless areas.

5.7.2 Effects of Other Activities on Wildlife

In the opinion of many people, active management of the forest is beneficial to wildlife. One writer believes wildlife prefer managed forests to overgrown wilderness areas. Others feel the shrub and grass habitat created through timber harvest provide important feed and cover for wildlife. Citing a University of Minnesota project, one respondent suggests both residual nitrogen and species diversity can be higher in harvested areas. Another advocates managing forest to retain all seral stages in order to support the widest range of species. One group of writers believe road access is an important beneficial element in wildlife management. Several suggest roads provide access for wildlife to feed, and create edge effect, upon which some species are dependent. Others in the group enumerate the benefits of roads for active wildlife management, including population control, endangered species management such as grizzly bear trapping, and rare species discovery, which one writer claims leads to protective measures that would not otherwise have been put in place. Arguing against active management, several respondents fear the desire to manage for particular species and for forest health deprives species of habitat. In addition, one individual argues against using insecticides because of the damage they do to non-target species.

The effects of roads and their uses are topics addressed by a number of people. Some believe the Forest Service should address the effects of motorized and OHV recreation on wildlife, while others believe wildlife are unaffected by either on- or off-road vehicles, including snowmobiles. Several respondents observe that wildlife uses snowmobile trails, which helps them conserve energy. Citing academic studies and the Draft EIS, there are those who argue motorized activity negatively affects wildlife by increasing range of movement in the winter and decreasing the number of offspring produced. Many people claim that they fail to see the negative effects of roads on wildlife, citing personal observations of healthy wildlife populations. In addition, one respondent believes the Forest Service should clarify that it is road construction rather than the road itself that negatively affects wildlife. The effect of trails on wildlife is a concern to some. One person cites studies on the relationship of trails and bird communities to support the assertion that trails adversely affect wildlife. Others argue the Forest Service should reconsider the comparative effects of hikers and motorized users on wildlife, claiming motorized traffic has less effect on wildlife than pedestrians.

A final concern involves the effect of the proposed rule on hunting revenues for wildlife management. One individual fears wildlife may suffer from the proposed rule because roadless designation will reduce hunting and fishing opportunities, and the corresponding license and

equipment revenues which support wildlife management will drop. In addition, this person feels reduced access will lead to overpopulation and winter kill.

Public Concern: The Forest Service should consider the benefits of active management to wildlife.

If you are so concerned about animals in the forests and have a viable habitat for them--then look at where the animals like to live. I live on the West coast and know from personal experience that the animals like managed forests a whole lot more than the wilderness areas which are overgrown with brush and messed up with fallen trees, etc. Open your eyes! (Individual, West Bend, WI - #5716.83500)

BENEFITS OF TIMBER HARVEST

The harvested areas will be beneficial to wild game with the grasses growing in the area until the timber takes over again. (Individual, Great Falls, MT - #2797.83500)

Residual nitrogen can be higher in logged areas and species diversity can be higher in logged areas. There is an ongoing research project at the University of Minnesota comparing fire to logging. (Individual, Gilbert, MN - #3539.83500)

The older any biological entity grows the more it is susceptible to mortality from a variety of natural factors. ... There must be a younger timber growth present to mature into the stages, which will support the dependent species. Contrary to popular preservationist belief, systematic harvesting or removal of old growth is the only way that dependant species can be maintained. (Individual, Pueblo, CO - #2884.83610)

I am a hunter and I have been doing so for many years. In the most recent years I have noticed that the forest land has had less food available for the deer and elk. The clearings caused either by clear cuts or fires have been disappearing because of the growth occurring in the clearing and as this happens the food for the animals disappears and they migrate to the ranchers fields and the high desert. The lack of logging not only displaces the deer and elk, but other critters such as the Western Bluebird lose their homes as well. There needs to be multi layers of tree growth in the forest for all of the critters to survive and if we are to stop logging within this roadless area, we will see some more endangered species. I read recently that there was some concern about Mountain Quail being considered for a threatened status, Mountain Quail like the blue bird needs clearings for their food source. Creating new roadless Wilderness areas is going to create more problems than it solves. (Individual, Portland, OR - #5744.83500)

CLEARCUTTING

We need more clear cutting in our National Forests. As an avid grouse hunter I have noted a decline in bird numbers over the last several years that corresponds to the reduction in clear cutting. Clear cutting and burning are the only way to provide edge covers for wild life (including many birds and animals that are not hunted). I am not advocating cuts that would negatively impact stream or wetlands. Clear cutting can be conducted so that water resources are not damaged. (Individual, Fairfax, VA - #8389.93300)

ROADS

Roadless areas are generally positive for wildlife. However, some species are dependent on the edge effects of roads. Further, there are wildlife benefits that can be derived from planned management of the ... [forests.] (State Elected Official, Cheyenne, WY - #2816.83500)

I do not feel that logging roads or other access roads to the national forests are detrimental to the land. I have hiked and hunted extensively in the Nantahala and Pisgah forests in NC and I find that most logging roads give access for the wild game to grasses and seeds. (Individual, No Address - #2722.80000)

Forest road impacts on wildlife is totally misconstrued. They are needed to manage most species and to limit populations to the capacity of key habitat areas. Otherwise, over population and subsequent population crashes are inevitable. This is in addition to watershed damage that may occur from overuse. (Individual, Pueblo, CO - #2884.83500)

With the preferred alternative in the DEIS we're choosing to further limit our management tools on approximately 60 million acres by prohibiting roads, their construction and reconstruction. Quite often roads are used as tools not only for timber harvest but also for wildlife management. Who in the environmental community would argue roads are not used to access, to track, to trap and transplant grizzly bears, a threatened, listed species. (Timber Company/Association, Bonners Ferry, ID - #21154.10210)

You reference that 500 species are believed to be extinct. How many of these 500 can be directly linked to a road. We submit that if you examine your records you will find more rare species have been located because of road construction and reconstruction than found in areas without roads. This has led to specific protective measures that would not have otherwise occurred. Therefore the fact there is a road has led to more known sites being protected, studied and possibly recovered that in areas without a road. Every discussion under headings in your "Proposed Roadless Characteristics" (proposed Rule A-12 thru A-15) have similar flaws. Use your own site specific environmental records to substantiate or refute the statements. (Timber Association, No Address - #52501.82000)

Public Concern: The Forest Service should evaluate the negative effects of active management on wildlife.

The current forest fire dilemma in the southwest may lead to some unfortunate decisions. The desire to 'improve' forest health by removing standing dead trees and clearing brush ignores the fact that over 40 species nest in these trees, and decay adds nutrients to the forest soil. (Individual, No Address - #1637.83530)

I would support an undisturbed old-growth mix of wildlife populations rather than selected birds, game and other animals through vegetative manipulation. (Individual, Corvallis, OR - #5157.83610)

INSECTICIDES ON NATIONAL FOREST SYSTEM LANDS

Please protect all forest in Oregon, on both sides of the Cascades. Please reconsider use of St sprays on Tussek moth. It kills many other moths and butterflies as well. (Individual, Eugene, OR - #5928.83400)

Public Concern: The Forest Service should address the effects of motorized and off-highway vehicle recreation on wildlife.

NO NEGATIVE EFFECT ON WILDLIFE

It has been my experience that wildlife is not threatened by snowmobilers ... as they do not recognize them as people until they get off the machines, at which point they will sometimes take off, not very far, but away. (Individual, Boulder CO - #2995.83500)

No studies that I'm aware of have show negative effects on wildlife from the presence of off-highway vehicles. It seems to be more of an effect on the aesthetic sense of those who don't like OHVs. (Individual, Minneapolis, MN - #3479.83500)

One of your points for banning snowmobiles is that it negatively impacts the wildlife in the area. I have just the opposite, where the deer and moose in the area are taking advantage of a trail made by a snowmobile. I've seen tracks of both deer and moose along a freshly groomed trail, walking around downed trees in the trail and not stepping off into the deep snow for a long ways. Most animals take the path of least resistance, and we're giving them that path. Harsh winters will have less impact on the wildlife if they are able to take an easier path, and spend their energy only when needed. (Individual, Sagle, ID - #7113.83500)

NEGATIVE EFFECTS TO WILDLIFE

Studies demonstrate the effects of increased motorized off road traffic on wildlife. For example, Dorrance et al (1975) found that home range size and daily movement of white tailed deer increased with increasing snowmobile activity in Minnesota. Yarmoloy (1988) found that mule deer experimentally harassed by ATVs produced fewer offspring the following year. Also, excessive motorized vehicle activity encouraged by extensive road systems degrades the quality of experience for many public lands user such as hunters, fishermen and non-consumptive wildlife users. (State Agency, Santa Fe, NM - #17300.91000)

In the Forest Service Roadless DEIS the FS states: "Comments should reference their [the FS] faulty logic as follows: 4. OHV's can be prohibited from roadless areas on a national level because they do significant damage to the roadless areas through introduction of exotic weeds, pollution, and soil compaction." We would hope that the FS would extend its concern beyond the forest itself to include the impact of OHVs on wildlife living in this habitat. (Individual, Nevada City, CA - #8462.83500)

Public Concern: The Forest Service should consider that wildlife is not negatively impacted by roads.

I would challenge anyone to show me where there is more wildlife in a wilderness area than a non-wilderness area. If you will get out and look you will find that most wildlife rather likes to hang around roads. (Individual, Mitchell, OR - #1257.83500)

One of the arguments for keeping areas roadless is that roads will disrupt wildlife and their habitat. Here again, what has taken place on the upper Rio Grande makes this idea suspect at best? Many new roads have been built in the last part of the 20th century over much of the area but the wildlife continues to thrive. We have the largest deer, elk and bear populations ever in spite of increased hunting pressure and kill. Non-game wildlife also is doing well and introduced species such as moose are increasing in population. (Individual, Monte Vista, CO - #6802.83500)

Public Concern: The Forest Service should clarify that it is road construction rather than the road itself that negatively affects wildlife.

In response to public statements concerning the belief that wilderness and national forest road-use disturbs wildlife: The concern is not that the use of the roads disturbs wildlife, it's the building of the roads that disturbs wildlife. Blasting, bulldozers, chainsaws, trucks, these are the things that are detrimental to wildlife and the environment in general. (Individual, Bozeman, MT - #9412.83500)

Public Concern: The Forest Service should consider the impacts of trails on wildlife.

NO NEGATIVE EFFECTS TO WILDLIFE

It's quite possible that wildlife flourishes because of the trails maintained by snowmobilers. These same trails are there for the enjoyment of all Winter sports enthusiasts. (Individual, Hudson, NH - #227.83500)

NEGATIVE EFFECTS TO WILDLIFE

Recent studies demonstrate that even trails have an impact on wildlife. For example, Recreational Trails and Bird Communities (Miller & knight 1995) was a study of habitat preference and selection in forest and grassland habitats seeking to determine whether species diversity, composition, and abundance differed along trails as compared to areas away from trails, and whether rates of nest predation and brown-headed cowbird parasitism differ along trails

compared to habitat away from trails. We believe that adverse impacts attributed to trails can only be far worse along roads. (Environmental/Preservation Organization, Davis, CA - #29925.83500)

Public Concern: The Forest Service should reconsider the comparative effects of hikers and off highway vehicles on wildlife.

Vehicle closures are not necessary to the emotional health of the wildlife. Although the green groups claim that off road motorcyclists terrorize wildlife, especially elk, my own experience has shown the exact opposite. I seldom see elk when hiking or cross country skiing. I see them frequently when riding my off road motorcycle and they don't run away. At first blush this may seem incredible, and certainly counter-intuitive. However, from an elk's point of view, it makes perfect sense. He has been SHOT AT by hikers (hunters). He has never been shot at by dirt bikers. When a hiker stealthily approaches on foot, it elicits the same reaction as a hunter. When I approach on my motorcycle, the elk hears me coming and knows I am not sneaking up on him. I have both hands in plain view and clearly occupied with the cycle. He can tell I am harmless. I have tested this theory by stopping, which does cause the elk to trot away, and by reaching into my pocket for a camera, which causes them to run. (Individual, Albuquerque, NM - #16182.83500)

Do you realize that many of the off road clubs and motorcycle clubs do more for animal trails and the environment than the majority of forest users. Our groups are constantly maintaining trails and improving the environment we use. And several studies show that motorized uses DOES NOT ADVERSELY EFFECT animals in these areas. The animals are not nervous because they can hear us coming and move out of the way if they choose. They are more likely to be spooked by a normal hiker that they cannot hear. (Individual, 16201.83500)

Public Concern: The Forest Service should consider the effect of the proposed rule on hunting revenues for wildlife management.

Wildlife will suffer. Since sportsmen contribute most of the conservation money via taxes on hunting, fishing and camping equipment, if there are fewer opportunities to hunt and Fish people will stop buying sporting goods. Therefore reducing money necessary for conservation. Forests that are not harvested become too thick to support deer, and other wildlife. These forests are more prone to burn and therefore kill wildlife by reducing the carrying capacity of the land and direct deaths by fire. Decreased hunting pressure will lead to overpopulation and increased winter-kill as hunters lose access to public land. This will make wildlife management much harder and less effective. (Individual, Bigfork, MT -#10834.83500)

5.7.3 Adequacy of Analysis of Wildlife

Adequacy of analysis for wildlife is a concern addressed by several respondents. The Forest Service should conduct species-specific inventories of roadless areas, according to one individual, who feels there is not enough information about the species and other roadless area resources to make informed local decisions.

Another respondent believes roadless designation will lead to increased wildlife populations, which in turn will lead to increased vehicle/animal collisions. This individual maintains this is a safety issue the Forest Service has failed to analyze.

One person argues the Forest Service has insufficient information to demonstrate a connection between poaching and road access.

A final writer believes a new NOI should be developed which includes an analysis of wildlife implications for early successional species.

Public Concern: The Forest Service should conduct species-specific inventories of roadless areas.

There is not enough specific information about the content of the forests within the proposed roadless area to make an informed decision. The DEIS does not indicate the specific species and content of the proposed roadless area except to indicate that these areas do not have roads. When I asked for the specific economic effect the Roadless Initiative would have upon the timber related industry in the Chequamegon-Nicolet National Forest areas, the personnel I spoke with at the Park Falls, WI National Forest Office indicated that information was not available. He was not sure exactly what was in the proposed roadless areas, but assured me that an inventory would be done when the Roadless Initiative was passed. How can an area be managed if its content is unknown? Perhaps in the future, there will be a need for a new road in the proposed roadless area. The Roadless Initiative would prevent this. I am of the opinion that decisions should not be made without adequate information. (Individual, Stratford, WI - #11336.33300)

The Forest Service should make new species surveys to prevent any species from becoming extinct, and to evaluate the effects and impacts of any logging on each specific species of wildlife, birds, small mammals, fur-bearers, herpetofauna, amphibians, aquatic invertebrates and all varieties of vegetation in the forest and which would be impacted by logging proposals and any other action. The Forest Service would otherwise be failing to adequately explain to the public the significant impacts to the environment and be failing to define pertinent, relevant facts used for decision making by the public. The Forest Service must evaluate the inventories of the project specific sites, monitor for soil richness, watershed sedimentation, wildlife species concentrations and quality and specify current biodiversity, before any logging and burning actions. The Forest Service must monitor for changes in soil richness, watershed sedimentation, wildlife species losses, and decline in biodiversity. All roadless areas should be identified, inventoried, and preserved as roadless areas to prevent any changes in the fire prevention characteristics of the roadless areas, which would increase the chance of wildland fire. (Environmental/Preservation Organization, Weldon, CA - #16041.82000)

Public Concern: The Forest Service should address the potential increase for vehicle/animal collisions.

Wildlife populations should increase from this proposal and it is possible the human populations will be more concentrated in linear locations along the established highways. It is possible then that there will be an increase in vehicle/animal collisions which is a human safety issue that was never addressed or analyzed in the DEIS. (State Agency, Cheyenne, WY - #15885.70000)

Public Concern: The Forest Service should demonstrate the connection between poaching and road access.

Just because the Wilderness Society alleges such a thing in its mailings regarding the Targhee NF doesn't make poaching a widespread threat. The Forest Service must fully study poaching rates and present tangible evidence that poaching and roads are in fact interrelated sufficiently to impact game populations. (Individual, Whitefish, MT - #30417)

Public Concern: The Draft EIS should include an analysis of wildlife implications for early successional species.

If the Forest Service insists on going forward, a new NOI should be developed that includes wildlife implications for early successional species. (Individual, Titusville, PA - #905.83500)

5.8 Habitat

Those who commented specifically on habitat supported protection. One respondent feels the Forest Service should protect the uninterrupted habitat required by such species as fisher, wolverine and lynx by prohibiting timber harvest. Another maintains that critical habitat in sizes of 1,000 to 5,000 acres should be protected for the benefit of watersheds and endangered fish populations. A third respondent supports protecting low elevation roadless areas as valuable winter range. Several people endorse protecting roadless areas for wildlife dependent on undisturbed habitat such as old growth and interior forest. These areas are dwindling in numbers, and their protection could ensure the future viability of many species according to these respondents. Another writer believes the Forest Service should recognize the importance of forests as the principal habitat for pollinators, which contribute billions of dollars to the agriculture industry. A proponent of limited management suggests the Forest Service allow active management for special exemptions such as ground bird habitat.

In addition to these general concerns, respondents' comments are divided into two subsections: Subsection 5.8.1 Effects of Other Activities on Habitat; and Subsection 5.8.2 Adequacy of the Analysis of Habitat.

Public Concern: The Forest Service should protect animal habitat by prohibiting timber harvest.

Many creatures that need old growth forest and/or large uninterrupted forest (fisher, lynx, wolverine, etc.) are in decline. Commercial logging via cable, helicopter or any other means would destroy the last place that these animals can survive. (Individual, Bend, OR - #6749.83500)

Public Concern: The Forest Service should protect roadless areas greater than 1,000 acres but less than 5,000 acres as critical habitat.

I do not know the exact amount, but I would estimate that some 6 million unroaded acres exist, in patches that are greater than 1000 acres, but less than 5000 acres. These areas are critical as habitat, especially in areas that are already fragmented. Unless they are protected, great damage to watersheds could result in places where fish populations are already on the brink of extinction. (Individual, Philadelphia, PA - #17539.83100)

Public Concern: The Forest Service should protect low elevation roadless areas as valuable winter range.

Many of the areas which still are roadless include many valuable lower-elevation lands which are valuable ecologically. While many high-elevation alpine areas in Colorado are protected as wilderness, areas such as the

troublesome roadless area and the Badger-Creek area contain valuable tracts of lower elevation lands, lands in which many species reside during the winter months. (Individual, Denver, CO - #7362.83422)

Public Concern: The Forest Service should protect roadless areas for wildlife dependent on undisturbed habitat.

More importantly, these roadless areas have become critical habitat for a myriad of endangered species and other wild creatures that require undisturbed areas in order to complete their life cycles. You must take stronger action to protect these areas. (Individual, Sonoma, CA - #1621.83500)

I must feel that the remaining roadless areas on our national forests should largely remain intact to try to preserve wildlife habitat and the habitat qualities that plantations do not provide. (Individual, Columbia City, OR - #2715.83500)

OLD GROWTH

I am a wildlife biologist who works in Lassen National Forest. We need to have our last remaining Roadless areas adequately protected from development. The last remaining Roadless areas are the final bastions of habitat for many species of wildlife which are dependent on undisturbed old growth habitat. Without such areas being protected the future viability of such populations would be in jeopardy. (Individual, Chester, CA - #6005.83500)

INTERIOR FOREST

To keep these areas unfragmented by roads will go a long way toward the protection of species which require interior forests for successful reproduction and survival. (Individual, Nederland, CO - #5751.83421)

Public Concern: The Forest Service should recognize the importance of forests as the principal habitat for pollinators.

As the principal habitat for thousands of pollinators, national forests may contribute as much as \$4 billion to \$7 billion to U.S. agriculture. (Individual, No Address - #13933.83000)

Public Concern: The Forest Service should allow active management for special exemptions.

GROUND BIRD HABITAT

The only exception should be the removal of some timber to enhance the environment of ground birds. (Individual, Falmouth, ME - #5569.84200)

5.8.1 Effects of Other Activities on Habitat

One of the most pervasive effects on habitat, according to one respondent, is that of human encroachment on low elevation winter range, which is rapidly disappearing as ranches and other open space are developed. An additional management problem is the effect of the shape of roadless and unroaded areas on interior habitat, according to another person. This individual endorses round, self buffering areas rather than oblong or irregular shapes which increase edge effect.

Public Concern: The Forest Service should consider the effects of human encroachment on wildlife's winter range.

Unfortunately, when lands were originally set aside as public domain there was often inadequate provision for wildlife winter range. This region of our nation has more recently come under intense pressure as the popularity of mountain home or ranchette living has blossomed. The modern concept of being successful is building an expansive homesite on a ridge overlooking forest land - all bazillion acres of it!

Ranchland in the past often supplemented wildlife's need for winter range. Today many of these ranches are being sold, subdivided and will never again provide needed open space or winter range. Unfortunately, a large number of the people who are coming into our area are looking for 2nd homes and are not content with living in town. (Individual, Buffalo, WY - #6626.71220)

Public Concern: The Forest Service should reshape roadless areas to mitigate the effects of adjacent disturbed areas and maximize interior habitat.

The shape of a roadless and unroaded areas also has a significant impact on their ability to support biodiversity, particularly for those species that require interior forest habitat, such as songbirds. Roadless areas that have a rounded shape provide the best and most secure habitat for wildlife. Rounded areas inherently have a self-buffering effect from the negative ecological effects of roads and disturbances associated with them (commonly referred to as an "edge effect"), and thus provide more effective interior habitat. Areas that are narrow, oblong or have "fingers" created by cherrystems provide less effective interior habitat and are more susceptible to edge effects. These areas should be "rounded out" wherever possible so as to prevent edge effects from penetrating into the interior of roadless areas. Multiple intrusions into roadless areas that create "fingers" should be eliminated, so as to increase the effective habitat available. These thinner areas, or "fingers" are still crucial to protect in many cases because of their contribution to the overall landscape connectivity. (Environmental/Preservation Organization, Albuquerque, NM - #43737.83500)

5.8.2 Adequacy of Analysis of Habitat

The final plan should include an analysis of the effects on big game winter range both within and adjacent to roadless areas, according to a timber industry representative. A state agency accuses the Forest Service of using selective data to support the case for road prohibition and neglecting any discussion or comparison of the benefits of managed versus unmanaged forests. A recreational organization and a county official both advocate conducting site specific analyses of the effects of roads in the different alternatives on habitat effectiveness for local species prior to any changes in management. They go on to recommend the Forest Service develop a range of road closure alternatives that would still allow a full range of forest management activities. Lastly, there is a recommendation the Forest Service conduct and support research to provide a better understanding of the effects of habitat degradation.

Public Concern: The final plan should include an analysis of the effects on big game winter range.

What were the results of the analysis of this proposed rule on the big game habitat for both summer and winter range within and/or adjacent to this roadless area? (Timber Association, Eugene, OR - #15879.83500)

Public Concern: The Forest Service should compare the effects of roadless areas and managed forest on wildlife, using comprehensive wildlife data.

The alleged benefits of roadless areas to terrestrial wildlife are detailed (pages 3-69 to 3-73), but there is little documentation (one-half sentence on page 3-72) of the comparison to managed forests, which, in some cases, may actually provide better wildlife habitat conditions. In fact, there is a selective use of the literature to build the case for road prohibition. While "remoteness from human activity is a key characteristic of black bear habitat" is stated (page 3-70), Georgia black bear data indicate that forest roads are not a deterrent to bears, and may in fact provide critical soft mast during years of hard mast shortage. Similarly, the effects analysis for hunting and fishing (pages 3-173 and 3-174) described the adverse effects of the no-action alternative on some wildlife species, but failed to describe the beneficial effects of a managed forest on other wildlife species such as white-tailed deer and wild turkey. (State Agency, Social Cir, GA - #13974.83500)

Public Concern: The Forest Service should base any proposed changes to the management of roads in roadless areas on the potential site specific effects of roads on habitat.

There exists a wide range of Forest resource outputs derived from roadless area characteristics, such as big game habitat capability needs. Some of these thermal, safety, travel and escape habitats are in blocks of 1,000 acres or less and are important support elements to seasonal big game use patterns. Therefore, prior to taking FS actions that degrade wildlife habitat capability through changing any roadless areas to a roaded ROS, a site-specific analysis should be developed under NEPA Process and Forest Plan guidance. (Recreational Organization, Dardanelle, AR - #19474.83500)

COMMENT: Page 30-72, fourth paragraph--A current and projected road density by alternative would be very helpful for evaluating effects. Most studies evaluating habitat effectiveness have concluded that open roads account for the greatest decline in habitat effectiveness (Lyons and others 1982). These and other studies have found that road closures (even seasonal) restore habitat effectiveness to their original levels.

RELIEF: The Forest Service must display current and projected road densities to effectively evaluate habitat effectiveness for local species. Then, they must determine the effectiveness of a full range of road closure (seasonal, year-long, etc.) alternatives that allows for road construction, reconstruction, and timber harvest. (County Elected Official, Basin, WY - #43980.64400)

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

The USFS needs to provide solid, ongoing support for research in order to provide for a better understanding of the effects of habitat degradation (Individual, Pelican, AK - #7179.83510)

5.9 Connectivity and Fragmentation

Habitat connectivity is a significant concern to a number of people. Some are distressed by the ongoing fragmentation of the landscape, and recommend mitigating measures such as including small roadless areas to collectively create interconnecting habitat. One individual feels the connectivity of roadless habitat on the Tongass National Forest is at higher risk than in other areas because the landscape is naturally fragmented, and therefore less resilient to further fragmentation. Others are concerned the Forest Service has wrongly concluded the effects of fragmentation are the same in alternatives 2 and 4, and recommend adopting alternative 4 and

incorporating data from metapopulation ecology in their decision making process. Another individual demands the Forest Service develop a management plan that assures wildlife corridors between key wilderness areas within an ecosystem regardless of roadless inventory status.

In addition to these general concerns, respondents' comments are divided into two subsections: Subsection 5.9.1 Effects of Other Activities on Connectivity; and Subsection 5.9.2 Adequacy of the Analysis of Connectivity.

Public Concern: The Forest Service should protect roadless areas for habitat connectivity.

My family has resided in the Pacific Northwest since 1979 and has witnessed the continued erosion of our quality of life. Where there were once large tracks of wilderness land to tent camp and hike in, now are clear cuts and endless roads cutting off passageways and migration routes of wildlife that have existed since time began. We are deeply hurt and affected by the decrease in diversity in the area. What few bears and cougars are killed on sight in the name of safety for humans, which should not be in these once remote areas. (Individual, Vancouver, WA - #1509.92000)

BY INCLUDING SMALLER INTERCONNECTING AREAS

I am concerned that the Draft Roadless Areas Policy currently circulating for comment does not include protection for the multiple small parcels of roadless tracts that collectively comprise critical interconnecting habitats for many species struggling to survive in our National Forests. (Individual, Portland, OR - #3126.83500)

BY ADOPTING ALTERNATIVE 4

The DEIS is correct to define "fragmentation" as the "breaking up of large areas of forest by human activities into many smaller tracts separated by different landscape elements." The DEIS goes on to discuss the importance of "connectivity" and concludes that "Habitat in roadless areas is generally less fragmented and better-connected than in roaded areas of similar size."

The DEIS is absolutely right to state that "Roads are a major contributor to forest fragmentation."

At the same time, the DEIS is wrong to conclude that "The effects of ecosystem health from fragmentation and loss of connectivity are the same as under Alternative 2."

If ribbons of road fragment forests (and they do), then broad swaths of tree harvesting even more drastically fragment forests (even in the absence of roads where logging is conducted by helicopter or forwarder).

For wooded NFS roadless areas, the USFS must conclude that Alternative 4 is the best.

(The USFS consideration of this issue would be even stronger if it considered the important new interdisciplinary field of "metapopulation ecology" that marries population genetics, landscape ecology, and conservation biology. Metapopulation ecology reveals the serious genetic consequences of inbreeding depression in wildlife populations in fragmented landscapes. Consideration of fragmentation in the light of metapopulation ecology would provide even stronger justification for Roadless Conservation in general, and for Alternative 4 in particular.)

(Environmental/Preservation Organization, Laramie, WY - #31993.82000)

IN THE TONGASS

In a naturally fragmented landscape, such as the Tongass, there are heightened concerns regarding fragmentation, isolation of populations, and local population extinctions (USDA 1997 d). Under these conditions, unroaded areas may play a critical role in maintaining biological integrity. Unroaded areas help provide adequate quantity and quality of habitat, connectivity between habitat, and greater likelihood that populations will not be further isolated from one another. Because ecosystems in naturally fragmented landscapes may be less resilient to further fragmentation, the loss of unroaded areas may pose a considerably higher risk to species existence and persistence. P. 3-229 paragraph 2. (Individual, Troy, MT - #2885.83421)

Public Concern: The Forest Service should develop a management plan that assures wildlife corridors between key wilderness areas.

It is imperative to protect the roadless character of all areas in the greater Yellowstone Ecosystem, especially in the Gallatin Range, regardless of the Forest Service's inventory status of those roadless areas. I urge a management plan that assures wildlife corridors between the key wilderness areas of this ecosystem (for example, Yellowstone National Park, Absaroka-Beartooth Wilderness, and Lee Metcalf Wilderness) and the neighboring important habitat areas of the Gallatin Range, the Tobacco Roots, and the Crazy Mountains. These roadless area policies are necessary to protect water quality, wildlife, and fisheries. (Individual, Bozeman, MT - #8632.83421)

5.9.1 Effects of Other Activities on Connectivity

The majority of the effects concerns for connectivity and fragmentation are covered in the broader effects categories under habitat and wildlife. One individual strongly recommends the Forest Service consider the fragmentation effects of roads.

Public Concern: The Forest Service should consider the fragmentation effects of roads.

Roads fragment habitat from wildlife. Nearly every science based study between roads and wildlife show that wildlife need roadless areas for sanctuary, survival and undisturbed migration and movement. On the Bridger-Teton, we're talking about preserving unfragmented forest land that will help grizzly bear recovery, as grizzly bear death in roaded areas is five times as likely as in non-roaded areas.

We're talking about protecting wild lands that will help wolves return to -- return to and thrive in our ecosystem. Roads -- wild lands that will protect elk migration paths and important calving grounds. We're talking about preserving forests across the country from the costs of ill conceived and ill designed roads that have caused us to lose fisheries, to lose other wildlife, to lose water quality and even to lose forest to landslides and human-caused fires. (Individual, Jackson, WY - #21784.83000)

5.9.2 Adequacy of Analysis of Connectivity

Comments regarding the adequacy of analysis and recommendations for additional analysis are explicit with regard to fragmentation and connectivity. One conservation organization believes the Forest Service should include in its road fragmentation analysis federal, state, and county roads crossing forest land in order to more accurately assess the effects of roads on connectivity. A county official questions the validity of using the grizzly bear, which has a restricted range, as a habitat fragment indicator on a nationwide scale. The official continues, recommending the Forest Service use road densities, patch sizes, and major barriers rather than species to calculate the effects of the proposed rule on fragmentation. Another conservation organization requests the Forest Service more clearly distinguish between natural disturbance events and human caused fragmentation, which they feel differ in many ways from each other. They also request the Forest Service adopt Alternative 3 or 4 based on the superior treatment of fragmentation effects. A final concern from a county official regards inconsistent units of measure in the analysis of fragmentation effects. This individual requests the Forest Service clarify its comparisons and use consistent units of measure when addressing fragmentation.

Public Concern: Road fragmentation analysis should include federal, state, and county roads.

On page S-4, (and wherever else it is found in these documents), the FS has more than 500,000 miles of roads in the NF, since county, state, and federal roads must also be counted. So fragmentation and road impacts are even worse than portrayed. (Environmental/Preservation Organization, Bellaire, TX - #13951.83421)

Public Concern: The Forest Service should avoid using grizzly bear recovery potential as a measure of effects of the proposed rule on fragmentation.

Comment: Page 3-58, fifth paragraph-- To use Grizzly bear recovery potential as a measure of the effects of the proposed alternative on fragmentation is analogous to using coyote populations to “measure” the health of the sheep industry. A much better “measure” would be a disclosure of predicted road densities, average patch sizes on a large scale and major barriers such as interstate highways and urban areas. This data is available through sources such as the U.S. Fish and Wildlife Services’ “GAP” Analysis Maps. It is also questionable to use the restricted range of the Grizzly bear as a habitat fragmentation effect indicator for the hundreds of vastly different species nationally, including such species as narrowly distributed endemic snails that might or might not be affected by fragmentation. Relief: The Forest Service must address fragmentation using the factors identified above at the local level and avoid using species, such as the Grizzly Bear and snails, which may not represent the majority of roadless area impacts. (County Elected Official, Worland, WY - #16185.83421)

Public Concern: The proposed rule should more clearly distinguish between natural and human caused fragmentation.

There is overwhelming evidence documenting forest fragmentation as a root cause to the decline of biodiversity both globally and nationally (see Wilcove et al. 2000, Debinski and Holt 2000 for recent review). Wilcove (et al. 2000) estimates that habitat degradation and destruction, including forest fragmentation, is the single greatest contributor responsible for listing species under the Endangered Species Act--accounting for over 80% of all listings. While the DEIS reviews some of the relevant literature on forest fragmentation, it inadequately distinguishes between habitat fragmentation and its underlining anthropogenic causes vs. habitat heterogeneity caused by natural disturbances. This distinction is important because natural disturbance events differ in many ways from anthropogenically-caused habitat fragmentation. As an example, natural disturbances tend to produce landscape mosaics in a dynamic state of equilibrium with continuous recruitment of the full range of seral states as well as the retention of many more legacy components than clearcuts and other anthropogenically-caused disturbances. The long-term consequences of human-caused fragmentation include a tendency to flip the matrix from a continuous forest with scattered openings to a sea of clearcuts with isolated forest patches. These difference in disturbance mechanisms and ensuing landscape matrices are responsible for a large number of species that have declined from the cumulative impacts of timber harvesting, road building, and other human-caused disturbances, including large carnivores, interior dwelling species, and native salmonids.

While the DEIS acknowledges effects of forest fragmentation on ecosystem values and services, the preferred alternative allows for many fragmentation to proceed (albeit at lower levels than No Action but still significant), particularly those same activities that are acknowledged as having significant impacts to ecosystem values (logging, mining, and road building). More importantly, the DEIS erroneously concludes that there are no substantial differences in forest fragmentation under Alternatives 2-4 yet levels of logging and road building are clearly different among alternatives. THEREFORE, WE REQUEST THAT THE EIS MORE CLEARLY DISTINGUISH BETWEEN NATURAL AND ANTHROPOGENICALLY CAUSED HABITAT FRAGMENTATION AND ELEVATE THE IMPORTANCE OF MITIGATING CUMULATIVE IMPACTS BY ADOPTING ALTERNATIVE 3 OR 4 BECAUSE OF THEIR SUPERIOR TREATMENT OF FRAGMENTATION EFFECTS. (Environmental/Preservation Organization, Ashland, OR - #13522.83400)

Public Concern: The Forest Service should use consistent units of measure when addressing fragmentation.

Comment: Page 3-57, third paragraph-- The section on Fragmentation makes some erroneous statements. On Page 3-57, No Action, the document states that "More than half of the timber harvest volume is expected to be from clearcutting...Clearcutting is an important cause of biodiversity loss." This is misleading and contrary to other statements on Page 3-114 that states "Nationally, clearcutting has decreased from 31% of total harvest acres in 1989 to only 10% in 1997." One statement uses "volume" and the other "acres." However, using "volume" figures makes the impact sound more severe. Relief: The Forest Service must be clear in the comparisons and use consistent units of information. (County Elected Official, Worland, WY - #16185.83421)

5.10 Aquatic Wildlife

Concerns regarding aquatic wildlife are almost all about road impacts, habitat, and specific species. The Forest Service should prohibit or improve road-building to protect aquatic species according to several respondents. They cite Forest Service data showing 80% of forest culverts as inadequate for juvenile fish passage, and State of Alaska data indicating culverts can be installed in such a way to permit passage of juvenile salmon. One individual suggests paying timber contractors to repair or close roads in the course of their work in order to protect fish stocks. Another concern involves the effectiveness of habitat draining late-successional and old-growth forests. Citing a variety of sources, one group endorses protecting this habitat type as supporting a high degree of biological integrity, high biomass and fish densities.

Several writers are concerned with the management of particular aquatic species. One individual contends that habitat restoration is the key to salmon recovery. Others argue the Forest Service should prioritize funding to repair culverts blocking salmon passage. A conservation organization from Tennessee recommends roadless designation for the Wolf river on the Holly Springs National Forest to protect endemic species of freshwater mussel.

In addition to these general concerns, respondents' comments are divided into an additional subsection: Subsection 5.10.1 Effects of Other Activities on Aquatic Wildlife.

Public Concern: The Forest Service should prohibit road-building to protect aquatic species.

In an area that is incredibly delicate, in regard to the issue of runoff, etc., it no longer makes sense to continue road-building when your own statistics recently have shown that four-fifths of your culverts are inadequate for allowing the passage of juvenile fish. (Individual, Juneau, AK - #7111.83510)

Public Concern: The Forest Service should improve road building practices to protect fish stocks.

PVOA believes that appropriate levels of logging and roading can be designed to be compatible with fisheries habitat protection. PVOA is still committed to protection of fisheries habitat from activities in the Tongass such as timber harvest and roading. A soon-to-be-released State of Alaska study indicates that roadbuilding practices in the

Tongass could be improved to allow for improved fish passage for juvenile salmon through culverts. (Business, Petersburg, AK - #7542.83510)

BY PAYING TIMBER CONTRACTORS TO REPAIR OR CLOSE ROADS

[In the Tongass] There are existing roads that need repair to prevent damage to fish stocks due to faulty drainage. Why not pay the construction companies that are part of the logging operations to repair or close these roads and thereby protect fish stocks. (Individual, Tenakee Springs, AK - #8123.83510)

Public Concern: The Forest Service should protect the aquatic habitat associated with streams draining late-successional and old-growth forests.

“Streams draining late-succession and old-growth riparian forests displayed a gradual, but significant increase in [LWD] loading”; (“Instream large woody debris loading and riparian forest seral associations in the southern Appalachian Mountains”, Hedman, Van Lear, Swank, *Can. J. For. Res.* 26: 1218-1277 (1996)). “[T]rout always used units that had the most LWD. In the absence of high fishing pressure, streams with large amounts of LWD appear to support higher trout density and biomass than streams with little or no LWD.” (“trout Use of Woody Debris and Habitat in Appalachian Wilderness Streams of North Carolina”, Flebbe and Dolloff, *N.A. Journal of Fisheries Management* 15: 579-590 (1995); research by FS biologists, incorporated by reference). Research in areas lacking roads and with minimal levels of human disturbance reveals that “the importance of wilderness in aquatic conservation is extraordinary’ [quoting Hitt and Frissell (1999)] ... They also concluded that, given the relative rarity of unprotected areas that support a relatively greater degree of aquatic biological integrity, undisturbed areas warrant permanent protection.” (DEIS 3-80). (Business/Business Association, Staunton, VA - #29919.83510)

Public Concern: The Forest Service should acknowledge that science supports the restoration of habitat as the key to the salmon fisheries recovery.

It is now clear, and supported by the vast majority of science, that restoration of habitat is the key to salmon recovery, without it the sacrifices made by fishing communities from California to Alaska will all be for naught. (Individual, Bellingham, WA - #9694.83510)

Public Concern: The Forest Service should maintain roads to improve salmon resources.

According to information provided to us a substantial portion of the currently established forest roadways are not safeguarding the salmon habitat. In a survey of 163 salmon streams [road] crossing half of the culverts failed to allow juvenile salmon to pass through. Rather than build new roads it would seem that the Forest Service needs to spend funds and effort to properly maintain existing roadways in a manner that will preclude damage to the salmon resource. (Environmental/Preservation Organization, No Address - #9352.83510)

A recently released Forest Service report reveals serious problems with road crossing on Tongass fish stream. The annual Monitoring & Evaluation Report for FY 1999 revealed the results of a survey of 265 Class I (salmon) streams and 546 class II (trout) streams. Of the 163 passing juvenile fish, while over half did not, and the remaining one-third may or may not meet fish passage standards. Of the 488 Class II streams surveyed with culverts, less than one-tenth met fish passage standards, while close to four-fifths did not, and the remainder may or may not pass fish. Instead of spending more taxpayers dollars to plan money-losing timber sales in roadless areas, the Forest Service needs to spend its budget on restoring and maintaining the existing road system. (Individual, Juneau, AK - #52964.83510)

Public Concern: The Forest Service should protect the freshwater mussel populations of the Wolf River in the Holly Springs National Forest through roadless designation.

The upper reaches of the Wolf within Holly Springs National Forest also host a diverse population of freshwater mussels. Species such as, *Q. pustulosa*, *T. verrucosa* and the only known Mississippi location of *Elliptio dialtata* exist on the Wolf River in Benton County Mississippi. Roadless area designation would greatly help the protection of these species by limiting ORV use of streams as crossing points and actual pathways. (Conservation/Preservation Organization, Memphis, TN - #25572.83510)

5.10.1 Effects of Other Activities on Aquatic Wildlife

The Forest Service should address the effects of poor forest management on aquatic resources, according to some. One individual believes poor forest management in Alaska has caused mass wasting, destroying estuaries, crab and shrimp nurseries, and salmon producing streams; and recommends stringent road building and logging standards to alleviate the problem. Another argues destruction of the salmon streams affects the viability of bear populations. Additionally, there is concern about the magnitude of illegal introduction and harvest of fish species.

Public Concern: The Forest Service should address the effects of poor forest management on aquatic resources.

Salmon fishing is a valuable forest-dependent industry in Alaska and in some coastal communities has historically been the only industry. Sediment washed down from poorly managed forests can destroy estuaries, drown out crab and shrimp nurseries, lead to or exacerbate flooding of coastal areas, and kill salmon production entirely. Poor forestry practices in the past have stripped protective vegetation from salmon producing streams, elevated water temperatures to the point where salmon die, and channelized river systems so badly that they may take generations to naturally recover. In many cases, the health of forested watersheds determines the health of our near shore fisheries and the economic future of our communities. For this reason stringent road building standards need to be in place to maintain high quality fish and wildlife habitat. And funding linked in any timber sale plan to safeguard stricter logging standards set for road building. (Individual, Pelican, AK - #7179.83510)

We need to realize that road building often, unintentionally DESTROYS OR AT LEAST COMPROMISES STREAMS AND RIVERS WHERE TROUT AND SALMON RUN TO BEAR OFFSPRING. Is it true that 50% of the fish in some of the Tongass National Forest streams that have been affected by road building are being compromised? (Individual, Milwaukee, WI - #8060.83510)

2468.ENVIR.918 Public Concern: The Forest Service should expound on the magnitude of illegal introduction and harvest of fish species.

Paragraph 4. The statement is made that "Illegal introduction and harvest of fish species are also less likely to occur in these areas due to lack of ready access." Comment: What does this statement mean? How big is the problem of "illegal introduction and harvest of fish species?" I cannot assess this threat without some kind of rate of occurrence or probability of occurrence of this. (Environmental/Preservation Organization, Davis, CA - #29925.83400)

5.11 Threatened and Endangered Species

The Forest Service should protect roadless areas as threatened and endangered species habitat, many contend. The grizzly bear, grey wolf, salmon, and spotted owl are all listed by these respondents as species requiring the type of habitat roadless areas provide. Some argue the Forest Service will continue to degrade endangered species habitat in roadless areas if timber harvest and mining are permitted under the proposed rule. Others endorse protecting threatened and endangered species on the Tongass by targeting their habitat for roadless area protection. Several people contend the Forest Service is neglecting the Canada Lynx by protecting inappropriate habitat through roadless area designation. They argue the lynx has specific tree age ratio requirements and feeds on snowshoe hare which requires low growing forest, neither of which are readily available or sustainable in existing or proposed roadless areas. One individual supports eliminating roads on the national Forest altogether to enhance wolf habitat. Another endorses timber harvest to improve grizzly bear habitat and food sources such as huckleberries. A third recommends the Forest Service reintroduce grizzly bears and wolves into the lower Rockies and move cattle back to private ranches.

One individual recommends the Forest Service consider the effects of excluding inventoried and non-inventoried roadless areas on sensitive, threatened, and endangered species, and working with local community habitat conservation plans pursuant to Sections 10 and 7 of the Endangered Species Act.

In addition to these general concerns, respondents' comments are divided into an additional subsection: Subsection 5.11.1 Adequacy of Analysis of Threatened and Endangered Species.

Public Concern: The Forest Service should consider the need for roadless areas as threatened and endangered species habitat.

Roadless forest wildlands provide habitat for threatened and endangered species like the grizzly bear and the gray wolf. (Individual, Cedar Crest, NM - #7511.83520)

The salmon and various species of mammals, e.g., grizzlies, wolves, and martins are facing extinction. The great white hunters of the U.S. nearly wiped out the bison-buffalo, sometimes shooting the beasts down while sitting in the comfort of moving railroad passenger trains, not even bothering to skin them, eat the meat, or salvage their bones. Had it not been for a few Canadian conservationists, you would not see a buffalo on the range today. Destroy animal-plant habitat of our national forests by opening up more of our roadless regions, would be a tragic loss of more of the resources of planet earth. We almost lost the American Bald Eagle to the greed of chemical companies manufacturing D.D.T. (Individual, Bellingham, WA - #6900.83500)

There are many endangered, rare, & threatened species in the S. Appalachians. Many of these species require the large tracts of habitat that are only found in our National Forests. The ESA requires that the Forest Service protect & provide for their recovery. By not preventing logging & mining operations in these Roadless areas the Forest Service will continue to degrade the habitat for many of these creatures which require old growth or undisturbed areas. In doing so, the FS is not doing what it needs to protect & help them recover. (Individual, Asheville, NC- #6133.83520)

Please modify the current proposal for management of wilderness areas in our national forests to include the following key protections: Timber revenue is just one value of the public's forests. The increasing demand for recreation areas and places for wildlife to survive must also be weighed in the management decisions for the future.

Providing for wilderness is a proactive measure to make future listings of species as threatened or endangered less likely to be necessary. It is much less expensive to prevent their imperilment than to work to bring them back from the edge of extinction. (Individual, No Address, #7046.22000)

ON THE TONGASS NATIONAL FOREST

As far as the Tongass they should scout the area for wildlife that could be endangered and propose a stop. We just cannot afford to lose anymore natural wildlife areas anywhere in the U.S. (Individual, Lake Worth, FL - #6045.83530)

I live in Alaska and have seen the extremely large carnivores that depend upon the moose, caribou, and fish that live in the Tongass!! If you log and destroy this habitat then there will be even less moose, caribou and fish, and more people eaten by carnivores due to a lack of these animals. Alaska already has a wildlife crisis with its herbivores and fish, due to over hunting and fishing (some rivers ten years ago were teeming salmon and now are dead)! You may not have accounted for the smaller carnivores that live in the Tongass either. They are also finding other food sources to eat such as wolves and even people ! I have seen to many people (and I mean MANY) in the Valley (Wasilla area), Anchorage, and even Fairbanks being grabbed and devoured by carnivores, as Alaskan habitat and its natural herbivore food source is being destroyed because of the monetary greed of people. People are now becoming the NATURAL and alternative food source for ALL Alaskan carnivores!!! So far, with the research that I and another person have done, there are a minimum of 17 different species of ancient, native carnivores existing in Alaska's wilderness that have yet to be named or accepted as being in existence. This is not counting bears, wolves, and even people, that are part of their daily diets!! By invading the Tongass, you will cause more people to die inside and outside the cities and towns within Alaska as man approaches into the untouched wilderness. That land has a use, and is being used by animals who are food sources for other animals. Just because man isn't using it himself doesn't mean it is going to waste! Have you done studies on wildlife and their needs for this land? If you have, you would not want to be logging and putting roads through it! We DESPARATELY need a Federal Wildlife Manager in Alaska and not leave our precious ancient and present day wildlife in the hands of fish fanatics, Tony Knowles (Governor) and Mr. Glass (Director of Wildlife Fish and Game), who knows absolutely nothing about bears, wolves, or the living and existing ancient wildlife of Alaska! (Individual, No Address - #25584.83500)

SPOTTED OWL

I am tired of seeing hacked over forests. The Spotted Owls that I work with get effectively evicted from their nesting territories after the logging operation. There are no more places for them to go. (Individual, Chester, CA - #6005.83530)

Public Concern: The Forest Service should reconsider the availability of appropriate Canada lynx habitat in roadless areas.

This is not the type of habitat that the Canada Lynx needs. The Forest Service information that we have received on Lynx habitat requirements has tree age in a ratio of approximately 30-30-30-10. It appears that the Roadless agenda is going against the Endangered Species Act. (Individual, Omak, WA - #1065.83520)

People say the lynx need wilderness because it's a reclusive cat. As a matter of fact, it needs snow shoe hares which need low growing forests which can either be done by harvesting the timber judiciously or it can be done by big fires. That's what brings snow shoe hare in. And the fact is that this Roadless Initiative if carried out and there's not managed roads and logging the wildlife in this state and other states is going to suffer severely. (Individual, Newman Lake, WA - #21161.83520)

Public Concern: The Forest Service should eliminate roads on national forest to gain wolf habitat.

We are in favor of eliminating roads on the National Forests - especially in the Wisconsin & Michigan forests to gain wolf habitat. (Individual, Sayner, WI - #10754)

Public Concern: The Forest Service should allow timber harvest to improve forage in grizzly bear habitat.

If the future of one of the primary food sources for the grizzly is in jeopardy, the grizzly is also. The huckleberry does not survive in a nursery setting -- what we've got on the ground is what we've got. Who knows when and if we passed up that window of opportunity for seed germination because we weren't managing our forest. The Flathead National Forest has recognized in EIS after EIS that logging could improve grizzly habitat for forage of all kinds, not just huckleberries, yet any positive action is precluded because of access issues. (Individual, Kalispell MT - #9969.83520)

Public Concern: The Forest Service should reintroduce grizzly bears and wolves into the lower Rockies and move cattle back to private ranches.

It would be nice to have the Grizzly Bear and the Wolf back in the lower Rockies and leave the cattle on the private ranches. (Individual, Peetz, CO - #12932.83520)

Public Concern: The Forest Service should consider the effects of excluding inventoried and non-inventoried roadless areas on sensitive, threatened and endangered species.

FEIS should consider effects of not including all inventoried roadless lands and all roadless lands not already inventoried on the FS's sensitive species and on threatened and endangered species. The FEIS should also consider potential for contributing to the habitat conservation plan efforts of local communities, pursuant to section 10 & 7 of the Endangered Species Act. ((Individual, Tucson, AZ - #9256.83520)

5.11.1 Adequacy of Analysis of Threatened and Endangered Species

One individual believes the Forest Service should analyze the effects of roads on rare snails and the endangered Apache trout, citing the prevalence of illegal roads on the Coronado National Forest. A business in Washington takes the Forest Service to task for having identified one threatened and endangered species recovery project in the entire inventoried roadless acreage. They cite numbers of stream improvement projects for endangered anadromous fish habitat in their region, and suggest the Forest Service conduct additional research.

Public Concern: The Forest Service should analyze the affects of roads on rare snails and the endangered Apache trout.

The Coronado is home to several rare snails with extremely small habitat areas. Muddy rainwater runoff from roads affects the threatened Apache trout in the Coronado's Pinaleno mountain range. Already 2,400 miles of Forest

Service roads lace the Coronado and Tucson-based Sky Island Alliance's field inventories have found another 800 miles to 1,000 miles of unofficial two-rut, off-road tracks in the forest. (Individual, Tucson, AZ - #13137.83210)

Public Concern: The Forest Service should clarify discrepancies regarding the number of recovery projects for threatened and endangered species.

On page 3-96 of the report, it is stated that in the entire 54 million-acre study area, only one project was identified for recovery of threatened and endangered species. This was a stream barrier to prevent movement of non-native fish into habitat occupied by Loach Minnow and Apache Trout and this could be changed to require no road construction. I would suggest that if USFS people got out of their offices they could find thousands of stream enhancement projects on USFS lands. We put in dozens of fish habitat improvement structures per year in Oregon and Washington on our timberlands that are positive steps toward recovery of endangered anadromous fish. To say there is only one project identifiable on 54 million acres of Federal land is another blatant example of the quality of this DEIS. (Business, Longview, WA - #17640.83510)

5.12 Watersheds

Many people share the concern of the Forest Service for water resources and watershed health. Frequently, respondents advocate the protection of roadless areas in order to mitigate the negative effects of roads and timber harvest on watersheds. However, instead of banning road construction, some respondents feel that watersheds can be adequately protected through the use of best management practices.

Some respondents are concerned that the proposed rule may cause a decrease in water yield. These respondents feel that the proposed rule will have effects on the hydrologic system that the Forest Service has failed to account for, including reductions in water yield to agriculture and local communities. A strong opinion expressed by some is that the Forest Service should conduct fire treatment, timber harvest, and road building to maintain watershed health.

In addition to these general concerns, respondents' comments are divided into two subsections: Subsection 5.12.1 Effects of Other Activities on Watersheds and Water Resources; and Subsection 5.12.2 Adequacy of the Analysis of Watersheds and Water Resources.

Public Concern: The Forest Service should protect roadless areas in order to mitigate the negative effects on watersheds.

Roadless areas help recharge aquifers and are often in the headwaters of municipal watersheds, providing the cleanest water and resulting in lower water treatment costs for local residents. In fact, 80% of our nation's water supply comes from national forests, with roadless areas producing the purest of that water. These unlogged and unroaded areas also protect private property from landslides and flood damage. (Individual, Covington, LA - #1374.83100)

There is just NO justification for pushing more roads. The reasons are simple: the protection of head waters is vital as it should be evident to anyone that is even remotely awake, we are in a serious water shortage in many parts of this country. (Individual, Missoula, MT - #7870.83130)

No one questions that a prime directive of Federal and state resource management agencies is protection of water quality. Most roadless areas are in headwaters of watershed and we know that road building degrades water quality, as the sediment load to waterways is directly proportional to the linear miles of road per square mile of land. Therefore permanent protection should be extended to all roadless areas left in America. (Individual, Helena, MT - #9116.83100)

We need to protect the watersheds for water quality and purity. More and more of our rivers and streams are turning up with poor water quality score cards and these Roadless Areas will be critical in reversing these water quality trends. (Individual, Yoncala, OR - #7214.83140)

Public Concern: The Forest Service should use best management practices to mitigate the effects of road building on water and stream quality.

Concerning the impact of the roads on water and stream quality these can be mitigated by using the storm water quality best management practices (BMP). Virtually every reason for the roadless areas have been satisfied by existing wilderness areas. Virtually every reason against building roads can be mitigated by using BMP. (Individual, Boise, ID - #8101.84500)

Public Concern: The Forest Service should evaluate the effect of the proposed rule on water yield.

Any EIS of a proposed designation of a roadless area must evaluate the potential change in land management conditions which may cause modification of the hydrologic system. Can we expect the same amount of runoff from the forest lands as have historically occurred? (State Agency, Cheyenne, WY - #15889.70000)

FOR COMMUNITIES AND AGRICUTURAL USE

Page 3-26, second paragraph—In many parts of the West, water is our most valuable and often our most limited resource. What is the rationale for concluding that a cumulative reduction in water yield is a beneficial effect? To ranchers and irrigators, a decrease in water yield will not be viewed as a benefit. Relief: The Forest Service must consider the effects of reductions in water yield on communities and agricultural uses. (County Elected Official, Worland, WY - #16185.71100)

Public Concern: The Forest Service should conduct forest management to maintain watershed health.

Prohibiting roads from being built on 43 to 54 million acres is not good management...If the headwaters of a water system were dammed by rotten logs, great canyons would be created when the log jam broke. (Individual, Roseburg, OR - #9417.10210)

Where is the discussion on the effect of fires-large ones on the water shed as well as dying and diseased forest and how it affects water use outside of the forest service lands? For instance-the Canyon Creek fire has really made a major destruction of water retention in that area as well as has affected long term the water drainage both within and outside the forest boundaries. There is no long-term effect considered by the forest service to their prescribed burns that get out of hand or the effect of large fires that now will destroy thousands of acres as well as the water drainages. The large increase in erosion is not addressed in these actions you are taking now as well as the effect on water users outside of the forestlands. Years ago there were fires that took effect. Of course the fires have been stopped for years and now the forest service is beginning to mimic what happened in the past. My concern is that we have such large build ups of fuel and the fires that may occur now are going to have large affects on water and erosion that the forest service does not seem to be taking into consideration. (Individual, Augusta, MT - #5488.93110)

The Forest Service has also justified the issuance of the new roadless policy as an effort to reduce environmental impacts on national forests. However, this policy contains no language to improve watershed management or reduce environmental degradation. Instead it trumps land management plans with a national directive. (Federal Elected Official, Cheyenne, WY - #13527.64251)

5.12.1 Effects of Other Activities on Watersheds and Water Resources

Numerous respondents feel that the Forest Service should prohibit all activities that damage watersheds. They call for an end to timber harvest, cattle grazing and ORV use for the sake of watershed protection. Conversely, some feel that the Forest Service should allow timber harvest, despite past damage to watersheds. Others feel that timber harvest is necessary to improve water yields for municipalities. Many respondents call for stronger consideration of the effects of roads and road construction on watersheds. Some point to what they feel is clear evidence of the detrimental effects of roads on drainage patterns. Others highlight the increases in sedimentation and landslides caused by roads.

Many respondents are concerned about the pollution of watersheds. One asks the Forest Service to encourage the safe and sanitary disposal of mining and drilling tailings and toxic substances. An environmental organization requests the prohibition of transportation of hazardous materials over or through roadless areas. Another feels that log dumps have a negative effect on the marine environment. This environmental organization recommends limiting timber harvest activities to areas with existing roads to prevent the creation of new log dumps.

Public Concern: The Forest Service should prohibit activities that damage watersheds.

Roads in forests ruin rivers and streams and kill fish. Roads in forests cause erosion. Roads in forests bring in big trucks, motorcycles and 4-wheel drive vehicles that cause noise, erosion, stream degeneration, and just an unpleasant experience in the forest. (Individual, Vacaville, CA - #396.83110)

TIMBER HARVEST

Logging affects watershed values and diminishes water quality. Leaving roadless watersheds alone makes sense. Millions of Americans value these places in their wild condition and want them to stay that way (Individual, Angles Camp, CA - #971.83100)

Current and past logging practices have ruined many water sheds, destroyed fish and wildlife habitat zones, allowed for increased soil and mountainside erosion, and scarred the landscape with unsightly clear cuts, plus they often forever destroy old growth forests, which are truly a non-renewable resource. The endless number of roads currently on the National Forest have lead to the destruction of innumerable streams and water sheds, due to erosion which cannot be slowed or checked by the forest canopy and forest floor of decayed vegetation. Sediment runoff smothers and kills young fish. Roads and logging, especially clear cuts, destroy wildlife habitat and can lead to pushing species to extinction. (Individual, Glendale, CA - #6466.83000)

I grew up in the Panhandle National Forest of Northern Idaho. I saw the beautiful watershed of the N. Fork Coeur d'Alene River pretty much trashed by too much logging. Those 8200 miles of logging roads filled the streambeds with gravel and washed out causing mudslides. The clear cuts are an obvious contributor to the increased flooding each spring. I am not at all impressed with Forest Service management. (Individual, Chattaroy, WA - #5248.83100)

The removal of the trees that shade streams means higher water temperatures. (Environmental/Preservation Organization, No Address - #1826.83100)

The clear cuts they enabled have caused erosion resulting in the siltation of thousands of miles of streams. (Individual, Scotts Valley, CA - #9752.83210)

UNTIL WATERSHED AREA UNITS CAN BE IDENTIFIED

All road building and logging (including road maintenance) should be halted until watershed areas can be identified as a unit. This is of particular interest to my bio region (Brice Creek). (Individual, Cottage Grove, OR - #760.83100)

BAN CATTLE AND OFF-HIGHWAY VEHICLES

All cattle and ORVs should be off limits in riparian areas. (Individual, Richfield, OH - #1048.64150)

Our forests are far more important for their water retention and water quality services to the public than any other economic feature. Commercial grazing is damaging to plant and animal diversity and to stream banks and water quality. (Individual, San Francisco, CA - #4009.83140)

Public Concern: The Forest Service should allow timber harvest.

Watershed health. This is an issue that the Southern Timber Council raised in their scoping comments, March 30, 1998, which seem to have been ignored. We repeat their concern that the Administration refuses to accept and/or acknowledge research to-date that supports the ability to have roads and timber operations while still protecting water quality. This is supported by the following research:

1) Coweeta Hydrologic Laboratory. This is a 5,400-acre site that "constitutes a living hydrologic laboratory. Over the more than 50 years that this laboratory has operated, forest hydrologists have measured the amounts and timing of rainfall, evaporation and streamflow in the forest" At Coweeta, there is Watershed 28, a multi-resource forest management demonstration site. Based on management on Watershed 28, including timber management. "[T]he increase in water yield that follows timber harvests is particularly important to managers of municipal watersheds. They learn here that water yield is increased in proportion to the percentage of timber cleared or thinned. In the first year after cutting, increase in streamflow on this watershed would have supplied the needs of well over 1,000 people. Water quality was unimpaired. This experiment clearly demonstrates the opportunity for compatible management of a variety of forest resources." (Coweeta Hydrologic Laboratory A Guide to the Research Program, October 1984.) (Timber Company/Association, Kalispell, MT - #53304.83110)

DESPITE PAST DAMAGE TO WATERSHEDS

The fact that the forest products industry has damaged thousands of miles of riparian zones, while USFS and the Department of Interior were forced to look the other way, is unconscionable in my opinion but that doesn't mean we as a nation suddenly evict all forestry product extraction from national forests. (Individual, Fort Collins, CO - #358.83100)

TO IMPROVE WATER YIELD

This state is fast becoming short of water, a valuable resource for everyone including the Forest Service.... It is a well known fact that these large trees use over 100 gallons per day to exist.... Our streams in the Beaverhead/Deerlodge region need the water for stream flow that the mature trees are capturing before the water has a chance to even get to the streams. Managed harvest must be allowed. (Individual, Whitehall, MT - #2333.83130)

With regards to watershed, it has been documented that the watershed is increased with the number of aspen trees that are allowed to grow. In order to encourage the growth of aspen trees enough of the conifers must be removed to

allow for this growth. If the removal of conifers is abated, the watershed will be directly affected by the lack of growth of the aspens. (Individual, Manti, UT - #26036.83100)

Public Concern: The Forest Service should consider the effects roads and road construction have on watersheds.

DRAINAGE PATTERNS

Runoff from roads causes increases in sedimentation. Erosion caused by roads can greatly increase the potential for slope failure during large and episodic storm events causing catastrophic debris flows. Roads alter the natural drainage patterns. For example, steeply cut slopes intercept subsurface flows, converting them to surface runoff. Drainage ditches and berms concentrate flows in channels, efficiently delivering sediment to streams. The most direct impact to streams occurs when roads are constructed by placing fill material in drainage channels. That fill becomes part of the drainage system and, given enough time, is deposited in rivers and streams. (Individual, Bellingham, WA - #8602.83100)

Page 3-40. Channel Morphology. Paragraph 1. The statement is made that "Roading and vegetation management have the potential to change stream channel morphology. Alluvial streams normally exist in a state of dynamic equilibrium, where stream shape (slope, width, depth, sinuosity) adjust to incremental changes in sediment and water inputs but retain the same general shape over time. Sizable changes in sediment and water inputs can throw the channel out of equilibrium, causing it to adjust to a different form with very different functions and values." Comment: I note there is no discussion of flooding changing streambeds, etc. I can think of several news reports which document this happening. Therefore, although the statement as written may be literally true, I do not believe you have scoped the entire problem. A rewrite is needed. Paragraph 2. The statement is made that "Large additions of sediment or removal of water can reduce the stream's ability to transport sediment, causing the channel to aggrade. Sediment inputs from landslides or reductions in water flow in the channel through diversions or ditch placement can cause these changes. Reducing normal sediment loads or increasing the flow in a stream can increase sediment transport and cause the channel to cut into its bed or banks, degrading the channel system." Comment: This statement is not quantified. It is impossible to assess the severity of the threat. (Environmental/Preservation Organization, Davis, CA - #29925.83220)

SEDIMENTATION

Roads have been found to be the main source of sediments released into our streams and rivers. The increase in sedimentation impaired the water quality of streams and rivers that are the major source of our drinking water. I am concerned with the trend of a declining quality of our drinking water. Also the increase in sedimentation has adversely affected salmons and other aquatic species. Salmons in particular prefer streams with clear water with low sedimentation level for their habitat. (Individual, Fresno, CA #8373.83100)

Stop all plans for new roads. The landslides caused by logging/roadbuilding contribute to landslides and turbid water. (Individual, Portland, OR - #9198.83100)

Begin inventorying and closing old roads that are contributing to stream siltation and poor water quality. (Individual, Kenna, WV - #8063.84610)

Public Concern: The Forest Service should address the handling of toxic substances in roadless areas.

We believe that in order to lessen the need to implement the CERCLA or Oil Pollution Act, toxic materials and other hazardous materials should not be transported through or flown over roadless areas. Precaution would reduce the possibility of having to construct emergency roads through the last remaining roadless areas. Helicopter response teams would most likely be faster and much less expensive to the ecosystem than logging through the forest to make a road. (Environmental/Preservation Organization, Weldon, CA - #16041.83000)

Mining and drilling: safe and sanitary disposal of tailings and toxic substances to safeguard our rivers, lakes and aquifers. (Individual, Albuquerque, NM - #10949.93500)

Public Concern: The Forest Service should address the effects of log dumps on the marine environment.

Another concern that argues in favor of roadless area protection for the Tongass is the detrimental impact of log dumps on the marine environment. Log dumps deposit bark, woody debris and sunken logs that accumulate on the water bottom where they alter the substrate, bury surface organisms and promote decomposition which robs the water of oxygen...In one study, bark depths of greater than 1 inch were enough to exclude certain mollusks...In another, researchers found noticeable reductions in benthic infauna at all active and inactive log dumps...Another study found that just six centimeters of bark from an active log dump was enough to reduce the survival of two species of bivalves....By limiting all logging to areas with existing roads and infrastructure, there is virtually no need for new log dumps serving the Tongass National Forest from logging and new log dumps will protect the marine environment from new pollution. (Environmental/Preservation Organization, Anchorage, AK - #29839.83510)

5.12.2 Adequacy of Analysis of Watersheds and Water Resources

One county official from Minnesota asks the Forest Service to conduct additional analysis of agricultural/industrial pollution on watersheds. This official feels that acid rain generated by these activities contribute more to poor water quality than timber harvest and road building. Many respondents feel that protection of roadless areas is necessary for the conservation of clean drinking water. However, one feels that sources of clean drinking water are affected more by weather and proper forest management, and less by preservation of roadless areas.

Some respondents feel that the importance of forests for water retention needs further consideration. They think that forests are vital for the proper retention and release of water to dependent downstream areas. Several respondents are concerned that the proposed rule will negatively impact access to water resources and diminish the ability of municipalities to manage their water supply. Still others are concerned that the proposed rule will hinder the ability of local authorities to address Total Maximum Daily Load problems.

One respondent asks the Forest Service to revise sections of the proposed rule dealing with water resources to include recent scientific information. They feel that recent publications should be used in the analysis. Respondents request inclusion of a map showing the location of impaired watersheds in relation to roadless areas. Others would like to see an assessment of forestry practices and other actions conducted on private inholdings and adjacent lands in the cumulative effects analysis for water quality. They feel that the Forest Service is responsible for studying the quality of water affected by forestry practices on lands not managed by the Forest Service.

Public Concern: The Forest Service should consider the effects of agricultural/industrial pollution on watersheds.

There is strong inference in this EIS that roads and timber management practices are the leading factors that have a negative impact on the nation's drinking waters. This statement is over inclusive and should strongly advocate

federal action where there is a problem. In northeastern Minnesota the issue is NOT roads and timber management but acid rain. The acidity of the rain and snow is not a by-product of road construction and timber harvesting but is the by-product of industrial pollution from outside of the area. The BMP for water quality in Minnesota has provided guidelines for road construction and timber harvesting that preserves water quality. If the federal government is really concerned about water quality of the nation, then their energy should not be put into a smoke screen directed at road construction/reconstruction and timber management in or near inventoried roadless conservation areas. The federal energy should be put into agricultural/industrial pollution. (County Elected Official, Grand Marais, MN - #43757.83140)

Public Concern: The Forest Service should consider the importance of roadless areas as sources of clean drinking water.

ROADLESS AREAS ARE IMPORTANT

Millions of Americans rely on our National Forests for sources of clean drinking water. Wild forest areas contain some of the cleanest sources of drinking water in the country. (Individual, Fayetteville, AR - #6991.83000)

Science has shown that healthy roadless forests are needed to maintain healthy watersheds. Watersheds are the parcels of land that provide consistent supplies of clean drinking and irrigation water to rural communities throughout New Mexico. Many of our most important roadless areas are the tops of these key watersheds. (Individual, Albuquerque, NM - #7283.83100)

When the children of the mountain regions of the U.S.A., fifty years from now, ask their parents for a drink of clean water will the parents say to their children: “there is no clean water to drink because the USDA Forest Service did not protect the watershed”? (Individual, Boise, ID - #7969.83140)

ROADLESS AREAS ARE NOT IMPORTANT

In your publication FS-670 under the heading Background you list six public benefits [of roadless areas] my comments on each follows:

Sources of clean drinking water - With or without the roadless area proposal the forest would provide clean drinking water depending on the weather and proper forest management. (Individual, Idaho Falls, ID - #7108.83000)

Public Concern: The Forest Service should consider the importance of forests for water retention.

...just a few square feet of foliage can hold quite a bit of water. It made me understand more clearly what those who work in the woods have been saying for decades: Forests can hold immense amounts of moisture. (Individual, Seattle, WA - #7535.81000)

Healthy watersheds soak up rainfall and snowmelt like a sponge and release it into our rivers and streams slowly throughout the year. (Individual, Albuquerque, NM - #7283.83100)

That’s right fellas, fall trees, kiss the water table goodbye! Friend of mine used to live across the road from Dabney State Park (on the Sandy River). He told me his neighbor had some timber up on a hill just behind his place. Man wanted some money so he got some loggers in there, took out four or five loads of nice big trees. That’s all he did. MY friend lost his spring in about two months; nice little spring, ran maybe fifty gallons a day; without the trees, no water; it’s a lesson people, are you listening? (Individual, Gresham, OR - #7657.83140)

Public Concern: The Forest Service should address the effects of the proposed action on the access to water resources.

This initiative could severely impact the economy in Delta County due to the following: Water Resources: Access and development of water resources for municipalities and agriculture in the County will be negatively impacted. (County Elected Official, Delta, CO - #17266.83100)

Public Concern: The Forest Service should address the effect of the proposed rule on the ability of local authorities to address problems associated with the Total Daily Maximum Load.

The proposed rule and other Alternatives will not resolve the Total Daily Maximum Load (TMDL) associated with water and these undefined roadless areas. Water is under the primary jurisdiction of the State. Roads are commonly blamed for the siltation of rivers and streams. If the roads are properly constructed and maintained the impact should be minimal. The TMDL specifications are necessarily based upon the historic and actual conditions of the individual stream or river. Many natural components can cause a rise in siltation, salts, minerals, or other pollutants in these rivers and streams. The roadless area proposal will not resolve these changing conditions, however, the proposal may impair the ability of the respective authorities to address the problems that might arise and those which are feasibly correctable. The decommissioning of roads and their reclamation are always local in nature and should always be left to local management decisions. (Individual, Douglasville, GA - #18185.83110)

Public Concern: The Forest Service should revise sections of the proposed rule dealing with water resources to include recent scientific information.

SECTIONS ON WATER MUST BE REVISED TO REFLECT LATEST SCIENTIFIC INFORMATION. NEPA requires that analysis and decision be based on the best available information. The section and analysis on watershed health and water yield, quantity, timing and etc. beginning at p.3-22 in the DEIS must be revised to reflect the Forest Service document entitled Water & The Forest Service, USDA, Forest Service, FS-660, January 2000. (Environmental/Preservation Organization, Cave Junction, OR - #16188.83100)

Public Concern: The Forest Service should indicate where impaired watersheds are located in relationship to roadless areas.

Comment: Page 3-28-- The discussion on impaired watersheds does not indicate where they are located and their relationship to roadless areas (except for the very small scale map in Figure 3-13). Since many of these watersheds have an impact on local communities, they need to be identified in order that local government officials can adequately assess the impacts of the alternatives. Relief: The Forest Service must provide a list of impaired watersheds nationally by roadless area and county. Only then can local government officials determine the effects of the alternatives and provide meaningful comment. (County Elected Official, Worland, WY - #16185.82000)

The discussion on impaired watersheds does not indicate where they are located and their relationship to roadless areas (except for the very small scale map in Figure 3-13). It would be nice to understand the status of the watersheds in Beaverhead County, since water is one of our most valuable and often limited resources. Without this data, meaningful comment on this issue at this time is impossible. (County Elected Official, Dillon, MT - #17297.83110)

Public Concern: The Cumulative Effects Analysis for water quality should include an assessment of forestry practices and other actions conducted on private inholdings and adjacent lands.

The Forest Service fails to acknowledge that it is not the only property owner whose land use practices influence water quality and wildlife. Especially in those lands in the northern, eastern and southern regions of the country, the Forest Service must analyze the status of water quality and documented impacts from forestry practices. For example, the Environmental Protection Agency recently proposed to require some timber suppliers to apply for a NPDES permit. While this proposal was shot down due to lobbying pressure, the fact remains that poor forestry practices contribute to the sedimentation of streams and waterways. The Forest Service must analyze other landowner's actions in its cumulative impacts analysis (A passing reference is found in figure 3-13 entitled "Watersheds that Do Not Meet Clean Water Act Standards that Contain Inventoried Roadless Areas" with the caveat "Impairment may come from any ownership within the watershed, not necessarily NFS lands.") (Environmental/Preservation Organization, Plymouth, MN - #51067.82000)

5.13 Soils

Erosion, sedimentation, and other impacts to soils are of concern to many respondents. Some respondents feel that timber harvest and road construction on land with steep erosive slopes should be curtailed. Several specific concerns are expressed about protection of unique geologic formations. Karst formations and cryptobiotic soils are just a few examples of geologic treasures respondents wish to see protected.

In addition to these general concerns, respondents' comments are divided into two subsections: Subsection 5.13.1 Effects of Other Activities on Soils; and Subsection 5.13.2 Adequacy of the Analysis of Soils.

Public Concern: The Forest Service should not manage lands on steep slopes or with poor and erosive soil.

With few exceptions, Forest lands not already roaded are not suitable for any sort of intensive management. The USFS has been spending tax payer money like water for the past fifty years trying to intensively manage site class 4 and 5 lands on steep slopes, poor and erosive soils. It is time to stop the practice. (Individual, No Address - #5137.10100)

I am a retired Forest Service employee with over 30 years of service. I was involved with RARE I, RARE II, and the first round of forest planning. I served on the R-4 Regional I.D. Team that reviewed and provided input into all of the forest plans in the region. Even though many good plans were prepared and implemented, I became increasingly concerned with the amount of road construction and logging within the national forests, particularly in the Intermountain Region. Over the past several years, I observed many instances where roads were constructed on steep to very steep slopes and in soils where roads should never have been located. Timber was cut in stands where soils are of very marginal productivity. Costs of reforestation were most generally very high. Economic analysis would show negative cost recovery in almost all instances. Many roadless areas that, in my opinion, should have been classed as potential wilderness were thus eliminated from possible future wilderness classification. (Individual, Driggs, ID - #6846.10300)

Public Concern: The Forest Service should protect unique geologic formations.

Roads have become the cash cow. Like the cattle grazing on public lands, logging roads adversely affect soil and water distribution. Roads in the Tongass cannot help but be built over karst formations. The presence of these special geological formations make the old growth forest possible. Protection of the karst has been neglected in the log harvesting process of the past and in recent timber sale proposals. The Indian River timber sale near Tenakee Springs neglected to consider the importance of the karst and the degradation that would be caused by road building over karst formations. Even though this fact was pointed out throughout the NEPA process, the Forest Service did not change its position until there was an administrative appeal filed by local organizations. The Forest Service's usual response to such complaints is to summarily state that it will take care of the problem during the logging process. That the logger will build a road that will not do what any person who sees the road knows it will destroy habitat, destroy the karst and ultimately destroy the ecosystem. There is no difficult science to understand. We have seen the same thing happen all over the world. Just one more road here or there is not supposed to make a difference. When the critical mass is reached it is too late to take back that one or two more roads and their long-term effects. (Individual, Tenakee Springs, AL - #8123.83230)

The fragile, easily compactable pumice soils of the Oregon Cascade Recreational Area (OCRA) are currently unprotected from motorized recreation. Most worrisome are the people emulating Ford advertisements doing "donuts" over the rare, fragile, flat, volcanic soils. The draft roadless EIS not only allows this to continue in the OCRA, it allows this to continue in all inventoried roadless areas covered under the preferred alternative. (Environmental/Preservation Organization, Roseburg, OR - #52494.83200)

In addition, growing recognition of the importance of cryptobiotic crusts to ecosystem processes has led to concerns about the impacts of recreational users and nonnative grazers on such surfaces. On most semiarid lands, a single pass of an off-road Vehicle will reduce nitrogen fixation by cryptobiotic crusts and increase wind and water erosion (see Davidson et al. 1996:110-111). Vehicular traffic directly destroys biological resources by crushing vegetation and microbial crusts and retards revegetation through soil compaction. ORV (ATV INCLUDED) USE, THAT MOST FRIVOLOUS AND DESTRUCTIVE OF RECREATIONAL PURSUITS, MUST BE PROHIBITED FOR THE PROTECTION OF RESOURCE VALUES. (Environmental/Preservation Organization, Flagstaff, AZ - #43415.83200)

I would like to point out something I observed last summer on a hike into Independence Lake in the Boulder River roadless area which I think is valuable and worth preserving. On the day I hiked in[,] the trail had recently been groomed by a trail crew which meant that the uphill side had been cut away. This cut revealed a white chalk line about two to four inches below the surface of the forest floor. Several people in the group speculated about what it could be when the geologist in the group informed us that it was ash from the Mount Saint Helens eruption. Here in this roadless area a new "rock layer" was being formed beneath our feet. Should logging or mining activities or even ORV activities be allowed in this area, this rock formation would be destroyed in its infancy. The geologic event of May 20, 1980 was a once-in-a-lifetime event for those of us living in the Northwest and I think that everything created by that event deserves protection. (Individual, Clear Lake, WA - #18517.83230)

5.13.1 Effects of Other Activities on Soils

Respondents ask the Forest Service to consider the effects of certain activities on soil erosion. Many believe that roads and road construction are extremely damaging to soil stability. They would like to see restoration of roaded areas to prevent further erosion. Respondents think that ORVs add to the erosion problems experienced on National Forest System Lands. Alternatively, Some respondents point out that erosion and landslides are a natural part of the environment. One individual points to a study indicating that most landslides occur in areas devoid of roads.

Another respondent raises the concern of soil bacteria introduction. This person feels that road construction leads to unforeseen ecosystem changes that may then lead to deforestation.

Public Concern: The Forest Service should consider the effects of certain activities on soil erosion.

ROADS AND ROAD CONSTRUCTION CAUSE EROSION

On the steep slopes that many logging roads are constructed on, roads contribute to soil instability that can start massive soil erosion and even mudslides. (Environmental/Preservation Organization, No Address - #1826.83210)

Taking steps to restore road areas to their more natural state will prevent erosion and bring back continuous areas for plants and animals to begin to come back. Not building more roads will of course keep this headed in the right direction. (Individual, Port Townsend, WA - #13818.83210)

I would like to see elimination of roads and restoration of roaded areas in any places where roads cannot be maintained so as to prevent erosion. (Individual, Missoula, MT - #10874.83210)

OFF-HIGHWAY VEHICLES INCREASE EROSION

Off-road vehicle use exacerbates the erosion on existing roads and provides opportunities for soil disturbance on lands adjacent to roads. (Individual, Mckinleyville, CA - #1024.83210)

Under natural conditions, moist soil in the Western region of the Mojave Desert (typically a loamy sand soil type) has such high infiltration capacities that it would require rainfall of 40 to 60 mm/hour for 20 minutes to generate runoff. On ORV compacted areas, ponding and runoff were documented with less than 10mm/hour rainfall which, in turn, results in trail widening. Hence, compacted areas are subject to more frequent erosion by overland flow resulting in even greater impacts to desert vegetation. A study was conducted in the Turkey Bay ORV area, the first federally managed ORV area, located between Kentucky and Tennessee. The soil in this area is composed of shallow loess over gravel and chert with alluvial deposits of clay, silt, and gravel along higher elevations. As a result of ORV activities, a significant increase in soil erosion, particularly on slopes of 15 percent or more has been documented. (Environmental/Preservation Organization, Plymouth, MN - #51067.83210)

EROSION IS NATURAL

On page 3-38 you state that studies showed that roads and timber harvest were major causes of landslides. A new study on the Payette done by M. Dixon and L. Wasniewski--"Summary of Landslide Inventory on the Westside of the Payette National Forest from the New Year 1997 Storm", showed that 85.9% of landslides were "NATURAL". (That is areas with no roads or timber harvest). Roads attributed 11.3% and harvest units 2.5%. Another study in the South Fork Salmon River showed over 100 landslides caused by intensive wildfire where there are no roads. It is evident that carefully located and constructed roads are not likely to be candidates for landslides, sedimentation or mass wasting. (Individual, McCall, ID - #6848.82000)

Public Concern: The Forest Service should consider that road construction will introduce soil bacteria.

Building roads will in introduce soil bacteria. Change ecosystems which we don't even understand & eventually lead to deforestation. (Individual, Brule, WI - #13435.83200)

5.13.2 Adequacy of Analysis of Soils

Many respondents fear that protection of roadless areas will lead to uncontrolled fires. Erosion from those fires, in their opinion, will be greater than erosion from forest roads. They ask the

Forest Service to verify the primary contributor to erosion in the forest. These respondents are convinced that fires, not roads, are the real threat to soil stability.

Some respondents call the landslide analysis into question and request an update to the landslide risk map on page 3-37 of the Draft EIS.

One respondent feels that geologic hazard mitigation opportunities will be lost if the proposed rule is implemented. This Wyoming State Agency feels that lack of access will prevent them from mitigating geologic hazards.

Finally, one organization asks the Forest Service to analyze the effects of soil compaction in the environment.

Public Concern: The Forest Service should address the potential for fire induced soil erosion.

Incidentally, several hundred acres of the Bucks Lake Wilderness are an area that was reforested after a wildfire. The trees are now over 20 feet tall. They are also so thick that if a fire starts the fuel loading will create a devastating heat and the area will become a brush field again. This area is prone to lightning. There will be a great amount of erosion as the granitic soils have a tendency to float away should fire start here again. (Individual, Chico, CA - #10596.83000)

Hot fires destroy trees resulting in significantly reduced rooting strength and increased water yield. Many say that wild fires are a natural part of the ecosystem and therefore are good. Hot stand replacing fires in Ponderosa Pine types where frequent low intensity non-lethal fires occurred are not natural, nor is the extreme sedimentation that they cause. The effects of catastrophic wild fires on mass wasting were not considered in the DEIS. (Individual, McCall, ID - #7575.84200)

Public Concern: The Forest Service should verify the primary contributor to erosion in the forest.

Roads may be responsible for some land sliding, but uncharacteristically hot wildfires are responsible for many of the landslides in Idaho from the 1997 storm. Another roadless area that was burnt and pockmarked with landslides is the Lowman area on the Boise NF. Vice President Al Gore visited Idaho after the 1997 flood and told a Boise County Commissioner that the landslides were a result of clear cutting and roads. When the reality was wildfires in roadless areas were responsible for much of the damage. Hot fires destroy trees resulting in significantly reduced rooting strength and increased water yield. (Individual, McCall, ID - #7575.84200)

Montanan's are being dealt a great disservice if the Forest Service continues this unguided and unwarranted obliteration of roads and labeling of "roadless" areas. They [the Forest Service] have neglected to undertake an objective, unbiased and realistic research project to determine the predicted erosion caused by roads - vs. the massive erosion that has been proven to be caused by the inability to manage a forest due to lack of accessibility and control of the fuel load for wildfires. (Individual, No Address - #9087.83200)

Public Concern: The landslide risk map on page 3-37 of the Draft EIS should be updated.

There are additional hazards-related discussions and updates needed in the document. The landslide risk map on page 3-37 of the Draft EIS is extremely outdated and inaccurate. Since 1982, the WSGS has mapped most landslides in Wyoming, and provided the results to National Forest Service Offices in the State. That initiative is not reflected on figure 3-15 (page 3-37). In addition many of the mapped landslides in Wyoming have dammed or nearly dammed streams or rivers. (State Agency, Laramie, WY - #15888.93500)

Public Concern: The Forest Service should analyze the geologic hazard mitigation opportunities that will be lost if the proposed rule is implemented.

. . . A detailed analysis of geologic hazard mitigation opportunities that will be lost as a result of this proposed action. (State Agency, Laramie, WY - #15888.82000)

2469.ENVIR.918 Public Concern: The Forest Service should address the effects of soil compaction.

Soil compaction results in root damage and decreased root growth, which decrease plants' ability to access nutrients and water. Soil compaction and organic matter disturbance cause a decline in mycorrhizal fungi. Soil compaction results in reduced infiltration rates and increased surface erosion. Soil compaction results in a loss in site productivity as measured by tree growth. Soil compaction after logging resulted in a loss of soil pore space and a 33% reduction in water to plants. Soil compaction by logging reduced the movement of water through the soil (saturated hydraulic conductivity), with increases in runoff predicted. Beneficial soil microorganisms and mycorrhizal fungi occur primarily in soil organic layers. Soil compaction and the disturbance of organic layers of the soil due to logging activities alter soil microbial activity and adversely affect mycorrhizal populations. (Environmental/Preservation Organization, Weldon, CA - #16041.83200)

5.14 Air Quality

Many respondents have concerns about air quality as an essential component for human existence. However, some feel that roadless area conservation may not be the most important action for promoting high air quality. One respondent asks the Forest Service to explain how air quality can be better in roadless areas as compared to managed areas. An individual asks the Forest Service add the proper perspective to this debate by defining where Class 1 air quality areas are in relation to National Forest System Lands. Other respondents agree that roadless areas have little effect on air quality. They point out that “Changes in air quality due to dust, smoke and emissions are short lived phenomena that are present literally everywhere.” This suggests that respondents feel that air quality problems are often caused by natural disturbances and not by activities in roadless areas. They do not want to preclude adoption of Alternative 1 because of changes in air quality.

In addition to these general concerns, respondents' comments are divided into two subsections: Subsection 5.14.1 Effects of Other Activities on Air Quality; and Subsection 5.14.2 Adequacy of the Analysis of Air Quality.

Public Concern: The Forest Service should explain how air quality can be better in roadless areas as compared to managed areas.

The Forest Service should address the claimed potential benefits of the proposed rule by answering the following questions: How can air quality be better in roadless areas as compared to managed areas? (Individual, Kingsport, TN - #8500.83300)

Public Concern: The Forest Service should define where Class 1 air quality areas are in relation to National Forest System Lands.

In reference to whether Roadless Areas would help maintain air quality, defining where Class 1 air quality areas are in relation to the Forest Service land would help put this element in perspective. (Individual, Moses Lake, WA - #718.83300)

Public Concern: The Forest Service should not preclude adoption of Alternative 1 because of changes in air quality.

Changes in air quality due to dust, smoke and emissions are short lived phenomena that are present literally everywhere. This is not a critical factor, and Alternative 1 should be the preferred choice for all of the other reasons listed in this table. (Individual, Collbran, CO - #19826.83320)

5.14.1 Effects of Other Activities on Air Quality

Carbon dioxide levels are of great concern to many respondents. They would like the Forest Service to evaluate the role of anthropogenic activities on carbon dioxide exchange. They feel that timber harvest exacerbates the already dire atmospheric CO₂ situation. They feel that roads encourage the use of vehicles, which also contribute to the problem. These respondents want these activities to end in roadless areas.

Another activity respondents would like to end on National Forest System Lands is prescribed burning. They feel that “burning only adds to poor air quality” in roadless areas.

Public Concern: The Forest Service should evaluate the role of anthropogenic activities on carbon dioxide exchange.

It should also be noted that by destroying the forests, we are adding to the destruction of the planet in many ways. To begin with, cutting down forests for roads inevitably leads to commercial build-up, which involves the destruction of even more forest. Not only are we adding CO₂ into the atmosphere directly by encouraging automobile use and industrial and commercial growth, we are also increasing the green house effect by removing a sink for the CO₂ that is already too abundant. Furthermore, when the forest is removed to clear the area for roads, the methods used to clear the forest often release even more CO₂, either directly from burning the trees, or indirectly during the decomposition of the organic matter. I understand that this may seem trivial compared to the other sources of CO₂ emissions, but you must realize that the same amount of CO₂ is released by logging 20,000 hectares of forest as is released each year from automobile emissions in Southern California. (Individual, Denver, CO - #4519.85100)

I would like to talk about a slightly different angle, and that is that these activities on roadless areas and elsewhere -- logging, mining, grazing and off highway vehicle use -- have severe carbon consequences. When they occur, carbon is released from trees, plants and soil on the land where they're occurring, and it goes into the atmosphere where it forms carbon dioxide and exacerbates climate change. Worldwide, the Intergovernmental Panel on Climate Change recently concluded human impacts on the land, mostly deforestation, caused 20 percent of the CO2 emissions every year. Science by scientists who have worked for the United States Forest Service show that when an old growth forest is logged in the Pacific Northwest, it takes 250 years or more for the tree plantation which is planted on that ground after the forest is logged to regain the carbon that was emitted when the forest was logged and in its immediate aftermath. It's kind of easy to see why carbon is emitted when old growth trees are logged because a tree is largely an enormous living thing which is made principally of carbon, oxygen and hydrogen. However, grazing and off highway vehicle use always cause a lot of carbon emission because they disturb the soil, and the IPCC also concluded recently that about 50 percent of the soil, of the carbon and soils, in forests and far more of the soil in deserts and range lands is contained in the soil. The U.S. is not the world's leading CO2 emitter from deforestation. That dubious honor is held by Brazil, but the U.S. is the world's leading CO2 emitter in total, and the U.S. must lead on stopping CO2 emissions from its forests and from other wild areas. (Individual, Washington, DC - #21326.85100)

Public Concern: The Forest Service should refrain from performing prescribed burns in roadless areas because of their effect on air quality.

Forest Service said improved air quality in roadless areas, and then they turn around and say that they will have to do prescribed burns to keep a healthy forest, that was done by logging before. Burning only adds to poor air quality, and we know how prescribed burns destroy a lot of country. (Individual, Salmon, ID - #8581.83310)

5.14.2 Adequacy of Analysis of Air Quality

The public would like the Forest Service to conduct further analysis on the effects of the proposed rule on air quality. Some feel that without access to roadless areas, fire risk will increase and the resulting fires will cause diminished air quality. On the other side of this argument, respondents feel that air quality is already compromised by the presence of roads and motorized vehicles in the forest. County officials from Wyoming worry that unplanned wildfires resulting from roadless area conservation will not give citizens with respiratory problems enough time to prepare. They request that air quality changes resulting from this rule on lands adjacent to Class 1 airsheds also be analyzed.

Some respondents think the Forest Service should offer a more complete discussion of the effects of trees on air quality. They see trees as crucial for maintaining air temperature and reducing air pollution.

Others feel that the amount of air pollution created by snowmobiles should be more carefully analyzed. One respondent asks the Forest Service to acknowledge that significant air quality problems on National Forest System lands do not originate on those lands; rather, forest air quality is affected by off site sources.

Public Concern: The Forest Service should address the effects of the proposed rule on air quality.

With limited access to provide pre-suppression and suppression actions the increased fire risk will result in added air quality loss which we experienced last summer from the Trinity fires. (Individual, Ukiah, CA - #7274.83300)

I visited our mountains last weekend and was appalled at the change in air quality due to development. What were once beautiful, far-reaching vistas are now hidden by ugly, yellow haze. NO MORE ROADS! (Individual, Marietta, GA - #2071.83300)

These forests also affect the quality of our air; our weather is being terribly affected, as is, of course, our wildlife. We cannot expect other countries to save their rainforests if we cannot save our own! I fear that we are fast approaching the time when we will have to wear air-filter masks every time we step outside. (Individual, Gates, NC - #4731.80000)

Comment: Page 3.46, second paragraph—The “proposed action” makes no mention of the effects posed to local residents with respiratory problems resulting from amounts of smoke associated with large wildfires. Contrary to planned management actions, where these residents can be forewarned and take appropriate preventative actions, this is not possible in the early stages of wildfires.

Relief: The Forest Service must address this impact and disclose the potential adverse effects. (County Elected Official, Basin, WY - #43980)

Comment: Page 3-43, second paragraph-- There is no analysis in the cumulative effects sections for any of the alternatives addressing the statement that “all management activities on National Forest System Lands must consider air quality related values for all Class 1 areas managed by an agency, not just those on Forest Service lands.” The cumulative effects of any proposal in this context must be addressed. What, if any, will be the effects of this proposal on the programs of the other agencies and Native American Tribes? How could their management affect the air quality on adjacent Class 1 airsheds managed by the Forest Service? For example, where a tribe might accelerate its timber harvest program to help respond to an increase in demand for timber products resulting from decreased harvest in roadless areas? Relief: The Forest Service must address this issue in a cumulative effects analysis. (County Elected Official, Worland, WY - #16185.83300)

Public Concern: The Forest Service should discuss the effects of trees on air quality.

We need trees to live. Hey people wake up and look at your first and second grade science. The trees clean up the mess we make in the air. The more we remove and destroy the worse our air is going to become. There is enough being used for mining and timber and we certainly don't need more roads for more cars to drive on to pollute more of our air. We need to search for alternatives. (Individual, Loganville, GA - #5305.83000)

The U.S.N. Forests belong to all, the many people of [the] U.S.A. Their most important and universal contribution is to clean and cool the air that is necessary for the life of the people of this nation, our children and grandchildren. There should be no use of or in the forest to divert it from producing cool clean air that serves all the people. (Individual, Hiawassee, GA - #8075.92300)

Public Concern: The Forest Service should evaluate the amount of air pollution created by snowmobiles.

Stop spreading the lies these extreme environmentalists are spewing. Why would anyone believe that snowmobiles in Yellowstone National Park cause more pollution in one day than all the pollution of Los Angeles, California on a given day? That's ridiculous!! The emission and sound volume on snowmobiles has, and continues to be addressed by the snowmobile manufacturers. They are continually at work to drastically reduce sound and emissions! How

long did GM have to address these issues on autos? Who's spending the big bucks on this? Do these extremists really believe the public is that stupid!!? (Individual, No Address - #9912.83300)

Public Concern: The Forest Service should acknowledge that significant air quality problems on National Forest System lands are not due to sources on those lands.

The whole Ecological Factors-Air Quality analysis really is rather silly. The impacts from vehicles and machinery potentially allowed in "roadless areas" will be microscopic even under Alternative 1. There will be so few of them that there will not be any significant impacts even at the most localized level. The contribution of air toxics such as carbon monoxide will barely be measurable let alone significant in any meaningful way. Under the most pessimistic conditions described in the DEIS, these vehicles will not release enough NOX or ROG to initiate ozone formation or make a significant contribution to existing problems. As for particulates and visibility, the "regional haze that now affects virtually all Class I areas" stated in the DEIS would not be improved even by banning all human activity on the inventoried roadless areas because forest lands are not the source of the problem. Except in the short-lived case of smoke from forest fires and prescribed burns, and there really is no feasible way to eliminate that. EPA has based a good bit of their approach to Class I area visibility on 'Protecting Visibility in National Parks and Wilderness Areas' by the National Research Council. That report states: Visibility problems in Class I areas are mostly the result of regional haze, rather than the effect of emissions from one or a few individual sources at specific sites. Therefore, a strategy that relies only on influencing the location of new sources, although perhaps useful in some situations, would not by itself prove effective. Moreover, such a strategy would not, of course, remedy the visibility impairment caused by existing sources. Further, the DEIS implies that Class I areas and roadless areas are geographically connected, which is often not the case as Figure 3-16 amply demonstrates. Claiming that roadless areas will act as a buffer for Class I areas is discredited by 1) the roadless areas are already there acting as buffers, and 2) Class I areas are already being impacted according to the DEIS. Additionally, none of the action alternatives actually seek to minimize road-related emissions as the DEIS claims. No restrictions are presented anywhere that would control numbers of vehicles, only places where roads will not be built in the future so there are no long-term benefits to be realized because there will be no minimization. The bottom line is that any chronic air quality "problems" that exist on public forest lands are not due to sources on those lands. The sources are regionally dispersed and beyond the control of USFS. Any long-term impacts originating from activities on the DEIS-relevant lands will be insignificant. (Individual, Fort Collins, CO - #19429.83300)

5.15 Global Effects

Some respondents believe that roadless area conservation will mitigate global environmental problems and some respondents believe that it will fail. Many respondents feel that roadless area conservation is critical to mitigating these problems. However, one respondent points out that removal of these areas from possible timber harvest will prevent forest managers from practicing the CO₂ mitigation technique of carbon farming. One respondent feels that national policies should be aimed at minimizing the consequences of global warming and drought, and that this policy fails to do that.

Many respondents feel this proposal will place undue timber harvest pressures on forests outside the United States. They feel that the increased importation of foreign forest products resulting from this rule will have harmful effects.

Respondents assert that the Forest Service should avoid accessing new areas until we understand more about green house warming and global climate change, and that the roadless area

conservation plan is an important step in that direction. They feel that this proposed rule would be beneficial for world ecological welfare.

Public Concern: The Forest Service should consider the effectiveness of roadless area protection in mitigating global environmental problems.

PROTECTION WILL HAVE A POSITIVE EFFECT

The management of public lands, i.e., roadless proposal, should be determined solely by scientific evidence of the overall health of our nation's forests, public and private. We have lost so much biodiversity. Global warming is threatening the existence of all habitats. Preservation and extreme conservation is way overdue. This nation is selfish and wasteful. By preserving roadless areas we can help fight excess waste, gluttonous consumerism, global warming and habitat fragmentation/species extinction. (Individual, Visalia, CA - #509.80000)

Throughout the world and within our own country we are losing plant and animal species left and right. Glaciers are receding in Montana, the ozone hole is the biggest ever, let's please protect our roadless areas A.S.A.P. (Individual, Edwards, CO - #913.80000)

These remaining roadless areas have many crucial ecological functions. They are a great carbon reserve and play an important role in absorbing carbon and countering the buildup of greenhouse gases in the atmosphere. (Individual, Cottage Grove, OR - #1056.85100)

New roads into the Tongass and Chugach forests will presumably be built with fossil-fuel-burning equipment and would be used by fossil-fuel-burning vehicles, exacerbating the global warming and global climate change problems, threatening the health of these forests and of all Earth forests. Other Alaska forests are presently suffering stress and insect damage, at least partially, probably, from GW in Alaska. Therefore, we should build no new roads in the Tongass and Chugach forests. (Individual, San Marcos, CA - #6847.85100)

PROTECTION WILL HAVE A NEGATIVE EFFECT

Our most pressing environmental problem is rapid accumulation of global carbon dioxide and other greenhouse gasses. The EIS has failed to address how the roadless initiative will contribute to the long-term climate change as a result of avoiding carbon farming on public forest lands. (Individual, Missoula, MT - #2280.85100)

Public Concern: National policies should be aimed at minimizing the consequences of global warming and drought.

The Clinton/Gore administration has this perverse notion of global warming, yet presents a case here to do nothing to effect positive change. As is well established in science, available moisture is the key to plant growth and vigor. If we truly are headed toward global warming, or even just a plain old fashioned drought, it seems that our national policies should be aimed at minimizing the consequences. (Individual, No Address - #8442.85100)

Public Concern: The Forest Service should address the resource pressures the proposed rule would place on global forests.

If the Forest Service insists on going forward, a new NOI should be developed that includes: resource pressures this decision would place on global forests. (Individual, Titusville, PA - #905.85000)

There are many nations that have yet to implement some sort of an environmental protection program.

The demand that will be placed on other countries to satisfy the needs of the American people if this EIS is approved has not been studied. In an era where global environmental issues like global warming and ozone depletion are hot topics, the cumulative impacts on a global basis needs to be analyzed and brought before the American people. The study should also include a discussion of international conflicts with the United States since it is conceivable that it may be the only country left with key natural resources. (Individual, Chico, CA - 10596.8500)

Environmentalists like to believe the recent ascendancy of the service/technological economy and the decline of the resource extraction economy supports the need for less productive land than before. Nothing could be further from the truth. While resource extraction has declined in the US, it is primarily due to overly protective management and endless litigation. It has actually increased on a worldwide basis. When you consider that 4 out of every 10 houses built in the US today is constructed with wood procured from outside our borders, then a case can be made that our overly restrictive laws contribute to third world deforestation. We are simply exporting our natural resource demand to other countries, most of who do not have the sound environmental laws that we do. We should be maximizing the responsible production of natural resources, consistent with ecosystem health and sustainability, rather than further reducing it. In fact, we have a moral responsibility to do so in order to be a good world citizen. (Individual, Bend, OR - 5725.84500)

The reduction of available timber from the Forest Service land has already created a 35% increase in imported lumber from foreign countries. The majority of this lumber is coming from countries that do not have any forest practices in place. (Individual, Dalton Gardens, ID - #21440)

Public Concern: The Forest Service should address the importation of forest products.

There is a serious problem of importing forest products. It is only a matter of time until a particular insect or disease is imported and released that will have a devastating effect throughout our forests. There are many examples of an introduced forest pest through our forestry history. (Individual, Columbia Falls, MT - #720.84300)

Public Concern: The Forest Service should avoid accessing new areas until we understand more about green house warming and global climate change.

We are still discovering the mechanisms by which these forests perform valuable services for Earth's biosphere, such as carbon dioxide sequestration. Until we can better understand and value these services, we should demur from invading new stretches of forest with roads, some of which will lead to increased timber harvest, and consequent dispersal and decomposition of carbonaceous biomass, before we understand the benefits and costs of such roaded invasions. We need to manage the Tongass and Chugach forests with urgent attention to the phenomena of increasing atmospheric concentration of carbon dioxide, and of consequent global warming (GW) and global climate change (GCC), because these forests are enormous sites of sequestered carbon and of large natural and potential man-made carbon fluxes. The highest and best use of these forests may be for removing and sequestering atmospheric carbon dioxide; we don't know that, yet; we don't know how to manage for optimum carbon sequestration, yet. This argues for avoiding accessing new areas of these forests by road until we know more about these GW and GCC mitigation options. In an April, 2000 report, the UN-sponsored Intergovernmental Panel on Climate Change (IPCC) concludes, "that there has been a discernible human influence on global climate", and that "three of the last 5 years have been the warmest in the instrumental record", which goes back 140 years. [[reported in Science, 28 April 2000, vol 288, p. 590]] (Individual, San Marcos, CA - #6847.85100)

Public Concern: The Forest Service should implement the proposed rule for world ecological welfare.

I agree that local interests should have some say-so in how to use land reserves, but I also believe the federal government has a duty to regulate such local concerns, which are often blinded to the larger interest of national and world ecological welfare. (Individual, Madisonville, TN - #6421.41000)