



United States  
Department of  
Agriculture

Forest  
Service

Southwestern  
Region

April 2008

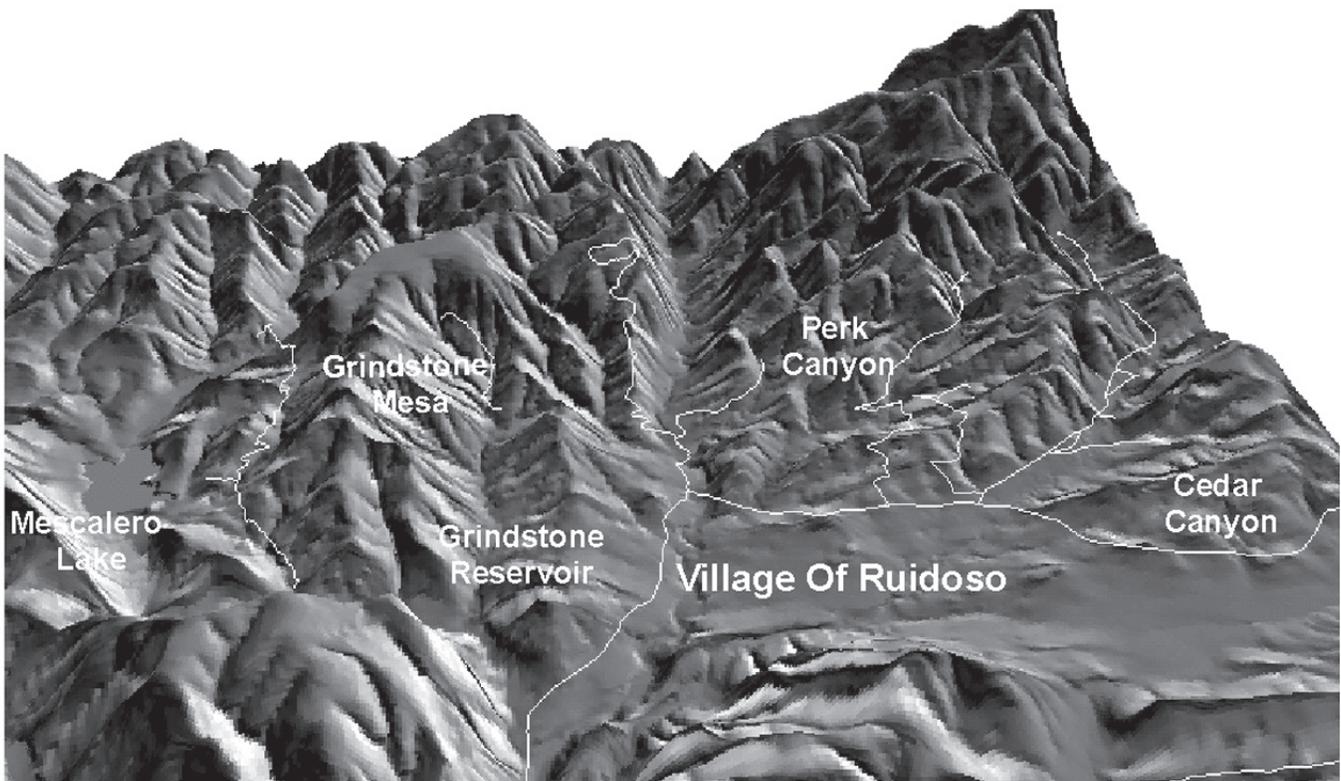
MB-R3-08-3



# Appendix C, Errata Sheet and Response to Comments

## Final EIS for the Perk-Grindstone Fuel Reduction Project

Lincoln National Forest, Lincoln  
County, New Mexico



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Printed on recycled paper – April 2008

# Errata Sheet

The “Final Environmental Impact Statement for the Perk-Grindstone Fuel Reduction Project” consists of the draft EIS (December 2007), together with this appendix C. A final environmental impact statement (EIS) cover page is also available. Comments received on the draft EIS were thoroughly considered in preparing this final EIS. Changes to the EIS in response to comments are confined to the minor corrections and additions contained in this errata sheet and response to comments appendix, which hereby become part of the “Final Environmental Impact Statement for the Perk-Grindstone Fuel Reduction Project” (in accordance with 36 CFR 1503.4(c)).

## Errata

The following corrections apply to references cited in the EIS:

**Pages 63 and 204:** change *Conkin* to *Conklin*, for the Conklin and Armstrong 2002 citation.

**Page 82:** change *1996* to *1986* in the forest plan citation, U.S. Forest Service 1986:206A-E.

**Page 174:** replace (*citation*) with (*BC Forest Safety Council 2007*) for the missing citation.

**Pages 215-217:** move the U.S. Forest Service citations to follow the U.S. Fish and Wildlife Service citations so that they are in proper alphabetical order.

**Pages 203 and 210:** add the following citations that were used on page 146 of the EIS:

Andreu, J., J. Capilla, and E. Sanchis 1996. Aquatool, a generalized decision-support system for water resources planning and operational management. *Journal of Hydrology* (Amsterdam) 177:3-43-4: 269-291.

Kutiel, P. and M. Inbar 1993. Fire impacts on soil nutrients and soil erosion in a Mediterranean pine forest plantation. *Catena*, 20:1/21/2, 1993.

**Pages 203-218:** add the following new citations, in conjunction with the Agency responses to comments contained within this EIS appendix.

Beukema, S. J., E. D. Reinhardt, W. A. Kurz, and N. L. Crookston. 2000. An overview of the fire and fuels extension to the forest vegetation simulator pages 80-85 in L. F. Neuenschwander, K. C. Ryan, and G. E. Gollberg, editors. Joint Fire Science Conference and Workshop Proceedings: “Crossing the Millennium: Integrating Spatial Technologies and Ecological Principles for a New Age in Fire Management,” June 15-17, 1999, Boise, ID. University of Idaho and the International Association of Wildland Fire, Moscow, ID and Fairfield, WA.

Crookston, N. L., and G. E. Dixon 2005. The forest vegetation simulator: A review of its structure, content, and applications. *Computers and Electronics Agriculture* 49: 60-80.

Frey, F. K. 2007. Density and habitat of red squirrel in five study areas on Lincoln National Forest, New Mexico. A final report. Available at forest headquarters.

New Mexico Environment Department 2006. Total maximum daily load for Rio Hondo watershed, Lincoln County, New Mexico. Final report.  
[www.nmenv.state.nm.us/swqb/RioHondo](http://www.nmenv.state.nm.us/swqb/RioHondo) (accessed online 2/21/08).

Upper Rio Hondo Watershed Coalition 2004. Watershed Restoration Action Strategy.  
[www.nmenv.state.nm.us/swqb/RioHondo](http://www.nmenv.state.nm.us/swqb/RioHondo) (accessed online 2/21/08).

West, 2005. The 2004-2005 bird population studies in the Sacramento and White Mountains of the Lincoln National Forest, Lincoln and Otero Counties, New Mexico. 52 pp.

**Page 17:** Insert the following subheading and paragraph after “Public Involvement,” to clarify how the Forest Service complied with legal and regulatory requirements for government-to-government consultation and coordination with potentially affected tribes.

### **Government-to-Government Consultation and Coordination**

The Mescalero-Apache Tribe was identified early in the process as an Indian Tribe that would be potentially affected by the proposed project. Other potentially affected tribes were contacted, but did not express interest in further consultation on this project. The Mescalero-Apache Reservation land immediately surrounds the south and west sides of the Perk-Grindstone project area. Consultation with this tribe on the proposed project began with a Bureau of Indian Affairs-sponsored field trip to the planning area on April 27, 2005. On November 10, 2005, the planning team again met with representatives from the tribe and BIA to further discuss the proposal and its alternatives. Throughout 2006 and 2007, the Forest Service and tribal representatives coordinated about this project through their joint participation at monthly meetings of the Greater Ruidoso Area Wildland-Urban Interface Working Group. The proposed Perk-Grindstone project was a key topic at the monthly working group meetings. In addition, on October 25, 2006, March 15 and 23, 2007, and February 8, 2008, the Forest Service held separate meetings with the tribe to further coordinate and consult on the proposed project. Issues raised by the tribe focused on the need to closely coordinate fuel reduction projects on neighboring Forest Service and tribal lands, and their need to use a road in the project area to access future fuel treatment areas on the reservation.

# Response to Comments

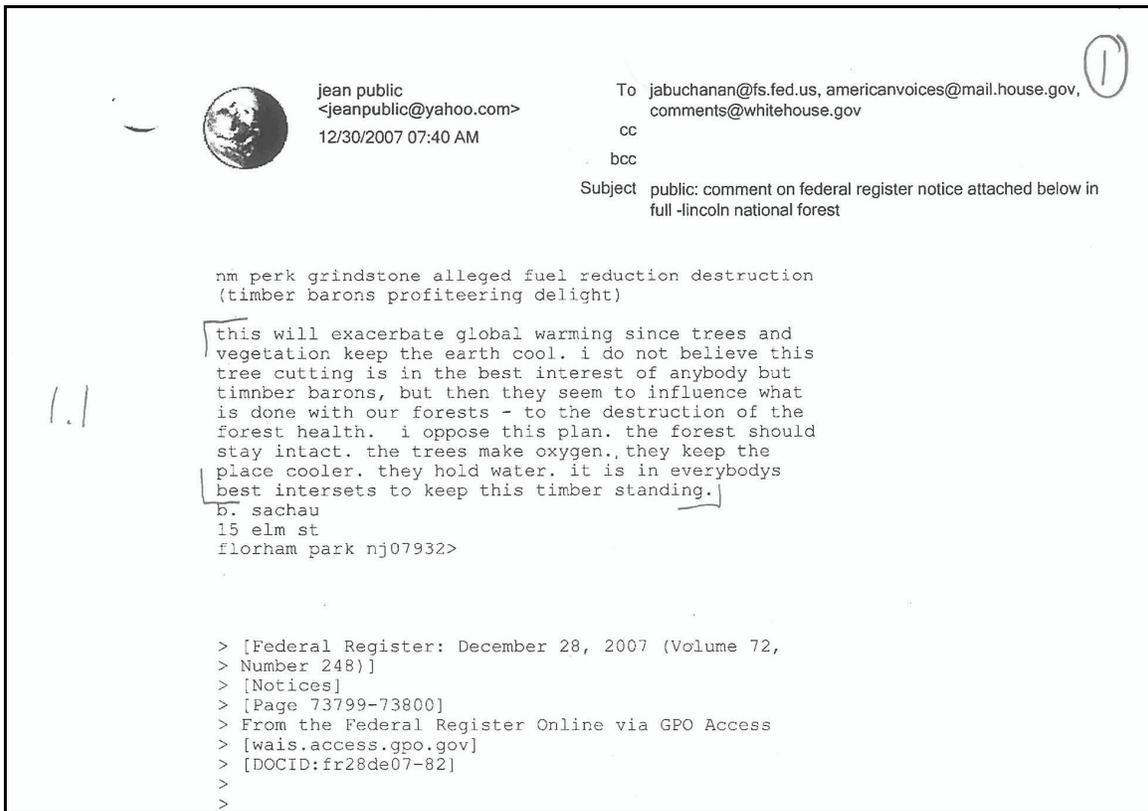
A Federal Register notice announcing the availability of the draft EIS for public review and comment was published on December 28, 2007. A total of 16 letters were received within the 45-day comment period that ended on February 11, 2008. Letter 5 was postmarked after the close of the comment period; therefore, it was considered but removed from this appendix.

The table below shows the letters received by letter number, name of the group or individual who commented, and the type of agency or interest group.

<b>Letter Number</b>	<b>Commenter</b>	<b>Interest Group</b>
1	B. Sachau	Individual
2	Wild Earth Guardians	Conservation Organization
3	State of New Mexico, Department of Game and Fish	State Agency
4	U.S. Department of the Interior, Fish and Wildlife Service	Federal Agency
(5)	(letter omitted from this appendix, due to late submission; available in the project record)	-----
6	New Mexico Forest and Watershed Restoration Institute	Research Organization
7	Environmental Protection Agency	Federal Agency
8	Department of the Army, Corps of Engineers	Federal Agency
9	Mescalero Apache Tribe	Sovereign Tribe
10	Village of Ruidoso	Local Government
11	Ruidoso Valley Chamber of Commerce	Chamber of Commerce
12	Greater Ruidoso Area Wildland-Urban Interface Working Group	Community Group
13	Ruidoso River Association, Inc.	Conservation Organization
14	Roger Q. Allen	Individual
15	Cap Naegle	Individual
16	Jace Ensor	Individual
17	Walter Dueease	Individual

This document includes the complete text of each comment letter received during the comment period. The handwritten numbers in the left-hand margins of each letter indicate the assigned letter and comment number. The comment and response sections that follow each letter contain abbreviated versions or excerpts of the comments, particularly for the more detailed letters. Readers may want to refer back to the complete letter for additional detail about the comment.

## Letter 1: B. Sachau



### Comment 1.1 – Global Warming

*This will exacerbate global warming since trees and vegetation keep the earth cool. I do not believe this tree cutting is in the best interest of anybody but timber barons, but then they seem to influence what is done with our forests - to the destruction of the forest health. I oppose this plan. The forest should stay intact. The trees make oxygen. They keep the place cooler. They hold water. It is in everybody's best interests to keep this timber standing.*

### Response 1.1

We agree that trees and other vegetation play an important ecological role in converting carbon dioxide to oxygen and thereby reducing the effects of global warming. We share the concerns regarding climate change and the related importance of maintaining an intact forest. The proposed project is designed to help maintain a healthy and intact forest, which would contribute to counteracting long-term global warming trends. The project does not call for converting forested land in this area to other uses. The project would thin out individual trees, focusing on removing the smaller white fir trees that have resulted from long-term fire suppression, and dead and dying trees that have been attacked by severe insect and disease outbreaks (EIS chapter 2). Analysis in the EIS shows that thinning in these overly dense stands would promote the growth of the remaining tree stems and crowns, and move toward prefire suppression forest conditions. And without the proposed thinning and prescribed burning, the trees would continue to have competition induced stresses that make them highly susceptible to mortality from insects, disease,

and wildfire (see effects to vegetation and fuels, EIS pages 67-75). The insignificant reduction in trees under the preferred alternative would not be expected to measurably impact state or regional climate trends. Under the no action alternative, however, the area would continue to have a high potential for experiencing a large-scale crown fire that would kill trees across thousands of acres of forest land (EIS pp. 6-13). The primary objective is to reduce the crown fire hazard potential in the area (EIS p. 13).

## Letter 2: Wild Earth Guardians

# WILDEARTH GUARDIANS

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February 11, 2008

Perk-Grindstone FRP  
Lou Woltering, Forest Supervisor  
Lincoln National Forest  
Federal Building  
1101 New York Ave.  
Alamogordo, NM 88310  
[comments-southwestern-lincoln@fs.fed.us](mailto:comments-southwestern-lincoln@fs.fed.us)

Cc: Ruidoso Forester Rick DeIaco, 313 Cree Meadows Dr., Ruidoso, NM 88345

**Re: Comments on Perk-Grindstone Fuel Reduction Project DEIS.**

Dear Mr. Woltering,

WildEarth Guardians (Guardians), formerly Forest Guardians, continues to believe strongly that a municipal watershed is totally inappropriate for commercial logging, and salvage logging. We are not alone and the science largely supports this position. We continue to be perplexed by the Lincoln's insistence on logging the Village of Ruidoso's watershed when the agency has chosen fuel reduction approaches with far lower risks to water and wildlife in places like the Santa Fe Municipal Watershed and the City of Las Vegas Municipal Watershed. It is difficult for us to understand why the municipal watershed of the Village of Ruidoso does not deserve the same careful fuel reduction treatments

2.1

We remain adamant that the proposed site-specific plan amendments waiving requirements to protect Mexican spotted owl and northern goshawk habitat as well as maintaining visual quality and protection of soils on steep slopes is an irretrievable mistake and not justified under these circumstances. Further, we continue to maintain that the "citizen's alternative" would in fact meet the stated purpose and need.

2.1a

1 Compliance with the HFRA: The HFRA of 2003 sets out legal requirements for the agency in implementing any authorized projects.

1.1 Old Growth

The HFRA of 2003 contains old growth protection language that the Forest Service is required to follow. The HFRA requires the Forest Service "to fully maintain, or contribute toward the restoration of the structure and composition of structurally complex old growth stands according to the pre-fire suppression old growth conditions characteristic of the forest type, while considering the contribution of the stand to

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landscape fire adaptation and watershed health, and retaining the large trees contributing to old growth structure.”<sup>i</sup> (emphasis ours).

The HFRA provides that old growth protections contained in management plans established on or after December 15, 1993 are deemed to be sufficient to meet the requirements of the HFRA and will be used by agencies in carrying out hazardous fuels treatment projects under the Act.<sup>ii</sup> The HFRA **does not** require resource management plans to be reviewed or amended if they were put in place between December 15, 1993 and December 3, 2003. The direction in such plans is deemed by HFRA to be sufficient to meet the Act’s requirements.

Resource management plans amended or revised after enactment of HFRA (December 3, 2003) must meet the old growth requirements if authorized projects under HFRA are to occur under those plans.<sup>iii</sup>

2.2

Resource management plans that predate December 15, 1993 require a review if the agencies intend to implement projects under HFRA. For these plans, the old growth management direction can be used for up to two years or, if the plan is in the revision process, for up to three years. During that time, the older management direction should be reviewed to determine the extent to which this direction: 1) reflects more recent relevant information, and 2) is consistent with the old growth requirements. Based on this review, the agencies will determine whether amended direction is needed.

If this review (and subsequent amendment, if deemed necessary) is not completed within the specified time period, and if any member of the public provides “substantial supporting evidence” during scoping that an area within a proposed hazardous fuels treatment project contains old growth, that area must be dropped from the project.<sup>iv</sup>

Please provide supporting evidence that the Lincoln National Forest has completed the review in compliance with the old growth provisions of the HFRA as well as the amended LRMP and if an amendment will be necessary to consider new information since the LRMP was adopted.

1.2 Large Trees

2.3

The HFRA requires that covered projects outside of old growth focus “largely on small diameter trees, thinning, strategic fuel breaks, and prescribed fire to modify fire behavior, as measured by the projected reduction of uncharacteristically severe wildfire effects for the forest type;” (emphasis ours) and, maximize “the retention of large trees, as appropriate for the forest type, to the extent that the large trees promote fire-resilient stands.”<sup>v</sup>

Forest Guardians requests that a table and narrative be provided disclosing the number of trees in each diameter class to be cut. Forest Guardians also requests a simple statistical analysis demonstrating whether or not the tree cutting treatments in the Perk-Grindstone Project focus “largely” on small trees.

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2.3

In the DEIS, it is clear from table 11 on page 63 and table 23 on page 105 that there is a statistical dearth of “large trees” and an abundance of small trees in the planning area. To be exact there are 37 trees per acre on average in the planning area larger than 12” D.B.H. and greater than 866 trees per acre smaller than 12” D.B.H. on average in the planning area. How is it that the project will allow cutting trees up to 18” D.B.H. when these statistics obviously put trees 12” D.B.H. and greater into the category of large trees in this particular planning area. The HFRA calls for focusing largely on small diameter trees, thinning and fuel breaks.

Perk-Grindstone as described in the DEIS is a logging project, not a thinning project or a project focused on fuel breaks as the large tree section describes in HFRA. We believe that this project is in violation of the HFRA statute, in particular Section 102(f).

2 The Forest Service must apply the standards of the National Forest Management Act’s implementing regulations to use the best available science.

The National Forest Management Act of 1976 (“NFMA”) imposes a substantive duty on the Forest Service to use the best available science. This statutory intent is attained in NFMA’s 2005 implementing regulations by requiring the Forest Service to:

“document how the best available science was taken into account in the planning process; evaluate and disclose substantial uncertainties in that science; evaluate and disclose substantial risks associated with plan components based on that science and document that the science was appropriately interpreted and applied.”

36 C.F.R. § 219.11(a)(1)-(4). The Forest Service may satisfy the 2005 regulations’ requirements through the use of “independent peer review, a science advisory panel, or other review methods to evaluate the consideration of science in the planning process.” *Id.* § 219.11(b).

2.4

It is very important that the public understand what the actual risks and hazards are of not taking action are compared to those associated with commercial green tree logging and salvage logging. The information and analysis must be scientifically (e.g. statistically) defensible. The DEIS fails to disclose substantial uncertainties in its fire hazard modeling as well as the science it uses to characterize fire behavior and fire return intervals in the forest types in the planning area.

In general, the DEIS relies on “science” to support its purpose and need as well as environmental impacts that is significantly outdated or misinterpreted. This is a serious fault that must be remedied before this document can pass the NEPA and NFMA thresholds the courts have set.

2.1 The DEIS relies nearly exclusively on the Forest Service Forest Vegetation Simulator and Fire Fuels Extension (FVS-FFE) computer models, and in particular an composite index that appears new to NEPA and modeling called the crown fire

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hazard potential. This index and the FVS-FFE play a nearly dominate role in the DEIS and its adoption of the preferred alternative and rejection of Guardians' "citizen's alternative." (DEIS at 22). For example, the DEIS states:

"The project objective and evaluation criteria for this project analysis is based on changing the crown fire hazard potential, which is derived from the stand density, crown base height, crown bulk density, and other factors that influence crown fire behavior."

However, very little is detailed about this model's assumptions as well as its scientific uncertainties or prediction limitations. There are small clues to the weaknesses of this model in the DEIS, but no full-blown admissions,

There are a large number of models and modeling programs. Major errors can arise from many areas, but 4 sources of error are worth noting in the context of the Perk-Grindstone DEIS: (1) the modeling program algorithms; (2) the data; (3) assumptions that go into processing the data; or (4) assumptions about the purpose and need of management that uses such models.

2.4

Forest Service Forest Vegetation Simulator (FVS) is simplistic: based on models of tree growth that assumes each tree is a an inverted cone that increases in size at a certain rate, and when it becomes crowded, turns into a snag and dies. The models assume a complete assessment of stands in an area has been made. Where this is not the case in Perk-Grindstone planning area, stands with no data are populated using the Most Similar Neighbor Program or an informed guess and then only 7% of the stands with no information could be guessed at. (DEIS at 58).

The model also assumes that stands are uniform in structural nature which is a false assumption and "washes out" important heterogeneity that would affect fire behavior. This results in more uniform fire behavior rather than the "mosaic" of fire behaviors seen in nature even at the stand level. This weakness is hinted at in the DEIS, but never fully disclosed and discussed. For example:

"VSS classes shown in the table were calculated from the vegetation inventory as stand averages. Stand average VSS classes do not reflect the complex and dynamic structural classes at the smaller site scale or broader landscape scale. The average VSS for a stand is based on the trees with the most basal area (square feet of biomass) in the stand. Therefore, the stand average VSS classes do not accurately indicate the high proportion of small trees that are under 6 inches in diameter. It would require a much greater resolution of data than is available to calculate VSS in groups of trees within each stand." (Emphasis ours, DEIS at 104).

And again, the DEIS hints at the serious uncertainties inherent in the FVS model in regards to canopy cover:

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“Canopy closure percentages are quite variable within each stand. Like VSS, the stand averages for canopy closure do not accurately reflect the high degree of within-stand variability. Canopy closure calculations are also highly variable based on the methodology used. Canopy cover calculations using Forest Vegetation Simulator (FVS) are consistently lower than canopy cover estimates calculated by other means (Fiala et al. 2006). Using the FVS method, canopy cover for the two goshawk PFAs averages 32 to 42 percent. Using a stand densiometer method, canopy cover in sampled stands in goshawk PFAs averages approximately 50 to 90 percent (Denton 2006).” (Emphasis ours, DEIS at 106).

2.4

It is obviously apparent that the differences between model predictions and reality on the ground are significant from the differences in the numbers disclosed above. What does this difference translate into as far as power of predictability? Does the FVS model exaggerate fire behavior predictions in the No Action alternative or in the action alternatives? These are critical values that should be fully disclosed and discussed in the DEIS.

The predictive weaknesses or uncertainties are disclosed for the Water Erosion Prediction Project (WEPP) model elsewhere in the DEIS (though not given adequate consideration). Why haven't similar weaknesses disclosed for the FVS-FFE model? For example:

“The WEPP model has some known limitations, particularly in how it predicts downslope sediment yield from roads, although some limitations were compensated for in the analysis. Also, estimates of erosion and sedimentation are not considered absolute values, but rather as estimated values for the purpose of comparing alternatives and identifying general magnitude and duration of effects. More information about the WEPP limitations, calculations, and assumptions used can be found in the project record.” (Emphasis ours, DEIS at 138).

Fire behavior models require up to 8 different data sets. The overall error is the product of the error of all 8 data sets. In the case of Perk-Grindstone, the DEIS does not appear to disclose the overall error level of its predictions which is critical for the public to understand what level of confidence to place in the predicted effectiveness of the proposed actions and how that effectiveness might be weighed against the environmental impacts to water wildlife, scenery and recreation that will result from logging the planning area.

USFS researchers have verified data accuracy ranges from 25 to 87 percent for the potential vegetation type, cover type, and structural stage layers in veg models. (Keane et al. 2000). Accuracy for the crown and surface fuels layers was between 40 to 70 percent. Combined accuracy for 6 of the eight layers used in this study from the Gila National Forest was .63 X .43 X .52 X .35 X .38 X .41. This

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comes out to about 5% accuracy, which if used for fire planning, as is the case in Perk-Grindstone, would demonstrate very little confidence.

Vegetation models are based on silvicultural stand exams which are often based on stem diameter classes, which are very poor indicators of canopy density. It is not practical to count trees less than 2", so the majority of stems which contribute to a future stand are completely missed.

2.4

Insect and tree diseases are often assessed by looking for brown needles and scoring a checkbox for the most likely culprit. Mistletoe gets oversampled because it is easier to identify; any tree with pitch holes has a bark beetle attack. There is always a trade off in reducing canopies. Reducing crown fire potential results in increased wind speed, increased flashy fuel accumulation and increased diurnal desiccation. The result is that following fuels reduction, fires will travel up to 10 times faster through a stand.

One of the goals of trading reduced tree crown fire potential for increased rate of spread is that fires with flame lengths less than 4' high can be fought by hand crews (it is cheaper). This is a logical trade-off, but if a fire outpaces the crews, and burns up homes or results in lives lost, it could be construed that this was the fault of increased spreading rates caused by fuels reduction.

There has been extensive thinning (over 60% of the project area) and maintenance burning in the area and yet it appears the resulting vegetative conditions are not incorporated into the FVS-FFE modeling baseline. This failure raises an important question: Does the FVS-FFE modeling account for the thinning and burning in nearly 60% of the planning area that has occurred over the past decade or so? If so, why are the model predictions of severe crown fire across the entire planning so dire?

2.2 Fire Return Intervals. Fire return intervals cited in the DEIS seem to be more or less acceptable for ponderosa pine (34% of planning area) but are skewed toward short intervals for mixed conifer (48%) and piñon-juniper (15%). The science cited for piñon juniper being "open and park-like" is outdated, ranging from nearly half a century old to 32 years old. (DEIS at 59). This is unacceptable under NFMA's scientific standards.

2.5

There is very little certainty around piñon-juniper ecology and especially fire return intervals. The existing piñon-juniper type in Arizona and New Mexico occurs in all 5 fire regimes, so it varies significantly; typically by terrain and soil type and precipitation zone. A comprehensive review of fire studies in piñon-juniper puts return intervals in this forest types anywhere from 8 to 480 years. (Baker and Shinneman 2004). How the DEIS concludes that fire returns to piñon-juniper forest from every 10-30 years is not apparent or is based on outdated information. Further, these are averages, which is not pointed out in the DEIS.

2.3 [ Mexican Spotted Owl response to fire. There is no robust answer to the question: Are Mexican spotted owl harmed by stand-replacement fire? It is fairly apparent that natural, mosaic burn intensities may benefit the MSO for various reasons. However, the DEIS misuses a recent paper on the subject by MSO specialists. Jenness et al. (2004) compare owl occupancy and reproduction in burned and unburned habitat on 31 sites in the Coconino, Coronado, Gila and Lincoln National Forests and could find no strong statistical relationships, their results were "equivocal."

2.6

However, the DEIS attempts to use this paper to a significant degree to justify the preferred alternative over no action or the Guardians' alternative. Intuitively, stand-replacing fire in an owl nesting site is not a preferred outcome, but the DEIS does its best using weak vegetation modeling and misinterpretation of the Jenness paper to obscure the fact that the most statistically realistic scenario in the planning area would be a natural mosaic fire rather than total stand-replacement.

What Jenness et al. (2004) did find was that the portion of pure pine in a survey area was strongly associated with occupancy rank after a fire. If the Lincoln were truly concerned with the fate of the owl, it could have interpreted this result to favor the Guardians' alternative because that alternative is more strategic in treatments as opposed to the preferred alternative which basically requires cutting trees on every acre. A more cost-effective and strategic alternative would treat the pure pine acres more intensely than the mixed conifer acres to protect owl habitat.

The discussion of recent fire on the Lincoln is confused and misleading as far as its effects on wildlife habitat. For example on page 96, the DEIS invokes recent fires to assert that they have been devastating on the population of Mexican spotted owl, yet Jenness et al. (2004) note that fire may be beneficial to owls for several reasons and that they evolved with this natural force, citing Bond et al. (2002) for support. However on page 111 of the DEIS these very same fires are invoked as beneficial to the goshawk.

3 The Forest Service must comply with the National Forest Management Act by providing for plant and animal diversity as required by statute and monitor the forest-wide populations of management indicator species.

NFMA's 1982 regulations put the statutory diversity mandate into practice by requiring the agency "to maintain viable populations of existing native and desired non-native vertebrate species." 36 C.F.R. § 219.19 (1982). To ensure that viable populations of native animals are maintained the 1982 regulations specify that the agency monitor the impacts of Forest Plans on selected management indicator species ("MIS"). 36 C.F.R. § 219.19 (a)(6).

2.7

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[ The Perk-Grindstone project is subject to the final NFMA regulations that went into effect on January 5, 2005 (70 Federal Register 1022; 36 C.F.R. § 219). These 2005 regulations require forest-wide population monitoring of MIS for forests, like the Lincoln

↶ National Forest, with Forest Plans approved prior to November 9, 2000. 36 C.F.R. 219.14(f). Therefore, NFMA's 1982 implementing regulations are in effect on the Lincoln National Forest to the degree that both actual and trend populations of MIS at the forest level must be collected and monitored.

The Lincoln Forest Plan also obligates the Forest Service to monitor the populations of management indicator species and threatened and endangered species to determine population trends (USDA Forest Service 1986:168). 36 C.F.R. Section 219.11(d). Specific population monitoring methods and intervals are contained in the Plan.<sup>vi</sup> Baseline data, annual monitoring action plans and evaluation reports for management indicator species must also be completed (USDA Forest Service 1986:169). The Lincoln National Forest has never contested its obligation to assess and monitor the populations of the Forest Plan's management indicator species.

2.7 Therefore, to comply with the 2005 NFMA regulations the Lincoln National Forest must monitor populations of MIS (habitat as a surrogate is not acceptable), both actual and trend. The most important MIS and TES to have this required information for this project is the pygmy nuthatch, hairy woodpecker, red squirrel, elk, Mexican vole, and Mexican spotted owl.

The DEIS admits that populations of MIS are monitored at the forest level, but that only effects of management activities on MIS and their habitat are "assessed" at the project level. (DEIS at 117). There is no evidence in the DEIS or project record that we are aware of that would demonstrate the Lincoln has conducted monitoring for any MIS within the project area. This would be a direct violation of the 2005 NFMA regulation as per Forest Guardians et al. v. United States Forest Service ( No. CV 00-714 JP/KPM-ACE).

4 The Perk-Grindstone Project DEIS fails to account for significant contributors to cumulative effects.

The Forest Service Environmental Policy and Procedures Handbook sets the standard for analysis of cumulative effects:

2.8 "Individual actions when considered alone may not have a significant impact on the quality of the human environment. Groups of actions, when added together, may have collective or cumulative impacts, which are significant. Cumulative effects that occur must be considered and analyzed without regard to land ownership boundaries. Consideration must be given to the incremental effects of past, present, and reasonably foreseeable related future actions of the Forest Service, as well as those of other agencies and individuals."

The Council has extensively described the minimum requirements for analysis and mitigation of cumulative impacts on Environmental Quality in its publication "Considering Cumulative Effects Under the National Environmental Policy Act (1997), by the CEQ regulations implementing NEPA (40 C.F.R. 1508.7; 1508.8), and by the

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Forest Service's Environmental Policy and Procedures Handbook (FSH 1909.15.15.1). Specific examples of quantitative information to be addressed by cumulative effects analyses are identified by these sources as well as other regulations or rules for specific resources, such as threatened, endangered, and sensitive wildlife. FSM 2620.3; 2620.44; 2621.3.

At minimum, an adequate cumulative effects analysis must:

- (1) identify the past, present, and reasonably foreseeable actions of Forest Service and other parties affecting each particular aspect of the affected environment;
- (2) must provide quantitative information regarding past changes in habitat quality and quantity, water quality, resource values, and other aspects of the affected environment that are likely to be altered by Forest Service actions;
- (3) must estimate incremental changes in these conditions that will result from Forest Service actions in combination with actions of other parties, including synergistic effects;
- (4) must identify any critical thresholds of environmental concern that may be exceeded by Forest Service actions in combination with actions of other parties, and;
- (5) must identify specific mitigation measures that will be implemented to reduce or eliminate such effects.

2.8

Using these minimum criteria established by the CEQ, by regulations implementing NEPA, and by Forest Service rules and regulations as a guide, it is abundantly clear that the Lincoln National Forest has not even attempted to complete a legally adequate cumulative effects analysis for any aspect of the environment affected by the proposed Perk-Grindstone timber sale.

Despite this clear direction, the Perk-Grindstone DEIS avoids the required analysis and ignores important contributors to cumulative effects in favor of haphazard descriptions of potential contributors that are not consistent across areas of impact. The cumulative effects sections in the Perk-Grindstone DEIS consist of nothing more than weak narrative statements of the Forest Service's opinion and are actually unsupported by the project record.

The Forest Service avoids the required cumulative effects analysis by separating each analysis and ignoring the overall impacts of the proposed actions across the project area as a whole, and relying on BMPs and mitigation measures. The DEIS even invokes a Forest Service research paper from Idaho as evidence that BMPs are effective, when in reality they are not always.

The DEIS assumes that water quality will be protected if BMPs and mitigation measures are implemented. However, while prevention and minimization of adverse impacts at the project site is indeed necessary, it is not sufficient to avoid cumulative effects (CEQ 1971).

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Further, a recent USDA Office of the Inspector General Report concluded that reliance on speculative mitigation measures ... **significantly compromised environmental quality.**<sup>vii</sup>

2.8

The Perk-Grindstone DEIS clearly fails to provide “quantified” or “detailed” information. Two areas in which this failure is most pronounced are: 1) The cumulative effects the timber sale will have on sedimentation and erosion in conjunction with the severely damaging erosion and sedimentation which has already occurred; and 2) Failure to address the cumulative effects of the timber sale in conjunction with other recent and foreseeable activities in the project area and beyond. This is especially important considering the fact that nearly 50% of the soils in the project area demonstrate a severe erosion hazard rating and 41% moderate. (DEIS at 146).

For example, Appendix A lists numerous actions that are not even mentioned in the body of the environmental effects section of the DEIS. The best example is the “past thinning on National Forest Land within the Project Area.” There has been extensive thinning (over 60% of the project area) and maintenance burning in the area and yet the associated environmental affects of these activities are not considered additively with the proposed actions on vegetative conditions, wildlife habitat, and soils and water sections.

In addition, the Bonito Fuels Reduction Project is mentioned in only one place in the DEIS, the cumulative effects section for the Sacramento Mountains Salamander. (DEIS at 116). This project is potentially significant from many important affects perspectives and includes 16,000 acres within the Greater Ruidoso Community Wildfire Protection Plan (GRCWPP). This particularly large project is not mentioned anywhere else in the DEIS.

5 Building roads and removing wood products jeopardizes the Mexican Spotted Owl in violation of Section 7 of the Endangered Species Act.

2.9

Section 7 of the Endangered Species Act requires federal agencies to both act and refrain from acting for the benefit of listed species. Section 7(a)(1) mandates that all federal agencies work pro-actively toward the conservation of listed species. 16 U.S.C. § 1536(a)(1). Section 7(a)(2) prohibits federal actions that jeopardize listed species or degrade their habitats. 16 U.S.C. § 1536(a)(2).

To avoid jeopardy, federal agencies have a duty to consult with the U.S. Fish and Wildlife Service whenever a listed species or its habitat is found within an area, such as the Perk-Grindstone planning area, that will be affected by an agency action. The U.S. Fish and Wildlife Service in turn must prepare a biological opinion and set forth reasonable and prudent alternatives if the proposed action is likely to jeopardize a listed species or degrade its habitat.

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6 The Forest Service must provide quantitative estimates of the project’s effects to Mexican Spotted Owl critical habitat per Section 4 of the Endangered Species Act.

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2.10

The Endangered Species Act prevents the destruction or adverse modification of the designated critical habitat of listed species. 16 U.S.C. § 1536(a)(2). The final rule designating critical habitat for the Mexican Spotted Owl provided only a qualitative description of the primary constituent elements (basal area, canopy cover etc.) that must be preserved to avoid adverse modification of the owl's critical habitat. Concerning quantitative measures necessary to protect the owl's critical habitat, the final rule states "it is more prudent to pursue the establishment of quantitative estimates (e.g. basal area, canopy closure, etc.) through consultation" with the Fish and Wildlife Service in project-level decisions. FR 69:53211.]

7/ The Forest Service must reinitiate formal consultation under the Endangered Species Act because the Mexican Spotted Owl's non-jeopardy assumptions are no longer valid.

The Fish and Wildlife Service in 1996 completed two programmatic Biological Opinions evaluating, in part, the impacts of fuel abatement projects on the Mexican spotted owl pursuant to the Endangered Species Act. Both Biological Opinions were based on the assumption that the Forest Service would implement specific standards ensuring the owl's survival. The Forest Service in turn amended all its Forest Plans in the southwestern region, including the Lincoln National Forest Plan, to include standards and guidelines to protect the Mexican spotted owl.

2.11

However, ten years later, the Forest Service is either not implementing or not meeting those standards. Therefore, the assumptions upon which these programmatic Biological Opinions were based are no longer valid and the Forest Service must immediately reinitiate formal consultation.

Specifically, the Forest Service has failed to monitor the owl population. The 1996 Biological Opinions and Forest Plan amendments both require that the Forest Service produce: 1) baseline imagery to monitor macrohabitat; 2) annual microhabitat monitoring reports; and 3) design and implement an owl population monitoring program. Each of these requirements was to be fulfilled by November 25, 1997. The failure to fulfill these monitoring requirements constitutes new information that was not previously considered in the programmatic consultations.

Therefore, the Forest Service must reinitiate consultation to avoid jeopardy and fulfill its obligation to actively work toward the owl's recovery.]

8/ The Forest Service is violating Section 9 of the Endangered Species Act by failing to comply with the terms and conditions of the 1996 Biological Opinions.

2.12

Section 9 of the Endangered Species Act prohibits any person, including officials of the federal government, from doing harm to members of listed species. 16 U.S.C. § 1538(a), 1532(13). In 1982, Congress amended the Endangered Species Act to allow for the "incidental take" (i.e. harm) of listed species in connection with federal projects that meet

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the Section 7 no-jeopardy standard where such take is incidental to the carrying out of an otherwise lawful activity.

2.12

The 1996 Biological Opinion anticipated an incidental take of 10 percent of the owl protected activity centers resulting from a variety of treatments to reduce fuel accumulation and abate fire hazard. Because of the considerable uncertainty over the impacts of these activities to the owl population and its habitat, the Biological Opinion required monitoring to ensure that this authorized level of take would not be exceeded.

The Forest Service, however, has ignored its duty to monitor these hazardous fuels reduction projects. In particular, the Forest Service has not monitored the initial projects to ensure that there are no “negative impacts.” The 1996 Biological Opinion only allows the hazardous fuels reduction program to proceed in increments if the initial projects can demonstrate that harm had not occurred (USDI USFWS1996:30).

9 The Project May Unlawfully Take Mexican Spotted Owls in Violation of the Endangered Species Act.

The Endangered Species Act (“ESA”) is the primary U.S. law aimed at protecting species of animals and plants from human threats to their survival. Despite this mandate, the ESA allows actions by federal agencies that may result in “taking” individuals of listed species incidental to an action only to the degree that such take does not jeopardize their continued existence. 16 U.S.C. Section 1536(b)(4).

2.13

The U.S. Fish and Wildlife Service’s (“FWS”) Biological Opinion analyzing the effects of the 1996 Forest Plan amendments on the Mexican spotted owl (“MSO”) anticipated that the amount of incidental take would be 156 MSO Protected Activity Centers (“PACs”) over a six year period in the National Forests of New Mexico and Arizona. As of June 10, 2005, Forest Service actions have resulted in the take of 243 owls or 101 more than specified in the Biological Opinions.

Pursuant to 40 C.F.R. 402.16, the Forest Service and FWS reinitiated consultation on MSO and 58 other species but continue to approve projects that take MSO without a valid incidental take permit. Such action is clearly in violation of Section 9 of the ESA that prohibits any person, including officials of the federal government, from doing harm to members of listed species. 16 U.S.C. § 1538(a), 1532(13). The courts have found that habitat destruction that results in population reduction of a listed species constitutes harm. See Palila v. Hawaii Dept. of Land & Natural Resources 649 F. Supp. 1070 (D. Haw. 9186), aff’d, F.2d 1106 (9th Cir. 1988). In addition, harming a listed species violates ESA Section 7(a)(1) which imposes a duty on all federal agencies, above and beyond their primary missions, to conserve listed species and avoid actions that may cause harm.

Before the Perk-Grindstone project can proceed, the Forest Service must ensure that its past and on-going actions are not exceeding the authorized level of incidental take and must not take unauthorized action that harms the owl.

10 The Perk-Grindstone Project must comply with the Clean Water Act.

The Forest Service is bound by the Clean Water Act Section 313 (33 U.S.C. Section 1323) to comply with New Mexico water quality standards. Currently the Rio Ruidoso within and below the project area is in violation of water quality standards for temperature, turbidity, plant nutrients and stream bottom deposits (2004-2006 Integrated 303(d)/305(b) Report).<sup>viii</sup>

2.14

In cases such as this, where there are on-going violations of state water quality standards and impairment is coming from several sources, the Clean Water Act demands that a Total Maximum Daily Load (TMDL) plan be developed and implemented to address the all sources of pollution, including the additional pollution that this project may produce. 33 U.S.C 1313(d).

The Perk-Grindstone project will contribute elevated sediment loads to the Rio Ruidoso (DEIS at 149) in violation of the CWA.

11 The Perk-Grindstone Project must comply with the Migratory Bird Treaty Act and state laws protecting birds.

The Migratory Bird Treaty Act (“MBTA”) and the international migratory bird treaties implemented through the Act, impose substantive obligations on federal agencies to conserve migratory birds and their habitats. 16 U.S.C. 703-711. Under the MBTA it is unlawful “at any time, by any means or in any manner to . . . kill . . . any migratory birds” 16 U.S.C. 703-711. This applies to government employees who may not intend to kill migratory birds but nonetheless take actions that result in the death of protected birds. Humane Society v. Glickman, 217 F. 3d 882 (D.C. Cir. 2000). The “take” of migratory birds by a federal agency is prohibited unless authorized by permit from the U.S. Fish and Wildlife Service.

2.15

In addition, Executive Order 13186 signed by former President Clinton on January 10, 2001 directs federal agencies to take specific actions to further implement the MBTA. These actions include integrating bird conservation principles, measures and practices into agency activities and avoiding or minimizing adverse impacts to migratory birds and their habitats when conducting agency actions. The Forest Service has yet to implement the measures called for by Executive Order 13186.

In New Mexico it is unlawful “for any person . . . to destroy any songbird, or birds whose principle food consists of insects.” NMSA 1978, Section 17-2-13 (2006), NMAC 19.30.2.7. The proposed action must conduct prior surveys or propose other reasonable mitigation measures to avoid killing migratory birds.

Respectfully submitted,



Bryan Bird, Wild Places Program Director  
WildEarth Guardians

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<sup>i</sup> *HFRA Section 102(e)(2)*.

<sup>ii</sup> *Id.*

<sup>iii</sup> *Ibid.*

<sup>iv</sup> *HFRA Section 102(e)(4)(C)*.

<sup>v</sup> *HFRA Section 102(f)*.

<sup>vi</sup> For example, the monitoring of non-game birds must be done by point-counts and single season monitoring annually.

<sup>vii</sup> Office of Inspector General, U.S. Dept' Of Agric., Evaluation Report No. 08801-10-At: Forest Service Timber Sale Environmental Analysis Requirements (1999).

<sup>viii</sup> <http://www.nmenv.state.nm.us/wqcc/303d-305b/2004/index.html>.

## **Comment 2.1 – Logging in Municipal Watershed**

*We continue to be perplexed by the Lincoln's insistence on logging the Village of Ruidoso's watershed when the agency has chosen fuel reduction approaches with far lower risks to water and wildlife in places like the Santa Fe Municipal Watershed and the City of Las Vegas Municipal Watershed. It is difficult for us to understand why the municipal watershed of the Village of Ruidoso does not deserve the same careful fuel reduction treatment.*

## **Response 2.1**

The Forest Service approach to wildland-urban interface fuel reduction projects varies on a case-by-case basis. For example, the Santa Fe municipal watershed was roadless with the exception of one short road at the bottom, which was used to remove wood products. As no other roads existed in the “closed” watershed, additional wood utilization was not practical. Also, the Gallinas Fuel Reduction Project included road reconstruction and wood removal within the City of Las Vegas municipal watershed. The Perk-Grindstone Fuel Reduction Project includes logging (wood removal) on 41 percent of the treatment acreage, and is a reasonable course of action for this project area, in light of the following considerations:

- The agency chose not to build new roads on the steep slopes, but to utilize existing roads on the gentle terrain. The project would use a maximum of 16 miles of pre-existing roads and add less than 4 miles of new road segments in the area, in order to facilitate the fuel treatments (EIS p. 39).
- Approximately 59 percent of the treated areas would involve no roads or wood product removal (in the mastication, manual, and burn-only treatment areas displayed on EIS p. 42). This is to protect and conserve watershed and wildlife values in this area.
- Once the project is completed, the miles of open roads would be reduced from existing levels, as a further wildlife and watershed conservation measure.
- Road construction and reconstruction would meet Agency standards for soil and water conservation (EIS pp. 47-48). Water quality effects would be limited to adjacent stream channels, which would be “buffered” from fuel treatments, and there are no perennial streams in the project area (EIS p. 148). The hydrologist’s analysis found that the project would not adversely impact Grindstone Reservoir, which provides about 30 percent of the municipal water for local residents, nor would it impact perennial streams in the Grindstone watershed (EIS, pp. 148-153).
- The ability to remove and utilize some of the excess wood that is a byproduct of reducing hazardous fuel loads in this area would have many social and economic benefits, as described in EIS pp. 184-185.
- Fuel reduction treatments can be done more cost efficiently, in less time, and treatments would be more effective with the ability to use roads on the gentler terrain. In addition, the roads would greatly improve the Agency’s ability to control a wildfire and protect the Village of Ruidoso.

### **Comment 2.1a – Forest Plan Amendments**

*We remain adamant that the proposed site-specific plan amendments waiving requirements to protect Mexican spotted owl and northern goshawk habitat as well as maintaining visual quality and protection of soils on steep slopes is an irretrievable mistake and not justified under these circumstances.*

#### **Response 2.1a**

The EIS provides adequate rationale for proposing site-specific plan amendments (pp. 30-32). It explains the diligent effort made to design the proposed treatments to meet all forest plan and Mexican spotted owl recovery plan standards and guidelines, and how “the purpose and need for the project would not be met if all trees 9 inches and larger in diameter were retained in all spotted owl protected habitat areas...” (p. 31). The EIS further explains why the “citizen’s alternative,” which would not require plan amendments, would not substantially reduce the crown fire hazard potential in the project area (EIS pp. 21-23). The FVS-FFE modeling completed on the citizen’s alternative indicated that approximately 50 percent of the project area would remain in a high, very high or extreme crown fire hazard condition. This was determined to pose an unacceptable risk to the Village of Ruidoso and other values that could be seriously impacted by a large crown fire.

### **Comment 2.2 – Forest Plan Old Growth Direction and HFRA**

*Please provide supporting evidence that the Lincoln National Forest has completed the review [of forest plan direction] in compliance with the old growth provisions of the HFRA as well as the amended LRMP and if an amendment will be necessary to consider new information since the LRMP was adopted.*

#### **Response 2.2**

The old growth management direction in the forest plan for the Lincoln National Forest was reviewed and updated in a 1996 forest plan amendment made to all forest plans in Region 3. The EIS and ROD for the 1996 forest plan amendment documents that review, and forest plan replacement pages 38, 38a, and 38b document the updated old growth management direction for “Lincoln National Forest Plan Amendment 9.” No further review of forest plan direction is required. The Perk-Grindstone Fuel Reduction Project was designed in accordance with all forest plan and HFRA requirements for management of old growth stands (see EIS pp. 45-46, 65; and HFRA Section 102 (e)).

### **Comment 2.3a Large Trees and HFRA**

*Forest Guardians requests that a table and narrative be provided disclosing the number of trees in each diameter class to be cut. Forest Guardians also requests a simple statistical analysis demonstrating whether or not the tree cutting treatments in the Perk-Grindstone Project focus “largely” on small trees.*

*In the EIS, it is clear from table 11 on page 63 and table 23 on page 105 that there is a statistical dearth of “large trees” and an abundance of small trees in the planning area. To be exact there are 37 trees per acre on average in the planning area larger than 12” D.B.H. and greater than 866 trees per acre smaller than 12” D.B.H. on average in the planning area. How is it that the*

*project will allow cutting trees up to 18” D.B.H. when these statistics obviously put trees 12” D.B.H. and greater into the category of large trees in this particular planning area. The HFRA calls for focusing largely on small diameter trees, thinning and fuel breaks.*

**Response 2.3**

The EIS thoroughly describes how the project emphasizes thinning out the small diameter trees and creating fuel breaks, while retaining the larger trees, consistent with HFRA Section 102 (f) requirements (pp. 14, 25-26, 33, 37, 71-72, 89-93, 108-110). The cutting prescriptions and mitigation measures in chapter 2 provide some indication of this emphasis. The preferred alternative limits cutting live trees to a 9-inch diameter on 41 percent of the treated acres (EIS ch. 2, p. 42). None of the prescriptions allow cutting trees over 18 inches in size (p. 33). Where cutting trees up to 18 inches in diameter is allowed, the EIS states: “proportionately fewer trees in the 9- to 12-inch class would be felled and even fewer in the 12- to 18-inch class” (p. 33). The EIS frequently describes how the treatments would result in a very clumpy, uneven-age mosaic of tree size classes, but with a distinct shift to a larger proportion of larger size trees dominating the landscape, and a more substantial reduction in the smaller, understory trees (EIS, pp. 70-72, 89-93, 108-110). Also, 31 percent of the area would be managed to maintain or enhance old growth attributes and specifically to improve the proportion of large trees in old growth stands (EIS p. 109). The project’s focus on retaining larger trees is clear; no statistical analysis is necessary.

Some 12- to 18-inch trees would be selected for removal, such as where they occur in large, high-density patches, where there may be a need to thin some out to reduce the prevalence of insect and/or disease or to lower crown bulk density, to meet the project’s desired condition and purpose and need (EIS pp. 12-13). It would also allow removal of fire-intolerant trees (mostly white fir) while favoring fire-resistant trees like ponderosa pine. The majority of the 12- to 18-inch trees consist of white fir species that became established due to the lack of natural fire regimes (EIS pp. 58-61). Reducing the number of white fir trees is an important factor in moving toward pre-fire suppression ecosystem conditions while meeting fuel management objectives. Overall, the analysis showed that allowing tree cutting up to 18 inches in some areas would better meet the desired conditions and purpose and need compared to thinning up to only 12-inch trees (EIS pp. 21-23, 31-32).

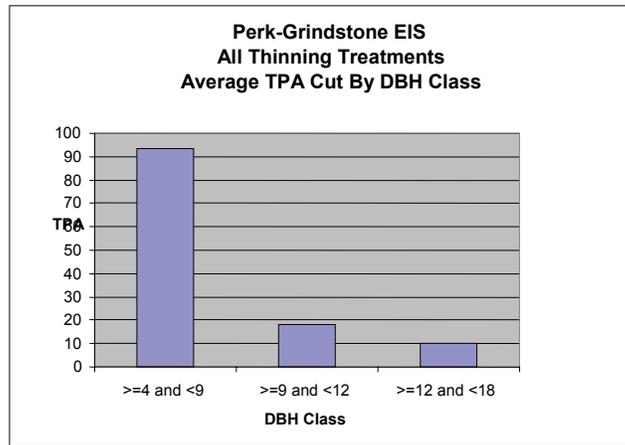
As requested, the following table shows an estimate of the existing number of trees by diameter class along with the number expected to be cut. All values below were derived using available 2006-2007 stand exam data and the Forest Vegetation Simulator to model various thinning regimes. The values are weighted averages. The table includes the thousands of tree seedlings and oak sprouts per acre (<1-inch diameter) that would be thinned by prescribed fire, and expected to rapidly regenerate/resprout within a few years.

**Average number of trees per acre, number of trees per acre to be cut, and percent change, by diameter class, for all stands proposed for thinning in all thinning regimes.**

<b>Diameter Class (inches)</b>	<b>Existing Trees per Acre</b>	<b>Trees per Acre to Cut</b>	<b>Percent Reduction</b>
<4	5,620	5,409	96%
>=4 and <9	108	94	87%

Diameter Class (inches)	Existing Trees per Acre	Trees per Acre to Cut	Percent Reduction
>=9 and <12	42	18	43%
>=12 and <18	35	10	29%
>=18	9	0	0%

To further illustrate the focus on cutting small trees, the following diagram shows the average trees per acre to be cut by diameter class for the 4- to 9-inch, 9- to 12-inch, and 12- to 18-inch classes.



**Comment 2.4 – The FVS-FFE Model and Best Available Science**

*It is very important that the public understand what the actual risks and hazards are of not taking action compared to those associated with commercial green tree logging and salvage logging. The information and analysis must be scientifically (e.g. statistically) defensible. The DEIS fails to disclose substantial uncertainties in its fire hazard modeling as well as the science it uses to characterize fire behavior and fire return intervals in the forest types in the planning area.*

*The predictive weaknesses or uncertainties are disclosed for the Water Erosion Prediction Project (WEPP) model elsewhere in the DEIS (though not given adequate consideration). Why haven't similar weaknesses been disclosed for the FVS-FFE model?*

*Major errors can arise from many areas, but 4 sources of error are worth noting in the context of the Perk-Grindstone DEIS: (1) the modeling program algorithms; (2) the data; (3) assumptions that go into processing the data; or (4) assumptions about the purpose and need of management that uses such models. Forest Service Forest Vegetation Simulator (FVS) is simplistic: based on models of tree growth that assumes each tree is an inverted cone that increases in size at a certain rate, and when it becomes crowded, turns into a snag and dies. The models assume a complete assessment of stands in an area has been made. Where this is not the case in Perk-Grindstone planning area, stands with no data are populated using the Most Similar Neighbor Program or*

*an informed guess and then only 7% of the stands with no information could be guessed at (DEIS at 58).*

*The model also assumes that stands are uniform in structural nature which is a false assumption and “washes out” important heterogeneity that would affect fire behavior. This weakness is hinted at in the DEIS, but never fully disclosed and discussed. For example: “VSS classes shown in the table were calculated from the vegetation inventory as stand averages. Stand average VSS classes do not reflect the complex and dynamic structural classes at the smaller site scale or broader landscape scale. Like VSS, the stand averages for canopy closure do not accurately reflect the high degree of within-stand variability.*

*Does the FVS model exaggerate fire behavior predictions in the No Action alternative or in the action alternatives? Fire behavior models require up to 8 different data sets. The overall error is the product of the error of all 8 data sets. The DEIS does not appear to disclose the overall error level of its predictions. ...Combined accuracy comes out to about 5% accuracy, which...would demonstrate very little confidence [based on a study on the Gila National Forest by Keane et al 2000]. Vegetation models are based on silvicultural stand exams which are often based on stem diameter classes, which are very poor indicators of canopy density. It is not practical to count trees less than 2", so the majority of stems which contribute to a future stand are completely missed.*

*Mistletoe gets oversampled... [and] ... following fuels reduction, fires will travel up to 10 times faster through a stand...if a fire outpaces the crews and burns up homes or results in lives lost, it could be construed that this was the fault of increased spreading rates caused by fuels reduction.*

*Does the FVS-FFE modeling account for the thinning and burning in nearly 60% of the planning area that has occurred over the past decade or so? If so, why are the model predictions of severe crown fire across the entire planning so dire?*

## **Response 2.4**

We used the Fire and Fuels Extension to the Forest Vegetation Simulator (FVS-FFE) model as an analysis tool and indicator of relative differences in crown fire hazard potential between alternatives considered. It was not used to determine absolute values or make precise fire behavior predictions. The FVS-FFE model simulates fuel dynamics and potential fire behavior over time, in the context of stand development and management. The FVS-FFE is a peer-reviewed, scientifically based model that has been widely used throughout the interior West during the past 5 years. It is currently used by many government agencies, research and educational institutes throughout the nation and considered to be the best available science.

We considered the limitations and uncertainties of using the FVS-FFE model, which are described in Reinhardt and Crookston (2003), as referenced in the EIS (pp. 58, 212). The model's limitations are as follows:

- The base model, FVS, simulates growth and mortality using cycles of typically 10 years. The FFE operates on a 1-year time step. Sometimes this can lead to model behavior that is an artifact of cobbling together the two time steps and is not an intended representation of a real phenomenon. Snag numbers, for example, tend to exhibit a saw-toothed pattern, with sharp increases at cycle boundaries when all the cycle's natural mortality is added,

- and gradual declines between, as snag fall-down occurs. Choosing short cycle lengths or reporting indicators only at cycle boundaries can somewhat compensate for this problem.
- Discontinuous behavior is particularly evident in indicators that depend in part on canopy base height—canopy base height itself, torching index, potential tree mortality, and fire type. In this case the underlying processes probably are discontinuous—regeneration often occurs in pulses, a stand suddenly passes a critical point after which vulnerability to torching sharply increases or decreases. These intended discontinuities are probably exaggerated by the fact that in the model, all regeneration occurs on cycle boundaries, as well as all natural tree mortality. Self-pruning and mortality of suppressed understory trees may cause the stand’s canopy base height to increase sharply at a cycle boundary, or ingrowth may cause the canopy base height to fall abruptly.
  - Within a year, users cannot control the order of simulated management actions.
  - Live fuels (herbaceous plants and shrubs) are poorly represented. Their biomass and its contribution to fuel consumption and smoke are only nominally represented as a fixed amount that depends on percent cover and dominant tree species. Live fuels can contribute significantly to the behavior of a fire. Their contribution to fire behavior is represented in the selection of fire behavior fuel models. Live fuels are not dynamically tracked and simulated in FFE-FVS.
  - Decomposition rates are not sensitive to aspect, elevation, or potential vegetation type in FFE-FVS. Decomposition rates can be controlled by the user, however, so it is possible for a knowledgeable user to “tune” the decomposition algorithms and, thus, the fuel dynamics.
  - Fire conditions (fuel moisture and wind speed) must be selected by the user.

Based on the above limitations, we used site-specific data including local stand conditions, local weather conditions, and local fuel models to improve the accuracy of the model and overcome as many of the limitations as possible. The forest stands within the project area ranged in size from 5 to 250 acres. Stand examinations were conducted in forest stands throughout the project area and met Agency standards for statistical validity. We distributed plots in increasing numbers commensurate with increases in stand size. Only 14 of 194 stands in the project area were not sampled by direct stand examinations, and those stands were populated with stand attribute data using the INFORMS and Most Similar Neighbor (MSN) applications, which are standard state-of-the-art sampling inference procedures, commonly used by the Forest Service (EIS p. 58).

The FVS projects tree growth, tree mortality and regeneration, and the impacts of a wide range of forest management treatments. The Fire and Fuels Extension (FFE) simulates fuel accumulation from stand dynamics and management activities, and the removal of fuel through decay, mechanical treatments, and fire. Various types of fuel are represented, including canopy fuel and surface fuel in several diameter classes. Fire behavior and effects such as fuel consumption, tree mortality, and smoke production are modeled. Model outputs describe fuel characteristics, stand structure, snags, and potential fire behavior over time, and provide a basis for comparing proposed fuel treatment alternatives.

We agree that errors can occur with the use of models, although steps were taken to reduce the probability of those errors. The Perk-Grindstone project used local data collected for the project area to self-calibrate and adjust the internal growth models to match the growth rates evident in

the input data. The FVS model then utilized additional algorithms to simulate tree growth, mortality, and regeneration. The FFE (submodel extension) then allows for additional ecological factors to be addressed, such as calculating potential fire intensity over time, as a measure of forest and fuel conditions. When a fire is simulated, the model computes first and second order effects of a fire on the stand. First order effects include fuel consumption, tree mortality, crown consumption, smoke production, and mineral soil exposure. Second order effects include the reduced growth of scorched living trees, increased fall rate of some snags, and potentially altered growth, mortality, or regeneration prediction by FVS. Various reports are generated that can be used to assess the potential fire-caused effects on the stand under different management regimes. Information produced includes potential flame length, type of fire (e.g. surface fire or crown fire), basal area mortality, crown base height, crown bulk density, and the wind speed required to produce torching or crowning. The components required to produce the fire effects outputs include standing dead trees, surface fuels including fallen trees and other woody debris, leaf litter, and duff. The material on the ground affects the fuel model representing the stand which directly affects fire behavior including flame lengths and rates of spread.

A detailed description of the FFE submodel can be found in the EIS reference cited, Reinhardt and Crookston, 2003. The FVS base model descriptions can be found in other references cited in the EIS, including Dixon 2003 and 2006. In addition, as noted in the “Essential FVS: A User’s Guide to the Forest Vegetation Simulator” (Dixon 2005):

“FVS is a semi-distant-independent, individual tree growth and yield model (“semi” because certain parts of the model localize competition and site variables to a point basis within a stand). It treats a stand as the population unit and utilizes standard forest inventory or stand exam data. Local growth rates are used to adjust model growth relationships, which is a distinguishing feature of the model. FVS can portray a wide variety of forest types and stand structures ranging from even-aged to uneven-aged, and single to mixed species in single to multistory canopies.”

The FVS-FFE accounts for some within-stand diversity, such as by using the diameter distributions of all trees within each stand. We do agree, however, that the model primarily uses average stand attributes to compute fire behavior indicators such as canopy base height, torching index, crowning index, potential tree mortality, and fire type. This limitation is addressed to some extent by the site-specific selection of fuel models to characterize fuel conditions within stands (EIS p. 66). In addition, contrary to the commenter’s assertion, the vegetation structural stage (VSS) classes and canopy cover percentages are not used as inputs or outputs of the FVS-FFE model. The EIS acknowledges that average stand VSS and canopy cover percent, which were used in the EIS to assess forest plan consistency, are not the best indicators for evaluating fire behavior or other effects to heterogeneous, unevenly structured forest stands.

The commenter’s assertions about the inaccuracy of FVS-FFE model data based on information cited from the Gila National Forest study by Keane et al. 2000 is not relevant to assessing the accuracy of this model. The Keane et al. 2000 article cited simply states that FARSITE, the model used in the article, uses eight data sets. That article discusses remotely sensed data collected for over 2 million acres for fire modeling using FARSITE. The FVS-FFE model developers do not provide a statistical error level or accuracy figure for the model’s predictions, perhaps due in part to the variability in fuel moisture and weather inputs to the model, which affect fire behavior. However, there is no reason to believe the FVS-FFE model grossly exaggerates the crowning and torching indices or overall crown fire hazard ratings for the no action alternative (existing

condition). Our forestry and fire specialists reviewed model inputs and outputs and determined that they were appropriate based on their site specific field observations, experience and professional judgment.

The specialists used consistent data inputs such as for fuel and weather conditions when they ran the model for each alternative, to ensure consistency in comparing relative degree of change in crown fire potential between alternatives. Outputs showed the Guardian's alternative would reduce the highest crown fire hazard ratings by about 8 percent while the proposed treatments would reduce those ratings by about 40 percent. Thus, despite known model weaknesses, the output provided an indicator that the Guardian's alternative would not meet the purpose and need for this HFRA-WUI project, as explained in more detail in the EIS (pp. 21-22).

The comment that "vegetation models are based on silvicultural stand exams which are often based on stem diameter classes, which are very poor indicators of canopy density" is an inaccurate portrayal in light of the model and analysis. It is true that stand exam data, including individual tree stem diameters, goes into the model, along with many other factors that are scientifically proven to be relevant to determining fuel conditions and crown fire hazard. The next comment, that "It is not practical to count trees less than 2 inches, so the majority of stems which contribute to a future stand are completely missed," is also inaccurate. As shown in the diameter distribution table previously inserted in this document, the stand examinations and FVS model included counts of seedlings and oak sprouts that are less than 2 inches in diameter.

The commenter further states that "Insect and tree diseases are often assessed by looking for brown needles and scoring a checkbox for the most likely culprit" [and] "mistletoe gets oversampled because it is easier to identify...." These are inaccurate descriptions of how the insect and disease estimates were made for this project. Insect and tree diseases were sampled in a variety of ways, with the presence of brown needles or pitch holes as possible indicators, combined with other indicators and judgment made by professionals making direct observations. While mistletoe is easily identified while performing stand exams, this would not result in oversampling. Actual presence of mistletoe is simply recorded where it occurs. The common stand exam surveys used for this project followed well accepted Agency protocols for estimating insect and disease.

We generally agree with the comments about how fuel reduction treatments can "increase wind speed, flashy fuel accumulation and diurnal desiccation," such that "fires can travel up to 10 times faster through a stand." Proposed fuel reduction treatments would result in more low vegetation like grasses and shrubs and a more open tree canopy, especially in the understory layer. Most post-treatment fires would be expected to travel primarily through the surface layer of the forest, at a faster rate than most crown fires. However, a running crown fire would be substantially hotter, have higher flame lengths, and often results in spot fires occurring much further distances (often miles) from the flame front than surface fires. Crown fires have typically been more difficult for firefighters to control than even faster spreading surface fires. Therefore, contrary to the commenter's conclusion, surface wildfires in a forested landscape would offer a higher potential for protecting lives and properties than crown fires.

The commenter also asks whether "the FVS-FFE modeling accounts for the thinning and burning in nearly 60 percent of the planning area that has occurred over the past decade or so, and if so, why are the model predictions of severe crown fire across the entire planning so dire"? First, thinning and/or burning has only occurred within 34 percent, not 60 percent, of the 5,200-acre

project area (map available in project record). These past treatments targeted very small trees and down wood along existing roads near the village boundary. The cool season burning did not adequately consume the slash so some additional burning is prescribed, and some of those prethinned stands still require a second thinning entry to achieve a defensible space along those roads near the village boundary. The stands that contribute most to the severe crown fire hazard in the project area are mostly in the steep, unroaded areas outside those pretreated stands.

### **Comment 2.5 – Fire Regimes and Best Available Science**

*Fire return intervals cited in the DEIS seem to be more or less acceptable for ponderosa pine (34% of planning area) but are skewed toward short intervals for mixed conifer (48%) and pinyon-juniper (15%). The science cited for pinyon-juniper being "open and park-like" is outdated, ranging from nearly half a century old to 32 years old (DEIS at 59). This is unacceptable under NFMA's scientific standards.*

*There is very little certainty around pinyon-juniper ecology and especially fire return intervals. The existing pinyon-juniper type in Arizona and New Mexico occurs in all 5 fire regimes, so it varies significantly; typically by terrain and soil type and precipitation zone. A comprehensive review of fire studies in pinyon-juniper puts return intervals in this forest type anywhere from 8 to 480 years. (Baker and Shinneman 2004).*

### **Response 2.5**

We agree with the comments. There is some uncertainty concerning estimates of historic (presettlement) fire frequencies, especially in piñon-juniper and mixed conifer forests. The EIS (p. 59) states that while most southwestern forest types burned every 2 to 30 years at low to moderate intensities, some fires in mixed conifer burned less frequently and at higher intensities. It states that piñon-juniper historically had a greater diversity in their stand densities, although they have increased in density due to lack of fire (Paysen et al. 2000; EIS p. 61). The EIS estimates for fire return intervals are correctly stated as averages of presettlement frequencies of area-wide fires in Arizona and New Mexico forests, based primarily on peer-reviewed scientific research publications from 1997, 1998 and 2000. The EIS stated averages of every 10 to 30 years for piñon-juniper and 5 to 25 years for mixed conifer forests do not encompass the entire range of natural variability for these forest types. We acknowledge that the fire return intervals in mixed conifer and piñon-juniper varied more widely (EIS, pp. 59-61). We also agree that piñon-juniper stands in the area were probably not all maintained in an open "park-like" condition.

The terrestrial ecosystem survey (soil and potential natural vegetation mapping) data for the project area indicates the piñon-juniper in the project area is a "transition" type that consists of relatively small scattered patches of piñon and juniper with understories of oak shrubs and grasses, mixed into the ponderosa pine type that dominates the area (TES data in project record).

While we agree with the variability and uncertainty regarding historic regimes in those ecosystems, the EIS statements about averages of every 10 to 30 years for PJ and 5 to 25 years for dry, mixed conifer forests in southern New Mexico were based on peer reviewed scientific publications, such as Brown et al. (2001) "Fire History along Environmental Gradients in the Sacramento Mountains" and Kaufmann et al. (1998) "Forest Reference Conditions for Ecosystem Management in the Sacramento Mountains," which is where the Perk-Grindstone project is located. The 1997 Dahms and Geils report was a comprehensive assessment of scientific studies

of historic fire regimes in Arizona and New Mexico. These studies provide more locally relevant evidence supporting these average fire frequencies than the one publication cited by the commenter (Baker and Shinneman 2004) that evaluated 26 past studies from across the entire western U.S. Furthermore, ecologists from Northern Arizona University's Ecosystem Restoration Institute who conducted a historic fire regime assessment in the Perk-Grindstone area helped to assess and confirm the average fire frequency for mixed-conifer, based on site-specific data collection in the project area (EIS pp.61, 124). Thus, the commenter does not provide evidence of "better science" than what was used in the DEIS to provide an estimate of the average historic fire regimes in the project area.

The fire regime discussion in the EIS (pp. 57-62), is merely intended to provide estimates of historic fire regimes as indicators of the departure from current conditions and trends. Scientists generally agree that current conditions and trends have departed from historic fire regimes; and the long-term lack of low to moderate intensity fires has resulted in a "fire regime condition class" of 2 or 3 in this area—a departure from historic frequencies and intensities in fire-adapted ecosystems. The EIS is well supported by recent and relevant scientific research evidence that historically stand densities were generally lower, and white fir was not as abundant in these dry forest types, and that conditions in the area have been adversely altered by long-term fire exclusion.

### **Comment 2.6 - Fire Effects on Mexican Spotted Owl**

*There is no robust answer to the question: are Mexican spotted owl harmed by stand-replacement fire? It is fairly apparent that natural, mosaic burn intensities may benefit the MSO for various reasons. However, the DEIS misuses a recent paper on the subject by MSO specialists. ...The DEIS attempts to use Jenness et al (2004)...to justify the preferred alternative over the no action or Guardians' alternative...to obscure the fact that the most statistically realistic scenario in the planning area would be a natural mosaic fire rather than total stand-replacement...Guardians' alternative is more strategic in treatments as opposed to the preferred alternative which basically requires cutting trees on every acre. A more cost-effective and strategic alternative would be to treat the pure pine acres more intensely than the mixed conifer acres to protect owl habitat.*

*The discussion of recent past fires on the Lincoln is confused and misleading as far as its effects on wildlife habitat...asserts they have been devastating to MSO (p. 96) and beneficial to the goshawk (p. 111).*

### **Response 2.6**

The EIS acknowledges the uncertainties in predicting effects of fuel reduction treatments on various species such as Mexican spotted owl (MSO; pp. 80, 95-96). However, there is general agreement among the U.S. Fish and Wildlife Service and other reputable biologists, that the MSO could be harmed by a large-scale, stand-replacement fire. The U.S. Fish and Wildlife Service believes that "limiting the chance of a large-scale catastrophic fire is of utmost importance in owl conservation (USFWS 2001), and that certain fuel reduction treatments in wildland-urban interface areas should be exempted from some recovery plan standards if needed to reduce the risk of a large, high-severity crown fire (USFWS 2002), as discussed in the EIS, p. 94. The EIS is thorough in its descriptions of the existing forest conditions that indicate the risk of experiencing a large-scale, stand-replacing fire event."

We do not agree that the EIS uses Jenness et al. 2004 to justify the preferred alternative over the Guardian's alternative. We agree with the Jenness et al. findings that owls sometimes return to nest in severely burned areas and small, stand-replacing fires may not significantly harm the owl. However, Jenness et al. (2004) confirms EIS statements about the owl's evolutionary history in forests structured by frequent, low-intensity fire, the fact that the fire regime in southwestern forests has been altered toward infrequent, high-intensity fires, and that large-scale, stand-replacing fires could harm the owl.

The Guardian's alternative would likely leave over 50 percent of the 5,000-acre project area (and wildland-urban interface) at high or very high to extreme risk of a crown fire, which poses a risk of adverse impacts to MSO habitat, and would not meet the project's purpose and need (EIS pp. 13, 21-23, 31-32). On the other hand, the preferred alternative would likely reduce the high-to-extreme risk of crown fire from covering 60 percent of the landscape to covering only 21 percent of the landscape, and allow for prescribed surface fires to burn without the probability of becoming large-scale, high-intensity crown fires (EIS, p. 73). Unfortunately, the forested areas with the highest stand and crown bulk densities and, thus, a higher crown fire index, tend to occur in MSO habitat (EIS pp. 8, 10, 85). And MSO and goshawk habitat covers over 50 percent of the project area. Thus, the limitations on treatments in those habitat areas and other limitations proposed by Guardian's simply would not sufficiently reduce fuels over enough of the landscape to meet the desired conditions and purpose and need (EIS, pp. 12-13).

We agree that the mixed conifer should not be thinned and opened up as much as the ponderosa pine, which would help protect MSO habitat. The EIS frequently describes how the mixed conifer, which occurs on north and east aspects and in drainage bottoms, would be treated to retain more stand density, canopy cover and basal area than the pine stands, which occur on the drier south and west aspects and ridgetops. The EIS makes it clear that treatments are designed to help restore or move toward a more complex mosaic of habitat conditions that the owl historically evolved in... retaining higher patch densities and canopy cover in the canyon bottoms and on moist north and east aspects, and lower density patches on the drier ridgetops and south- to west-facing slopes (EIS pp. 71, 86, 89, 92, 96, 109, 100, 126, 132). Required mitigation measures include more dense patches of trees will be retained in the spotted owl and goshawk nesting habitat while stands will be more open along the community boundary (EIS, p. 45). Other mitigation measures also require more retention of old growth and MSO habitat components in protected and restricted MSO habitat (mostly mixed conifer). In addition, the preferred alternative does no tree cutting on 870 acres (17 percent) of the 5,200-acre project area (p. 53), primarily in mixed conifer to protect MSO nesting. Furthermore, there would be minimal or no treatments in at least 20 percent of mixed conifer restricted MSO habitat in order to meet the high basal area and large tree retention requirements in the forest plan, to encourage development of future nesting/roosting habitat (EIS pp. 43, 84, 92). The EIS describes how treatments would result in a more complex mosaic of stand densities and canopy covers (p. 89) and the resulting effects on MSO habitat (pp. 87-96).

We agree that the cumulative effects paragraphs on EIS pages 96 and 111 could be clarified to help avoid misunderstanding. However, the paragraph on page 96 does not assert that the past crown fires have been devastating to the owl, just that they reduced some key habitat components. We also agree with the commenter that some fires, especially low intensity fires, are typically beneficial to owl habitat.

The 7th paragraph on page 96 of the EIS that the commenter referred to should be replaced by this updated and clarified version:

High-severity crown fires burned through portions of 20 PACs (of 145 PACs) on the Lincoln National Forest, reducing the quality of nesting/roosting habitat in those severely burned areas within those PACs. Within Ruidoso's wildland-urban interface on the Smokey Bear Ranger District, the Cree Fire of 2000 impacted 50 percent of the Gavilan PAC. Annual postfire surveys found that the owls have not returned to the Gavilan PAC burned in the Cree Fire. The nearby Peppin Fire similarly reduced nesting/roosting habitat components in occupied owl habitat, but it did not occur in a designated PAC, and postfire occupancy by owls has not been determined. Crown fires on the forest and district have been found to reduce tree density, canopy cover, and nesting/roosting habitat quality in portions of those PACs where the fire burned through tree crowns at a high intensity. Further information on owl occupancy in PACs on the forest can be found in the forest's annual Mexican spotted owl monitoring reports.

The paragraph at the bottom of EIS page 111 does not state that all past wildfires were beneficial to goshawk, and we are uncertain as to what language appears confusing. It does also state that the Cree Fire severely burned 50 percent of the goshawk PFA, and no goshawk reproduction has been reported since. From experience with past fires, it concludes that "lower intensity surface fires would have favorable effects, while higher intensity crown fires would likely have adverse effects." For clarity we should add that while some fire-related effects to owl and goshawk habitat may be similar, their habitat requirements are not identical and these two species may respond differently to the same wildfire.

### **Comment 2.7 – Management Indicator Species and NFMA**

*There is no evidence in the DEIS or record that would demonstrate the Lincoln has conducted monitoring for any MIS within the project area. This would be a direct violation of the NFMA regulations, per Forest Guardians et al. v USFS. To comply...the LNF must monitor populations of MIS (habitat as a surrogate is not acceptable), both actual and trend. The most important MIS and TES to have this required information for this project is the pygmy nuthatch, hairy woodpecker, red squirrel, elk, Mexican vole, and Mexican spotted owl.*

### **Response 2.7**

The EIS and project record both provide ample evidence that the Lincoln National Forest has conducted adequate monitoring for MIS to meet NFMA standards. Monitoring for MIS is conducted annually, consistent with forest plan requirements for MIS (forest plan monitoring chapter, page 168). The forest plan (p. 168) states "monitor trends in habitat" as the monitoring method for the indicator species, and states "direct count" as the method for threatened and endangered species. Monitoring MIS to meet NFMA requirements is conducted on a forest-wide basis, with results documented in an annual MIS monitoring and evaluation report, which was used and cited in the EIS (West, 2005; Salas, 2006). Thus, the EIS analysis follows standard Agency protocols for compliance with NFMA and the forest plan species diversity requirements.

Monitoring surveys for red squirrel were conducted in the project area, as was Mexican spotted owl monitoring. Elk and deer are monitored by the State of New Mexico Department of Game and Fish, and breeding bird surveys were conducted on the forest for pygmy nuthatch monitoring.

The analysis of effects on MIS includes describing the species habitat requirements, forest-wide monitoring and results, habitat and population trends, and how the proposed project activities would affect MIS and their habitat or population trends (EIS pp. 117-132). Mitigation measures for MIS were described on EIS page 44.

While the forest plan includes hairy woodpecker as an indicator for aspen and aspen snags, and Mexican vole as an indicator for meadow habitat, this project area has no aspen habitat or large meadows suitable for the vole. Therefore, those two species did not warrant detailed analysis for this project.

### **Comment 2.8 – Cumulative Effects and NEPA**

*DEIS avoids the required analysis and ignores important contributors to cumulative effects...weak narrative statements...ignores overall impacts across the project area as a whole, and relies on BMPs and mitigation measures...even invokes a FS research paper from Idaho as evidence that BMPs are effective, when in reality they are not always. DEIS assumes that water quality will be protected if BMPs and mitigation measures are implemented... reliance on speculative mitigation measures compromises environmental quality. DEIS fails to provide quantified or detailed information; ...effects on sedimentation and erosion... (p.146). Appendix A does not account for extensive thinning and maintenance burning and effects are not considered additively with proposed actions on vegetative conditions, wildlife habitat and soil and water sections. Bonito Fuels Reduction Project is mentioned in only one place (p.116)...is potentially significant...includes 16,000 acres in GRCWPP.*

### **Response 2.8**

We conducted our cumulative effects analysis process for this project in accordance with Council on Environmental Quality's (CEQs) NEPA regulations at 40 CFR 1500-1508, and CEQ's additional guidance on analyzing cumulative effects in "Considering Cumulative Effects Under the NEPA" (1997) and "Guidance on Cumulative Effects Analysis" (June 2005 memorandum to Federal agencies). The cumulative effects analysis in the EIS clearly does not "ignore impacts across the project area as a whole" and, in fact, frequently describes interrelated impacts throughout the project area and even beyond the project area boundary.

The cumulative effects sections including appendix A, identify the past, present (ongoing) and reasonably foreseeable future activities that would be likely to have additive and combined effects when considered together with effects of the proposed project. Where relevant to potentially significant cumulative effects, the analysis shows consideration of effects of other actions outside Forest Service jurisdictional boundaries, including unregulated activities such as outdoor recreational activities, adjacent private land development, and smoke from wood-burning stoves. Not only does the EIS (appendix A) identify those other activities that may be relevant to the cumulative effects analysis, it includes quantitative details about the extent (acres or miles), timing and duration of the activities (years), along with map displays and other spatial data about activity locations, and identifies the relevant effects of each of those other activities. For brevity consistent with CEQ guidance, the cumulative effects analysis sections in the EIS specifically summarize and "incorporate by reference" the information in appendix A.

The EIS, page 116, needs to be corrected to delete the sentence that states "A foreseeable future fuel reduction project in occupied salamander habitat on the Smokey Bear Ranger District is the

Bonito Fuels Reduction Project.” The site-specific locations for fuel reduction treatments within the large Bonito geographic area have not yet been determined. The Bonito project is not considered a reasonably foreseeable future project for the purposes of cumulative effects analysis primarily because this possible project is too speculative at this time to provide any meaningful information for analysis purposes. A proposed action has not yet been developed for it, it is not on the forest’s official schedule of proposed actions, and forest resources have not yet been assigned to analyze it. Another reason the possible future Bonito project is not considered relevant to cumulative effects analysis in the Perk-Grindstone project EIS is because the Bonito area is well outside Ruidoso’s wildland-urban interface area where most of the potentially significant cumulative effects would occur (EIS pp. 219-224), and well outside the two watersheds that would be affected by the proposed Perk-Grindstone project (EIS p. 139, 141).

The EIS discusses cumulative effects for each significant resource issue based on analysis and professional judgment about whether there would be a significant cumulative impact when considering the aggregated effects of the past, present and future actions identified (pp. 75, 78-79, 96-97, 101, 111-112, 116, 120, 123, 127, 132, 138, 152-153, 160-161, 166, 169, 171, 174, 186). For example, the hydrologist’s estimates of erosion and sediment contributions from other actions added to the quantified erosion and sediment estimates related to project alternatives was found to be insignificant and discountable (EIS pp. 149, 151-153). Therefore, further quantitative analysis was not warranted. Throughout those many pages of cumulative effects analysis, available and relevant data was combined with professional judgment to determine the level of significance regarding cumulative impacts. Quantitative analysis of cumulative effects was appropriately limited for this fuel reduction project EIS, based on the limited magnitude of environmental impacts anticipated from the proposed action. Further, CEQ asks agencies to focus on cumulative effects expected to be significant, or occur over a very large geographic area. Adding more quantitative data to the cumulative effects analysis is not necessary in order to inform decisionmaking on this project.

### **Comment 2.9 – Mexican Spotted Owl and ESA Sec. 7**

*Building roads and removing wood products jeopardizes the MSO in violation of Section 7 of ESA. To avoid jeopardy, federal agencies have a duty to consult with USFWS...who in turn must prepare a biological opinion and set forth reasonable and prudent alternatives if the proposed action is likely to jeopardize a listed species or degrade its habitat.*

### **Response 2.9**

The Forest Service has worked cooperatively with the U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office since 2005 on the planning of this project and development of conservation measures specific to the MSO. On December 21, 2007, the Forest Service submitted a biological assessment for the Perk-Grindstone Fuel Reduction Project to the FWS requesting initiation of formal consultation under section 7(a)(2) of the ESA for effects to the MSO and its designated critical habitat. On April 21, 2008, the FWS issued a final BO in which they made a “no jeopardy” conclusion for the MSO and a “no destruction, no adverse modification” conclusion for MSO designated critical habitat.

### **Comment 2.10 – Mexican Spotted Owl and ESA Sec. 4**

*FS must provide quantitative estimates of the project's effects to MSO critical habitat per Sec. 4 of ESA... "it is more prudent to pursue the establishment of quantitative estimates (eg. basal area, canopy closure, etc.) through consultation" with FWS in project level decisions (FR 69:53211).*

### **Response 2.10**

The Forest Service has completed the required analysis of effects to Mexican spotted owl (MSO) designated critical habitat pursuant to ESA section 4 and 7 requirements as documented in the biological assessment, biological opinion, and EIS (pp. 81-97). The analysis in these documents includes estimates of effects to critical habitat and MSO protected activity centers, including both qualitative and quantitative estimates. For example, quantitative estimates of effects to canopy cover and stand density are included on page 89 of the EIS. Furthermore, quantitative effects specific to MSO designated critical habitat primary constituent elements (FR 69:53221) are disclosed and analyzed in the biological assessment. Effects estimates were made by Forest Service wildlife biologists familiar with the project area, and are further supported by references to credible scientific literature. In addition, the FS worked closely with the FWS on the development of the Perk-Grindstone Fuels Reduction Project, including developing conservation measures to reduce effects to MSO and its designated critical habitat. On April 21, 2008, the FWS issued their final biological opinion on the project for MSO and its designated critical habitat completing FS consultation requirements under section 7(a)(2) of the ESA .

### **Comment 2.11 – Mexican Spotted Owl, ESA and Forest Plans**

*FS must reinitiate formal consultation under ESA because the MSOs non-jeopardy assumptions are no longer valid. FS is not implementing or meeting standards in amended Forest Plans (failed to monitor owl population as required in BOs). Therefore, assumptions (in F.Plans) upon which these programmatic BOs were based are no longer valid and FS must immediately reinitiate formal consultation...to avoid jeopardy and fulfill its obligation to actively work toward the owl's recovery.*

### **Response 2.11**

The 1996 programmatic biological opinions completed by the U.S. Fish and Wildlife Service (FWS) were superseded by the June 10, 2005, programmatic biological and conference opinion entitled "The Continued Implementation of the Land and Resource Management Plans for the Eleven National Forests and National Grasslands in the USDA Forest Service Southwestern Region" (LRMP BO); therefore, there is no need to re-initiate on the 1996 consultations as they were already replaced and are no longer valid. Under the 2005 LRMP BO it is acknowledged that site specific amendments to individual standards and guidelines in forest plans are sometimes necessary. In such cases, separate consultation—outside of the 2005 LRMP BO—would need to be conducted. This is the case for the Perk-Grindstone Fuel Reduction Project, and separate ESA section 7(a)(2) consultation was completed for this project with the issuance of the FWS BO on April 21, 2008.

### **Comment 2.12 – Mexican Spotted Owl and ESA Sec. 9**

*FS is violating Sec. 9 of ESA by failing to comply with terms and conditions of the 1996 BOs. The 1996 BOs anticipated an incidental take of 10% of the owl PACs from treatments to reduce fuel*

*accumulation and abate fire hazard...the BO required monitoring to ensure that this level of take would not be exceeded. FS ignored its duty to monitor these hazardous fuels reduction projects...has not monitored the initial projects to ensure there are no “negative impacts.” The BO only allows the hazardous fuels reduction program to proceed in increments if the initial projects can demonstrate that harm has not occurred (USDI USFWS 1996:30).*

### **Response 2.12**

The Forest Service is not in violation of section 9 of the ESA by failing to comply with the terms and conditions of the 1996 biological opinions (BOs) because these BOs were superseded by the U.S. Fish and Wildlife Service June 10, 2005, BO entitled “The Continued Implementation of the Land and Resource Management Plans for the Eleven National Forests and National Grasslands in the USDA Forest Service Southwestern Region.” The June 10, 2005, BO set new levels of incidental take and established new terms and conditions.

### **Comment 2.13 – Mexican Spotted Owl and Incidental Take Permits**

*The project may unlawfully take MSOs in violation of the ESA. FS continues to approve projects that take MSO without a valid incidental take permit. The FS must ensure that its past and on-going actions are not exceeding the authorized level of incidental take and must not take unauthorized action that harms the owl [per ESA Sec.7(a)(1)].*

### **Response 2.13**

Under the ESA section 7(a)(2), the Forest Service is required to consult with the U.S. Fish and Wildlife Service (FWS) on all projects that may affect federally listed or proposed species or proposed or designated critical habitats. The Forest Service submitted a biological assessment for the Perk-Grindstone Fuel Reduction Project to the FWS on December 21, 2007. The FWS responded with their final biological opinion on April 21, 2008. In their biological opinion, the FWS issued take for the MSO and concluded that the project was not likely to lead to the jeopardy of the species or the destruction or adverse modification of its designated critical habitat.

### **Comment 2.14 –Rio Ruidoso and Clean Water Act**

*The project will contribute elevated sediment loads to the Rio Ruidoso in violation of the CWA (p.149). Rio Ruidoso within and below the project area is in violation of water quality standards for temperature, turbidity, plant nutrients and stream bottom deposits (2004-2006 integrated 303d/305b report). The CWA demands that a TMDL plan be developed and implemented to address all sources of pollution, including the additional pollution that this project may produce [33 USC 1313(d)].*

### **Response 2.14**

We should first clarify the location of the Rio Ruidoso in relation to the proposed project. It flows through private land ownerships just outside the project boundary, in between the Perk and Grindstone blocks of national forest land (shown on EIS p. 141). The closest portion of the Rio Ruidoso is approximately 0.25 mile (about 1,330 feet) downslope from a proposed treatment unit. Water from Rio Ruidoso is diverted into Grindstone Reservoir, which provides a portion of the water supply to the Village of Ruidoso.

The EIS describes effects to Rio Ruidoso and Grindstone Reservoir, and fully discloses the water quality impairments mentioned in the comment (EIS p. 142).

We agree with the comment and are fully in compliance with Clean Water Act requirements. The State of New Mexico Environment Department, Surface Water Quality Bureau completed a total maximum daily load (TMDL) management plan for Rio Ruidoso in accordance with Clean Water Act section 303(d) requirements. A TMDL documents the amount of a pollutant a water body can assimilate without violating a state's water quality standards and allocates that load capacity to known point sources and nonpoint sources at a given flow. It is considered a planning tool to be used to achieve water quality standards. The Smokey Bear Ranger District worked collaboratively with the State Surface Water Quality Bureau and other stakeholder groups to complete a watershed restoration action strategy (WRAS) to implement the TMDL (Upper Rio Hondo Watershed Coalition\_2004). Although the WRAS was atypically developed prior to final completion of the TMDL, it is considered the implementation plan or step two of the TMDL process. It is also considered a living document, subject to updates as needed.

The Perk-Grindstone Fuel Reduction Project is designed in accordance with the WRAS for the TMDL for Rio Ruidoso and Upper Rio Hondo Watershed. The WRAS identifies the "danger of catastrophic wildfire" as the biggest ongoing threat to water quality, and the thinning and burning fuel reduction treatments as a major part of the strategy to reduce sediment loads and other water quality impairments. The EIS analysis confirms that the most significant sediment loads come from large, stand-replacing fires and resulting erosion and runoff (pp. 147, 149). The WRAS also discusses the need to implement Ruidoso's Community Wildfire Protection Plan, and specifically lists this project as part of this water quality improvement strategy. The specific action on page 26 of the WRAS says to "reintroduce fire and thinning to areas that have too many small diameter trees and/or where high levels of damaging insects and diseases are evident." It further states that to improve instream flow and water retention "reduce tree density and open up the stand overstory in the watershed to engender the growth of grasses, shrubs, and forbs." The long-term goal in the WRAS is to reduce sediment loading by 40 percent. Actions in the WRAS that are part of the proposed project and EIS include the stabilization of streambanks at road crossings and reduction of existing road related impacts (EIS pp. 142, 144, 148-149). Actions in the WRAS and EIS also include the many best management practices (BMPs) listed as mitigation measures for soil and water (EIS pp. 47-48). The EIS and project BMPs conform to the relevant BMPs listed in appendix C of the WRAS (pp. 49-50) for the Upper Rio Hondo Watershed.

### **Comment 2.15 – Migratory Birds**

*The project must comply with the MBTA and state laws protecting birds... and EO 13186...avoiding or minimizing adverse impacts to migratory birds and their habitats when conducting agency actions.*

### **Response 2.15**

The analysis in the EIS follows Agency protocols for evaluating effects to migratory birds, pursuant to state and Federal laws, regulations and executive orders (EIS pp. 133-135). The analysis found that the project design and evaluation complies with the Migratory Bird Treaty Act and Executive Order 13186. The EIS discloses that there are no designated important bird areas or important over-wintering areas (large wetlands) in the project area or affected vicinity of the project area. There are also no year-round streams, wetlands or water bodies in the project area.

Reviews were made of priority bird species that could occur or have habitat in the area, utilizing Partners In Flight information, breeding bird surveys, and other data (pp.133-134).

## Letter 3: State of New Mexico, Department of Fish and Game

<p>GOVERNOR Bill Richardson</p>  <p>DIRECTOR AND SECRETARY TO THE COMMISSION Bruce C. Thompson, Ph.D.</p> <p>Robert S. Jenks, Deputy Director</p>	<p><b>STATE OF NEW MEXICO</b> <b>DEPARTMENT OF GAME &amp; FISH</b></p> <p>One Wildlife Way Post Office Box 25112 Santa Fe, NM 87504 Phone: (505) 476-8115 Fax: (505) 476-8128</p> <p>Visit our website at <a href="http://www.wildlife.state.nm.us">www.wildlife.state.nm.us</a> For information call: 505/476-8000 To order free publications call: 1-800-862-9310</p>	<p>STATE GAME COMMISSION <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">3</span></p> <p>Alfredo Montoya, Chairman Alcalde, NM</p> <p>Dr. Tom Arvas, Vice-Chairman Albuquerque, NM</p> <p>Sandy Buffett, Commissioner Santa Fe, NM</p> <p>Jim McClintic, Commissioner Albuquerque, NM</p> <p>M. H. "Dutch" Salmon, Commissioner Silver City, NM</p> <p>Oscar Simpson, Commissioner Albuquerque, NM</p> <p>Leo V. Sims, II, Commissioner Hobbs, NM</p>
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February 11, 2008

Mr. Lou Woltering, Forest Supervisor  
Federal Building  
1101 New York Ave.  
Alamogordo, NM 88310

Re: Draft Environmental Impact Statement for Perk-Grindstone Fuels Reduction Project  
NMGF Doc. No.11929

Dear Mr. Woltering:

The Department of Game and Fish (Department) has reviewed the Draft Environmental Impact Statement for the Perk-Grindstone Fuels Reduction Project (DEIS). According to the DEIS:

The Perk-Grindstone Fuel Reduction Project is designed to reduce hazardous fuels on National Forest System lands within a wildland-urban interface. It is proposed in accordance with the Healthy Forest Restoration Act and other applicable laws and regulations. The Village of Ruidoso and its municipal water supply lie adjacent to this project area and in the direction of prevailing winds that would carry a wildfire from the project area into the community. Thus, the purpose of the project is to modify forest characteristics to minimize the chance of a large-scale crown fire in this area, in order to protect life, property, and natural resources. Project objectives would be met with a combination of thinning and prescribed burning activities on 4,782 to 4,855 acres of forest land. Connected actions include constructing or reconstructing 14 to 20 miles of roads, which would be decommissioned or closed after implementing the project. The proposal includes an amendment[s] to the "Lincoln National Forest Land and Resource Management Plan" that would exempt this project from adhering to specific direction associated with managing Mexican spotted owl habitat, northern goshawk habitat, steep slopes, and sensitive visual quality areas. Alternatives considered in this analysis are: Alternative 1, the no action alternative, which includes scenarios with and without crown fire; Alternative 2, the helicopter emphasis alternative; and Alternative 3, the ground-based emphasis alternative. Alternative 3 is the forest supervisor's preferred alternative.

3.1 The Department previously submitted comments on 21 December 2004; 22 August 2005; and 20 October 2006 during the scoping and Environmental Assessment phases of this project. In all 3 sets of comments, the Department emphasized its support for the Purpose and Need for this proposed project to reduce the potential for stand-replacing wildfire in the wildland-urban interface. Many of the concerns raised in our previous comments have been addressed in the DEIS, which is well-written and provides much useful information.

3.2 However, it is not clear to us that a thorough analysis of the potential impacts of this project on the state-threatened Sacramento Mountain Salamander (*Aneides hardii*) (Salamander) has been conducted, nor that the Endemic Salamander Team (Team) has been consulted. For example, we are aware of other unpublished agency reports documenting the occurrence of Salamanders on the Smokey Bear Ranger District that apparently were not included in this analysis. As you may know, the multiagency Team was formed in 1991 to preclude the need for federal listing of the Jemez and Sacramento Mountain Salamanders. The Team would likely be able to provide useful

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3.2

information to project planners regarding the potential for occurrence of Salamanders in the project area (in addition to the area identified in the DEIS), as well as provide additional mitigation recommendations. Therefore, the Department requests that the Team be consulted before an alternative is selected.]

3.3

The Department notes that this project is unique in that it authorizes entry for timber removal into Mexican Spotted Owl (MSO) Critical Habitat and Protected Activity Centers (PACs), and Northern Goshawk Post Fledgling Areas (PFAs). Because of the precedent-setting nature of this project in requiring Forest Plan amendments to allow fuel reduction work to occur in MSO PACs and Northern Goshawk PFAs, it is critical that the work done on the ground meets the habitat heterogeneity goals and standards for stand diversity and "clumpiness", road closures, snag density, and forest floor coarse woody debris committed to in the DEIS, to minimize long-term adverse effects to these species. These prescriptions are complex and vary across the landscape, depending on stand density and composition, slope, aspect, and other factors, and will take much extra effort to coordinate and ensure prescriptions are being met on the ground.]

3.4

To assist in the evaluation of future projects such as this, it is crucial that this project be considered as a large landscape-scale experiment, with adequate monitoring and reporting of potential effects to MSOs, Northern Goshawks and Salamanders. The Department requests the opportunity to conduct site visits to monitor the progress of this project, and that we be kept informed through regularly-scheduled reporting (i.e., annually or semi-annually) of the status of MSO, Northern Goshawk and Salamander occurrence within the project area once implementation begins.]

We appreciate the opportunity to comment on this project. Should you have any questions regarding our comments, please contact Mark Watson, Habitat Specialist, of my staff at (505) 476-8115, or <mark.watson@state.nm.us>.

Sincerely,

Matt Wunder, Chief  
Conservation Services Division

MW/MLW

CC: Wally Murphy (Ecological Services Field Supervisor, USFWS)  
Eric Hein (Ecological Services, USFWS)  
Michelle Cummer (Endemic Salamander Team Member, Ecological Services, USFWS)  
Cindy Ramotnik (Endemic Salamander Team, USGS, UNM)  
Danney Salas (Endemic Salamander Team, USFS Lincoln NF Supervisor's Office)  
Charles Gobar (Endemic Salamander Team, USFS Santa Fe NF Supervisor' Office)  
Charlie Painter (Endemic Salamander Team Leader, NMGF)  
Hira Walker (Conservation Services Ornithologist, NMGF)  
George Farmer (Southeast Area Habitat Specialist, NMGF)  
Mark Watson (Conservation Services Habitat Specialist, NMGF)

### **Comment 3.1 – Support for Project**

*The Department previously submitted comments on 21 December 2004; 22 August 2005; and 20 October 2006 during the scoping and Environmental Assessment phases of this project. In all 3 sets of comments, the Department emphasized its support for the Purpose and Need for this proposed project to reduce the potential for stand-replacing wildfire in the wildland-urban interface. Many of the concerns raised in our previous comments have been addressed in the DEIS, which is well-written and provides much useful information.*

### **Response 3.1**

Thank you for your support. We are working to ensure concerns are adequately addressed in order to move forward with the proposed fuel reduction project.

### **Comment 3.2 – Sacramento Mountain Salamander**

*However, it is not clear to us that a thorough analysis of the potential impacts of this project on the state-threatened Sacramento Mountain Salamander (*Aneides hardii*) has been conducted, nor that the Endemic Salamander Team (Team) has been consulted. For example, we are aware of other unpublished agency reports documenting the occurrence of Salamanders on the Smokey Bear Ranger District that apparently were not included in this analysis. The Department requests the Team be consulted before an alternative is selected.*

### **Response 3.2**

The EIS documents the estimate of effects on the Sacramento Mountain salamander (EIS pp. 112-116). The EIS uses and cites the most current research and data available, including information from the Lincoln National Forest’s annual salamander monitoring report (McCaw et al. 2007), the “Wildlife Habitat Response Model” (Pilliod et al. 2007), and “Effects of the Scott Able Fire on Sacramento Mountain Salamander Abundance and Arthropod Prey Base” (Ramotnik, 2007). The EIS analysis was conducted in consultation with a Forest Service member of the Endemic Salamander Team, Danney Salas. Mitigation measures for the salamander were incorporated into the EIS, p. 44. The project conforms to the standards and guidelines in the forest plan for protection of the salamander and its habitat.

The Forest Service met with the Endemic Salamander Team on March 26, 2008. The Forest Service agreed to continue to consult the Endemic Salamander Team as appropriate on this project, and planned a joint field trip in July to potentially occupied salamander habitat in the project area. The Forest Service will continue to consider any recommendations that come from the Endemic Salamander Team prior to making a decision on this project, and continue to coordinate with the Endemic Salamander Team as needed during implementation and monitoring of the project.

### **Comment 3.3 – Plan Amendments and Implementation Coordination**

*The Department notes that this project is unique in that it authorizes entry for timber removal into Mexican Spotted Owl (MSO) Critical Habitat and Protected Activity Centers (PACs), and Northern Goshawk Post Fledgling Areas (PFAs). Because of the precedent-setting nature of this*

*project in requiring Forest Plan amendments to allow fuel reduction work to occur in MSO PACs and Northern Goshawk PFAs, it is critical that the work done on the ground meets the habitat heterogeneity goals and standards for stand diversity and "clumpiness," road closures, snag density, and forest floor coarse woody debris committed to in the DEIS, to minimize long-term adverse effects to these species. These prescriptions are complex and vary across the landscape, depending on stand density and composition, slope, aspect, and other factors, and will take much extra effort to coordinate an ensure prescriptions are being met on the ground.*

### **Response 3.3**

We appreciate your concern. We understand that site-specific forest plan amendments for certain MSO and goshawk standards and guidelines must be used judiciously, and the exceptions to the standards and guidelines would only be applied where determined by our fire specialists and wildlife biologist to be necessary (see EIS pp. 30-32). We are committed to ensuring that all applicable laws, regulations, policies, and forest plan requirements as described in the EIS are met. We agree that the EIS describes many project specific design features and mitigation measures for the MSO and goshawk, and for species and habitat diversity (pp. 42-45), which must be carefully coordinated with wildlife biologists during site-specific treatment design, layout, tree marking, and other implementation activities. Monitoring requirements described in the EIS address monitoring to ensure that resource protection measures are implemented and effective (p. 51).

### **Comment 3.4 – Owl, Goshawk and Salamander Monitoring**

*To assist in the evaluation of future projects such as this, it is crucial that this project be considered as a large landscape-scale experiment, with adequate monitoring and reporting of potential effects to MSOs, Northern Goshawks and Salamanders. The Department requests the opportunity to conduct site visits to monitor the progress of this project, and that we be kept informed through regularly-scheduled reporting (i.e., annually or semi-annually) of the status of MSO, Northern Goshawk and Salamander occurrence within the project area once implementation begins.*

### **Response 3.4**

We agree. Annual monitoring surveys of MSOs, goshawks and salamanders will continue to occur throughout and after implementation of this project. Annual monitoring and evaluation reports will continue to be produced for each of these species. We will be happy to have you participate in the monitoring and to share the resulting reports with you.

## Letter 4: USDOl, Fish and Wildlife Service



### United States Department of the Interior

FISH AND WILDLIFE SERVICE  
New Mexico Ecological Services Field Office  
2105 Osuna NE  
Albuquerque, New Mexico 87113  
Phone: (505) 346-2525 Fax: (505) 346-2542

February 8, 2008

Cons. # 22420-2008-FA-0027

Mr. Lou Woltering  
Forest Supervisor  
Federal Building  
1101 New Your Avenue  
Alamogordo, New Mexico 88345

Dear Mr. Woltering:

This is in response to your request for review and comments for the Draft Environmental Impact Statement (DEIS) for the Perk-Grindstone Fuel Reduction Project. The U. S. Fish and Wildlife Service (Service) offers the following comments and recommendations on the proposed project.

The Forest Service proposes thinning and prescribed burning treatments on about 4,783 acres of the 5,200-acre Perk-Grindstone project area. About 8 percent of the project area would remain untreated in order to protect Mexican spotted owl (owl) (*Strix occidentalis lucida*) core nesting areas. About 525 acres would be burned without first thinning because tree density is already quite low in those areas. Most of the project area requires thinning treatments before conducting prescribed burns in order to adequately protect life, property, and resources during the prescribed burns. The proposed thinning and prescribed burning treatments were designed under fire-adapted ecosystem restoration principles.

In order to meet the purpose and need and specific project objectives, the forest plan for the Lincoln National Forest would need to be amended to exempt this project from adhering to some specific forest plan standards and guidelines. Specifically, in order to meet the desired conditions and purpose and need identified for this wildland-urban interface area, it may not be possible for this project to meet the specific forest plan standards and guidelines that require: (a) limiting tree cutting to a diameter limit of 9 inches within protected owl habitat; (b) retaining high canopy cover in most of the goshawk habitat; (c) immediately meeting retention and partial retention visual quality objectives; and (d) not using any mechanized equipment on slopes over 40 percent.

Three alternatives were considered in detail in the environmental analysis process and they are briefly described here:

Alternative 1 – The no action alternative, including scenarios with and without a large crown fire;

Alternative 2 – The proposed action or helicopter-emphasis alternative; and

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Alternative 3 – The ground-based alternative that does not use helicopters to remove wood from the area.

Alternatives 2 and 3 were designed to meet the specific project objective of reducing the potential for a large, severe crown fire.

**Alternative 1 – No Action**

The no action alternative for this project includes consideration of two possible scenarios:

- (1) Continuation of current forest conditions and trends, including keeping wildfire ignitions from spreading to more than 10 acres; and
- (2) Occurrence of a large, high intensity crown fire that would alter forest conditions and trends. Either of these scenarios could reasonably be expected to occur depending on specific weather and fuel moisture conditions at the time a fire ignites in the area. The crown fire scenario is important to include for comparison purposes because without additional thinning and burning treatments, this area would remain highly susceptible to a large crown fire event.

Under either of the no action alternative scenarios, none of the proposed roadwork, thinning, or prescribed burning activities would be implemented. Other previously authorized activities would continue to occur in the area, such as controlling the spread of invasive plants, improving and designating some mountain bike trails, maintaining the fitness trail, and implementing the travel management (motorized use) plan once it is completed.

The following describes the primary fuel reduction treatment activities for Alternative 2 – Helicopter Emphasis (Proposed Action).

Under Alternative 2, approximately 4,331 acres would be thinned by felling (cutting down) selected trees using a thin-from-below prescription (also known as free thinning). The prescription would reduce the numbers of smaller size trees and associated potential for crown fire ignition and spread. The amount of thinning would be highly variable across the landscape. This thinning would be designed to retain patches of trees in all size classes in an uneven age and density distribution within each stand and across the landscape.

Implementation of Alternative 2 would have the cut wood pieces 6 inches in diameter or larger removed from all thinned areas. Products such as posts, poles, vigas, latillas, firewood, sawtimber, and woody biomass would be available for utilization where removal does not conflict with other resource objectives or requirements. Harvesting may involve commercial sales, stewardship contracts, or service contracts. Logging methods would include helicopters, ground-based equipment like tractors, harvesters, forwarders or skidders, skyline cable systems, cable winching, and 30 to 40 landings. Slash would be prepared and disposed on all thinned areas (except areas where slash is piled), the slash less than 6 inches in diameter would be lopped (cut) and scattered on the ground. The larger tree limbs and tops would be cut off as needed to

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reduce the height of slash and facilitate the subsequent broadcast burning treatment. Broadcast burns would be used on 4,479 acres. The fire would burn portions of the pine needles, grass and down tree branches less than about 4 to 5 inches in diameter. Flames would generally reach only 3 to 4 feet high, and while some small trees would torch and burn, most of the residual trees would survive. Maintenance burns would periodically be conducted in different sections of the project area approximately every 5 to 20 years after project completion, to mimic historic surface fire frequencies and maintain desired conditions. Maintenance burns would be low to moderate intensity surface fires that would torch some smaller trees but would primarily reduce the proportion of seedlings and woody material smaller than 4 inches in diameter while promoting soil nutrient cycling.

Alternative 3 was developed in response to the following issues: Proposed helicopter logging operations may be so expensive that it becomes difficult to implement the project in a timely manner to meet the urgent need for fuel reduction throughout this wildland-urban interface. In addition, helicopters increase the hazard of dead trees and branches falling onto workers below, especially with the prevalence of dead trees in this area. Therefore, Alternative 3 would eliminate the use of helicopters as a wood removal system and replaces the helicopter method with methods that do not remove wood products.

Alternative 3 would treat 4,855 acres (92 percent) of the 5,207-acre project area. The implementation schedule would be approximately the same as described for Alternative 2. Treatment types and acres are the same as described for Alternative 2 except this alternative would include an additional 74 acres of "burn only" treatment. The only other differences under this alternative are the wood product removal methods.

Alternative 3 would replace the helicopter logging method with mastication and manual thinning methods. With mastication or manual thinning the cut wood would be left onsite and not removed, because these areas occur in steep terrain away from roads. About 30 percent of total treatment acres would be manually thinned with the cut trees limbed and left on the ground for later broadcast burning. Manually thinning would occur where mastication equipment is inappropriate, such as where slopes are too steep or rocky. About 18 percent of the treatment acres would utilize a mastication machine. Mastication machines would not operate on slopes greater than 40 percent except where Agency specialists and equipment operators determine they can operate safely while minimizing soil disturbance. This method avoids the need for skid trails, landings, or log haul traffic.

Noise and visual disturbance from various proposed activities may adversely impact wildlife nesting or breeding in the area. Proposed reductions in stand density may affect the quality of hiding and thermal cover habitat for the red squirrel, deer, elk, bear, and other important wildlife species in the area.

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[ The Service is concerned about the effects of implementing Alternative 2 or 3 on terrestrial and listed species. ]

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Red squirrel

The red squirrel is an arboreal mammal, about 70 percent of its active foraging time is spent in the woodland canopy. The bulk of its diet (principally tree seeds, flowers, and fruits) is obtained in the canopy. Its nests are also constructed in the canopy. Heavy thinning could fragment the canopy to such an extent that red squirrels would find it hard to move from tree to tree. The project objective would reduce and fragment the canopy habitat for the red squirrel. Red squirrel habitat is generally limited to areas that produce adequate and reliable conifer cone crops and provide cool, moist microclimate conditions suitable for storing closed cones. These conditions are met in old growth stands with closed canopies (USFWS 2008). Opening the canopy could lead to more avian predation because red squirrels would have greater exposure within the canopy and on the ground between trees. The proposed project would open the canopy and reduce the probability of catastrophic wildfire and limit its effects to red squirrel habitat. The proposed project could also remove or limit insect damaged trees that are not used by red squirrels.

Plain titmouse (Juniper titmouse) (*Parus inornatus*)

Plain titmouse (Juniper titmouse) is managed under the Migratory Bird Treaty Act and occupies piñon-juniper habitat. Populations of these birds are monitored through the use of breeding bird surveys (BBS) on geographic areas to detect population and trend during the breeding period. The juniper titmouse is a year round resident of the project area and nests primarily in piñon-juniper woodlands. It is a secondary cavity nester and uses either natural cavities or abandoned holes of primary cavity nesters. The juniper titmouse feeds on a variety of plant and animal matter. The major portion of the diet consists of caterpillars, beetles, ants, spiders, flies, fruits, and seeds. Although this species appears to prefer mature and old growth forests with open canopies for feeding, all structural stages are used. This species breeds from May through July. Limiting factors for juniper titmouse appear to be cavities and old woodpecker holes within the piñon-juniper woodlands.

The proposed project would retain the piñon-juniper trees with natural cavities. The proposed project would retain at least one tree 12 inches or larger diameter per 3 acres in piñon-juniper woodlands. In areas with alligator juniper, two alligator junipers per acre would be retained. In 43 percent of the allocated piñon-juniper stands would be left unthinned or thin to a 9-inch diameter limit and leaving all of the larger overstory trees. In 39 percent of allocated piñon-juniper old growth, thinning would open old growth condition and allow for some reproduction of grasses, forbs, and shrubs. In some cases trees used by the juniper titmouse for nesting would be removed during construction activities resulting in direct habitat loss. Localized populations of juniper titmouse may remain stable except where nests are located in trees that must be removed or trimmed.

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Pygmy nuthatch (*Sitta pygmaea*)

The pygmy nuthatch shows a strong and almost exclusive preference for long-needled pine forests. In New Mexico, it is most common in ponderosa pine, including ponderosa-oak (*Pinus ponderosa-Quercus* sp.) and ponderosa-Douglas fir forests. The Pygmy Nuthatch nests in dead pines and live trees with dead sections, it prefers old-growth, mature, undisturbed forests. Unlogged forests host significantly larger populations than logged forests and numbers correlate significantly with volume of ponderosa-pine foliage. Pygmy Nuthatch abundance correlates directly with snag density and foliage volume of the forest, but inversely with trunk volume; this implies it needs heterogeneous stands with a mixture of well-spaced, old pines and vigorous trees of intermediate age. Habitat quality largely depends on suitable nest sites and an adequate supply of food over the year. Disturbances attributable to humans, such as logging, fire, grazing, and home, commercial, and road construction that degrade either habitat component may inflict negative impacts on populations. Pygmy Nuthatches are less abundant in forest “intensively managed for timber” than in more remote and less managed area. These practices include cutting large trees, adopting rotation periods of 60–80 yr, and removing all dead, dying, and deformed trees. Because periodic, cool ground fires maintain character of natural ponderosa woodlands, fire history of a particular landscape affects its suitability for Pygmy Nuthatches. Severe crown fires that follow decades of fire suppression destroy hundreds of acres of standing timber and thus negatively affect Pygmy Nuthatches by reducing or eliminating sources of food.

Mule deer (*Odocoileus hemionus*)

Both Alternatives 2 and 3 may affect individual deer, but would not likely impact forest wide population trends. Most of the treatments proposed in mixed conifer and other habitat within the project area would create open habitat. Thinning and burning treatments would occur on 92 percent of the 5,200-acre project area. The excluded areas would consist of dense mixed conifer stands serving as fawning areas for mule deer, which would also continue to contribute to thermal cover. Removing a substantial amount of the understory would reduce fawning habitat, hiding cover, and make deer much easier to kill during hunting season. Reductions in the canopy cover and understory would reduce fawn survival and the amount of thermal regulation provided to deer. Numerous large and small patches of dense forest cover would be retained, providing some fawning habitat, thermal and hiding cover.

Disturbance or displacement of elk and deer would be minimized within the Mexican spotted owl PACs and active goshawk post-fledgling family Areas (PFAs) due to seasonal restrictions on activities in those areas during the months of March through September. Seasonal operating restrictions cover approximately 50 percent of the project area’s habitat used by deer and elk. Those seasonal restrictions would minimize disturbance effects to deer and elk during calving and fawning periods to negligible levels.

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Elk (*Cervus elaphus*)

Alternatives 2 and 3 may affect individual elk, but would not likely impact forest wide population trends. Most of the treatments proposed in mixed conifer and other habitat within the project area would create open habitat. The excluded areas would consist of dense mixed conifer stands serving as calving areas for elk, which would also continue to contribute to thermal cover for elk. Removing a substantial amount of the understory trees would reduce calving, and hiding cover and make elk much easier to kill during hunting season. Reductions in the canopy cover and understory in some areas would reduce the amount of calving habitat and thermal regulation provided to elk. Numerous large and small patches of dense forest cover would be retained, providing some calving habitat, thermal and hiding cover.

Black bear (*Ursus americanus*)

The New Mexico Department of Game and Fish (2001) analyses indicated bears were highly selective of the closed forest and woodland habitat types during all seasons, with greater than 80 percent of locations occurring in these types. Areas of open woodland and open grassland were avoided, and most locations (96 percent) within these habitats occurred within 500 meters of the edge of closed-canopy habitats (NMDGF, 2001). No dispersal was observed among female bears whose natal range was known, however dispersal was observed among male bears (NMDGF, 2001). The reduction of canopy and the removal of understory would severely modify black bear habitat. The lack of female black bear dispersal from their natal ranges could lead to the population being made up of mostly males only within the project area. There would be little to no black bear reproduction within the project area. Many have postulated home range size is an indication of habitat quality (NMDGF, 2001). The premise is when food is abundant and evenly distributed animals do not need to search far for food. When food is scarce and distribution is patchy, animals need to move more widely in search of food. The primary project object of reducing, by a minimum of 30 to 40 percent, the acres currently classified as high, very high and extreme crown fire hazard potential from covering 60 percent of the landscape to covering less than 25 percent of the landscape will create less black bear habitat. Less dense forest cover would eliminate black bear habitat (less food and cover) and could lead to more bear depredation at homes and businesses outside the project area. If bears have to roam further to forage or have less hiding and thermal cover the potential for accidents with motor vehicles would be greater.

Merriam's wild turkey (*Meleagris gallopavo merriami*)

The Merriam's wild turkey is found primarily in the ponderosa pine, of the western mountain regions of the United States. The onset of breeding starts in late February and early March as the temperatures warm in the spring. With a second peak occurring in early May. During winter Merriam's turkeys congregate in the piñon pine-oak habitats at the interface with ponderosa pine. If weather permits they may even winter in the ponderosa pine. Toms and hens are not usually seen together except during the breeding season which is late March to early June. During the summer months hens and poults spend much of their time searching for bugs and seeds in small

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forest openings and forest meadows. As winter approaches, oaks and piñon nuts ripen and hens, poults, and toms feed on these mast crops. With the onset of winter they begin to move out of the snow into pine stringers at lower elevations. The primary project object of reducing the understory and canopy cover will adversely affect wild turkeys. Less dense forest cover would eliminate some wild turkey habitat (less food and cover). If wild turkeys have to roam further to forage or have less hiding and thermal cover the potential for predation would be greater.

Sacramento Mountain salamander (*Aneides hardii*)

The Sacramento Mountain salamander (salamander) is an amphibian that uniquely occurs in the Capitan, White, and Sacramento Mountains of southern New Mexico. It is on the State of New Mexico list of threatened and endangered species. It inhabits moist sites in coniferous forests at elevations over 8,000 feet in the Sacramento Mountains. Substantial forest canopy and ground surface cover such as rocks, logs and organic material are key elements of preferred salamander habitat. Logs in an advanced state of decomposition are preferred microhabitat for the salamander. The salamander lives below ground most of the time, occasionally surfacing during rainy conditions in the summer months. It feeds mainly on insects such as ants, spiders, and beetles. Within the 5,200-acre project area, there are 162 acres identified as potential salamander habitat, consisting of all the mixed conifer forest above 8,000 feet in elevation. The potential salamander habitat area lies within a Mexican spotted owl protected activity center (PAC). Within the potential habitat, there is a 45-acre stand classified as occupied salamander habitat. Additional surveys conducted in 2006 and 2007 failed to locate the salamander within potential habitat in the project area. Soil temperature is lower, and soil moisture is higher on plots where salamanders were detected. Opening the canopy and removing understory will warm and dry the soil and will adversely affect the salamander.

Northern goshawk (*Accipiter gentilis*)

Reducing canopy cover to below forest plan standards and guidelines for mid-age and older stands or woodland habitat may reduce the quality of goshawk nesting habitat and is not consistent with the forest plan.

Bats

Rabe et al. (1998) found that Ninety-seven (80 percent) bat roosts were in ponderosa pine snags. Most (74 Percent) bats roosted under loose, exfoliating bark of large diameter ponderosa pine snags (Rabe et al. 1998). Snags used by bats were larger in diameter at breast height (dbh) and used more likely to have exfoliating bark (bark peeling away from the snag, thus creating space between the bark and the snag) than random snags. Roost snags were surrounded by forest with higher tree densities, greater tree species diversity, and trees had larger basal areas than forest surrounding random snags. Forests immediately surrounding roost snags also had higher densities of snags and logs than random snag areas (Rabe et al. 1998). Roost snags were located closer to water than random snags and were more likely near the tops of slopes. Roost snags were also on steeper slopes and were less likely within a recently harvested area. Bats frequently

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used multiple roosts (greater than 2 snags). Bats may choose large snags because they have thicker exfoliating bark than smaller snags (Meyers 1963), and the thicker bark provides more insulation. As an insulator, bark may serve an important thermoregulatory function for roosting bats, especially lactating females with young (Racey 1973, Kurta 1985).

For owl habitat the proposed project would retain dead standing trees (snags) 18 inches in diameter or larger in all forests and woodlands in the area unless removal is necessary for safety. For goshawk habitat in all forest types in the project area the proposed project would retain at least two snags per acre and three down logs per acre. Desired snags should be 18 inches or larger in diameter and 30 feet or larger in height; downed logs should be 12 inches in diameter and at least 8 feet long; and woody debris 3 inches in diameter or larger. These measures could contribute roosting habitat for bats if the surrounding forest with higher tree densities, greater tree species diversity, and trees had larger basal areas were also retained.

#### Mexican spotted owl

The owl was listed as threatened on March 16, 1993 (U.S. Fish and Wildlife Service 1993). Critical habitat was designated on August 30, 2004 (U.S. Fish and Wildlife Service 2004).

Owls nest, roost, forage, and disperse in diverse biotic communities. Mixed-conifer forests are commonly used throughout most of the range (Skaggs and Raitt 1988, Ganey 1988, Ganey and Balda 1989, Fletcher and Hollis 1994). In general, these forests are dominated by Douglas-fir and/or white fir, with co-dominant species including southwestern white pine, limber pine, and ponderosa pine. The understory often contains the above coniferous species as well as broadleaved species such as Gambel oak, maples, box elder, and New Mexico locust.

Owls are highly selective for roosting and nesting habitat, but forage in a wider array of habitats (U.S. Fish and Wildlife Service 1995, Ganey and Balda 1994, Seamans and Gutierrez 1995). Roosting and nesting habitat exhibit certain identifiable features, including large trees with trunk diameters greater than 12 inches, high tree basal area, uneven-aged tree stands, multi-storied canopy, moderate to high canopy closure, and decadence in the form of downed logs and snags (Ganey and Balda 1989, Grubb et al. 1997, Tarango et al. 1997, Peery et al. 1999, Ganey et al. 2000, Geo-Marine 2004). Canopy closure is typically greater than 40 percent (Ganey and Balda 1989, Grubb et al. 1997, Tarango et al. 1997, Ganey et al. 1998, Ganey et al. 2000, Geo-Marine 2004). These types of areas provide vertical structure and high plant species richness that are important to owls (Seamans and Gutierrez 1995, Ganey et al. 2003). Tarango et al. (1997) and Ganey et al. (2000) recorded seven or more tree species at roost sites. Therefore, mixed-conifer dominated by Douglas-fir, pine-oak, and riparian forests with high tree diversity are important to the owl. The removal of trees, specially Douglas-fir, smaller than 18 inches would minimize replacement nest and roost trees.

In general, owls forage more than or as expected in unlogged forests, and less than or as expected in selectively logged forests (Ganey and Balda 1994). Both high-use roosting and high-use foraging sites had more big logs, higher canopy closure, and greater densities and basal

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areas of both trees and snags than random sites (Ganey and Balda 1994). Owls clearly used a wider variety of forest conditions for foraging than they used for roosting (Ganey and Balda 1994). Reducing these habitat elements would negatively affect the owl's foraging and roosting habitat.

The owls have been described as a "perch and pounce" predators. They typically locate prey from an elevated perch by sight or sound, then pounce on the prey and capture it with their talons. Spotted owls have also been observed capturing flying prey such as birds and insects (Verner et al. 1992). They hunt primarily at night (Forsman et al. 1984, Ganey 1988), although infrequent diurnal foraging has been documented (Forsman et al. 1984). Opening the forest floor and the canopy could make prey species more readily available in the short-term. These prey species would be depleted by owls and other avian and terrestrial predators. The excluded areas from thinning and burning consist of dense mixed conifer stands serving as core nesting areas for Mexican spotted owl. The Forest Service allocated at least 20 percent of each forest type in the project area to be managed for old growth, with consideration for site capability, disturbance regimes, spatial arrangement, inclusion of spotted owl and goshawk nesting areas, and the risk to sustaining old growth function due to wildfire events. The removal of understory and burning would remove habitats used by prey species. Therefore, adding to the depletion of prey for owls and other predators.

Owls consume a variety of prey throughout their range but commonly eat small- and medium-sized rodents such as woodrats (*Neotoma* spp.), peromyscid mice (*Peromyscus* spp.), and microtine voles (*Microtus* spp.) (U.S. Fish and Wildlife Service 1995, Delaney et al. 1999, Seamans and Gutierrez 1999). Mexican woodrats (*N. mexicana*) are typically found in areas with considerable shrub or understory tree cover and high log volumes, or rocky outcrops associated with piñon-juniper woodlands (Sureda and Morrison 1998, Ward 2001). Sureda and Morrison (1998) and Ward (2001) found deer mice (*P. maniculatus*) to be more abundant and widespread in the 60 to 100 year old stands of mixed-conifer forests. Mexican voles (*M. mexicanus*) are associated with mountain meadows and high herbaceous cover, primarily grasses whereas, long-tailed voles (*M. longicaudus*) are found in dry forest habitats with dense herbaceous cover, primarily forbs, many shrubs, and limited tree cover (Ward 2001). Regional differences in the owl's diet likely reflect geographic variation in population densities and habitats of both prey and the owl. The removal of owl prey species habitat through burning will affect the number and availability of prey and will negatively affect the owl.

High levels of owl reproductive success and production may be due to prey abundance (Delaney et al. 1999). U.S. Fish and Wildlife Service (1995) documented an increase in owl production when moderate to high levels of woodrats, peromyscid mice, and voles, were consumed. A diverse prey base is dependant on availability and quality of diverse habitats. Owl prey species need adequate levels of residual plant cover, understory cover, and high log volume. Therefore, a wide variety of forest and vegetative conditions are important to the owl and its prey. The removal of slash will lower reproductive success for the owl.

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Broadcast burning would be utilized to remove small surface fuels. Broadcast burning the thinning generated slash would be expected to spread a low to moderate intensity surface fire over 75 percent or more of the burn unit. Low to moderate intensity fire would typically only consume the fine fuels 3 inches and less in diameter, while leaving mostly larger logs (12 inches and greater). The retention of 3 large logs per acre, and an average of 5 to 15 tons per acre of down wood, would meet the requirements for retaining adequate down woody material. The retention of down woody material to meet forest plan requirements would not increase overall crown fire hazard because the logs would be retained in a manner that would not promote torching in surrounding trees. Mastication units covered with various depths of shredded wood (less than 4 inches at the deepest), would be expected to burn in a similar manner as scattered slash units which would mimic historic surface fires (Hatchett et al., 2006). The proposed project would adversely affect roosting and nesting habitat, including large trees with trunk diameters greater than 12 inches, high tree basal area, uneven-aged tree stands, multi-storied canopy, moderate to high canopy closure, and decadence in the form of downed logs and snags. Owl habitat typically has canopy cover greater than 40 percent. These types of areas provide vertical structure and high plant species richness that are important to owls. Therefore, mixed-conifer dominated by Douglas-fir, pine-oak, and riparian forests with high tree diversity are important to the owl. The removal of down woody material and the lessening of the canopy cover will negatively affect the owl.

Skid trails and haul roads can result in (1) mechanical damage to the resident understory vegetation during timber harvesting, (2) the creation of suitable seedbeds with bare mineral soil and high levels of light, moisture, and nutrients that are required by some introduced species, and (3) the presence of multiple human and natural dispersal vectors (Buckley et al. 2003).

Study results suggest that haul roads and skid trails can introduce combinations of microsite conditions unique to managed forest ecosystems (Buckley et al., 2003). The disturbance or removal of the forest floor during the operation of logging machines can impact organic matter and nutrient content of the mineral soil (*In* Buckley et al., 2003). The degree of soil compaction associated with timber harvesting and recovery rates have been shown to vary with the number of machine passes, soil type, and soil moisture content at the time of compaction (*In* Buckley et al., 2003). Another important component of haul roads and skid trails resulted from the influx of introduced species in managed stands (Buckley et al., 2003).

The net effect of construction and use of haul roads and also major skid trails is the creation of linear patches of early-successional habitat that will proceed through stages dominated by herbs and shrubs before returning to a stage dominated by tree species (Buckley et al., 2003). The increased microsite diversity, plant species richness, and changes in understory plant composition observed in the managed stands could be temporary, with microsite diversity and plant species richness declining with eventual closing of the canopy and recovery of compacted soils. A certain amount of disturbance results from the use of haul roads and skid trails for various recreational activities in the interim periods between timber management activities. Thus the altered habitat conditions required to sustain populations of many introduced and

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wetland species observed in the managed replicates are likely to persist over long periods (Buckley et al. 2003).

Haul roads, skid trails, main forest routes provide critical access for the management of timber, wildlife, recreation, and other forest value, and also for forest protection. At the same time, haul roads and skid trail serve as primary conduits for entry of introduced species into the interior of managed stands (Buckley et al., 2003).

Silvicultural systems can be designated to manage forest stands to reduce crown fire potential. But in doing so, other characteristics such as vertical structure or species diversity may be altered. No single thinning or management prescription, therefore, will achieve multi-resource objectives across all stands within a landscape. Silvicultural systems using density and species management, along with the judicious use of prescribed fire, are key to managing the proposed project.

The Service recommends the following:

General Recommendations

1. The Service recommends the implementation of Alternative 3.
2. If Alternative 2 is selected, the Service recommends that the three project-specific forest plan amendments (exemptions) in order to meet the project's objectives for hazardous fuel reduction not be implemented.
3. The Service recommends the use of high-quality empirical data on fuel and geographic information system tracking of changes in fuel over time.
4. Work together to develop prescriptions that effectively reduce fire hazard and achieve other resource objectives.
5. Management units need to be monitored post-treatment fuel conditions and the effectiveness of fuel treatments when wildfire occurs.
6. A rigorous schedule of periodic fuel treatments should be implemented to maintain the desired level of fire hazard and other conditions.
7. Do not use sanitation thinning because it does not decrease the potential for crown fire behavior unless tree densities were substantially reduced.
8. A program involving production of native seed for rehabilitating haul roads, skid trails, and other areas with exposed mineral soil should be initiated.
9. Tree felling should avoid the red squirrel breeding season (February – October).
10. Identify fire-resistant Douglas-fir and fire-resistant ponderosa pine.
11. Sanitation thinning is not recommended because it does not decrease the potential for crown fire behavior unless tree densities were substantially reduced.

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Species Specific Recommendations

Red Squirrel

4.1

1. Heavy thinning could fragment the canopy to such an extent that red squirrels would find it hard to move from tree to tree.
2. The project objective would reduce and fragment the canopy habitat for the red squirrel.
3. Maintain cool, moist microclimate habitat that produce adequate and reliable conifer cone crops and provide cool. These conditions are met in old growth stands with closed canopies.
4. Monitor forest tree species composition, cone crops, seral stages, and other variables of areas used by all life stages of the red squirrel.
5. Work to reduce the probability of catastrophic wildfire and limit its effects to red squirrel habitat.
6. Work to apply methods of insect pest control and limit damage to the conifer forests as appropriate.
7. The Forest Service should conduct presence/absence surveys according to owl survey protocol in the identified PAC prior to road construction of FR 416v.
8. The Forest Service should continue to provide support for the New Mexico Endemic Salamander Team and the implementation of the Jemez Mountains Salamander Management Plan.
9. The Forest Service should conduct salamander surveys prior to road construction on FR 416v.

Plain titmouse (Juniper titmouse)

1. Conduct pre-project population surveys and continue populations monitoring through the use of breeding bird surveys (BBS) within the project areas to detect population and trend during the breeding period (May through July).
2. It is recommended that project work be conducted between August and April to avoid negative impacts to the breeding success of this species and other bird species in the project area.

Pygmy nuthatch

1. Retain dead standing trees (snags) 18 inches in diameter or larger in all forests and woodlands in the area unless removal is necessary for safety.
2. We recommend leaving a minimum of 3–5 large (48.3 cm) snags/acre.
3. The policy should also specify leaving culls and damaged trees that can provide future snags.

Black bear

1. Intersperse high canopy cover and high understory habitats with connecting corridors to facilitate movements, enhance natal areas, feeding, and denning habitats.

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2. Areas of open woodland and open grassland habitats should occur within 500 meters of the edge of closed-canopy habitats.
3. Foraging habitat of high quality should be created, the premise is when food is abundant and evenly distributed animals do not need to search far for food. When food is scarce and distribution is patchy, animals need to move more widely in search of food.

Merriam's wild turkey

4.1

1. Project activities should avoid the breeding season which is late March to early June.
2. The ripen nuts of oak and piñon are used during winter and those shrubs and trees should be retained as much as possible.
3. Ponderosa pine stringers at lower elevations should be retained for use by turkeys during winter.

Sacramento Mountains salamander

1. We recommend managers focus on practices that ensure salamander microhabitats remain cool and moist in conservation areas.
2. Implement the mitigation measures identified on page 44 of the DEIS.
3. All logging and other ground disturbing silvicultural activities within occupied or potential sites where the salamander occurs should be coordinated with and approved by the New Mexico Endemic Salamander Team.
4. A Management Plan should be drafted and implemented to guide the management of this species.
5. The Forest Service should continue to provide support for the New Mexico Endemic Salamander Team.

Northern goshawk

1. Implement the mitigation measures identified on pages 43 and 44 of the DEIS.

Bats

1. We recommend preserving all large snags with exfoliating bark and suggest steps to ensure that sufficient numbers of such snags are maintained for roosting bats in the future.
2. Retain snags and the surrounding forest with higher tree densities, greater tree species diversity, and trees had larger basal areas than forest surrounding random snags.
3. To manage snags for bat habitat, sufficient numbers of large trees should be retained and allowed to die in place, and all existing snags should be preserved.
4. We recommend 6-8 snags per acre because the loose bark stage composes only a fraction of the snags available in the landscape and is a relatively brief stage in the lifespan of a snag.

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← Mexican spotted owl

- 4.1
1. Implement the mitigation measures identified on pages 42 and 43 of the DEIS.
  2. Implementation and adherence to the Mexican Spotted owl Recovery Plan.
  3. Implementation and adherence to the Forest Plan without project-specific amendments.
  4. Prior to conducting project activities in PACs, conduct presence/absence surveys per protocol.
  5. The Forest Service should conduct all activities in a manner that will minimize adverse affect to the owl and its habitat.
  6. The Forest Service should re-vegetate disturbed areas.
  7. The Forest Service should create and maintain owl prey habitat.

Thank you for your concern for endangered species and New Mexico's wildlife habitats. We appreciate the analyses provided in the DEIS and your efforts to protect fish and wildlife species. In future communication regarding this project please refer to Consultation #22420-2008-FA-0027. If you have any questions, please contact Santiago Gonzales of my staff at the letterhead address or at (505) 761-4720.

Sincerely,

Wally Murphy  
Field Supervisor

cc:

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico  
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry  
Division, Santa Fe, New Mexico

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## **Comment 4.1 – Wildlife Effects and Recommendations**

*The Service is concerned about the effects of implementing Alternative 2 or 3 on terrestrial and listed species. [The comment letter provides a lengthy discussion of effects to each species along with a long list of recommendations].*

### **Response 4.1**

We appreciate and share in your concern for the effects of the project on listed species and other wildlife species. We identified several wildlife issues (concerns) early in the planning process (EIS, p. 18), and analyzed the effects to affected species. We consulted with your agency throughout the process, including several meetings, reviews of draft documents, and a field trip to the project area.

Your letter focuses on effects that are the same as those described in the EIS. However, we acknowledge and appreciate the additional relevant wildlife information you provided on specific species such as MSO and bats, which was not in our draft EIS. Thus, we wish to hereby incorporate by reference into this final EIS appendix, the additional species-specific information you provided as referenced to scientific literature, and to further incorporate your list of references cited. The additional information you provided does not alter the overall effects conclusions or determinations for listed or other species, but it adds some additional detail to the EIS.

In terms of the 11 general recommendations contained at the end of the comment letter, we agree to follow all except for two. We agree with numbers 1, 3, 4, 5, 6, and 10, which are fully consistent with the project design and EIS. In addition, we agree with numbers 8 and 9, with minor exceptions. For recommendation 8, the EIS mitigation measures require us to “use weed-free native seed or sterile annual grass seed for revegetation if economically feasible; use native plants when planting for revegetation, and revegetate disturbed soil in a manner that optimizes native plant establishment” (EIS p. 46). This is also consistent with Forest Service Manual 2070 and the new Agency policy for native plant restoration. For recommendation 9, we agree that tree felling will avoid the red squirrel breeding season for the majority of the squirrel’s suitable habitat area and breeding season. The suitable red squirrel habitat is almost entirely within Mexican spotted owl PACs or northern goshawk PFAs that prohibit activity during their breeding seasons, which overlap most of the red squirrel breeding season. Some mixed conifer stands are outside the PACs and PFAs. The forest recognizes that some negative disturbance-related impacts during the red squirrel breeding season may occur as stated on pages 124-127 of the EIS. The owl and goshawk breeding season restrictions would reduce those impacts. Unfortunately, we cannot agree to follow general recommendations 2 and 7 (same as recommendation 11) because without the project-specific forest plan amendments and/or 502 acres of sanitation thinning and burning treatments, we would not adequately meet the project’s purpose and need and associated desired conditions (EIS pp. 12-13, 30-32, 34, 70-74).

Following are the Fish and Wildlife Service’s species-specific concerns or recommendations and our associated responses. Some of their comments were combined in order to avoid repetition in our responses.

## **Red Squirrel**

*1-3. Heavy thinning could fragment the canopy to such an extent that red squirrels would find it hard to move from tree to tree. The project objective would reduce and fragment the canopy habitat for the red squirrel. Maintain cool, moist microclimate habitat that produces adequate and reliable conifer cone crops and provide cool. These conditions are met in old growth stands with closed canopies.*

**Response:** We agree. The estimated effects of project activities on red squirrel habitat are disclosed in the EIS pp. 125-127. Treatments would be expected to promote the growth of large trees, mature habitat characteristics, and structural variability in canopy density, favorable to red squirrel (EIS pp.125-127). Emphasis of the treatments is on removing smaller, understory trees and small dead trees, while retaining the largest, healthiest trees with the best crowns. No large snags will be cut except for safety purposes (p. 42). Throughout the EIS are descriptions of how the treatments would leave more tree canopy cover and density in the cool, moist north and east aspects and drainage bottoms, compared to thinning in the drier vegetation types and sites in the area. Forest plan requirements for old growth will be met (EIS pp. 65, 70-72). Site specific red squirrel density surveys in the project area found a minimal amount of marginal red squirrel habitat available in the area. Within the project area, red squirrels were not found in the Perk drainage, however, they were found in the Flume drainage (Frey 2007).

*4. Monitor forest tree species composition, cone crops, seral stages, and other variables of areas used by all life stages of the red squirrel.*

**Response:** We agree. Monitoring will occur to evaluate implementation of forest thinning and mitigation measures designed to protect wildlife species and their habitat. Included within the monitoring will be tree species, tree size class distribution, stand health, and down woody fuel components. These measurements can be used to assess red squirrel habitat.

*5-9. Work to reduce the probability of catastrophic wildfire and limit its effects to red squirrel habitat. Work to apply methods of insect pest control and limit damage to the conifer forests as appropriate. The Forest Service should conduct presence/absence surveys according to owl survey protocol in the identified PAC prior to road construction of FR 416v. The Forest Service should continue to provide support for the New Mexico Endemic Salamander Team and implementation of the "Jemez Mountains Salamander Management Plan." The Forest Service should conduct salamander surveys prior to road construction on FR 416v.*

**Response:** We agree with these suggestions, which are for red squirrel, spotted owl and salamander. Surveys for red squirrels were conducted in 2007, and surveys in PACs are conducted annually. Surveys for salamanders will also continue to be conducted in the project area. For clarification, FR 416 is not in the EIS or on our maps.

## **Plain Titmouse (Juniper Titmouse)**

*1. Conduct pre-project population surveys and continue population monitoring through the use of breeding bird surveys (BBS) within the project areas to detect population and trend during the breeding period (May through July).*

**Response:** Surveys for juniper titmouse conducted from 2001 through 2004 in the vicinity of the project area did not detect the juniper titmouse, and it is suspected that the project area is too high in elevation to provide juniper titmouse habitat (EIS pp. 117-118).

*2. It is recommended that project work be conducted between August and April to avoid negative impacts to the breeding success of this species and other bird species in the project area.*

**Response:** Seasonal restrictions specific to this species are not necessary because the juniper titmouse is not expected to occur or have suitable habitat in this project area. Eighty percent of the potential juniper titmouse habitat in the woodlands of this project area is within spotted owl PACs and/or goshawk PFAs, which have seasonal breeding season restrictions (EIS p. 119).

### **Pygmy Nuthatch**

*1-3. Retain dead standing trees (snags) 18 inches in diameter or larger in all forests and woodlands in the area unless removal is necessary for safety. Leave a minimum of 3 to 5 large (48.3 cm) snags per acre. The policy should also specify leaving culls and damaged trees that can provide future snags.*

**Response:** We agree. Refer to mitigation measures in the EIS, pp. 42-45.

### **Black Bear**

*1-3. Intersperse high canopy cover and high understory habitats with connecting corridors to facilitate movements, enhance natal areas, feeding, and denning habitats. Areas of open woodland and open grassland habitats should occur within 500 meters of the edge of closed-canopy habitats. Foraging habitat of high quality should be created...*

**Response:** We agree. That description is consistent with EIS descriptions of the diverse mosaic of canopy covers, tree densities, and overall patchiness, including buffers and corridors along drainage bottoms, which would be expected to result from this project. Cool, moist slopes and drainages will retain more canopy cover, and drier sites will have more openings. Treatments will create more mast and other high quality forage, along with many “edges.” However, there are no open grasslands currently in the project area. (Also see effects to black bear habitat, EIS pp. 137-138.)

### **Merriam's Wild Turkey**

*1. Project activities should avoid the breeding season which is late March to early June.*

**Response:** We agree. Seasonal restrictions in the three PACs and two PFAs would cover that timeframe and a high proportion of the potential wild turkey habitat, benefiting all bird species in those areas. See effects to wild turkey in EIS (p. 136).

*2. The ripened nuts of oak and piñon are used during winter and those shrubs and trees should be retained as much as possible.*

**Response:** We agree. Habitat that contains a large percentage of oak will not be affected by treatments. Treatments will create more mast and other high quality forage. Most of the piñon-juniper habitat type would be thinned from below up to 9 inches, leaving the largest piñon seed producing trees. The forest plan requirements will be met for old growth.

*3. Ponderosa pine stringers at lower elevations should be retained for use by turkeys during winter.*

**Response:** We agree. Dense patches of large trees will be retained in the PACs and PFAs, and stream channels will be buffered from activities, retaining dense vegetation along drainage bottoms, as previously described. The project will emphasize leaving overstory canopy cover and groups or clumps of the largest trees available (VSS 4-6).

### **Sacramento Mountains Salamander**

*1-6. We recommend managers focus on practices that ensure salamander microhabitats remain cool and moist in conservation areas. Implement the mitigation measures identified on page 44 of the DEIS. All logging and other ground-disturbing silvicultural activities within occupied or potential sites where the salamander occurs should be coordinated with and approved by the New Mexico Endemic Salamander Team. A management plan should be drafted and implemented to guide the management of this species.*

**Response:** We generally agree with those comments (see EIS pp. 44 and 114-115). No tree cutting is proposed for suitable salamander habitat in the project area, and mitigation measures for proposed burning will be implemented. We coordinated with a Forest Service member of the New Mexico Endemic Salamander Team during project planning and designed the burn treatment in salamander habitat in accordance with salamander conservation standards and guidelines in the forest plan, which were developed in consultation with the salamander team. We met members of the salamander team on March 26, 2008, to continue coordinating with that team, and expect to have a joint field trip with the team in July. We will continue to consider whether to approve prescribed burning in the 45 acres of potential occupied salamander habitat or not, before a decision is made. A draft management plan was prepared by the team and Lincoln National Forest, but has not yet been finalized. There is opportunity to continue working on that plan in the future. There is no FR 416v in the area, and no roads at all within potential salamander habitat in this project area (> 8,000 ft.). Surveys were conducted in suitable habitat for the salamander for 3 consecutive years (2005-2007).

### **Northern Goshawk**

*1. Implement the mitigation measures identified on pages 43 and 44 of the DEIS.*

**Response:** We agree. The mitigation measures identified on pages 43 and 44 will be followed.

### **Bats**

*1-4. We recommend preserving all large snags with exfoliating bark and suggest steps to ensure that sufficient numbers of such snags are maintained for roosting bats in the future. Retain snags and the surrounding forest with higher tree densities, greater tree species diversity, and trees had larger basal areas than forest surrounding random snags. To manage snags for bat habitat, sufficient numbers of large trees should be retained and allowed to die in place, and all existing snags should be preserved. We recommend 6 to 8 snags per acre because the loose bark stage composes only a fraction of the snags available in the landscape and is a relatively brief stage in the lifespan of a snag.*

**Response:** We agree. All large snags will be retained unless they need to be cut for safety reasons. See the several different snag and recruitment snag retention requirements for this project, which are consistent with forest plan standards and guidelines (EIS pp. 42-45). Ample recruitment or future snags are anticipated from within this area and in the surrounding forested areas, due to leaving the largest trees, having several no treatment areas containing large trees and snags, and the expectation of continued large tree mortality from insects, disease and fire.

### **Mexican Spotted Owl**

**1 and 4-8.** *Implement the mitigation measures identified on pages 42 and 43 of the DEIS. Prior to conducting project activities in PACs, conduct presence/absence surveys per protocol. The Forest Service should conduct all activities in a manner that will minimize adverse affect to the owl and its habitat. The Forest Service should re-vegetate disturbed areas. The Forest Service should create and maintain owl prey habitat. The Forest Service should conduct presence/absence surveys according to owl survey protocol in the identified PAC prior to road construction of FR 416v.*

**Response:** We agree to these recommendations. Descriptions in the Service’s suggestions are consistent with information disclosed in the EIS, such as the spotted owl effects discussions on pages 87-97. The mitigation measures and monitoring protocols for spotted owl will be followed, and are on pages 42-43, 52, and re-vegetation requirements are on pages 46-47.

**2-3.** *Implementation and adherence to the “Mexican Spotted Owl Recovery Plan.”  
Implementation and adherence to the forest plan without project-specific amendments.*

**Response:** We cannot entirely agree with items 2 and 3. The project will adhere to nearly all of the recovery plan and forest plan standards and guidelines, with the specific exception noted in the proposed forest plan amendment (EIS pp. 30-32). Even that amendment, which would allow trees over 9 inches to be cut in PACs, will only be applied where site specifically necessary to meet the purpose and need and not on every acre within the PACs.

### **Letter 5 – Omitted (postmarked after close of comment period)**

## Letter 6: New Mexico Forest and Watershed Restoration Institute

6

1 February 2008

Lou Woltering, Forest Supervisor  
Federal Building  
1101 New York Ave  
Alamogordo, NM 88310

Dear Mr. Woltering,

This letter is written in response to the "Draft Environmental Impact Statement for the Perk-Grindstone Fuel Reduction Project", dated December 2007, and released for public comment in January 2008. The New Mexico Forest and Watershed Restoration Institute strongly supports the conclusions of the draft EIS, and encourage the rapid implementation of Alternative 3 – Ground Based Alternative. The comments contained in this letter do not need to be formally addressed to satisfy NM FWRI, and should not be used by any party to delay implementation of this proposed action.

This letter has three sections, corresponding to three points we wish to make. The first section deals with our overall favorable impression. The second section is our most substantial comment, and deals with thinning under Northern Goshawk (NGH) standards and guidelines. The third section concerns the multitude of minor problems with citations of references.

### General Comments

6.1

The NM Forest and Watershed Restoration Institute fully supports what we understand to be the alternative under consideration for implementation, the Ground-Based Alternative. We feel the major goal of fuels reduction can be accomplished and that costs can be contained under this alternative, especially when compared to the much more expensive Alternative 2 – Helicopter Emphasis.

6.2

Note that we found the Ground-Based Alternative to be clearly identified as the Forest Supervisor's preferred alternative only once, in the preface material before the Table of Contents of the full draft EIS. Indeed, the Summary DEIS does not contain this statement, and both versions continue to contain headings of "Alternative 2 – Helicopter Emphasis (Proposed Action)". We assume this to be an artifact of the original scoping, when only two alternatives were presented. Some legal reason must exist to retain this confusing language.

We find the analysis contained in the document to be thorough and excruciatingly complete. One could use portions as classroom introductions to various topics. We assume precedent exists for such completeness, but we also feel anyone reading the document would have enough experience in a topic to not need the exhaustive background material.

┌ Northern Goshawk Guidelines

Scattered throughout the draft EIS are statements that we could quibble about, but since they generally are disagreements in judgment we will allow them to pass without comment. A more serious disagreement, however, concerns the result of thinning on canopy cover, how that relates to NGH guidelines, and the possible need to apply for an exemption to the Forest Plan. In short, the thinning described under Alternatives 2 and 3 can easily be accomplished and still fall within NGH guidelines, which means a Forest Plan exemption for this item is not warranted.

The Goshawk Implementation Guide (February 2007) for Region 3 states:

6.3

Canopy cover is measured from the outermost edge of tree crowns within a group or clump of trees. It is not measured as a percentage of cover across a stand or project area.

As is clear from the paragraph above Table 24 on page 107, this draft EIS considers percent canopy cover at a stand level and not at a group or clump level. The values within Table 24 are the correct within-group values from the NGH guidelines for ponderosa pine and mixed conifer. Given that a minimum of 37 feet of open rooting zone separates groups at full stocking, a thinning for fuels reduction in the Perk-Grindstone area should be perfectly compatible with NGH standards and guidelines. The NGH guidelines make allowances for less-than-full stocking, which if applied could reduce further the threat of crown fire.

This misunderstanding of canopy cover is widespread, and the possibility exists that the Forest Plan misinterprets the NGH guidelines. If this is the case, and the proposed level of thinning is greater than is specified under the existing Forest Plan, the Lincoln National Forest may desire an exemption even though this project's desired future condition falls well within NGH standards. Finally, the existing 1986 Forest Plan is no longer available on-line, and we have not been able to check the language of that document.

┌ Citations

The following is a list of errors and/or inconsistencies in the citation of references that we noted during our review. These may seem trivial, but enough of them could threaten the credibility of the draft EIS. We are certain that this is only a partial list, but it contains all of the errors that we noticed. Page numbers refer to the full draft EIS.

5.4

- Page 63 – (Conkin and Armstrong 2002) cited here and spelled the same way in the References Cited – Dave **Conklin** is the Forest Service pathologist and dwarf mistletoe specialist for New Mexico.
- Page 82 - (U.S. Forest Service 1996:206A-E) – the Forest Plan is from 1986.
- Page 147 - (Andreu et al. 1996; Kutiel and Inbar 1993) – not listed in References Cited.
- Page 174 – “other industries in the United States (citation).” – a citation is needed.

27

6

6.4 ←

- Citations from the same source and published the same year need an A or B to distinguish them.
- Page 218 - In References Cited - "U.S. Fish and Wildlife Service" should be listed before "U.S. Forest Service" in an alphabetical listing.

In summary, the NM FWRI supports the work described in the Perk-Grindstone draft EIS. We find no problems that would delay immediate implementation of the project. We look forward to the improvement in forest health and community safety. If we can help in any way, please do not hesitate to call us.

Sincerely,

R. Kent Reid  
Forester, NM FWRI

C. Ken Smith  
Director, NM FWRI

### **Comment 6.1 – Support for Preferred Alternative and EIS**

*The NM Forest and Watershed Restoration Institute fully supports what we understand to be the alternative under consideration for implementation, the Ground-Based Alternative. We feel the major goal of fuels reduction can be accomplished and that costs can be contained under this alternative, especially when compared to the much more expensive Alternative 2 – Helicopter Emphasis. We find the analysis in the EIS to be thorough and excruciatingly complete.*

### **Response 6.1**

Thank you for your feedback and support.

### **Comment 6.2 – EIS Clarity: Proposed versus Preferred Alternative**

*Note that we found the Ground-Based Alternative to be clearly identified as the Forest Supervisor's preferred alternative only once, in the preface material before the Table of Contents of the full draft EIS. Indeed, the Summary DEIS does not contain this statement, and both versions continue to contain headings of “Alternative 2 - Helicopter Emphasis (Proposed Action).” We assume this to be an artifact of the original scoping, when only two alternatives were presented. Some legal reason must exist to retain this confusing language.*

### **Response 6.2**

Your assumption is correct. The Council on Environmental Quality (CEQ) regulations for the National Environmental Policy Act (NEPA) requires identification of a “proposed action,” which is the action proposed during the original scoping process before the proposal undergoes analysis. Likewise, CEQ regulations at 40 CFR 1502.14(e) requires identification of the “preferred alternative” in the draft EIS, if one exists. For this project, alternative 3 was added as an alternative to the proposed action during the analysis process. Once the analysis was completed and alternatives were compared, the forest supervisor identified alternative 3 as the “preferred alternative.” This terminology is further explained in the CEQ’s “Forty Most Asked Questions” (questions 4-5).

### **Comment 6.3 – Northern Goshawk Guidelines**

*The thinning described under Alternatives 2 and 3 can easily be accomplished and still fall within northern goshawk habitat (NGH) guidelines, which means a Forest Plan exemption for this item is not warranted. The Goshawk Implementation Guide (February 2007) for Region 3 states: “Canopy cover is measured from the outermost edge of tree crowns within a group or clump of trees. It is not measured as a percentage of cover across a stand or project area.”*

*This misunderstanding of canopy cover is widespread, and the possibility exists that the Forest Plan misinterprets the NGH guidelines. If this is the case, and the proposed level of thinning is greater than is specified under the existing Forest Plan, the Lincoln National Forest may desire an exemption even though this project's desired future condition falls well within NGH standards. Finally, the existing 1986 Forest Plan is no longer available on-line, and we have not been able to check the language of that document.*

### **Response 6.3**

We agree that thinning may be able to be accomplished without violating the draft goshawk guidelines issued in February 2007, depending on interpretation. However, those draft guidelines have not been finalized or approved for use. The proposed forest plan amendment is associated with the specific language in the “Lincoln National Forest Land and Resource Management Plan,” pp. 208 D-E.

The project would clearly adhere to virtually all goshawk habitat management direction in the forest plan, such as managing uneven-age conditions, old trees, and a mosaic of tree densities and age classes (p. 208A), and using thin from below and prescribed burn treatments applied to create non-uniform spacing (208E). We are uncertain whether the project would adhere 100 percent to the guidelines regarding retention of high canopy cover percentages within all VSS-4 and VSS-5 stands throughout the entire project area (which is all goshawk habitat, as defined by the plan). The forest plan is silent regarding the spatial scale for application of VSS classes, which remains controversial, although current stand exam programs generate that information at the stand level rather than at a group or patch scale within stands. Thus, it seemed prudent to include the amendment as a precaution, in case there are some site-specific situations where the canopy cover within a VSS-4 or VSS-5 stand is measured to be below the forest plan standard.

### **Comment 6.4 – EIS Editorial Suggestions for References Cited**

*The following is a list of errors and/or inconsistencies in the citation of references that we noted during our review. These may seem trivial, but enough of them could threaten the credibility of the draft EIS. We are certain that this is only a partial list, but it contains all of the errors that we noticed. Page numbers refer to the full draft EIS.*

### **Response 6.4**

We appreciate your identification of these editorial errors. We corrected these in the “Errata” section of this FEIS appendix.

# Letter 7: Environmental Protection Agency

FEB-20-2008 08:54

US FOREST SERVICE

P.01/01



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

7

February 08, 2008

S.E. "Lou" Woltering  
Forest Supervisor  
Lincoln National Forest  
1101 New York Avenue  
Alamogordo, NM 88310-6992

Dear Mr. Woltering:

In accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act (NEPA), and the Council on Environmental Quality Regulations (CEQ) for Implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the Draft Environmental Impact Statement (DEIS) for the Proposed Fuel Reduction Project in Lincoln National Forest, Lincoln County, New Mexico.

7.1 EPA classified your DEIS and proposed action as "LO," i.e., EPA has "Lack of Objections". We ask that the FEIS provide additional information as discussed above. Our classification will be published in the Federal Register according to our responsibility under Section 309 of the Clean Air Act, to inform the public of our views on proposed Federal actions.

We appreciate the opportunity to review the DEIS. We request that you send our office one (1) copy of the FEIS at the same time that it is sent to the Office of Federal Activities (2251A), EPA, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20044.

Sincerely yours,

Michael P. Jansky, P.E.  
Regional EIS Coordinator

6ENXP:MJANSKY:mj:021207:LINCOLN NATL FOREST PERK AND GRINDSTONE

Internet Address (URL) • <http://www.epa.gov>

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TOTAL P. 01

**Comment 7.1 – No objections**

*The EPA Region 6 office in Dallas, Texas, has completed its review of the DEIS for the proposed fuel reduction project...and classified your DEIS and proposed action as “LO” i.e., EPA has “Lack of Objections.”*

**Response 7.1**

We appreciate your environmental compliance review of the EIS and proposed action, and your finding of a lack of objections.

## Letter 8: Department of the Army, Corps of Engineers



DEPARTMENT OF THE ARMY  
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS  
4101 JEFFERSON PLAZA NE  
ALBUQUERQUE NM 87109-3435

December 20, 2007

Operations Division  
Regulatory Branch

Mr. Lou Woltering, Forest Supervisor *824W*  
U.S. Forest Service  
Lincoln National Forest  
1101 New York Avenue  
Alamogordo, NM 88310-6992

Dear Mr. Woltering:

This replies to your December 10, 2007, letter and draft environmental impact statement for the proposed Perk-Grindstone Fuels Hazard Reduction Project near Ruidoso, Lincoln County, New Mexico. We have assigned Action No. SPA-2005-023-ABQ to this request.

*8.1* [ We have evaluated the information you provided and concur with your findings of waters of the United States within the project site. Perk and Grindstone Canyon Areas, Rio Ruidoso, Cedar Creek, Carrizo Creek and Sawmill Canyon, including their tributaries are tributaries of the Pecos River, an interstate waterway. These streams may be regulated under provisions of Section 404 of the Clean Water Act.]

However, details of the placement of dredged or fill materials into these waters are not described in your draft environmental impact statement. An approved jurisdictional determination may be made after the receipt of more detailed project information regarding the placement of dredged or fill materials into these waters.

Pages 14 to 15, pages 28 to 30 and pages 38 to 39 of the draft environmental impact statement discuss the construction or reconstruction of approximately 14 to 20 miles of roads for the proposed project. After completion of the project, the U.S. Forest Service proposes to close 8.5 or 11 miles of road and decommission 5.5 or 9 miles of roadway. Roadways (permanent or temporary) and skid trails for logging may be authorized under Nationwide Permit No. 14 for Linear Transportation Projects (copy enclosed) or may be determined to be exempt under 33 CFR 323.4 (copy enclosed). The placement of dredged or fill materials into these waters (e.g., culverted road crossings, low water crossings), may require a Department of the Army permit under

-2-

Section 404 of the Clean Water Act.) If you have any questions about permit requirements, please contact me at (505)342-3284 or by email at [william.m.oberle@usace.army.mil](mailto:william.m.oberle@usace.army.mil).

Sincerely,



William M. Oberle  
Regulatory Specialist

2 Enclosures:

1. NWP No. 14 Summary w/Regional Conditions
2. Road Exemption Summary

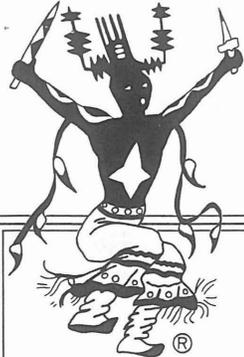
### **Comment 8.1 – Clean Water Act and Section 404 Permit**

*We have evaluated the information you provided and concur with your findings of waters of the United States within the project site. Perk and Grindstone Canyon Areas, Rio Ruidoso, Cedar Creek, Carrizo Creek and Sawmill Canyon, including their tributaries are tributaries of the Pecos River, an interstate waterway. These streams may be regulated under provisions of Section 404 of the Clean Water Act.*

### **Response 8.1**

We agree and understand that it is possible that a Section 404 permit may be required, based on the mechanized roadwork activity that may be needed to help stabilize streambanks and road crossings in intermittent stream channels. Although there are no perennial streams in the project area, the work on intermittent stream channels is an important consideration. Once the project is designed in more detail on the ground, we will continue to coordinate with the Corps to assess the need for such a permit. We will acquire a Section 404 permit if needed prior to implementing this project.

## Letter 9: Mescalero Apache Tribe



# MESCALERO Apache TRIBE

Carleton Naiche-Palmer, President      Mescalero New Mexico 88340

9

*DIVISION OF RESOURCE MANAGEMENT & PROTECTION*

February 11, 2008

Buck Sanchez, District Ranger  
Smoky Bear Ranger District  
Lincoln National Forest  
Ruidoso, New Mexico

Dear Mr. Sanchez:

The Division of Resource Management and Protection would like to express their support for Alternative #3 of the Perk-Grindstone EIS. The ground-based option would provide the most viable methods for actual treatment of forest lands along the Ruidoso-Mescalero-USFS boundary lines.

The Perk-Grindstone area is in a critical location for wildland-urban interface treatments, as well as restoration of watershed functions on the Rio Ruidoso. In particular, the ridgetop system would provide strategic access and locations for treatments across jurisdictional boundaries, and provide for more comprehensive landscape scale forest and watershed management. The Tribe and the Bureau of Indian Affairs, Branch of Forestry have already begun planning treatments for the Flume Ridge area on Tribal lands. Plans include the restoration and development of a network of helispot landings, in support of firefighter access and safety in the event of wildland fire. The treatments and helispot network would benefit Tribal, US Forest Service, Village of Ruidoso, and private lands in the area, and would demonstrate true collaboration between partners.

Furthermore, Alternative #3 of the Perk-Grindstone EIS would provide the access necessary to implement these plans. It is understood that many of the roads necessary for access would be closed, and future access would be accomplished through the existing All-Hazards Mitigation and Emergency Operations Plans between the relevant agencies.

If you have any questions regarding this letter of support or future treatments on adjacent Tribal lands, please contact me at (575) 464-4711 or via email at [thora@mescaleroapache.org](mailto:thora@mescaleroapache.org). Thank you for the opportunity to comment on the Perk-Grindstone EIS.

9

Sincerely,



Thora Padilla, Program Manager

Cc: President Carleton Naiche-Palmer  
Vice President Jackie Blaylock Sr.  
Raymond Kirgan, Chairman, Tribal Council Resources Committee

### **Comment 9.1 – Support for Project**

*The Division of Resource Management and Protection would like to express their support for Alternative #3 of the Perk-Grindstone EIS. The ground-based option would provide the most viable methods for actual treatment of forest lands along the Ruidoso Mescalero- USFS boundary lines.*

*The Perk-Grindstone area is in a critical location for wildland-urban interface treatments, as well as restoration of watershed functions on the Rio Ruidoso. In particular, the ridgetop system would provide strategic access and locations for treatments across jurisdictional boundaries, and provide for more comprehensive landscape scale forest and watershed management. The Tribe and the Bureau of Indian Affairs, Branch of Forestry have already begun planning treatments for the Flume Ridge area on Tribal lands. Plans include the restoration and development of a network of helispot landings, in support of firefighter access and safety in the event of wildland fire. The treatments and helispots network would benefit Tribal, US Forest Service, Village of Ruidoso, and private lands in the area, and would demonstrate true collaboration between partners.*

### **Response 9.1**

Thank you for your support of the preferred alternative. We recognize the critical need to work together to adequately address hazardous fuels on tribal land that adjoins National Forest System land. We appreciate the tribe's proactive approach to fuel management and fire fighting access on lands adjacent to national forest and private lands. Coordination and collaboration among tribal and public land managers and private landowners will continue, and hopefully result in a healthier and safer forest.

# Letter 10: Village of Ruidoso

FEB-01-2008 09:53 FROM:

TO:505 257 6174

P.2/3

10

## VILLAGE OF RUIDOSO RESOLUTION 2008-01

A RESOLUTION SUPPORTING THE GROUND BASED EMPHASIS (ALTERNATIVE NUMBER THREE) IN THE ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR THE PERK-GRINDSTONE FUEL REDUCTION PROJECT PREPARED BY THE LINCOLN NATIONAL FOREST BECAUSE ITS IMPLEMENTATION WILL IMPROVE FOREST HEALTH AND MAXIMIZE PUBLIC AND FIREFIGHTER SAFETY, COMMUNITY PROTECTION AND OTHER VALUES AT RISK TO THE HAZARDS OF CATASTROPHIC WILDFIRE.

WHEREAS, the Village of Ruidoso is extremely concerned for the health, welfare and safety of the residents of the Village of Ruidoso and residents within the Greater Ruidoso Area Wildland Urban Interface, and the imminent danger of catastrophic wildfires; and

WHEREAS, the Perk-Grindstone Fuel Reduction Project is the highest priority project on National Forest lands within Ruidoso's "Community Wildfire Protection Plan" as developed by the Greater Ruidoso Area Wildland Urban Interface Working Group in 2004 ; and

WHEREAS, the Village of Ruidoso has participated since 2000 in the Greater Ruidoso Area Wildland Urban Interface Working Group that serves the Village of Ruidoso as well as other agencies and entities located within a geographic area called the Greater Ruidoso Area Wildland Urban Interface; and

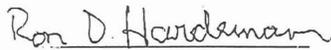
WHEREAS, implementation of this ground based emphasis, alternative number three will require site-specific Forest Land Management Plan amendments to allow if necessary: treatment of trees greater than 9" in diameter within Mexican spotted owl protected activity centers; reduction of canopy cover percentage in northern goshawk criterion; reduction of short term visual quality objectives; use of mechanized equipment on slopes greater than forty percent; and

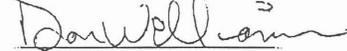
WHEREAS, the Village of Ruidoso is a cooperating agency in this EIS development and will collaborate in securing specific access on Village and private land within these areas and increasing the potential for hiking trails around Grindstone Reservoir; and

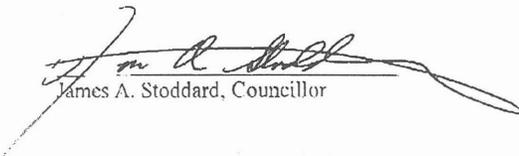
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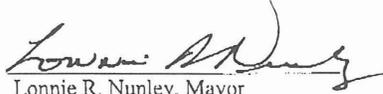
NOW THEREFORE, be it resolved by the Governing Body of the Village of Ruidoso that support for the ground based emphasis, alternative number three of the Perk-Grindstone Fuel Reduction Project be and hereby is adopted.

PASSED, APPROVED, AND ADOPTED this 8<sup>th</sup> day of January 2008.

  
Ron D. Hardeman, Councillor

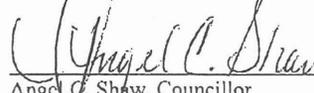
  
Donald A. Williams, Councillor

  
James A. Stoddard, Councillor

  
Lonnie R. Nunley, Mayor

  
Michele P. Rebstock, Councillor

  
Greg Lee Cory, Councillor

  
Angel C. Shaw, Councillor

(SEAL)  
ATTEST:

  
Irma Devine, Village Clerk

**Comment 10.1 – Support for the Preferred Alternative**

*NOW THEREFORE, be it resolved by the Governing Body of the Village of Ruidoso that support for the ground based emphasis, alternative number three of the Perk-Grindstone Fuel Reduction Project be and hereby is adopted.*

**Response 10.1**

Thank you for your support of the preferred alternative. Implementing this project should result in a safer and healthier forest in and around the Greater Ruidoso Area's wildland-urban interface, and contribute to meeting objectives in the community wildfire protection plan.

## Letter 11: Ruidoso Valley Chamber of Commerce

720 Sudderth Drive  
Ruidoso, New Mexico 88345



505-257-7395  
www.RuidosoNow.com

*Excellence Through Service*  
**RESOLUTION 2008-01**

**WHEREAS**, the Ruidoso Valley Chamber of Commerce, located in Ruidoso, is extremely concerned for the health, safety and welfare for the businesses, residents and visitors to the Village of Ruidoso and the imminent danger of catastrophic wildfires; and

**WHEREAS**, the Perk-Grindstone Fuel Reduction Project is the highest priority project for all National Forest lands within Ruidoso's "Community Wildfire Protection Plan" as developed by the Greater Ruidoso Area Wildland Urban Interface Working Group in 2004, and

**WHEREAS**, the Ruidoso Valley Chamber of Commerce has supported the Village of Ruidoso's participation in the greater Ruidoso Area Wildland Urban Interface Working Group since 2000, and

**WHEREAS**, the Ruidoso Valley Chamber of Commerce is a 600 member strong business organization that advocates for business and community interests; and

**WHEREAS**, the Ruidoso Valley Chamber of Commerce was established in 1941 with a mission of serving the Ruidoso Valley area and its member businesses by fostering growth, development and prosperity; and,

**WHEREAS**, the Perk Grindstone Fuels Reduction project will improve the forest health, firefighter safety, provide community protection against catastrophic wildfires, and fuels management infrastructure (both interior and exterior access); and,

**WHEREAS**, implementation of this ground based emphasis, alternative number three in the Environmental Impact Statement (EIS) will require site specific Forest Land Management Plan amendments to allow if necessary: treatment of trees greater than 9" in diameter within Mexican spotted owl protected activity centers; reduction of canopy cover percentage in northern goshawk criterion; reduction of short term visual quality objectives; use of mechanized equipment on slopes greater than forty percent, and

**WHEREAS**, the Ruidoso Valley Chamber of Commerce encourages collaboration between the Village of Ruidoso, Lincoln National Forest and any and all other agencies in securing specific access within the Perk Grindstone treatment areas with increased potential for hiking, biking and recreational trails around Grindstone Reservoir;

**NOW, THEREFORE, BE IT RESOLVED** that the Ruidoso Valley Chamber of Commerce Board of Directors endorse and support the ground based emphasis, alternative number three of the Perk-Grindstone Fuel Reduction Project.

**APPROVED** by the Ruidoso Valley Chamber of Commerce Board of Directors on Wednesday, January 30, 2008.

By: Freda McSwane  
Freda McSwane, 2007-08 Board President

Dr. Michael Elrod  
Dr. Michael Elrod, 2007-08 President-Elect

Brad Treptow  
Brad Treptow, Executive Director

**Comment 11.1 – Support for the Preferred Alternative**

*NOW THEREFORE, be it resolved by the Ruidoso Chamber of Commerce Board of Directors endorse and support the ground based emphasis, alternative number three of the Perk-Grindstone Fuel Reduction Project.*

**Response 11.1**

Thank you for your support of the preferred alternative. Implementing this project should result in a safer and healthier forest in and around the Greater Ruidoso Area's wildland-urban interface.

## Letter 12: Greater Ruidoso WUI Working Group

12

### Greater Ruidoso Area Wildland Urban Interface Working Group "Collaborating for healthy forest ecosystems since 2000"

NMEMNRD-Forestry Capitan District	USDA Forest Service Smokey Bear RD	Village of Ruidoso Forestry Department
Mescalero Apache Tribe Department of Resource Management & Protection	Bureau of Indian Affairs Mescalero Agency- Branch Forestry	Bureau of Land Management Roswell Office
Local Fire Departments	Eco-Servants	NM State Land Office
South Central Mountain RC&D	NM Environment Department	County of Lincoln
Ecological Restoration Institute at Northern Arizona University	SBS Wood Shavings LLC	Residents and Other Concerned Entities
Natural Resource Conservation Service	Biogrind Inc.	Forest and Watershed Restoration Institute at NM Highlands University

#### POSITION STATEMENT regarding

#### **Perk-Grindstone Fuels Reduction Project**

12.1

For the past several years, the Greater Ruidoso Area Wildland Urban Interface Working Group has worked with and given supporting resource to the USDA Forest Service, Lincoln National Forest, Smokey Bear Ranger District in its development of the *Perk-Grindstone Fuels Reduction Project*. One alternative within the current Draft Environmental Impact Statement (DEIS) evolved from management objectives that emphasize community protection and fire fighting safety while addressing ecosystem restoration and forest health. Alternative number three provides critical fuels and fire management infrastructure (roads) and multi-jurisdictional access allowing the reintroduction of low intensity fire. In addition, this access provides opportunity for utilization of small diameter material and woody biomass.

Comments from responding members have been positive and in support of alternative number three as a critical element of our Community Wildfire Protection Plan. The completion of this project as outlined in alternative number three will complement and enhance multi-jurisdictional, landscape scale fire protection activities past, present and future. In addition to this consensus position, some members have submitted letters on their own letterhead showing additional support.

January 29, 2008

### **Comment 12.1 – Support for the Preferred Alternative**

*One alternative within the current Draft Environmental Impact Statement (DEIS) evolved from management objectives that emphasize community protection and fire fighting safety while addressing ecosystem restoration and forest health. Alternative number three provides critical fuels and fire management infrastructure (roads) and multi-jurisdictional access allowing the reintroduction of low intensity fire. In addition, this access provides opportunity for utilization of small diameter material and woody biomass.*

### **Response 12.1**

Thank you for your support of the preferred alternative. Implementing this project should result in a safer and healthier forest in and around the wildland-urban interface. Also, as you state, it presents an opportunity to offer wood products for local use.

## Letter 13: Ruidoso River Association, Inc.

13



RUIDOSO RIVER ASSOCIATION, INC.  
P.O. BOX 2845  
RUIDOSO, NM 88355



February 6, 2008

Mr. Lou Woltering, Forest Supervisor  
Federal Building  
1101 New York Ave.  
Alamogordo, NM 88310

Re: **DEIS for the Perk-Grindstone Fuel Reduction Project**

Dear Mr. Woltering:

The Ruidoso River Association, Inc. is a grass-roots 501-c-3 organization founded in 1996, whose mission is to preserve and protect a healthy and free-flowing Rio Ruidoso. The Association has over 1,000 members and has received over \$900,000 in grant monies to support its projects. Among completed projects, the Association has partnered on 7 previous fuels reduction projects in the Rio Ruidoso watershed that have thinned a total of 1,971 acres. In addition, it has partnered in a number of wildlife habitat and watershed enhancement projects covering another 1,500 acres. Each June, it sponsors one of the most-attended river cleanups in the country.

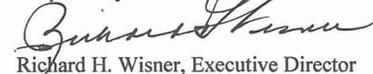
An overgrown and degraded forest is not only one of the biggest causes of the degradation of the Rio Ruidoso Watershed, but also poses the biggest threat to water quality in the form of a catastrophic wildfire.

13.1

Although the health of the watershed and /water quality is our primary focus, that focus is a distant second to the need for urgent action to reduce the crown fire potential in the project area in the path of which lies a very vulnerable Village of Ruidoso. Given this over-riding priority, the next requirement is that it is done in a way that is the safest, most cost-effective, and has the least long-lasting negative effects on water and wildlife.

In this regard, the association has completed a study of the above DEIS for the Perk-Grindstone Fuels Reduction Project and has concluded that Alternative 3 best meets these requirements. We are well aware that alternative 3 requires some site-specific amendments to the Forest Land Management Plan, but we feel these amendments are not only acceptable under the circumstances, but have also been adequately addressed.

Respectfully submitted,

  
Richard H. Wisner, Executive Director

### **Comment 13.1 Support for the Preferred Alternative**

*Although the health of the watershed and water quality is our primary focus, that focus is a distant second to the need for urgent action to reduce the crown fire potential in the project area in the path of which lies a very vulnerable Village of Ruidoso. Given this over-riding priority, the next requirement is that it is done in a way that is the safest, most cost-effective, and has the least long-lasting negative effects on water and wildlife.*

*In this regard, the association has completed a study of the above DEIS for the Perk-Grindstone Fuels Reduction Project and has concluded that Alternative 3 best meets these requirements. We are well aware that alternative 3 requires some site-specific amendments to the Forest Land Management Plan, but we feel these amendments are not only acceptable under the circumstances, but have also been adequately addressed.*

### **Response 13.1**

We greatly appreciate your feedback and support for our proposed action. Your letter distilled the potential consequences of no action on our national forest lands into readily understood terms. Implementing this project should result in a safer and healthier forest in and around the wildland-urban interface, and reduce watershed degradation and threats to water quality from wildfire.

## Letter 14: Roger Q. Allen

14

### Perk-Grindstone Fuels Reduction Project

Comments and Suggestions from:

Roger Q. Allen  
February 8<sup>th</sup> 2008

14.1 I support the Alternative 3 method of treatment in the current (DEIS) Perk-Grindstone Fuels Reduction Project.

In an effort to more rapidly achieve the desired future conditions in the treatment areas and to utilize on site forest residuals(slash) to the maximum, I request the DEIS be amended to reflect the following:

14.2 Under Alternative 3 "Summary of Proposed Activities", Bullet "Prepare and dispose of slash in the following manner: Add bullet as follows or words to this effect.

- Some of the slash from the 763 acres would be chipped and stored at landings, to be used where needed for erosion control and revegetation/rehabilitation purposes.

(This reduces the number of slash piles to be seen, burned and creates a very useful native material.)

The on-site production and utilization of composted mulch is cost effect, environmentally friendly, considered a Best management Practice (BMP) and will produce rapid desired results when properly applied where soil is disturbed.

Very Respectfully,

Roger Q. Allen  
581 Enchanted Forest Loop  
Alto, New Mexico  
575-336-2373 Home  
575-937-3690 Cell



### **Comment 14.1 – Support for the Preferred Alternative**

*I support the Alternative 3 method of treatment in the current (DEIS) Perk-Grindstone Fuels Reduction Project.*

### **Response 14.1**

Thank you for your support of the preferred alternative. Implementing this project should result in a safer and healthier forest in and around the wildland-urban interface.

### **Comment 14.2 – Support for the Preferred Alternative**

*In an effort to more rapidly achieve the desired future conditions in the treatment areas and to utilize on site forest residuals (slash) to the maximum, I request the DEIS be amended to reflect the following: Under Alternative 3 "Summary of Proposed Activities", Bullet "Prepare and dispose of slash in the following manner: Add bullet as follows or words to this effect.*

- *Some of the slash from the 763 acres would be chipped and stored at landings, to be used where needed for erosion control and revegetation/rehabilitation purposes.*

*(This reduces the number of slash piles to be seen, burned and creates a very useful native material.). The on-site production and utilization of composted mulch is cost effect, environmentally friendly, considered a Best management Practice (BMP) and will produce rapid desired results when properly applied where soil is disturbed.*

### **Response 14.2**

Thank you for your support of the preferred alternative and suggested modification for slash treatment. We agree that some of the thinning generated slash may be utilized for erosion control and revegetation/rehabilitation purposes as suggested, and some may be mulched. The mastication thinning units would result in a mulch bed that would help reduce erosion. However, using chips for erosion control on steep slopes is not desirable, as the chips are more likely to be washed downslope during heavy rains and accumulate at the bottom of the slope.

## Letter 15: Cap Naegle

15

cap naegle [cap@naegle.com](mailto:cap@naegle.com)

02/04/2008 03:19 PM

To: <comments-southwestern-lincoln@fs.fed.us>

cc:

Subject: Alternative #3

I prefer Alternative #3 of the Perk-Grindstone project.

Even prescribed fires can be very unpredictable due to unpredictable weather.

On the ground clearing is much more exacting than controlled burns which can burn erratically leaving too much fire ladder growth remaining and not eliminate enough of the smaller sized trees. You don't have to wait for the proper window.

The roads built can be used to fight fires in the future if necessary and make them easier to control and give the fire fighters a better more rapid means of escaping a fire,

Some of the trees cut can be utilized.

I live downwind from the area and will feel much more comfortable than if you have a prescribed burn.

C.C. Naegle

226 E Rainbow Dr  
Ruidoso, NM 88345

15.1

### **Comment 15.1 – Support for the Preferred Alternative**

*I prefer Alternative #3 of the Perk-Grindstone project. The roads built can be used to fight fires in the future if necessary and make them easier to control and give the fire fighters a better more rapid means of escaping a fire. Some of the trees cut can be utilized.*

*Even prescribed fires can be very unpredictable due to unpredictable weather. On the ground clearing is much more exacting than controlled burns which can burn erratically leaving to much fire ladder growth remaining and not eliminate enough of the smaller sized trees. You don't have to wait for the proper window. I live downwind from the area and will feel much more comfortable than if you have a prescribed burn.*

### **Response 15.1**

Thank you for your support of the preferred alternative. Adam Mendonca from the Smokey Bear Ranger District called and spoke with you by phone in March to clarify whether you had concerns about the proposed prescribed burning, which is an important component of both action alternatives. Based on our phone call, we understand you support the prescribed burning and thinning activities included in the preferred alternative. We mutually agree that prescribed burning under very specific controlled fuel and weather conditions is desired, as an alternative to wildfire. The risk of prescribed fire escaping and damaging private property is minimal, due to the many mitigation measures described in the EIS, p. 50. Near the community boundary, slash would be piled and piles would be hand ignited during cool, wet conditions, usually with snow on the ground. Many measures would be taken to ensure safety to people and property in the area.

## Letter 16: Jace Ensor

16

Jace Ensor [tonkadude@hotmail.com](mailto:tonkadude@hotmail.com)

02/03/2008 03:22 PM

To: <comments-southwestern-lincoln@fs.fed.us>  
cc:  
Subject: Perk/Grindstone Thinning

Dear Sir's & Madame's:

16.1

I am in favor of Fuel Reduction of the Perk-Grindstone area as soon as possible. I Really like HARVESTING and using wood better than just BURNING it. With good practices of controlling water run-off, the new roads that need to be created and then de-commissioned do not bother me. Jace Ensor, 30+ year resident of Ruidoso, New Mexico.

**Comment 16.1 – Support for the Project.**

*I am in favor of Fuel Reduction of the Perk-Grindstone area as soon as possible. I Really like HARVESTING and using wood better than just BURNING it. With good practices of controlling water run-off, the new roads that need to be created and then de-commissioned do not bother me.*

**Response 16.1**

Thank you for your support of the project. It presents an opportunity to offer wood products for local use within the context of managing the area to produce a safer and healthier forest in and around the wildland-urban interface.

## Letter 17: Walter Dueease

17

Walter Dueease@xtoenergy.com

02/04/2008 03:26 PM

To: comments-southwestern-lincoln@fs.fed.us

cc:

Subject: DEIS Perk Grindstone

Mr. Woltering:

I have read the Summary DEIS for the Perk-Grindstone Fuel Reduction Project and completely support the preferred alternative for forest thinning and prescribed burning treatments in the project area.

17.1

As a property owner in the Cedar Creek area I believe that this project is long overdue and I fully appreciate the work being proposed by the Forest Service. The Cedar Creek Cabin Owner's Association has a vested interest in your nearby project and will work with you to help facilitate the success of this project.

Yours Truly,

Walter Dueease

Walter Dueease  
XTO Energy Inc.  
810 Houston Street  
Fort Worth, Texas 76102  
800-299-2800 Toll free  
817- 885-2621 Direct  
817-885-1821 Fax  
817-437-3097 Cell  
walter\_dueease@xtoenergy.com

**Comment 17.1 – Support for the Preferred Alternative**

*I have read the Summary DEIS for the Perk-Grindstone Fuel Reduction Project and completely support the preferred alternative for forest thinning and prescribed burning treatments in the project area. As a property owner in the Cedar Creek area I believe that this project is long overdue and I fully appreciate the work being proposed by the Forest Service. The Cedar Creek Cabin Owner's Association has a vested interest in your nearby project and will work with you to help facilitate the success of this project.*

**Response 17.1**

Thank you for your support of the preferred alternative. Implementing this project should result in a safer and healthier forest in and around the wildland-urban interface.