

# Letter 1 – Tora Moody

Stephen Harper  
08/19/2002 10:51 AM

To: wmskia@infomagic.net  
cc: Richard Stephens/R3/USDAFS@FSNOTES, Raquel Poturalaki/R3/USDAFS@FSNOTES, Karen E Malie-Clark/R3/USDAFS@FSNOTES, Brenda J Anderson/R3/USDAFS@FSNOTES, Tamera K Randall/R3/USDAFS@FSNOTES, Deborah Kili/R3/USDAFS@FSNOTES, Rodger Zanotto/R3/USDAFS@FSNOTES  
Subject: Kachina Comment

Dear Tora:  
Thanks for writing. I am forwarding your comments to the appropriate people. We appreciate your comments.  
Steve

 "Moody"  
<wmskia@infomagic.net>  
08/14/2002 11:11 AM

To: <bdlsbrow@fs.fed.us>  
cc:  
Subject: Thinning outside of Flagstaff

Hello People, This is directed to the USDA Forest Service/Coconino County, Arizona:  
Regarding your plan to thin the woods south of Flagstaff around Kachina Village and Forest Highlands: Please, for God's sake, cut the trees off level at the ground.  
Previous thinning west of Flagstaff left 8" spikes all over the woods because the small trees were cut at an angle above the ground. Take your time to do the job right.  
Please forward this to Coconino County. # 1  
Thank you. Tora Moody, 418 W. Franklin, Williams, AZ 86046

 Steve Harper, Customer Service  
Coconino National Forest  
Supervisor's Office  
e-mail - sharper@fs.fed.us  
928-527-3600

I welcome your comments on my service and your suggestions for improvement.  
[http://www.irs.fs.fed.us/customer/commentcard\\_r3.htm](http://www.irs.fs.fed.us/customer/commentcard_r3.htm)

**Response 1.0:** This writer has noticed the effects of past precommercial thinning efforts (trees 1 to 5 inches dbh). Our goods for services contracts, sale contracts, etc. include language that specifies stump height as low as possible not to exceed 12 inches. The new machinery that is used today usually leaves stump heights generally less than 6 inches above the ground. However, it is not physically possible to leave a stump exactly flush with the ground due to the presence of rocks and other debris around trees.

### Letter 2 – Manterola Sheep Co.

**MANTEROLA SHEEP CO., INC.**  
 P.O. Box 11227  
 CASA GRANDE, ARIZONA 85230-1227  
 Winter (520) 836-8597 • 836-9864 • Fax (520) 836-2051  
 Summer (928) 635-4374 • 635-2783 • Fax (928) 635-3002

DATE Aug 15 - 02

SUBJECT Forest Management

Jim Holden  
174 Kachina Village Forest Health Project  
232 SE Greenlow Lane  
Flagstaff AZ 86004

1950

Dear Sir:

We support your efforts for the #2  
 Kachina Forest Health Project to reduce  
 wildfire dangers to nearby communities and  
 to sustain forest health by selecting Alternative  
 A. of the DEIS.

Manterola Sheep Co.  
 Jim Holden

**Response 2.0:** This comment is noted as supporting the preferred alternative, Alternative A.

Letter 3 – Shirley Pevarnik

Comment Sheet for the Kachina Village Forest Health Project Open House –  
 Wednesday August 21<sup>st</sup> at the Highlands Fire Department

Please feel free to comment tonight, or take this with you if you would prefer more  
 time to read the DEIS before commenting. You may mail this form, or a letter to  
 Coconino Forest Supervisor,  
 Attn: Kachina Village Project,  
 2323 E Greenlaw Lane, Flagstaff, AZ 86004

You may e-mail comments to [skill@fs.fed.us](mailto:skill@fs.fed.us)

Alternative A is the preferred Alternative. After hearing the information presented tonight,  
 and/or reading the Draft Environmental Impact Statement, do you have any concerns about  
 Alternative A? If so, please state what concerns you and why. Does one of the other  
 alternatives address your concerns?

*I oppose plan A - support plan E - (or any of the others) #3*  
*Plan it goes too far! The 16" cutting cap should not*  
*be broken without more evidence that it is necessary.*  
*Certainly 2,000 trees <sup>(isn't it?)</sup> are not required to cut for*  
*a healthy forest! To break this cap without*  
*true negotiation with environmental groups - and for*  
*a profit! - is poor planning!*

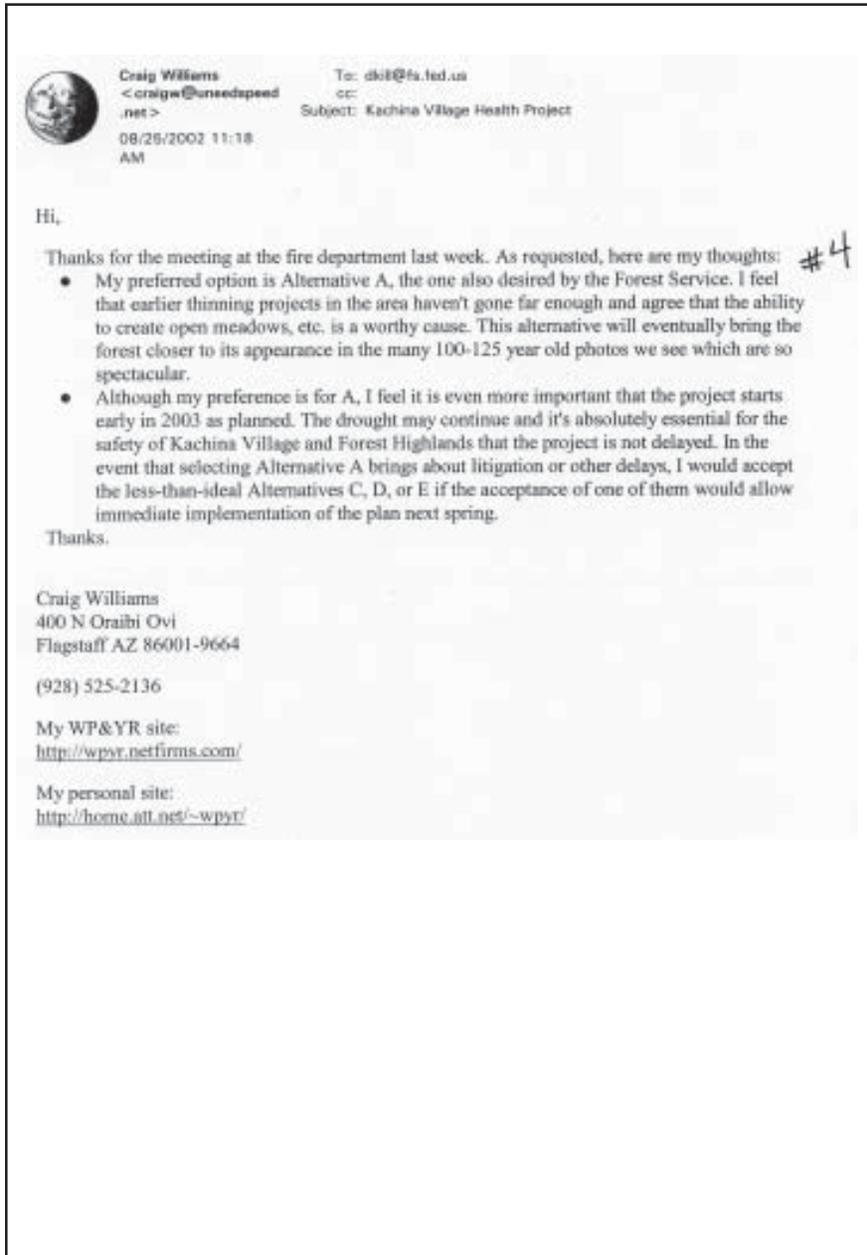
*We cannot control the health of the forest - we must*  
*be partners with nature - the control model is what created*  
 Did we fail to display the effects of an important environmental or social item in our analysis? If <sup>this</sup> *problem*  
 so what have we missed?

*Although we tend to not want to acknowledge that the Earth*  
*is not in good health, we must realize that our forests*  
*are vulnerable for many - some fatal - problems. Global warming,*  
*disease, drought, fire etc! We must work with the forest.*  
*Cutting all the trees - is like cutting off our breasts -*  
*- to prevent breast cancer! Thank - Shirley Pevarnik*

Name *Shirley Pevarnik* - I live + work in Flagstaff also!  
 Address *111 Furview*  
 (please print) *Williams AZ 86004*

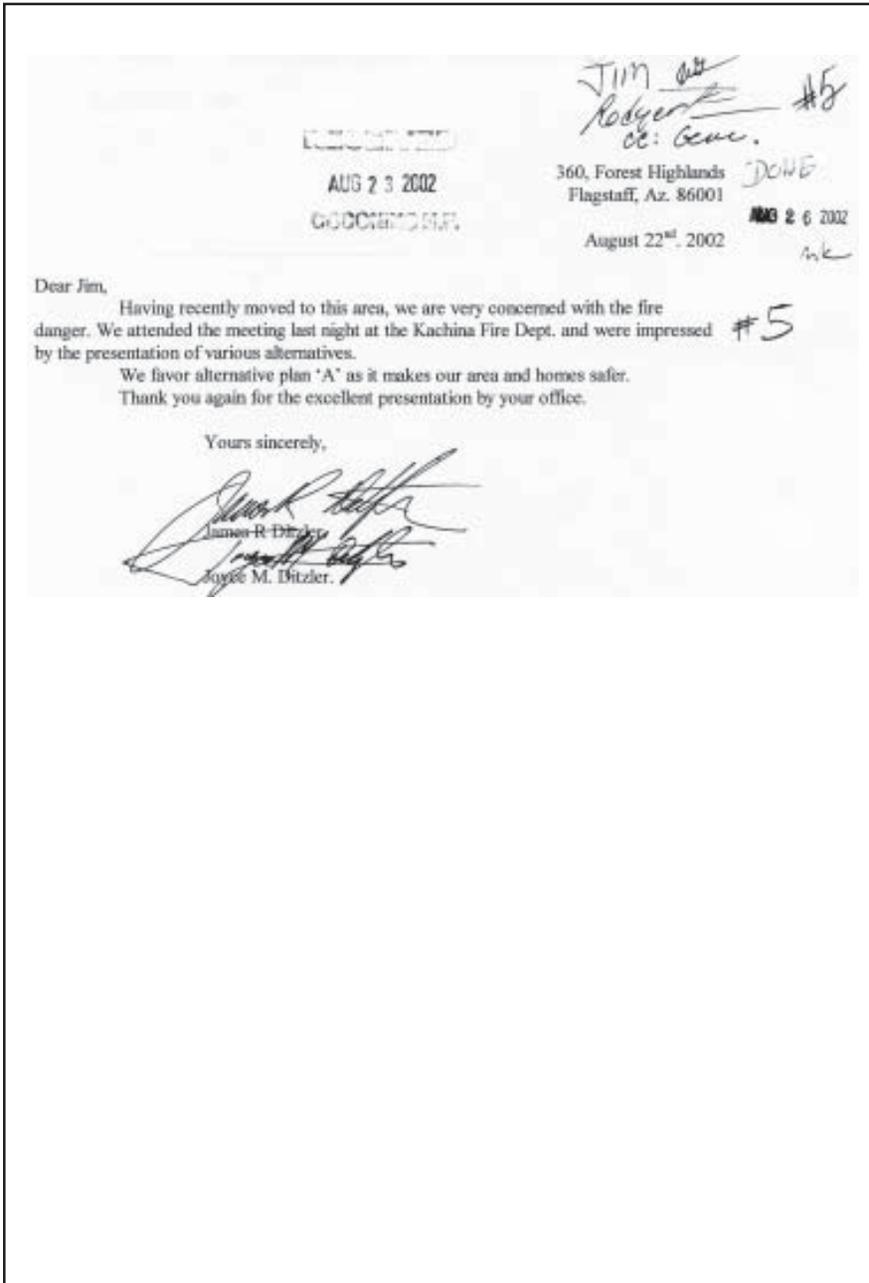
**Response 3.0:** The DEIS looks at several alternatives (C and E) with a 16-inch cap and displays the effects. Negotiation with environmental groups is outside the scope of this analysis.

## Letter 4 – Craig Williams



**Response 4.0:** The Forest Service will base the decision for an alternative on the purpose and need for action and the environmental effects of the alternatives. Forest Service regulations guide the NEPA process and include an appeal process. Litigation can be pursued by anyone at anytime. We are not aware of or have experience that points to any alternative that may or may not be appealed.

### Letter 5 – James Ditzler



**Response 5.0:** This comment is noted as supporting the preferred alternative, Alternative A.

# Letter 6 - Harry Stanton

Comment Sheet for the Kachina Village Forest Health Project Open House -  
 Wednesday August 21<sup>st</sup> at the Highlands Fire Department #4

Please feel free to comment tonight, or take this with you if you would prefer more  
 time to read the DEIS before commenting. You may mail this form, or a letter to  
 Coconino Forest Supervisor,  
 Attn: Kachina Village Project,  
 2323 E Greenlaw Lane, Flagstaff, AZ 86004

You may e-mail comments to [dbill@fs.fed.us](mailto:dbill@fs.fed.us)

Alternative A is the preferred Alternative. After hearing the information presented tonight,  
 and/or reading the Draft Environmental Impact Statement, do you have any concerns about  
 Alternative A? If so, please state what concerns you and why. Does one of the other  
 alternatives address your concern? #6

I heartily endorse Alternative A, but I am  
 concerned about the area behind Kwa Ovi and  
 Awatubeh? (S.W. side - see west <sup>North</sup> Kachina Trail)  
 This section was thinned previously in 2011  
 appears to contain low to 120 soft basal  
 area. This is much more than some areas  
 viewed on the field trip Aug 21, 2002 led  
 by Debbie Hill and Tammy Randall-Parker,  
 which are so be heavily redwood. Why is the  
 section behind Kwa Ovi decided marked and not to go

Did we fail to display the effects of an important environmental or social item in our analysis? If so?  
 so what have we missed?

Possible Reference - DEIS Appendix C  
 Map p. 125  
 White Area - Deter Tammy Randall-Parker  
 White Redwood Black Area - Inspiring Old  
 Tree longevity & Gambel Oak Habitat

Name HARRY STANTON  
 Address 663 KWA OVI  
 (please print)

**Response 6.0:** Tammy Randall-Parker phoned Mr. Stanton on September 30, 2002 and Mr. Stanton said about a week after he wrote the letter, the markers showed up and marked the area in question. He looked at it and said it looked good the way he would have expected it. He said only a couple of larger blackjack pines had been marked to make the openings. Nothing over 18 inches in diameter had been marked in that area. He thanked us for our time and said it was what he expected. Thank you.

# Letter 7 – David Kill

Comment Sheet for the Kachina Village Forest Health Project Open House –  
 Wednesday August 21<sup>st</sup> at the Highlands Fire Department

Please feel free to comment tonight, or take this with you if you would prefer more time to read the DEIS before commenting. You may mail this form, or a letter to  
 Coconino Forest Supervisor,  
 Attn: Kachina Village Project,  
 2323 E Greenlaw Lane, Flagstaff, AZ 86004

You may e-mal comments to [dkill@fs.fed.us](mailto:dkill@fs.fed.us)

Alternative A is the preferred Alternative. After hearing the information presented tonight, and/or reading the Draft Environmental Impact Statement, do you have any concerns about Alternative A? If so, please state what concerns you and why. Does one of the other alternatives address your concern?

I favor Alternative A. Aldo Leopold once wrote, "Sustainable forestry, erosion-control measures, wildlands preservation, and game management are not ends in themselves. They are parts of a larger, broader, more vital end: the maintenance of a healthy land community, a community that fuses human and other forms of life into a beautiful, fertile, and endlessly fascinating yet ultimately unfathomable whole". I think this is what we should be striving for. I think Alternative A is a step in that direction. #7

-Thank You  
 David Kill

Did we fail to display the effects of an important environmental or social item in our analysis? If so what have we missed?  
See Above.

Name David Kill  
 Address 2532 N. STEVE  
 (please print) Flagstaff AZ 86004

**Response 7.0:** This comment is noted as supporting the preferred alternative, Alternative A.

# Letter 8 – Ronald and Alice Bauman

August 25, 2002

*Sammy  
Ronald Bauman*

Coconino Forest Supervisor  
 Attn: Kachina Village Project  
 2323 E. Greenlaw Lane,  
 Flagstaff, AZ 86004

Dear Sir:

May we commend the professionalism and thoroughness of the forest service presentation of the Kachina Village Forest Health Project. At the public meeting, we were impressed by the knowledge and obvious preparation that went into considering the many aspects respective to the forest health, it's future and the future of Kachina Village, Forest Highlands and even Flagstaff. #8.0

Experts were available and questions were answered. Between their answers and the previously provided written draft, we feel we have a good understanding of the different alternative plans, what they offer or omit, and their implications for the future.

Virtually the entire plan area is intimately known to myself through visiting, hiking, biking, cross-country skiing, snow shoeing, woodcutting and jogging. From Mexican Pocket to Log Landing tank near our residence, we have been infused by beauty and observation. Tree by tree, canyon by canyon and rock by rock, I have explored the full length of James Canyon, Kelly Canyon, Pump House Wash, the side canyons and the mesas in between. I have personally met black bear, numerous turkey, uncountable groups of elk or single bucks, mule deer, Abert squirrels, jackrabbits, 10' catfish, rattlesnakes, fox, horny toads, coyote, many porcupine and several raccoons. I have seen ravens raise their young, flashy bluebirds, hawks, woodpeckers, and a bounty of other birds.

The Grand Canyon is great, but this canyon area has its own intimate and spectacular beauty. Seventy foot waterfalls, shaded glens of golden pea flowers, pictographs and shallow pools of water dogs, you can have a spiritual experience. It can be stunning.

**Response 8.0:** Thank you.

Regarding alternative thinning plans:

1. We have a particular interest in *old growth* trees. Somewhat surprisingly, by removing a percentage of the larger diameter of the black pines, *alternative A, C and D* offers the highest percentage (225 %) of *old growth* trees in the short and long term. This is significantly different from *alternative B* (no action) and *alternative E* (18 % increase). Thus for increased large yellow-barked Ponderosa Pine, we support *alternative A, B, or C*. #8.1

2. For fire protection, we have a backdrop of comparison with the Rodeo-Chedeski fire. Having visited Show Low several times during their ongoing fire, and afterwards visiting Heber and Overguard during the monsoon rains, I can say, "that could be Kachina Village or Forest Highlands!" No action is certainly the most threatening and by far the least desirable of the Project alternatives. With the likelihood of continued drought, and the certainty of a summer of gusty to strong winds, we don't want crown touching crown trees that will horizontally transport a fire right into our residential area. #8.2

Our residence in the southwest corner of Kachina Village borders a thick stand of uniform 12' to 18" pine as the above mesa drops down. It is comforting to see that *alternative's A, C & D* provide heavy thinning of this area. Providing a buffer zone around developed areas is an excellent proposal.

While *alternative E* does have a buffer strip of even more intensive thinning around development, it lacks the heavy thinning of proposals A, C and D for other areas such as Mexican Pocket and the adjacent area west of 89A, and the mesa area between Kelly and James Canyons. We support heavy thinning in these areas to reduce the likelihood of catastrophic fire starting, spreading and burning up our wild and beautiful forested mesas and canyons.

It makes sense to have a diversity of open areas, normal wooded areas and thick areas in the whole proposed 4800 acres of thinning area. This seems like a positive approach to limiting large, severe fires. Besides not having our homes destroyed by fire, we don't want to burn riparian areas and canyon stands of over 110' Ponderosa Pines, Douglas Fir, aspen and native maple. For these reasons related to the most promising fire protection, we support *alternative A*.

3. To encourage diversity of wildlife and habitat to support them, we support interspersed open areas and a variety of tree stands. If we need to remove some of the larger black pines of 16", 18", 20" or larger pines, then we support this action. As a small example, close to my home in that dense stand of pine mentioned previously at the southwest corner of Kachina, there is one small canopy area where the light does not meet treetops. Because of this and the right combination of environmental factors, even here in normal years appears an atypical lush stand of mixed purple lupine flowers and orange-red indian paintbrush. For diversity of habitat and wildlife support we propose *alternative A*. #8.3

Retaining all yellow-barked pine trees is applauded. Further creation of downed logs and snags is also very positive. #8.4

Beetle kill seems to be increasing both in single trees and in patches. This further begs for thinning to promote sound forest health and severe fire potential reduction.

**Response 8.1 - 8.6:** These points are noted as explaining the reasoning behind the writer's support for Alternatives A, C, and D. These comments are noted as supporting the preferred alternative, Alternative A.

We support broadcast ground fires to bring forest floor fuels back to a reasonable level. It was explained at the meeting about the compacted duff producing lots of black, smoldering smoke during the first burn over of an area. While being unpleasant, we will accept it as being a necessary part of reviving a healthier, safer forest. We will not complain. #8.5

Our strong preference is for **alternative A**. Alternative C and D are less desirable but acceptable. #8.6

Alternatives B and E are totally unacceptable!

Camping:

Over the years we have seen most campers along the upper portion of FS road 237 keeping their area clean. Even one area has a group of maybe 30 every year in the fall, and they leave nothing behind. But the one in 10 or so campers that could care less leave an incredible amount of garbage, cans, glass, human waste and whatever all over the place. Sometimes I bring garbage bags to collect some of the trash.

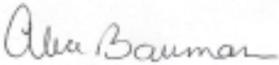
This last winter a purple RV somehow ended up stuck 100 yards off 237 in deep snow. He lived and camped there all winter. Though he did not clutter or leave garbage, three months of human waste accumulation above the frozen ground was an awesome sight in the spring after he had gone.

Smoldering or even burning campfires are a significant problem after some campers leave. I have seen a campfire of 15-foot flame lengths burning in Pumphouse Wash under a pine tree. That's a pretty dense vegetative area for a downwind fire that could get out of control. For these reasons we strongly support **no camping** from the Kachina Boulevard entry of 237 to past Pumphouse Wash crossover. #8.7

From the crossover to 89A, Mexican Pocket and both sides of the overlook area, we support **designated camping**. On holidays these overlook area above Oak Creek have hundreds of unregulated campsites being used, some with garbage everywhere, every nook and cranny driven on or stuffed with something, and uncountable white flags of unburied waste. It can be very unsightly and disgusting. #8.8

Sincere thanks for listening to and considering our expressed interests and desires.

Sincerely,  



Ronald Bauman,  
 Alice Bauman,  
 Residents of Kachina Village

RECEIVED

**Response 8.7:** Camping under Alternative A is described on page 16 of the DEIS. Per this language, and to further clarify, designated camping sites will not be located closer than one half mile from residential areas. This is clarified in the Final EIS. This would meet this writer's request, in part, by having no designated campsites within part of the area described in this letter. Prohibiting camping for the entire area all the way to Pumphouse Wash is discussed in Alternatives Considered but Dropped from Detailed Study in the Final EIS.

**Response 8.8:** The commenter supports the designated camping for Mexican Pocket and overlook area.

**Letter 9 – Robert E. Keever, President, Forest Highlands Association (873 members)**


#9

SEP - 3 2002  
 COCONINO CO. SUPERVISOR'S OFFICE  
 Jim Golden  
 Redaw

August 30, 2002

**BOARD OF DIRECTORS**

<p>Robert Keever President</p> <p>Robert Hirsch Vice President</p> <p>Richard Tully Secretary</p> <p>Bruce Probes Treasurer</p> <p>Jerry Ladhoff</p> <p>Clara Magnussen</p> <p>Anna Marie Palumbo</p> <p>Terry Tanner</p> <p>Louis Weinstein</p> <p><b>CEMENT TEAM</b></p> <p>Jack Grehan General Manager</p> <p>Patricia Ashbrook Controller</p> <p>Jim Davison Director of Golf</p> <p>Chris Hill Director of Food &amp; Beverage</p> <p>Steve Beeler Director of Security</p> <p>Drew Annan Director of Golf Course Maintenance</p> <p>Margaret Hobbs Director of Recreation</p> <p>Bill Strauss Director of Public Works</p> <p>Michael Snake Executive Chef</p>	<p>Mr. Jim Golden Coconino National Forest Supervisor's Office 2323 E. Greenlaw Lane Flagstaff, AZ 8600</p> <p>Rc: Kachina Village Forest Health Project</p> <p>Dear Mr. Golden:</p> <p>On behalf of the 873 members of the Forest Highlands Association, I offer the following comments on the Draft Environmental Impact Statement dated July, 2002 for the above referenced project:</p> <p><b>Forest Highlands supports Alternative A. We would like to see Alternative A also include the intensive thinning proposal from Alternative E (1/8<sup>th</sup> mile strip bordering the residential communities).</b></p> <p>If you have any questions, please contact our General Manager, Jack Grehan, at 525-5280 or The Chairperson of our Security and Maintenance Committee, Peter Kloeber, at 525-0585.</p> <p>Sincerely,</p> <p></p> <p>Robert E. Keever, President Forest Highlands Association</p> <p>cc: Jack Grehan, Steve Beeler, Pete Kloeber, Highlands Fire Department</p>
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#9

**Response 9.0:** The intensive zone concept is discussed in detail in the DEIS on pages 9, 39, 40, and 62. The DEIS covers this in detail on pages 60-66.

# Letter 10 - Harold and Ann Graff

Comment Sheet for the Kachina Village Forest Health Project Open House –  
Wednesday August 21<sup>st</sup> at the Highlands Fire Department

Please feel free to comment tonight, or take this with you if you would prefer more time to read the DEIS before commenting. You may mail this form, or a letter to  
Coconino Forest Supervisor,  
Attn: Kachina Village Project,  
2323 E Greenlaw Lane, Flagstaff, AZ 86004

You may e-mail comments to [dskill@fs.fed.us](mailto:dskill@fs.fed.us)

Alternative A is the preferred Alternative. After hearing the information presented tonight, and/or reading the Draft Environmental Impact Statement, do you have any concerns about Alternative A? If so, please state what concerns you and why. Does one of the other alternatives address your concern?

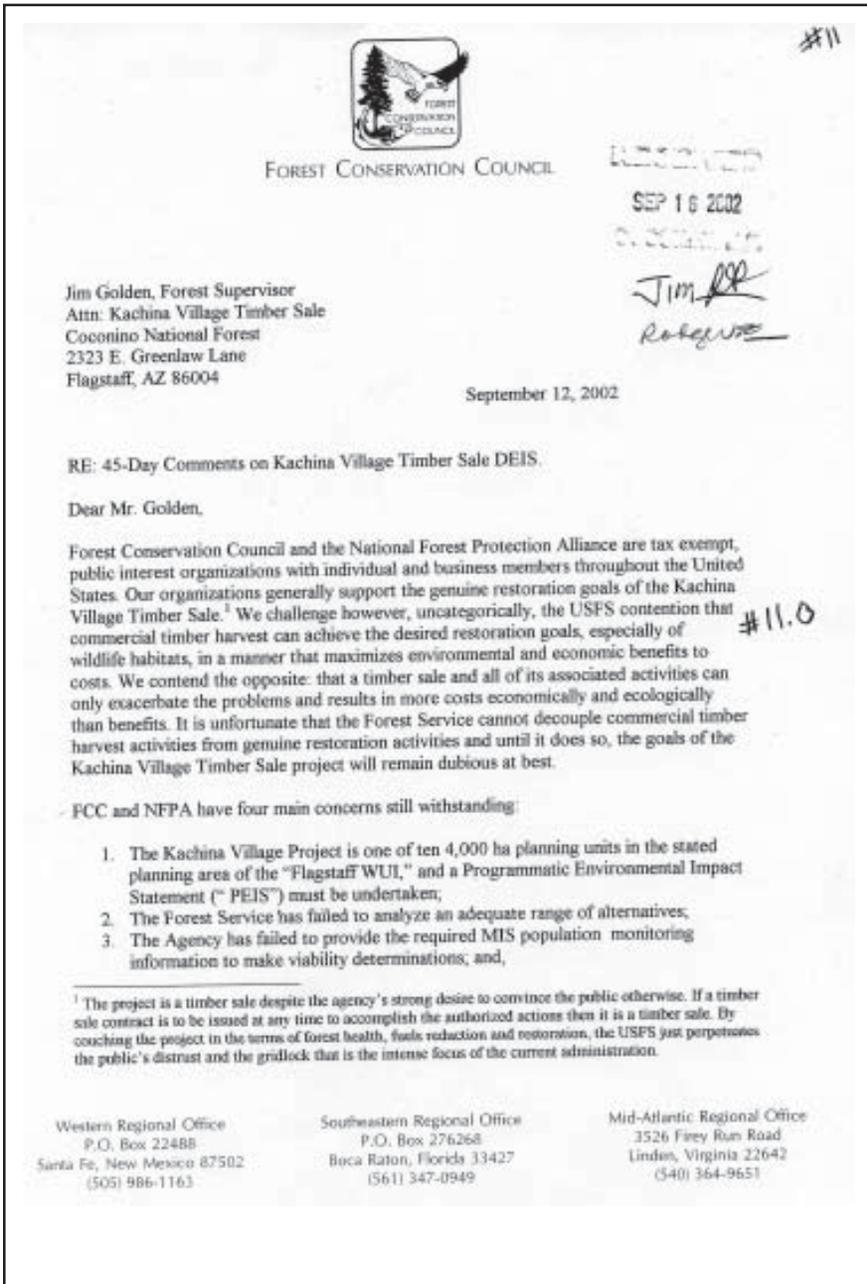
*#10*  
*After reading and looking over all the plans, my wife and I are in favor of Alternative A. But Alternative C + D would be alright if the forest service decides on those. We believe any of these 3 plans would help prevent crown fire & restore the forest.*

Did we fail to display the effects of an important environmental or social item in our analysis? If so what have we missed?

Name *HAROLD AND ANN GRAFF*  
Address *601 PETAUSH CVT*  
(please print) *FLAGSTAFF, AZ 86001*

**Response 10.0:** This comment is noted as supporting the preferred alternative, Alternative A, or Alternatives C or D.

Letter 11 – Bryan Byrd



**Response 11.0:** A much abbreviated but similar comment was received previously from the commenter during scoping and the response is written on pages 139-140 of the DEIS. The project will most likely be offered as a goods for service contract. However, a timber sale contract is a tool that could and may be utilized to implement this forest health improvement project. This is best described in a report titled Forest Service Comments on the Report Entitled "The Economic Case Against National Forest Logging," prepared by Ann M. Bartuska and submitted to John Talberth November 6, 2000. The following is an excerpt from the report that responds to this comment very well and expresses our local experience on this matter.

In the case of "forest stewardship" purpose sales, the intent is to use timber sales as a tool for helping to achieve various land management objectives that require manipulating the existing vegetation – e.g., improving forest health, reducing forest fuels, and creating desired habitat for wildlife – so both commercial and non-commercial forest users benefit. Both types of sales are legitimate activities under the National Forest Management Act and Multiple Use-Sustained Yield Act (i.e., NFMA and MUSYA). Furthermore, in the case of forest stewardship purpose sales, our experience indicates that such sales, since they generate some revenue to help offset the costs of implementation, are often the least net cost method of attaining the stewardship goals being pursued – so in essence all taxpayers, or the public at large, benefits.<sup>1</sup>

<sup>1</sup> Evaluating the Use of Timber Harvest on 19 National Forests; August 1994; p.5.

4. The agency has entirely failed to provide an adequate socioeconomic analysis of the project.

1. Programmatic Environmental Impact Statement

The Kachina Village Timber Sale is one of at least 10 similar projects planned in the Flagstaff vicinity. Together, these projects may affect up to 120,000 acres of national forest land.<sup>2</sup> Further, the "Flagstaff Model" is now being discussed for many millions of acres of public forestland across the West.

The Forest Service's decision to prepare individual environmental assessments (E.A.s or E.I.S.s) for each project, rather than a PEIS for the entire proposal violates the National Environmental Policy Act (NEPA) because, both individually and cumulatively, these projects meet several tests of "significance" set forth in the Council of Environmental Quality (CEQ) regulations implementing NEPA.<sup>3</sup> By law, the Forest Service must prepare a PEIS for the significant federal actions to be undertaken in the "Flagstaff WUI." The Kachina Village Timber Sale, as well as each of the related projects in the "Flagstaff WUI" are significant because:

- (a) the projects are highly controversial, in a scientific sense, involve highly uncertain effects and involve unique or unknown risks. (40 C.F.R. § 1508.27 (b)4,5). # 11.1
- (b) the Kachina Village project is related to other actions with significant cumulative effects. (40 C.F.R. § 1508.27 (b)7).

2. Range of Alternatives

A non-commercial, restoration alternative for the Kachina Village Timber Sale Area should have been analyzed. The restoration-only alternative is clearly reasonable and should have been analyzed. The justification provided by the USFS in the Kachina DEIS for dropping three reasonable alternatives including two non-commercial alternatives (one with thinning and one without) is a violation of NEPA because the response is nonsensical and ignores existing information. # 11.2

In particular, the discussion provided in the DEIS contradicts itself. Kachina Village DEIS at 23-26. Primarily the agency's logic begins by stating that "a number of fires are required to reduce fuels, change the understory, and overcome the effects caused by fire exclusion" and that fire is an imperfect tool Kachina Village DEIS at 23. The statement alone would support a non-commercial restoration alternative and the USFS fails to offer

<sup>2</sup> USDA Forest Service, 1998: Cooperative Agreement Between the United States Department of Agriculture Forest Service and The Grand Canyon Forests Foundation, pg. 4.

<sup>3</sup> 40 C.F.R. §1508.27.

**Response 11.1:** This commenter previously made this comment (during public scoping) and a response is located on page 140 of the DEIS. There is no mention of a PEIS anywhere in CFR regulations or FS manual direction. The citations provided by the commenter pertain to the term "significantly" as used in NEPA and requires consideration of both context and intensity. These are tied to significance when preparing a Finding of No Significant Impact (FONSI). A "Finding of No Significant Impact" refers to a document by a Federal agency that briefly presents reasons why an action, not otherwise excluded (Sec.1508.4), will not have a significant effect on the human environment and for which an environmental impact statement, therefore, will not be prepared. This reference does not apply, as the document for the Kachina Village Forest Health project is an EIS. We have prepared an EIS for this project and a FONSI will not be prepared.

**Response 11.2:** Several non-commercial restoration alternatives were analyzed in the DEIS, pages 23-26. We reviewed these pages and did not find contradictions. The information in the DEIS discusses various studies, the results of these studies, and the effects prescribed fire can have on forest conditions. The commenter lists several projects in northern Arizona that have met project goals through thinning trees less than 9 inches in diameter and less than 5 inches in diameter. However, a one size fits all approach for a 7,000-acre project area did not work for our site-specific project. Please note the size of the project examples you gave. The project areas are much smaller (500-700 acres in size). The Kachina project includes thinning to 9 inches in diameter on approximately 500 acres of the 7,000-acre project area. Also, please note that these examples are on the Coconino National Forest, Kaibab National Forest, and Grand Canyon National Park, and are not all located on the Coconino National Forest as stated.

any reason why “a number of fires” could not constitute a reasonable alternative especially if “a number of fires” is more cost effective than a timber sale, its road building activities as well as administrative costs, nor why prescribed fire is an imperfect tool but extremely experimental thinning is not. Following this statement are several confusing paragraphs either stating that prescribed fire was capable of thinning “dog-hair” thickets or stating the opposite that the commercial overstory sustained significant injury. This logic is not only confusing but fails to address the fact that the alternatives proposed by our organizations would incorporate pre-fire fuels treatments.

Further, the Kachina Village DEIS fails to acknowledge that non-commercial restoration is currently being applied not only on federal lands across the west, but on the very same National Forest.<sup>4</sup> It defies logic to argue vigorously that non-commercial treatments simply cannot be considered in detail here, but elsewhere on the Coconino they can be.

We contend that:

- (1) all restoration objectives can be met without conducting a commercial timber sale;
- (2) a commercial timber sale can only exacerbate current problems, no commercial timber sale will eliminate these problems, and;
- (3) the Forest Service cannot exclude a non-commercial alternative merely because existing funding structure would make it difficult.

### 3. Species Viability

The Kachina Village Timber Sale includes commercial harvest, ground-disturbing activities associated with timber harvest and other vegetative manipulation. These activities are likely to jeopardize the viability of species that find optimal habitat in forests with well-developed structures, and forests naturally disturbed by fire, disease and

# 11.3

<sup>4</sup> For example see: Coconino National Forest, **Williams High Risk Sites Fuels Reduction Project**: 717 acres of non-commercial thinning of trees less than 9” DBH and burning and chipping to “reduce fire risk near private property by reducing the fuels hazard. Contact: Susan Skalski, 520.635.5664; Coconino National Forest, **Happy Jack Urban Interface Project**: 452 acres non-commercial thinning of trees less than 5” DBH, broadcast and pile burning, maintenance of fuelbreaks in ponderosa pine to “reduce the risk of catastrophic wildfire threatening lives, homes and structures in the Mule Park area. Contact: Larry Sears, 520.477.2255; and, Grand Canyon National Park, **Wildfire Hazard Reduction in Ponderosa Pine Ecosystems**: fuels reduction in ancient ponderosa pine groves on the north rim of the canyon. Preferred alternative is to mechanically thin tree up to 5” diameter, pile and burn and conduct regular prescribed burning. Contact: Sara White, 928.638.7956.

insect pathogens. These include threatened, endangered, and sensitive species, as well as management indicator species including the northern goshawk, Mexican spotted owl, Navajo Mountain Mexican vole, peregrine falcon, Abert’s squirrel, elk, hairy woodpecker, mule deer, pygmy nuthatch, turkey, loach minnow, razorback sucker, spikedace, as well as Neotropical migratory bird species.

**Response 11.3:** “Viability” is not a requirement of the ESA, 1973 as amended 16 U.S.C. 1531“*et seq.*” The Coconino National Forest has evaluated both habitat quality and population data. Population data for species discussed in the EIS was compiled from various sources, including Arizona Game and Fish monitoring, Forest Service monitoring, research, breeding bird survey data, and surveys conducted for the project, including Mexican spotted owl, Northern goshawk, and numerous plant species. Within Project Record Documents 59a, 66a, 123, 124, 150, 151, 164a, and 171 and DEIS pages 84, 100, 101, and 107, the combination of habitat quality modeling and population trends and monitoring data are analyzed and provide a detailed analysis of what is excepted in terms of changes in viability trends

For many of these species the Forest Service has no up-to-date population data describing population numbers, locations, and trends, nor monitoring data on which the agency can rely to determine that the actions proposed in the context of Kachina Village Timber Sale will maintain numbers and distribution of these species sufficient for insuring long term viability. Nor has the Forest Service determined the "minimum number" of reproductive individuals that would constitute a viable population.

Instead the Kachina Village DEIS has relied solely on habitat capability modeling ("HQT"). This approach, which exclusively relies on habitat estimates, without checking the actual populations, ensures that any changes in population will go undetected and was unambiguously rejected recently in federal court.

"The Forest Service is obligated by the plain language of the National Forest Management Act's regulations to acquire and analyze hard population data for its selected management indicator species . . . Under this clear language, it may not rely solely on habitat trend data as a proxy for population data or to extrapolate population trends." *Forest Guardians et al. v. United States Forest Service*, No. CV 00-714 JP/KPM-ACE.

The Forest Service is required by law to determine this minimum number of reproductive individuals before implementing activities that might impact those individuals or populations such as are planned in the Kachina Village Timber Sale. The Forest Service cannot permit these activities without knowing the location and number of individuals of these species that would enable determination of whether habitat for each vertebrate is well distributed to facilitate interaction. Until such information is provided the Forest Service cannot know whether it is providing sufficient habitat to support the minimum number of reproductive individuals nor that the habitat is distributed in such a manner as to permit interaction.

Because the Forest Service has no such data for most species adversely affected by the proposed management activities, and because what data there is suggests that such species are declining and otherwise at risk, the Forest Service runs afoul of viability and diversity requirements set forth in forest planning regulations 36 C.F.R. § 219.19 and § 219.26. In addition, any decision made on the Kachina Village Timber Sale and associated activities without the above-described information would be considered arbitrary and capricious and constitute agency action unlawfully withheld or unreasonably delayed in violation of the APA. (5 USC §§ 706[1] & 706[2]).

#### 4. Socioeconomic Costs and Benefits

USFS timber sales are the end result of inter-related planning decisions and analyses made at the national, forest, and project level. 36 C.F.R. § 219.4. At the national level, the Forest Service prepares the Renewable Resources Program (RPA), which determines output levels for all national forest resources based upon a comprehensive environmental and economic assessment of present and anticipated demands for and supply of renewable resources from forests in all ownership. At the forest level, the Forest Service has prepared the Coconino National Forest Land and Resource Management Plan

#11.4

**Response 11.4:** The project is not a timber sale. It is a forest health improvement project. This is a comment that we receive on almost all correspondence from your organization and was addressed on page 142 of the DEIS, based on comments that were provided by your organization during public scoping. Economic comments and analysis are discussed in the DEIS on pages 120-122, 142, 149, 153, 159-160, 162, 167, 168, and 169. Many of your issues have been addressed and answered in a report titled "Forest Service Comments on the Report Entitled 'The Economic Case Against National Forest Logging,'" prepared by Ann M. Bartuska and submitted to John Talberth, November 6, 2000.

Footnote 5 regarding slash is addressed in the DEIS on pages 13 and 57-59. The generation of slash and its treatment is common to each of the action alternatives, as described in the DEIS on page 13. Burning generated slash and the broadcast burning of the forest floor would probably take more burning seasons under Alternative E than under the other action alternatives, as described in the DEIS on pages 62 and 65.

The fire risk and hazard of the existing condition would last into the foreseeable future, while the fire risk and hazard of the slash under each of the action alternatives should be eliminated within 1 to 3 years of its generation with acceptable burning windows (DEIS page 6).

("LRMP"), which is an "extension" of the RPA Program and which identifies lands that are suitable for timber sales, the amount of timber to be offered each year, and under what conditions timber sales will be offered.

At the project level, the Forest Service makes decisions about the specific configuration of individual timber sales, including Kachina Village Timber Sale. At each level, the Forest Service must engage in environmental and economic analyses of its decisions as required by the National Environmental Policy Act.

The Forest Service is required by law to manage national forest system lands and programs to maximize social and economic benefits for the American people. As with other projects planned on the National Forests of Arizona and throughout Region 3, the Forest Service has failed to complete an economic analysis of the Kachina Village Timber Sale that provides the public with a full and fair accounting of net economic benefits. Instead, the economic analysis is limited to net benefits and costs incurred by the Forest Service and project administrators.

The "economics" analysis only looks at the various financial returns of the alternatives and focuses on the 16" dbh threshold. This analysis fails miserably in considering both the long-term and short-term benefits and costs of such large-scale vegetation manipulation. This is especially critical for so-called restoration projects such as Kachina Village. NEPA requires the agency to take a hard look at the cost effectiveness of various treatments. Because each of the alternatives considered presents a significant economic cost to the taxpayer and because of the controversy of the Flagstaff restoration experiments, the economic efficiency of commercial v. non-commercial approaches is of particular interest. However, in this case the USFS has chosen to limit its analysis and ignore these important disclosures.

The E.I.S. and project record fail to place any economic value on existing uses and functions of the sale area, including recreation, flood control, pest control, carbon sequestering, and many other "ecosystem services." In addition, the economic analysis fails to consider a wide range of costs that will be incurred by the public through loss of these "ecosystem services" and other externalized costs such as increased flooding,

increased risk of death, injury, and property damage from logging operations, and increased fire risk.<sup>5</sup>

Please address these issues in your final environmental impact statement. Thank you for your time and consideration.

Sincerely,



Bryan Bird  
Forest Conservation Council  
Western Regional Office

Member, NFWA Board of Directors

**Response 12.0:** These comments are noted as supporting the project. The writer emphasizes the need for limiting camping in the future upwind of populated areas.

**Letter 12 – John McCartney**

Comment Sheet for the Kachina Village Forest Health Project Open House -  
 Wednesday August 21<sup>st</sup> at the Highlands Fire Department

Please feel free to comment tonight, or take this with you if you would prefer more time to read the DEIS before commenting. You may mail this form, or a letter to  
 Coconino Forest Supervisor,  
 Attn: Kachina Village Project,  
 2323 E Greenlaw Lane, Flagstaff, AZ 86004

You may e-mail comments to [dkill@fs.fed.us](mailto:dkill@fs.fed.us)

Alternative A is the preferred Alternative. After hearing the information presented tonight, and/or reading the Draft Environmental Impact Statement, do you have any concerns about Alternative A? If so, please state what concerns you and why. Does one of the other alternatives address your concern?

PLEASE START THE PROJECT ASAP! #12  
 START THIS FALL IF POSSIBLE. I  
 WHOLE HEARTEDLY COMMEND THE  
 FOREST SERVICE FOR YOUR HARD WORK,  
 ANALYSIS OF THE PROJECT, AND EFFORT  
 FOR YOUR PROSECUTION AND DUE  
 DILIGENCE. THE EIS IS AS  
 IMPRESSIVE AS THE COACTION &  
 CONSENSUS. I WILL PERSONALLY  
 BECOME INVOLVED IF THE FRINGE

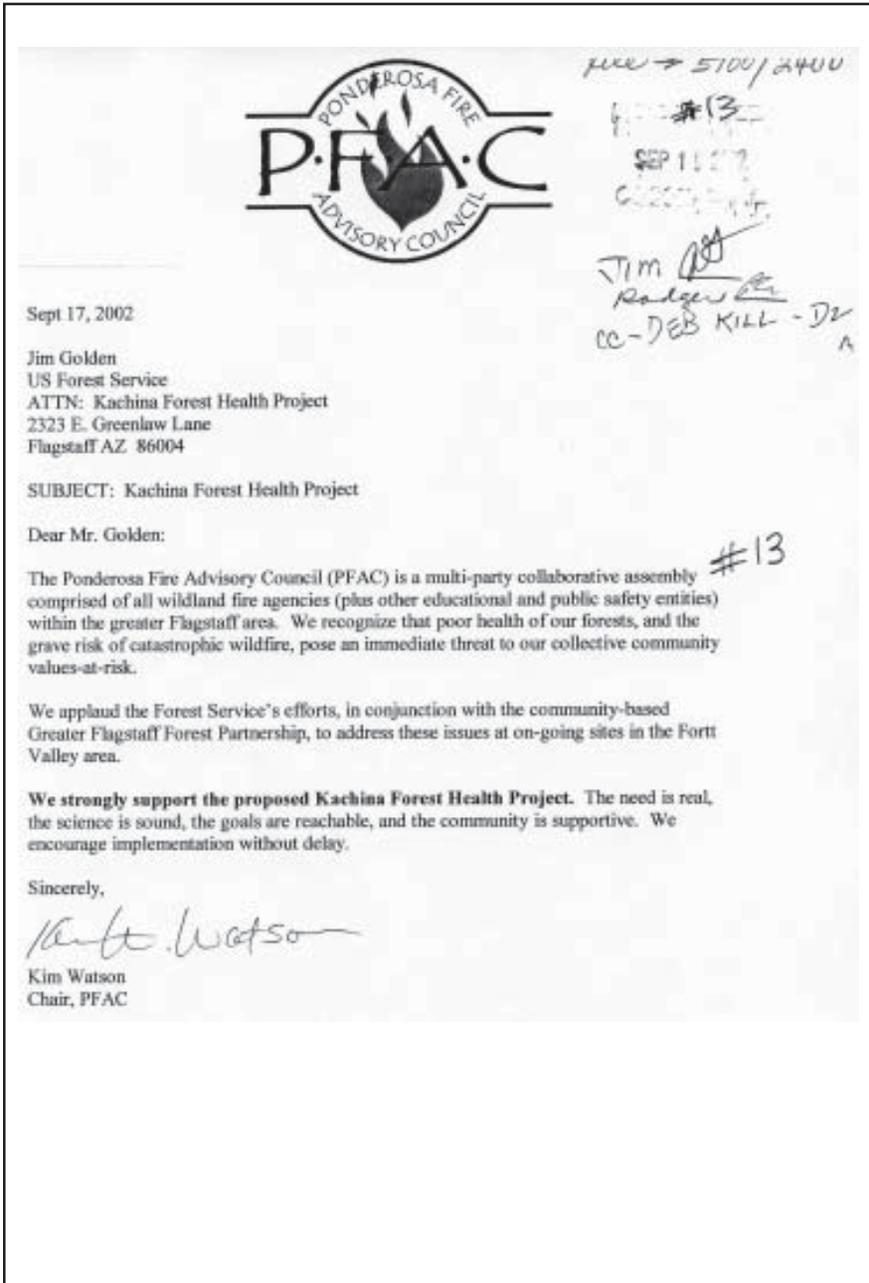
Did we fail to display the effects of an important environmental or social item in our analysis? If so what have we missed?  
 "ENVIRONMENTAL" GROUPS STOP THE  
 PROJECT IN COURT.

I HOPE IN THE FUTURE YOU CONSIDER  
 MORE OPEN SPACES AND MUCH LESS  
 CAMPING UP WIND FROM POPULATED  
 AREAS.

Name JOHN MCCARTNEY  
 Address 187 RLL CVI  
 (please print)

JIM  
 cc-DEB, KIH  
 ml  
 [Signature]

# Letter 13 – Ponderosa Fire Advisory Council



**Response 13.0:** These comments are noted as supporting the project.

## Letters 14 – Cheryl Engelhard



**Response 14.0:** These comments are noted as supporting the project.

## Letter 15 – Steve Bleich

**Steve Bleich**  
 109 Kieitha Trail, Kachina Village, Flagstaff, AZ 86001-9654 (928) 525-2905 sfbleich@aol.com

17 September 2002

Jim Golden  
 ATTN: Kachina Village Forest Health Project  
 2323 E. Greenlaw Lane  
 Flagstaff, AZ 86004

SEP 25 2002  
 [Handwritten signatures: JAB, RAB]

Good Day,

After going to both public meetings in Kachina Village and both forest walks with Tammy Randell-Parker and wading through a good portion of the Draft Environmental Impact Statement for Kachina Village Forest Health Project and anything else I could find, I am of the opinion that plan 'A' is an overkill.

I never had any question that immediate thinning action is required and after seeing the havoc caused by the Rodeo-Chideski fire I'm only more convinced, than ever. Since my wife and I live near the head of Pump House Wash. I'm certain that if there is there is a major fire in this area, my house would be one of the first to go.

I strongly believe there has to be a balance between the desire of the Forest Service, and of the residents and users of the area.

I'd like to be able to say that I am in total agreement with Plan 'A' I believe it is extreme. There's an old saying about "not being able to see the forest for the trees." My wife and I moved to Kachina to be able to experience the forest rather than the individual trees.

I can easily accept Plan 'A' with a few changes: 1) an absolute cutting limit of 18" diameter; 2) a minimum basal area of 40 in most areas, and 3) cut and remove any trees under attack by beetles. #15.1 #15.2

I realize that there is no practical way this entire project can be quantified and we must heavily rely on those directing the thinning, etc. Trust is a nebulous thing. #15.3

Many years ago, I was told that the Forest Service allowed clear-cut because they depended on timber sales for a major part of their funding. While I didn't (quite) believe that, it did color my thinking for a while afterwards. Many people still remember the clear cutting and excessive commercial timbering that occurred in the not-so-distant-past. It takes years to build up trust, any trust and confidence that may exist can be destroyed by a single decision.

**Response 15.0:** Opinion about Alternative A that DEIS has discussed in various ways in response to comments in Appendix A beginning on page 133 and pages 23-27.

**Response 15.1:** This option is considered in the DEIS as Alternative D, described on pages 33-34.

**Response 15.2:** This option is contained in the DEIS under Alternatives A, C, and D and is first described on pages 27-31. For some prescriptions, 40 BA is listed as the minimum density to use within a stand. The other prescriptions would not reach a 40 BA because of the way they are designed to meet standards and guidelines for wildlife habitat, as described in the Coconino National Forest Land and Resource Management Plan.

**Response 15.3:** The DEIS discusses the effects of the alternatives on the susceptibility of forested areas to bark beetle attacks. These are described on pages 67-72 of the DEIS. Standard operating procedures during tree thinning projects include the ability to remove an individual tree that is dying from insects or disease as an operating procedure of the project. The current level of beetle-killed trees in the Kachina Village Project area is not enough to change the analysis of effects of alternatives or to change the preferred alternative (per review of 2002 Aerial Detection Survey, John Anhold). Therefore, the option of cutting all trees under attack in the project area is not necessary. In addition, attempting to cut all trees under attack by beetles would include entering areas where tree cutting work would not otherwise be done under Alternative A. Many of these areas have steep terrain and little access.

The Coconino National Forest historically has not been clear cut in the ponderosa pine forest type.



**Response 15.4:** The article in the “Arizona Daily Sun” stated:

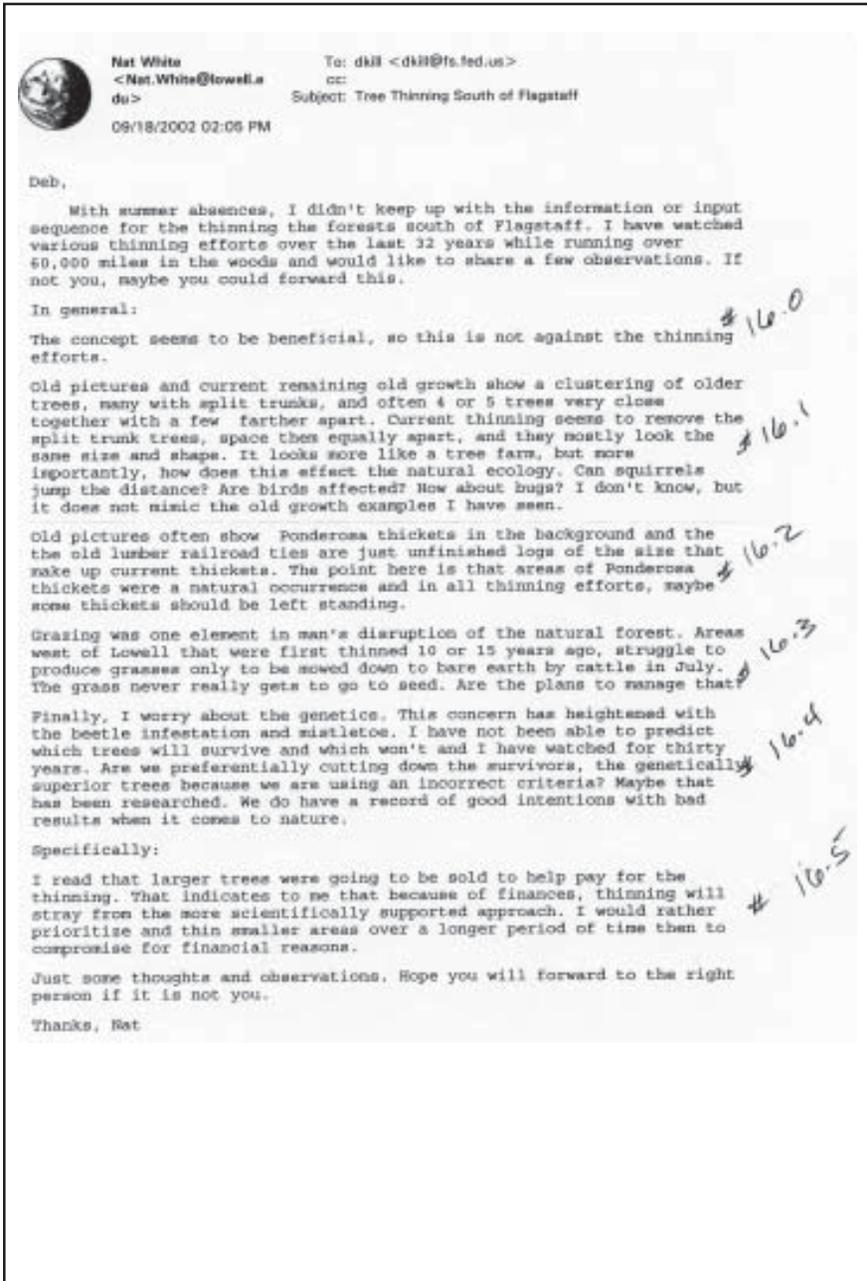
According to the minutes of the session posted on the Partnership Website, Waldrip said the sale is needed to “offset project costs” that are not covered by “Fire Plan monies” to build roads necessary for the thinning work. “Basically he is out of money to do roadwork on Kachina. This could be offset, however, with the sale of some timber...”

The actual meeting minutes read:

Gene shared another economic consideration to take when forming our decision about the Forest Service preferred alternative. With a normal timber sale, he can use the sale profit to offset project costs. He cannot use appropriated money from fuel (Fire Plan monies) to do roadwork for Kachina. He is out of money to do roadwork on Kachina. This could be offset, however, with the sale of some timber, as proposed in the DEIS. There is no legal way to offset the road costs with a service contract. This is a pretty big dilemma that the partnership wasn't faced with at Fort Valley. Keith asked, “If there is no money for roads (without a timber sale), then is there no money for trails or other recreation elements of the project?” Gene said, “Yes.” Keith stated that this is another reason to support the Forest Service preferred alternative.

Gene was stating to the group that, because this would not be a timber sale, but rather a goods for service contract, money generated from thinning activities to improve forest health could then pay for work to fix up roads, build trails, and support recreation improvements. The quote in the “Arizona Daily Sun” reflected a conversation with the Greater Flagstaff Forests Partnership as to the tradeoffs of the various alternatives.

Letter 16 – Nat White



**Response 16.0:** No response needed.

**Response 16.1:** Clumping is described and visually simulated in the DEIS on pages 28-30, 31, and in Chapter 3 on pages 84-20 relating to wildlife habitat.

**Response 16.2:** The DEIS describes cover clumps and maintaining cover in Alternatives A, C, and D (see page 22).

**Response 16.3:** The DEIS describes monitoring and how annual operating instructions will be utilized to facilitate understory recovery (see page 22).

**Response 16.4:** The DEIS describes the treatment of insects and diseases (see pages 66-72).

**Response 16.5:** The DEIS describes economics and the rationale for thinning trees (see pages 27 and 121-122).

# Letter 17 – Randy Schaal

Comment Sheet for the Kachina Village Forest Health Project Open House – Wednesday August 21<sup>st</sup> at the Highlands Fire Department SEP 20 2002  
COCONINO

Please feel free to comment tonight, or take this with you if you would prefer more time to read the DEIS before commenting. You may mail this form, or a letter to  
 Coconino Forest Supervisor,  
 Attn: Kachina Village Project,  
 2323 E Greenlaw Lane, Flagstaff, AZ 86004

You may e-mail comments to [dkill@fs.fed.us](mailto:dkill@fs.fed.us)

Alternative A is the preferred Alternative. After hearing the information presented tonight, and/or reading the Draft Environmental Impact Statement, do you have any concerns about Alternative A? If so, please state what concerns you and why. Does one of the other alternatives address your concern?

*I definitely support Alternative A. #17  
 We need to do more of these projects where we sell some of the bigger trees to pay for the thinning project.  
 Keep up the good work & let's thin more of the forest.*

Did we fail to display the effects of an important environmental or social item in our analysis? If so what have we missed?

Name *Randy Schaal*  
 Address *1460 W. Univ. HTS Dr. N.*  
 (please print) *Flagstaff, AZ 86001*

JIM  
 dkill  
 ROBERT

**Response 17.0:** This comment is noted as supporting the preferred alternative, Alternative A.

## Letter 18 – Richard Metzner

TO: DEBBIE KILL  
 PIZAKS RANGER DISTRICT  
 5075 N. HIGHWAY 89  
 FLAGSTAFF, AZ 86004

AFTER READING YOUR REPORT AND LISTENING TO YOUR MEETINGS/FIELD TRIPS, CONCERNING ALL OF THE ALTERNATIVES ABOUT THINNING OF THE FOREST, I FIRMLY SUPPORT ALTERNATIVE "E". #18.0

THERE IS NO DOUBT IN MY MIND THAT ALTERNATIVE "A" WILL DO PERMANENT DAMAGE, NOT ONLY TO THE FOREST, BUT CAUSE CONSIDERABLE LOSS IN GAME ANIMALS, RECREATIONAL USE AND CAUSE ENVIRONMENTAL CHANGES THAT ARE FAR BEYOND YOUR LINE OF "FIRE THREAT MANAGEMENT". #18.1

I HAVE SPOKEN WITH THE FOLKS AT THE "CENTER FOR BIOLOGICAL DIVERSITY" IN TUCSON AND DISCUSSED BOTH PLANS WITH THEM.

THEY HAVE INFORMED ME THAT DISCUSSIONS ARE NOW ONGOING WITH THE FOREST SERVICE CONCERNING THE PLAN TO THIN, AND FAVOR PLAN "E" ALSO. THEY AGREE THAT PLAN "A" IS BAD FOR EVERYONE AND THAT PLAN "E" CAN BE SLIGHTLY ADJUSTED TO ACCOMMODATE EVERYONE #18.2

SINCE THE CENTER IS NOW INVOLVED WITH WORKING WITH YOU AND IS MORE INFORMED ABOUT THE TOTAL IMPACT AND RISKS INVOLVED, THIS LETTER FROM ME IS SIMPLY A STATEMENT FROM A CONCERNED RESIDENT OF THE PROJECT

**Response 18.0:** The writer firmly supports Alternative E.

**Response 18.1:** Effects on game species are described in Chapter 3 of the DEIS on pages 84-87 and 110-112. Effects on recreational use are described on pages 82-84 in the DEIS. Chapter 3 of the DEIS, titled "Affected Environment and Environmental Consequences," provides a description of all environmental effects based on issues raised about the proposed action. The conclusions in the DEIS do not support this writer's comment.

**Response 18.2:** See the response to comments from the Center for Biodiversity (Response to Letter 35).

**Response 18.3:** See Response 18.1

**Responses 18.4 and 18.5:** See Response 18.2.

AREA. I AM JUST LETTING YOU KNOW HOW I FEEL ABOUT THIS PROJECT AND WHY.

FOR ME, PLAN "A" CUTS FAR TOO MANY TREES, LEAVES TOO MUCH LAND OPEN TO EROSION AND IN GENERAL IS A HATCHET TYPE SOLUTION TO A VERY DIVERSE PROBLEM. 18.3

I HOPE YOU CAN SEE YOUR WAY ~~TO~~ CLEARLY TO WORK WITH THE "CENTER" AND OTHERS WHO FAVOR PLAN "E", TO PUT TOGETHER A MODIFIED PLAN "E" IF THAT IS WHAT IT TAKES TO DO THIS THINNING RIGHT. 18.4  
PLAN "E" IS NOT PERFECT BUT IS A MUCH BETTER PLAN OVERALL.

I HAVE NOW STATED MY CONCERNS ABOUT THIS PROJECT. I STILL DO NOT TRUST THE FOREST SERVICE TO DO THE RIGHT THING BUT WITH A VERY POWERFUL AND WELL INFORMED GROUP 18.5

DISCUSSING ALT "E" IN THE PUBLIC ARENA, I FEEL SAFER IN HOPING THAT A GOOD PLAN FOR THINNING OF THE FOREST IS NOW POSSIBLE. THANK YOU FOR READING THIS LETTER AND PUTTING IT IN THE PUBLIC RECORD ON THIS MATTER.

SIGNED

RICHARD H. METZNER



14 KACHINA TRAIL

FLAGSTAFF, AZ 86001

Letter 19 – Alan and Christine Fredericksen

Reference: Kachina Village Forest Health Project

SEP 27 2002

To: ID Team

About us:

*My wife and I are residents of Kachina Village. She has lived here 28 years and myself 2. Chris has been a member of the Highlands Fire Board for the past 4 years and serves on the Kachina Village Area Planning Committee and owns an appraisal business. I was the Game Ranger for 12 years here of which 5 years were in BA and have lived in the area since 1974. I supervised at Southwest Forest Industries for two years and worked timber sales on the North Kaibab and Coconino on wildlife issues. We both were raised on farms. We both are graduates of NAU. Chris has a degree in geography and land use planning, I in aquatic biology and wildlife management.*

*We have attended the public meeting at the Highlands Fire Department and two field trips headed by TammyRandall-Parker & Debbie KM. We have some issues and concerns that we would like you to consider.*

- 1. Thinning types and size.*

*Variation in thinning is good. However, development of stand sizes should be no larger than 20 acres. Many small stands of varying BA's are preferable. I've noticed that the tendency is to graduate steadily from stand to stand rather than leave high BA stands next to openings, lower BA stands, and roads. To create good horizontal diversity and a healthy forest for wildlife you must mix up stands with varying BA levels.*
- 2. Wildlife and scenic corridors.*

*High density strips of 180 BA or more and 50 to 100 feet wide need to be left next to roads and through out the stands to reduce sight distance, provide travel corridors, hiding, and a thermal canopy cover for all wildlife, especially turkey and songbirds. This also inhibits off road travel damaging habitat.*
- 3. Size cap and cutting larger black jacks.*

*In stands where marked "leave" trees are left I felt the larger black jack pines were not significant due to their height being the same as the surrounding trees. Those trees have already out competed the surrounding trees and therefore will most likely grow faster once thinned around them and create more vertical diversity. With that I feel a cap of 18 inches should be placed on the harvest and thinning. For fire reduction many "wooly" trees could be limbed up 10 to 15 feet.*
- 4. Budget for seeding after treatment.*

*There appears to be no money budgeted for reseeding of treated areas, roads, and burns. WHY NOT? This is a must to have native plants reseeded. After all, your goal is return the forest back to a native, natural, and a healthy state.*
- 5. Secondary effects of burns*

*Control burns are wonderful except for the smoke. But the secondary effects are bad. Burns kill oaks. Yes, a very small percentage but those that are killed are candy to woodcutters. I have visited many burned areas and there are no dead oaks left standing, and like it or not no one seems to be able to stop them. This in turn creates roads, which I will discuss in item 6. First the woodcutters come in to cut just prior and during the burns and then the hunters see the tracks and basically turn it into a road which likely won't be closed. No law enforcement has been able to stop this. Solution: Make the harvest of oak and maybe all firewood illegal in these areas and make 500-dollar fines payable by the violators.*
- 6. Roads and closures*

*JIM A*  
*Rohr*

19.0  
19.1  
19.2  
19.3  
19.4

**Response 19.0:** The variation of basal areas that this writer describes is discussed in the DEIS and utilized under all alternatives. The variable spacing of groups and trees is visually represented on pages 27-32.

**Response 19.1:** Wildlife cover is described in the DEIS on pages 31-32. High-density areas of 180 BA will be left for wildlife cover and will be variable in width, as you have recommended. Screening along roads will occur, as some dense patches will occur along roads as the variable thinning and cover clumps are selected.

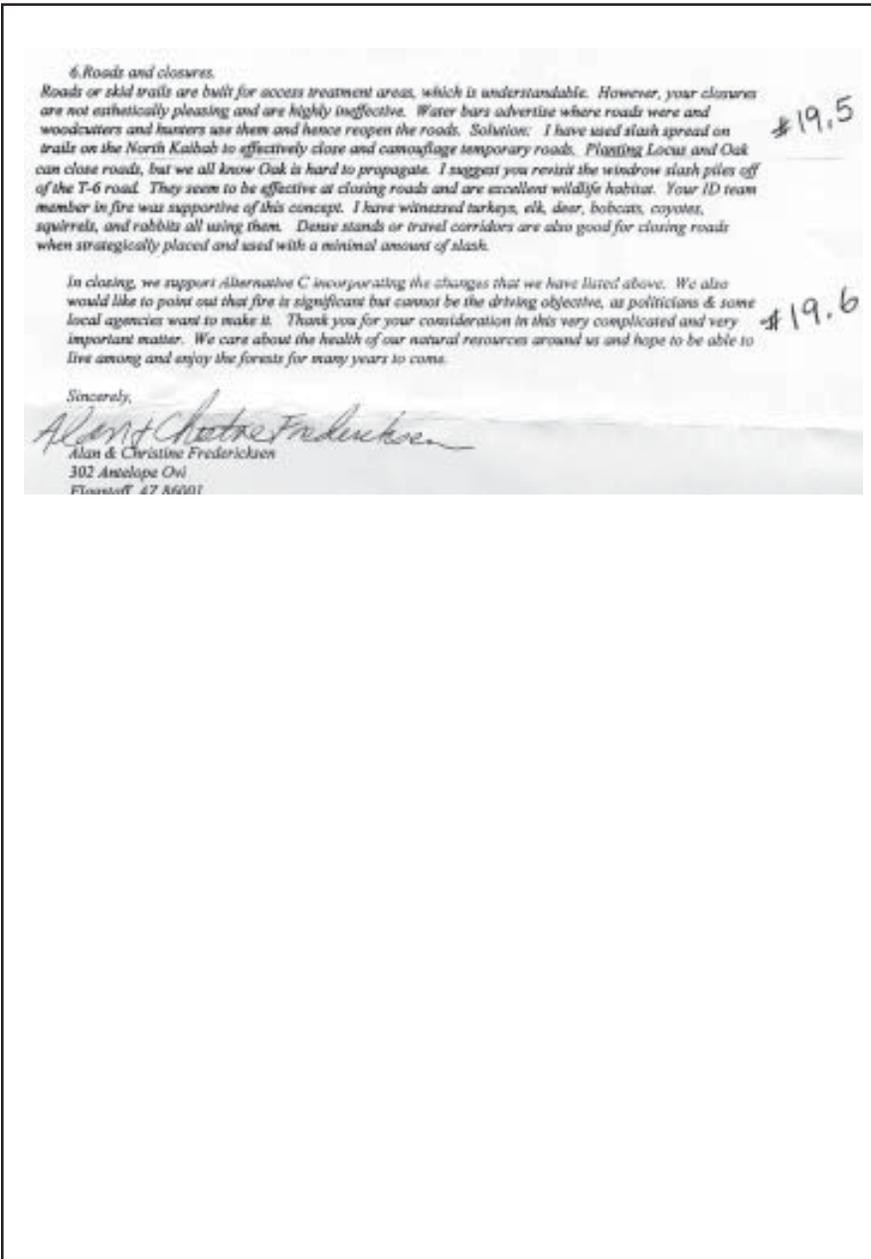
**Response 19.2:** An 18-inch diameter limit is described in the DEIS as Alternative D on pages 33-34. The preferred alternative does not preclude the limbing of trees which may be done occasionally by volunteer groups, however, this technique would not work to create grassy openings or enhance growth to promote future old tree clumps.

**Response 19.3:** The DEIS describes understory rehabilitation on page 20. The use of seed is a standard operating procedure for disturbed areas to lessen soil impacts. The cost is included in the estimated thinning costs located in the Economic Analysis on pages 121-122. Tammy Randall-Parker had discussed with you in the field that our experience has been that a native seed bank is viable in most areas. We have not had a situation arise in which seeding was necessary across entire stands after thinning and burning activities. Seeding is required on road closures and log landings.

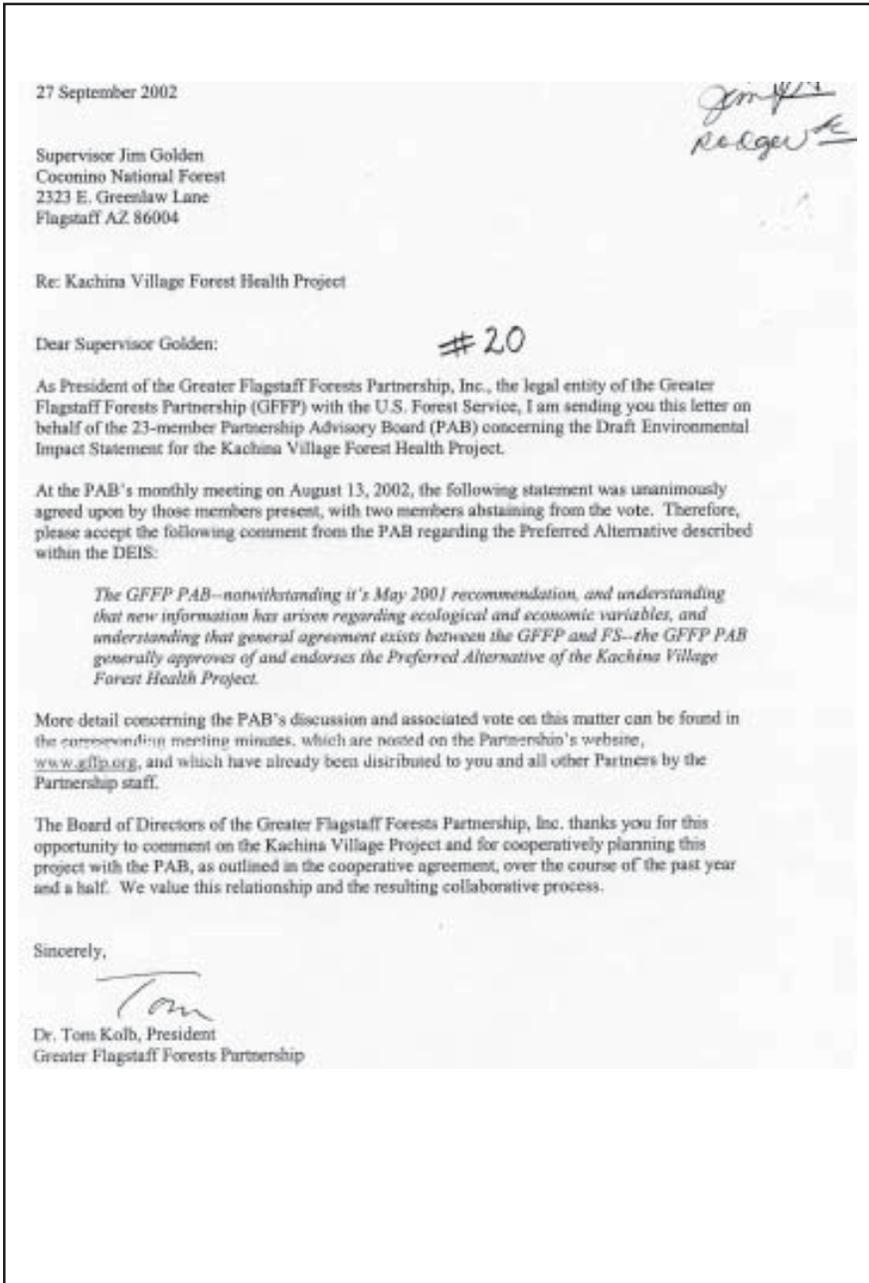
**Response 19.4:** Damage to large oaks is addressed in the DEIS on page 21. Mitigation to lessen oak damage from prescribed burning is described. Illegal oak cutting and social road development are law enforcement issues that we have noted and will bring to the attention of our law enforcement officers and patrols. The fine for illegal woodcutting starts at \$250 for major offenses and is based on the value of the tree, of which oak is \$250 per tree. These laws are a part of the Federal Code of Regulations and are set by Congress. The U.S. District Court determines the actual fines.

**Response 19.5:** The use of slash and leaving pockets of dense trees close to roads is standard operating procedure when implementing forest projects. They are described in the DEIS on pages 16 and 76. Locust that is in the area will respond to broadcast burning and come in following the burn if located in the seed bank and can help close roads. Planting oak and locust to close roads has not been necessary in most areas, because if these two species are present in the seedbank they will come up naturally and over time help to close roads as you have mentioned.

**Response 19.6:** It is noted that this comment supports Alternative C.



**Letter 20 — Tom Kolb, President, Greater Flagstaff Forests Partnership, Inc.**



**Response 20.0:** This comment is noted as supporting the preferred alternative, Alternative A.

## **GREATER FLAGSTAFF FORESTS PARTNERSHIP**

### **Partnership Advisory Board Members**

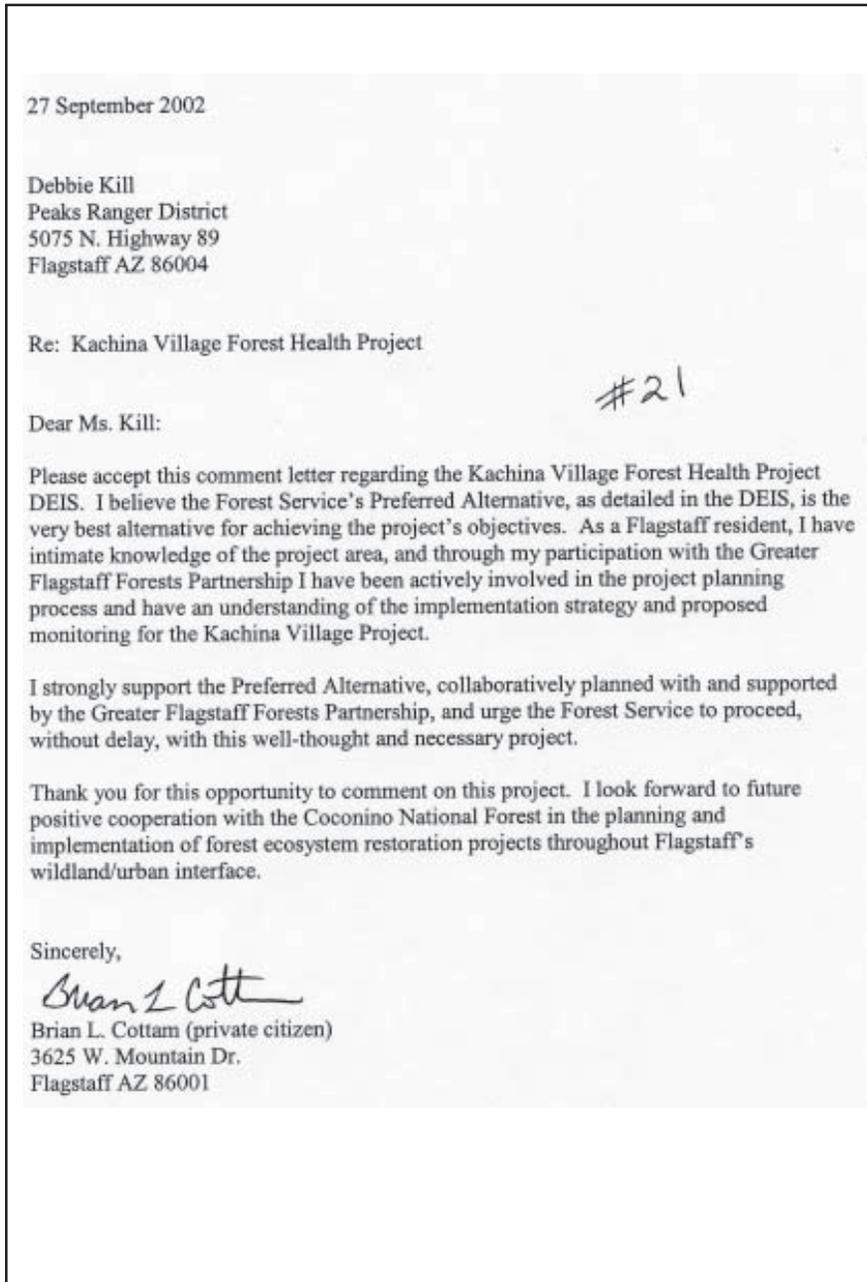
(as of September 2002)

Arizona Game and Fish  
Arizona Public Service  
Arizona State Land Department – Fire Management Division  
City of Flagstaff  
Coconino County  
Coconino County Farm Bureau and Cattle Growers Association  
Coconino Natural Resource Conservation District  
Cocopai Resource Conservation and Development District  
Ecological Restoration Institute at Northern Arizona University  
Flagstaff Chamber of Commerce  
Flagstaff Native Plant & Seed  
Grand Canyon Trust  
Highlands Fire Department (Communities of Kachina Village, Forest  
Highlands and Mountaineire)  
Indigenous Community Enterprises  
Perkins Timber Harvesting  
Practical Mycology  
Northern Arizona Conservation Corps & Northland Youth Conservation  
Corps  
Northern Arizona University - College of Engineering  
Northern Arizona University - School of Forestry  
Society of American Foresters - Northern Arizona Chapter  
The Arboretum at Flagstaff  
The Nature Conservancy  
U.S. Fish and Wildlife Service

### **Cooperators**

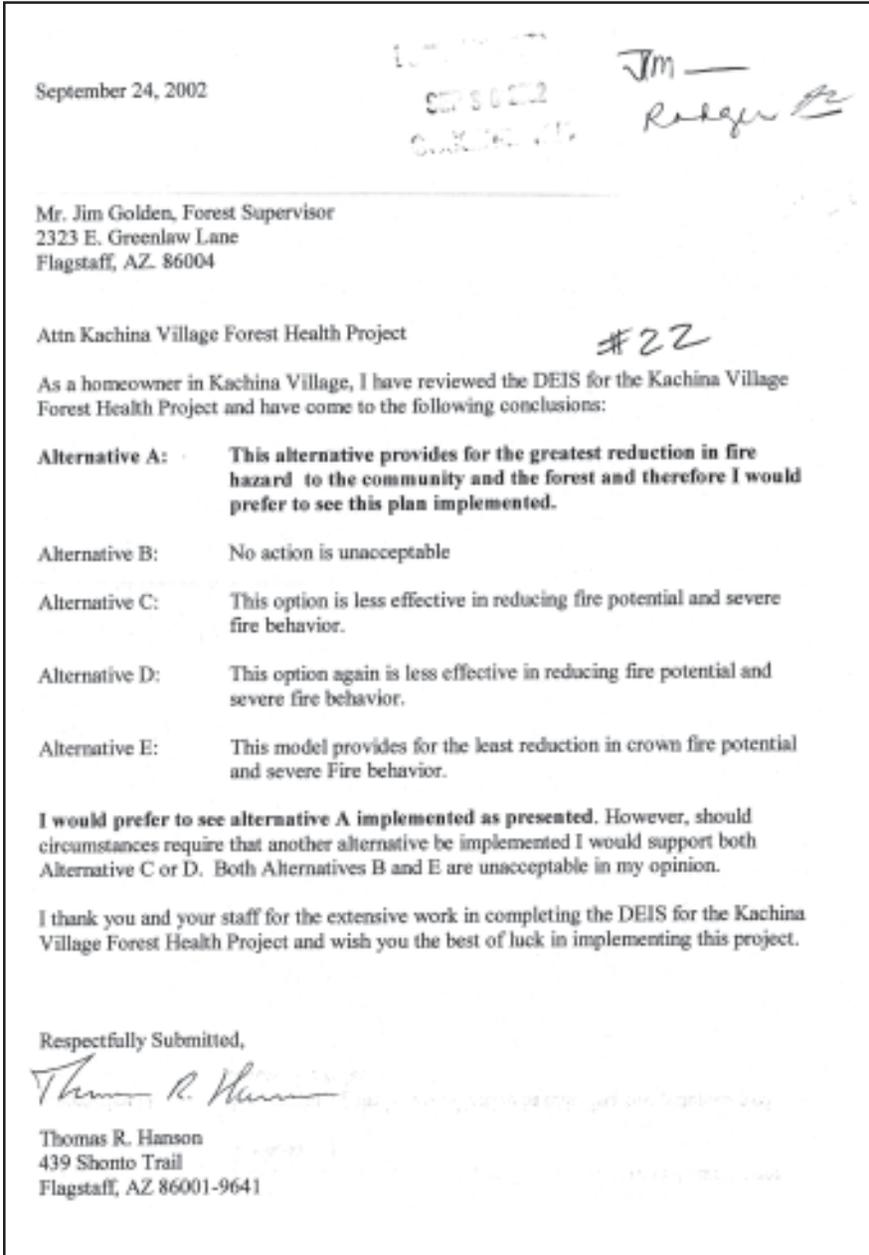
Coconino National Forest  
U.S.D.A. Rocky Mountain Research Station  
U.S.D.A. Forest Products Lab

## Letter 21 – Brian Cottam



**Response 21.0:** This comment is noted as supporting the preferred alternative, Alternative A.

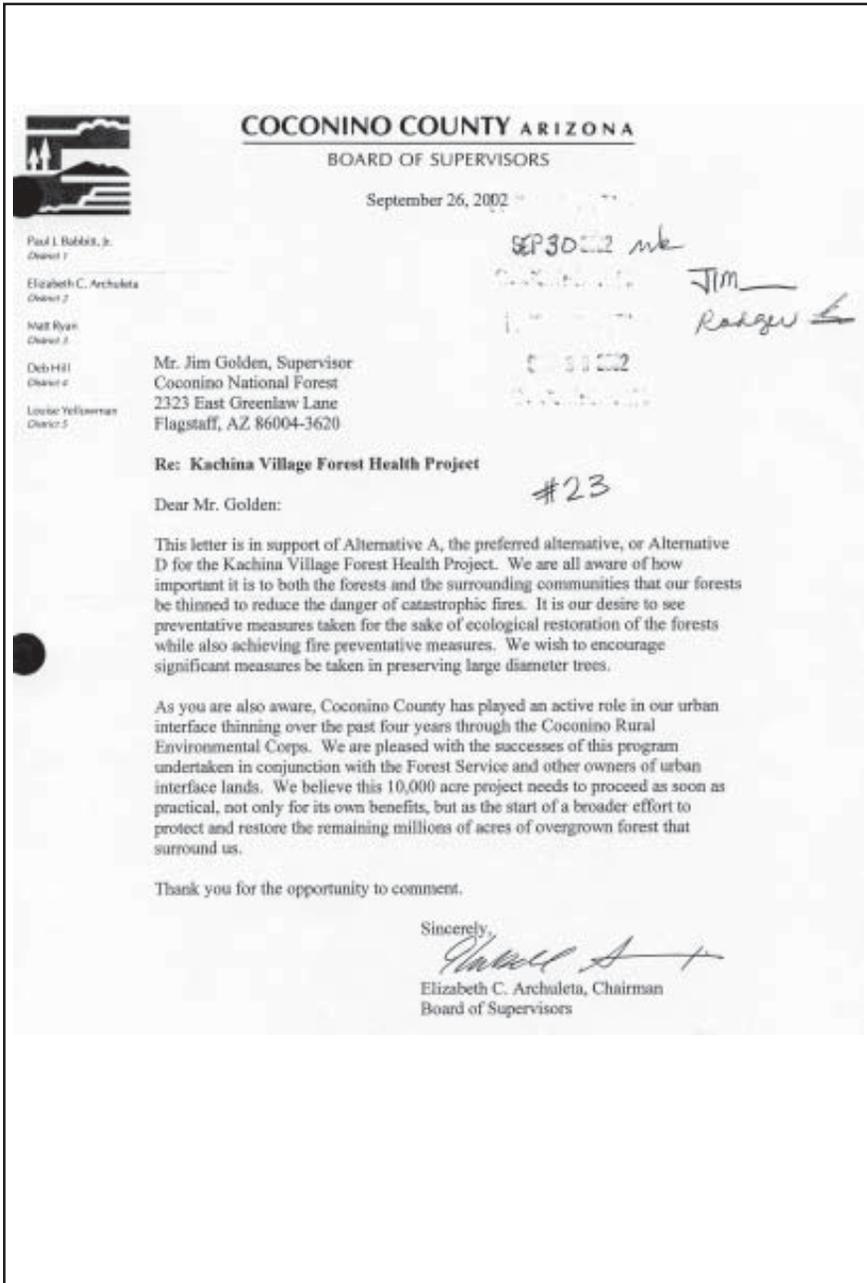
# Letter 22 – Thomas R. Hanson



**Response 22.0:** This comment is noted as supporting the preferred alternative, Alternative A, and Alternatives C or D.

# Letter 23 – Elizabeth Archuleta, Chairman, Coconino County Board of Supervisors

**Response 23.0:** This comment is noted as supporting the preferred alternative, Alternative A, or Alternative D.

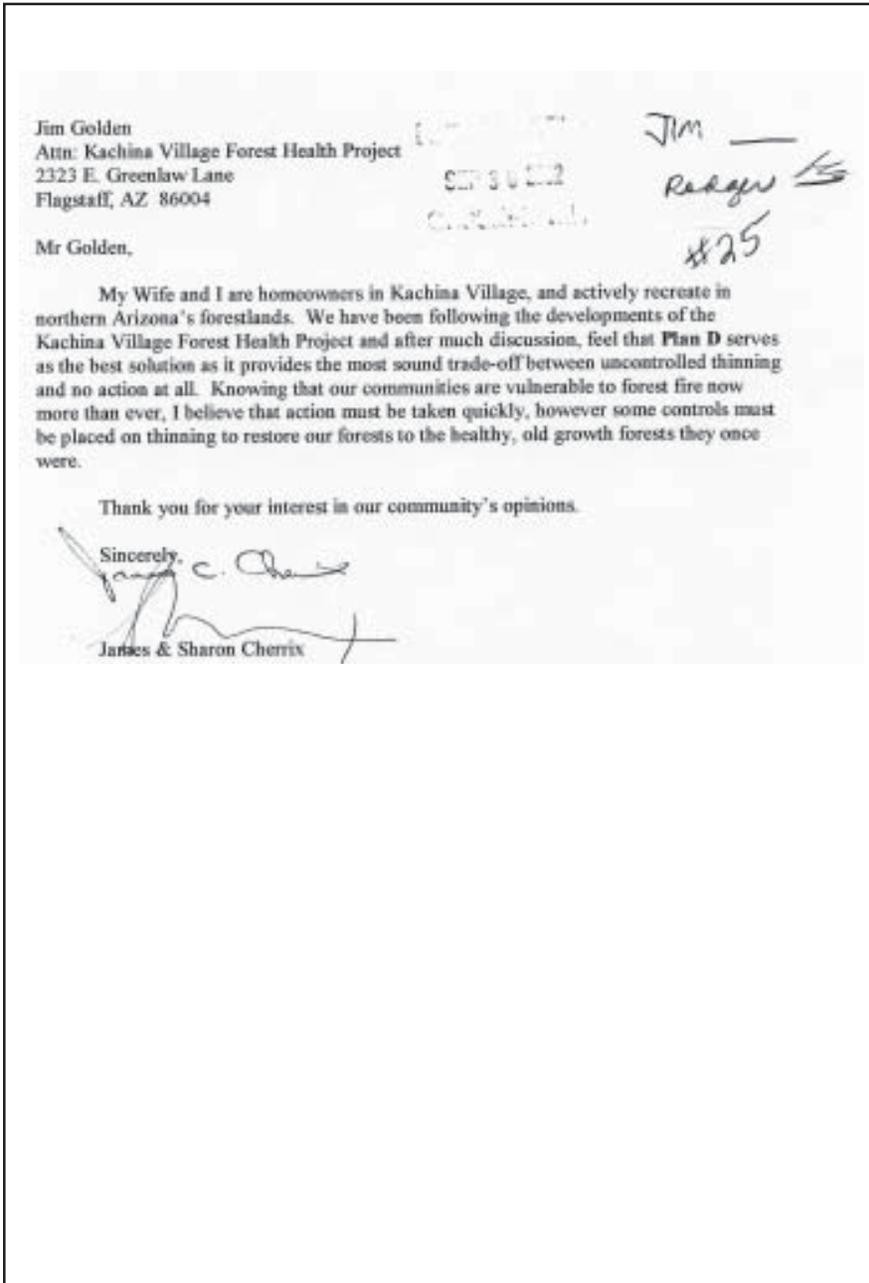


### Letter 24 – Les and Annette Cherow



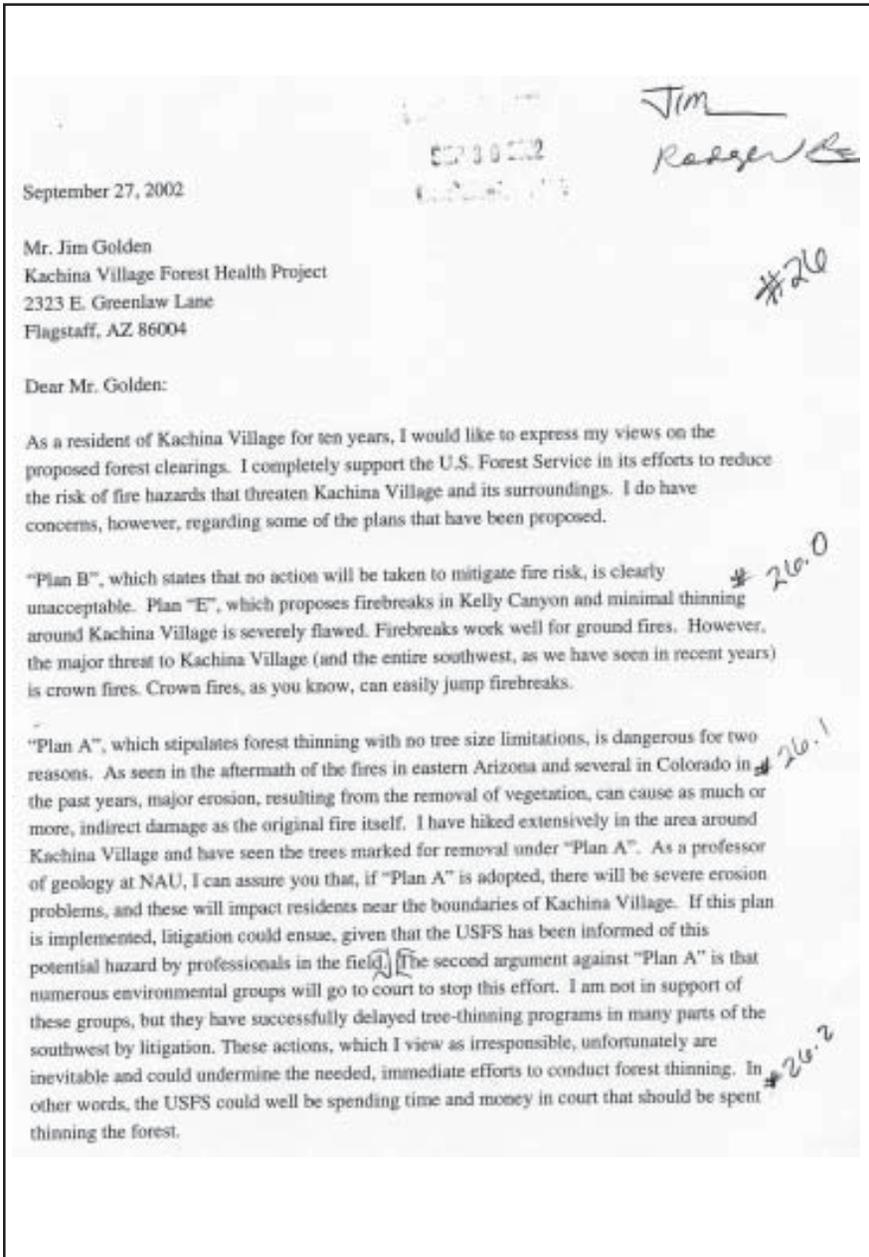
**Response 24.0:** This comment is noted as supporting Alternative C.

### Letter 25 – James and Sharon Cherrix



**Response 25.0:** Uncontrolled thinning is not an alternative for this project. However, this comment is noted as supporting Alternative D.

# Letter 26 – Ernest M. Duebendorfer



**Response 26.0:** This comment is noted as stating Alternative B is unacceptable and Alternative E is severely flawed because crown fires can easily jump firebreaks.

**Response 26.1:** The commenter states that Alternative A stipulates forest thinning with no tree size limitations and this is not the case. As described on page 27 of the DEIS, trees larger than 16 inches dbh are only removed when needed to achieve the desired conditions for the stand. We have had experience with similar levels of tree thinning, as that proposed under Alternative A, in the recent Fort Valley project area. Although some on-site soil erosion may occur, the amount and intensity of erosion is not severe and does not cause soil to move off-site and into drainages. Pages 72-80 of the DEIS describe these soil and water effects.

**Response 26.2:** See response to Letter 4.

I endorse "Plan C" that allows thinning with a 16' diameter cap because I believe that it is the most environmentally sound option. It would save more than 5,000 trees per the 10,000 acre project than would "Plan D." I consider "Plans C and D" to be the only viable approaches to forest thinning. For the reasons I have stated above, "Plans A, B, and E are unacceptable and indefensible given the arguments that I present above. If either of these latter options is adopted, the USFS will have to answer to the community that it proports to serve, in the future.

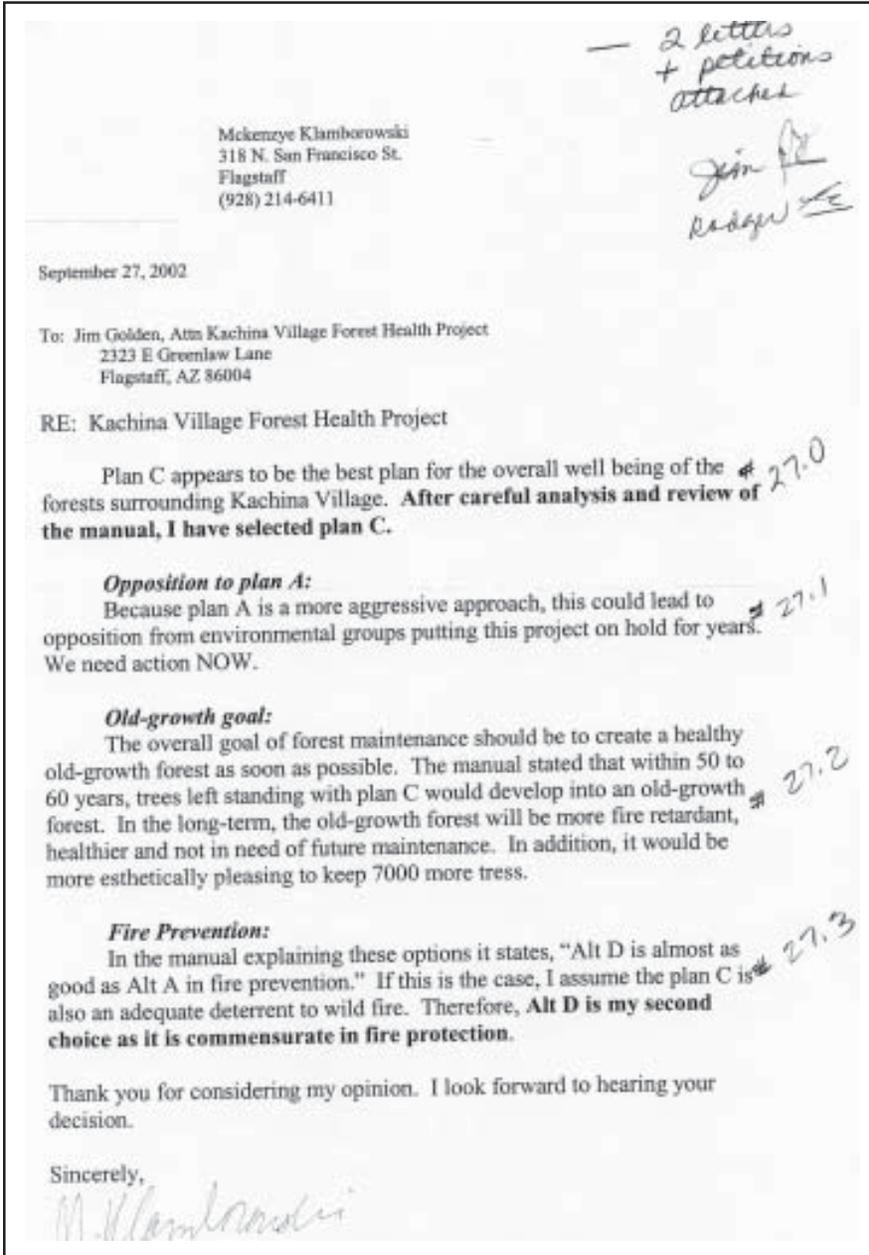
Sincerely,



Ernest M. Duebendorfer  
Professor of Geology, NAU  
174 Chaco Trail  
Flagstaff, AZ 86001

**Response 26.3:** This comment is noted as supporting Alternative C.

# Letter 27 – Mckenzye Klamborowski



**Response 27.0:** This comment is noted as supporting Alternative C.

**Response 27.1:** See Response to Letter 4.

**Response 27.2:** The amount of future old growth described in the DEIS (pages 89-95) is virtually the same for Alternatives A, C, and D. The effects on the aesthetic quality of the area for Alternative C are similar to Alternative A, as described on pages 52-56 of the DEIS.

**Response 27.3:** It is noted that this comment supports Alternative D as a second choice. It is accurate that the DEIS describes Alternative D as similar to Alternative A for overall effects on the potential for high intensity crown fire (pages 60-66).

Letter 28 – Wayne Anderson

To: Jim Golden, Attn Kachina Village Forest Health Project  
 2323 E Greenlaw Lane  
 Flagstaff, AZ 86004

I choose plan C as the alternative for the Kachina Village Forest Health Project. #28.0

I have chosen plan C for many reasons.

1. Old growth forest will be achieved sooner with a population of larger trees. As a long-term goal, the old growth forest will be more fire retardant, healthier #28.1 and not in need of future maintenance.
2. Because Plan A is more aggressive, there could be opposition from other environmental groups. This could put this project on hold for years. We need action as soon as possible. #28.2
3. Hypothetically speaking, what if the bark beetle infested the Kachina Village area like on Mars hill west of Flagstaff? The bark beetle could kill a large percentage of the trees in the forest. If there are 7000 more large trees, there is a less chance of loosing the entire forest. #28.3
4. It would be more esthetically pleasing to keep 7000 more trees.
5. Fire Prevention: In the manual explaining these plans it states, "Alt D is almost as good as Alt A in fire prevention." If this is the case, I hope plan C is also an adequate deterrent to wild fire. The documentation did not say how effective Alt C was in fire prevention. #28.4
6. Alt D is my second choice. If the fire prevention aspect is a deterrent to the Alt C, then my vote is for Alt D. #28.5

Thank you

*Wayne Anderson*  
 Wayne Anderson  
 612 Bacobi Ovi  
 Flagstaff (Kachina)  
 928 525 1016

with attached petition with 30 signatures to show support for plans C or D and are against plan A.

Attached to this letter was a petition which states "Signatures for this petition show support for Alternatives C or D and are against the proposed Alternative A. Names on the petition included Barbara Dill, Elizabeth May, Mary Sinder, Kathy Wutt, Mike Wutt, Krish Wutt, Lindy Sue Long, Erin Long, Carlos Sanchez, Adam Sanchez, H. Verneti, William Homan, Rick Raines, Tara Amini, Eric Putnam, Debbie Litwin, Mike Hyde, Mike Zims, Brad Munns, Cara Hawell, Kyle Withers, David Allen, David Keller, Kurtis Ryan, Jew Torok, Katy Jo Porter, Cory Seering, Suze Joyce, and Michael J. Bleedhaus. Over 1/3 of these addresses are noted as residents of Kachina Village.

**Response 28.0:** It is noted that this comment supports Alternative C.

**Response 28.1:** See Response 27.2.

**Response 28.2:** See Response 4.0.

**Response 28.3:** Having 7,000 more trees in the forest would not lessen the potential for loss of trees to bark beetles. In fact, the opposite is the case. Fewer trees, with more distance between trees or clumps of trees, helps trees fight off beetles, as described on pages 70 and 71 of the DEIS. The DEIS discusses the visual effects of removing 7,000 trees on page 54.

**Response 28.4:** The DEIS does state on page 61 that Alternative C is somewhat less effective than Alternative A in reducing crown fire potential.

**Response 28.5:** It is noted that this comment supports Alternative D as a second choice.

## Letter 29 - Thomas Broderick, Alan Molise, Paula Smith, Kevin Thomas, Christy Smith, Jerry D. Behne, Craig W. Lipke, and Kathryn Rhodes, residents of Flagstaff and one resident of Parks

September 27, 2002

This letter is in support of Alternative A, the preferred alternative, or Alternative D for the Kachina Village Forest Health Project, from the undersigned residents of the greater Flagstaff community. #29.0

It is critically important both for the forests that surround our communities and the communities themselves that the tree density be substantially reduced to protect against catastrophic crown fires. The communities hit by these fires can take decades to recover, while the forest can take a century or more. This project does not limit itself to the interface between forest and community, which only benefits the communities, but treats the entire forest so that both can be protected. #29.1

As has been apparent this summer with the Rodeo-Chedeski fire, we as a community cannot delay the process of restoring forest health. This project is only a small beginning of the decades long process to restore the health of the forests and protect our communities. This 10,000 acre project needs to proceed as soon as practical, not only for its own benefits, but as the start of a broader effort to protect and restore the remaining millions of acres of overgrown forest that surround us. #29.2

This project is more of a restoration toward the condition of the forest prior to European settlement, when there was a combination of large trees and open grassy areas. The periodic natural, lightning caused fires had the effect of clearing out small trees and underbrush, while not damaging the larger trees that had developed. In stark contrast to history, in the forest's current condition, the effect of fires is to destroy everything in their path.

The project is protective of large trees and wildlife: #29.3

- Of the reported 100,000 trees over 16 inches in diameter, only 7000 are proposed to be cut in Alternative A and 5000 in Alternative D (Alternative D does not cut any trees over 18 inches in diameter). None of the 40,000 old-growth, yellow barked trees would be cut under any alternative. While virtually everyone wants to preserve the largest trees, cutting 5-7% of them as in these alternatives is a reasonable tradeoff for the substantial protection against catastrophic fires.
- The project provides a wide variety of tree densities (from 40 to 200 basal area per acre) to accommodate the varying needs of a diverse array of both animals and plants.
- Tree cutting will be carefully supervised and will not occur around the nesting periods or locations of goshawk or Mexican spotted owls

As to some of the objections to the project listed in the Draft Environmental Impact Statement:

- Selling timber provides perception that forests are being logged for profit not managed for their health, disrupts wildlife, and requires temporary roads

**Response 29.0:** It is noted that this comment supports Alternative A or Alternative D.

**Response 29.1:** It is noted that this comment expresses the importance of treating both the forests that surround communities and the communities themselves. This project does not limit itself to the interface between forest and community, which only benefits the communities, but treats the entire forest so that both can be protected. This statement echoes the purpose and need for the project that is described on pages 5 and 6 of the DEIS

**Response 29.2:** It is noted that this comment is only a small beginning and that more work is needed in the forests.

**Response 29.3:** It is noted that this comment states that the project is protective of large trees and wildlife.

Reasonable people who listen to the facts would be unlikely to be confused about the true objective. Alternatives A and D only take 5-7% of the largest, most valuable trees. These trees need to be cut, based on fire modeling, to provide for the safety, health, and diversity of the forest. Rather than leave them on the floor, it is reasonable to provide some economic value to offset the considerable costs of the project, while providing some jobs to the community. #29.4

Logging will not be permitted in nesting areas when nesting is in progress and in other areas, wildlife can simply move to other part of the project area.

Under 6 miles of temporary dirt roads would be built while the trees were cut and then the road areas would be restored by ripping up the compacted soil and reseeding. This is a minimal cost compared to the value of the timber sale and is a temporary disruption to the project area. #29.5

- The forest only needs to be thinned near the Wildland Urban Interface (WUI) to protect communities from fire.

In the Rodeo fire, spot fires developed 2 miles ahead of the fire front and while an intensively treated area around communities is helpful, it does not provide the protection necessary for those communities. Another very critical issue is that it also does not protect the forests themselves, which is the primary objective of this effort. A burned forest does not have any old growth trees or habitat for protected or unprotected species. #29.6

We strongly support Alternatives A and D for the Kachina Village Forest Health Project and urge that these alternatives be implemented as immediately as possible and that the Forest Service develop similar plans for other parts of the public forests. #29.7

Signature	Name	Address
1. <i>Thomas Broderick</i>	Thomas Broderick	4279 E Coburn Dr Flagstaff
2. <i>Alan Molise</i>	Alan Molise	2830 N. Prescott Rd, Flagstaff
3. <i>Paula Smith</i>	Paula Smith	PO Box 50251, Parks
4. <i>Kevin Thomas</i>	KEVIN THOMAS	3609 W. RED ROCK, FLAGSTAFF
5. <i>Christy Smith</i>	Christy Smith	4010 Spring Meadow
6. <i>Serry D. Behne</i>	Serry D. Behne	4905 E. Snowshoe Way
7. <i>Craig M. L. Park</i>	CRAIG M. L. PARK	330 W. Mountain Dr, Flagstaff
8. <i>Nathan Rhodes</i>	NATHAN RHODES	501 W SANTA FE #2, FLAGSTAFF SECC

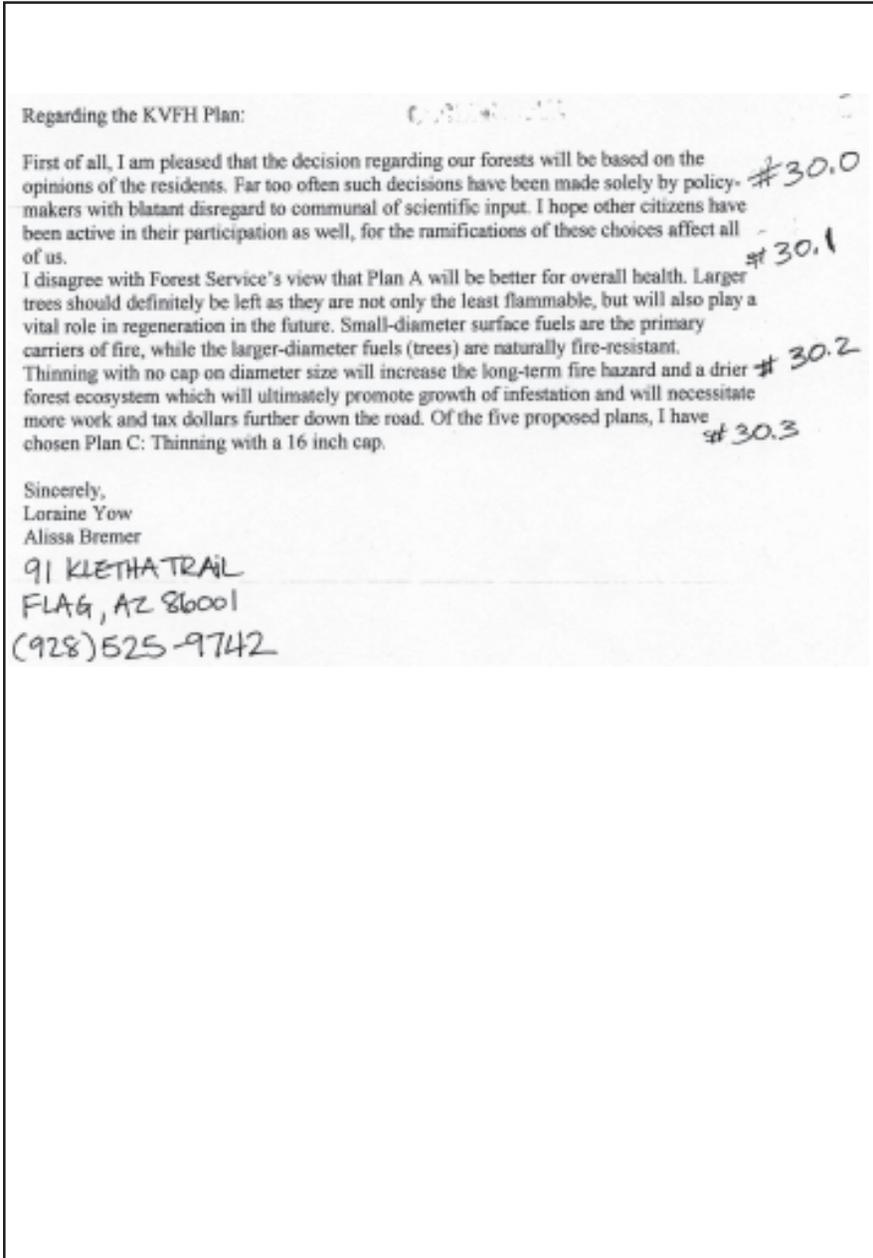
**Response 29.4:** The objective of this project is forest health. It is reasonable to provide some economic benefit to offset the considerable cost of the project.

**Response 29.5:** This comment is accurate in pointing out that less than 6 miles of temporary dirt roads would be built while the trees were cut and then closed and re-stored. The cost is minimal compared to the value of the timber sale and is a temporary disruption to the project area. In this comment, it is difficult to see if the writer meant value in terms of forest health and reduced wildfire, or value in terms of dollars.

**Response 29.6:** These thoughts echo the purpose and need statements in the DEIS in Chapter 1.

**Response 29.7:** This comment states that the writers support Alternatives A and D and urge the Forest Service to move quickly.

# Letter 30 - Loraine Yow



**Response 30.0:** Public and scientific input have been an integral part of this project, however, our decision will not be based on opinions of residents. The proposed action was mailed to approximately 100 individuals, an open house was held at Kachina Village, and members of the Greater Flagstaff Forests Partnership represented many aspects of the community and forest science.

**Response 30.1:** The statement that this letter makes about larger trees being less flammable is accurate. However, the DEIS states on page 61 that Alternative C is somewhat less effective in reducing crown fire potential than Alternative A.

**Response 30.2:** Alternative A actually goes the farthest in reducing long-term fire hazard in the area, as described on page 61. This is due, in part, to the broadcast burning that mimics fire's natural role in the ecosystem. The comment does not say infestation of what, however, bark beetles are discussed in the Response 29.4 above.

**Response 30.3:** It is noted that this comment supports Alternative C.

## Letter 31 - Debbie Xanders and Steve Edwards



**Response 31.0:** It is noted that this comment supports Alternative A as the best plan for the health of the forest and reduction of fire danger and supports designated camping. It is important to note that the comment suggests that Alternative E only thins around the perimeter of Kachina Village. This is not the case, as described in Chapter 2 of the DEIS. Alternative E thins the same areas as Alternatives A, C, and D but to a lesser degree.

## Letter 32 - Peter Friederici, Conservation Co-chair, Northern Arizona Audubon Society

**PETER FRIEDERICI**  
824 West Aspen Avenue  
Flagstaff, Arizona 86001  
phone 928-774-3056  
e-mail pfried@infomagic.net

#32

September 29, 2002

*Received  
and delivered  
9/30/02*

Debbie Kill  
Peaks Ranger District  
5075 N. Highway 89  
Flagstaff, AZ 86004

Dear Ms. Kill,

On behalf of the Northern Arizona Audubon Society, I am writing to express the Society's thoughts about the Draft EIS for the Kachina Village Forest Health Project. The NAAS includes over 750 members in northern Arizona who are concerned about enjoying and conserving wildlife and wildlife habitat in the region and elsewhere.

The Society supports the need for forest thinning and prescribed burning in the project area and elsewhere in northern Arizona ponderosa pine forests. We recognize that overly dense stands and a history of fire suppression and exclusion have created severe fire danger and other cascading ecological consequences. We recognize that unnaturally intense crown fires that kill old-growth trees, contribute to soil erosion, promote the spread of invasive species, and threaten human values are among the greatest threats to the ecological integrity of these forests. #32.0

For these reasons, the Society has generally been in support of the Greater Flagstaff Forests Partnership's efforts. We believe that carefully targeted thinning and prescribed burning represent the best tools for restoring ecological integrity to the region's ponderosa pine forests, and we support these efforts on a large scale. #32.1

This support, though, means that we do not fully endorse the Forest Service preferred alternative. We agree with many of its details, such as conducting treatments in the entire project area rather than just in a more narrowly defined "urban-wildland interface" area. But we do not support the logging of thousands of large pines for economic reasons. #32.2  
#32.3

We understand that there are, at times, ecological reasons to cut large blackjack pines that have encroached on meadows and other grassland areas. We also recognize that there can be great ecological benefit in converting these large pines into snags or downed logs that provide benefits to wildlife. But we do not endorse the proposal to log large pines that will be removed from the area for commercial purposes. We believe that the proposal crafted by the GFFP in 2001 was a good one, and believe that it rather than the preferred alternative is the best option for the project area. #32.4

**Response 32.0:** It is noted that this comment supports the need for thinning and burning in northern Arizona. The writer recognizes overly dense stands and the history of fire suppression and exclusion in creating severe fire danger and other cascading ecological consequences.

**Response 32.1:** It is noted that this comment generally supports carefully targeted thinning and burning as tools for restoring ecological integrity.

**Response 32.2:** It is noted that this comment agrees with conducting treatments but does not endorse Alternative A.

**Response 32.3:** See response 35.18.

**Response 32.4:** Converting large pines into snags or downed logs is described in the DEIS on page 31 as part of Alternative A and is also discussed as part of Alternative D.

The GFFP, in our view, represents a careful effort to reverse both the history of forest management in the region and a history of distrust between various stakeholder groups. The sorry state of the forest around Kachina Village and elsewhere in the region shows that past forest management efforts, though sometimes ecologically well intentioned, often had dismal results. It is understandable, then, that there should be distrust of current Forest Service management. We believe that the GFFP represents a good-faith effort to overcome that distrust. As you know, this is a slow and cumbersome process, and we understand that any participant might grow frustrated by it at times. # 32.5

But it is also a good and a necessary process. For that reason, our major objection to the preferred alternative is that it overrides the GFFP consensus conclusion. Since the Forest Service is a participant in the GFFP process, we believe that it should abide by what the GFFP decides. We recognize that the Forest Service, rather than the GFFP, retains decision-making power, responsibility, and indeed liability in the Flagstaff area. But we believe that the GFFP decision-making process represents our region's best opportunity for overcoming distrust between stakeholders. To override a GFFP decision, especially for reasons of making money, is to promote distrust rather than to work toward its resolution. # 32.6

**Response 32.5:** The Greater Flagstaff Forests Partnership and Coconino National Forest cooperative agreement is briefly described on page 2 of the DEIS. The partnership is a very valuable cooperative effort in involving the community and building community-based solutions to forest health issues.

**Responses 32.6 and 32.10:** Prior to the proposed action (May 16, 2001), the GFFP reached a consensus recommendation that trees larger than 16 inches dbh may be cut to meet ecological needs, but that they should be left as snags or down logs in the project. At the time, the district ranger, team leader, and liaison met with individual Partnership Advisory Board members and informed them of concerns with the partnership proposal. A letter dated June 13, 2001, was provided to the director of the Grand Canyon Forests Foundation, Geoff Barnard, which stated the following (PRD 89):

We both agree that some larger blackjack trees are standing in the way of meeting ecological objectives of growth and creating grassy openings. However, we see a challenge in meeting these ecological goals if all 16-inch dbh or greater trees are retained on the land (as downed logs or recruitment snags). Some larger blackjack trees can be removed while still meeting objectives for snag and log recruitment, and the restoration of the large tree component of the landscape. Therefore, retaining all larger blackjack trees is neither practical nor desirable.

As described on page 31 of the DEIS, some of the large trees that would have been cut will be converted to snags on an experimental basis, to see how well snags remain standing over time when created from blackjack ponderosa pines.

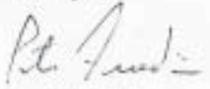
In the long term, we are not opposed to commercial use of products gained from restoration projects. But we are adamantly opposed to having considerations other than ecological ones deciding which trees are to be cut. We believe that the Forest Service should cut large blackjack pines if and when there are compelling ecological reasons to do so. But we believe that those trees should then be left in the woods as snags or downed logs that provide wildlife habitat. To remove them for sale in today's political and social climate is only to foster distrust. #32.7

We hope that collaborative efforts such as the GFFP can ultimately result in a decision-making environment in which increased trust between stakeholder groups allows us to work in our forests in a way that is both ecologically and economically sustainable. But the plain truth is that we are not at that point yet. The quickest way to get there is to make increasing trust between stakeholder groups a top priority in all forest management decisions. The preferred alternative does not do that. Rather, it raises the possibility that the Forest Service is using economic incentives to cloud ecological reasoning. It also increases the possibility of litigation that could slow the project, a possibility that is to no one's benefit. #32.8

There is ample agreement between NAAS and the Forest Service on most of the proposed action, as indeed we believe there is ample agreement between most of the area's residents and stakeholder groups. But we strongly encourage you to revisit the issue of commercial sale of large trees, and to decide against it. Think long-term; think big-picture; think inclusively. Remember that the GFFP vision statement includes not only ecological and economic considerations, but also social ones. It calls for inclusive decision-making in an atmosphere of trust. It is our belief that if you work toward those goals you will also be promoting the ecological health of our forests and the economic health of our community. #32.9

Thank you for the opportunity to comment on this important issue. #32.10

Sincerely,



Peter Friederici  
Conservation Co-chair  
Northern Arizona Audubon Society

**Response 32.7 and 32.8:** As described on page 27 of the DEIS, trees larger than 16 inches dbh are only removed when needed to achieve the desired conditions. The writer has reached the conclusion (in error) that the reason for cutting trees larger than 16 inches dbh is to offset the cost of implementing the project by selling the larger trees. As summarized on page 33, the need to remove some trees is evident because the difference between Alternatives A and C is 50 percent fewer openings on the treated areas of the project. This supports the ecological need to remove the trees. It is never stated in the document that one of the reasons for cutting trees larger than 16 inches dbh is to offset the cost of the project. Rather, this is displayed as an effect of the project on page 121. Also, please see Response 34.4.

**Response 32.9:** In response to the concern that Alternative A could lead to litigation that could slow down the process, please refer to response 4.0.

Letter 33 – Merrill Powell

251 Buffalo Trail  
 Kachina Village  
 Flagstaff, AZ 86001  
 (928) 525-2558

Sept. 30, 2002

Debbie Hill & Tommy Randall-Parker  
 Peaks Ranger District  
 5075 N. Highway 89  
 Flagstaff, AZ 86004

#33.0  
 As residents of Kachina Village, we are in support of Alternative A of the DEIS for the Kachina Village Forest Health Project. However, we recognize the concerns of those who support Alternatives C & D, because "blackfoot" pines exceeding 16 and 8 inches, respectively, will become "yellow pines" in the near future.

We urge the Forest Service to select whatever approach is necessary to enlist the support of those groups which, in the past, have delayed other projects with sometimes disastrous results. Such a compromise may not result in the selection of Plan A, but hopefully will allow the most immediate implementation of the project. We need to do SOMETHING, fast!

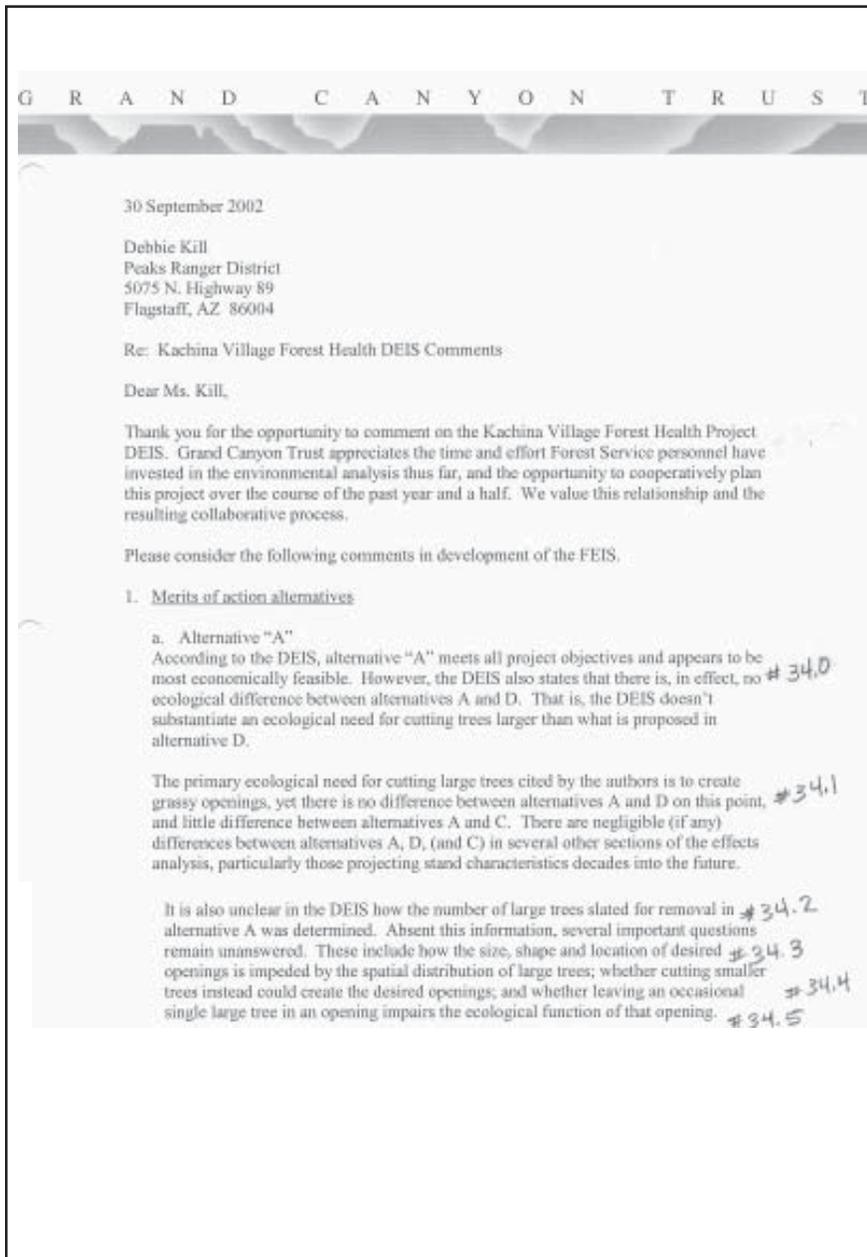
#33.1

Lorraine Powell  
 Merrill R. Powell

**Response 33.0:** It is noted that this comment supports Alternative A, but would also support Alternatives C or D.

**Response 33.1:** See Response 4.0.

## Letter 34 – Taylor McKinnon, Grand Canyon Trust



**Response 34.0:** Alternative A will provide for improvements in developing grassy openings (pages 46 and 86 of the DEIS), as well as providing for greater flexibility in accomplishing bark beetle and mistletoe treatment (pages 68 and 69 of the DEIS). Alternative A is also slightly better in achieving a lower crown fire potential. As stated in the cover letter for the DEIS, Alternative A is selected as the preferred alternative, as it is the best choice for reducing wildfire danger to nearby communities and sustaining forest health over the long term.

**Response 34.1:** There is a greater difference between Alternatives A and C. As summarized on page 33 of the DEIS, the difference between Alternatives A and C is 50 percent fewer openings on the treated areas of the project. With a landscape so devoid of openings, this is an important consideration for species such as Navajo Mountain Mexican Voles, Northern goshawk, and sensitive plant species, as described in the wildlife section of Chapter 3 of the DEIS.

**Response 34.2:** In the DEIS on page 33, there is the statement that an estimated 7,000 fewer trees will be removed in Alternative C, when compared to Alternative A. The number of trees to be removed was generated based on stand data on the number of trees greater than 16 inches dbh, modeling using the Forest Vegetation Simulation, research data from the Fort Valley Ecosystem Restoration Project, data from the Pumphouse Timber Sale, and professional knowledge and experience.

**Response 34.3:** For the purpose of this analysis, and as described in the Forest Plan on pages 65-69, the desired condition outside of Post Fledgling Family Areas is 10 percent Vegetative Structural Stage (VSS) 1 (grass/forb/shrub). In the DEIS on page 104 in Table 23, VSS 1 is defined as an unstocked opening, i.e., no trees. On page 85 of the DEIS in Table 18, the existing conditions for the Kachina Village Forest Health Project area shows 0.5 percent of the project area meeting the VSS 1 definition for an unstocked opening. In addition, page 65-11 of the Forest Plan describes desired openings as being up to 4 acres, with a maximum width of 200 feet. This same table

shows 61.5 percent of the project area in VSS 3 (defined on page 104 as trees 5-11.9 inches dbh) and 24 percent of the project area in VSS 4 (defined on page 104 as trees 12 -17.9 inches dbh). As described on page 67 of the DEIS, “most stands have more than one age class category, the most common occurrence being primarily pole or mid-aged stands in denser groups and individuals of mature or old-growth included”. Also, the arrangement of the trees tends to be random or grouped, not homogeneous. The classification for the stand represents the most common age group within the stand. The VSS 4 size trees are not located in separate stands, but are intermixed among the VSS 3 size trees. These existing condition descriptions show a dense forest with very few non-stocked openings. Therefore, reaching the desired 10 percent openings, especially openings as large as 4 acres, is difficult and requires the cutting of trees. Based on professional knowledge and experience with the spacing of dominant trees/larger blackjacks, it is believed that removal of a few larger blackjack trees will be necessary to create openings. Your assistance in the marking and creation of openings for the Greater Flagstaff Forests Partnership Arboretum Project may help you to recall the difficulty in creating openings without the occasional removal of a larger blackjack ponderosa pine.

**Response 34.4:** Part of this question is answered in the response to 34.3, where the mix of trees sizes within the project area is described. However, there likely are places on the landscape that are devoid of trees greater than 16 inches dbh and that contain a lot of trees smaller than 16 inches dbh. However, on page 31 of the DEIS, the method to create openings includes working with the existing landscape. The DEIS states, “Approximately 10 percent of the area will be managed to provide for grassy openings. Grassy openings will be managed by using the existing areas on the landscape where open areas may have occurred in the past or have been created. Trees around the edges of the openings or within the interior of the opening will be removed to expand the size of the opening. The openings will be irregular in shape to create stringers of openings that will improve the understory and reduce fire potential (page 31 of the DEIS).” This philosophy of working with the existing landscape is prevalent throughout this project. Creating openings within dense pockets of VSS 3 trees or even VSS 3 and VSS 4 trees less than 16 inches dbh does not follow this implementation philosophy of working with the existing landscape, as described on page 31 of the DEIS.

A scenario that we commonly describe is as follows:

Heavy livestock grazing in the late 1800’s and fire suppression efforts beginning in the early 1900’s allowed for ponderosa pine to expand and become established in what once were grassy openings. These grassy openings are evident on the landscape by noting there are no yellow-barked trees, snags, logs, or stumps present in these areas. Also, new research indicates that soils present on the “historical grassy opening sites” are different than surrounding soils and, under healthy ecosystem conditions, would not have supported ponderosa pine, but rather understory species. The ponderosa pine that were established in these historically grassy openings did so as a result of changes at the site due to over grazing, followed by fire suppression. The trees that have invaded the grassy openings have a “typical” appearance in that the trees are short, large in diameter, and have a significant number of limbs that extend all the way down to the ground. A lot of times you will observe several individual trees, that are far apart, growing in what once was a grassy opening. The distance between the trees resulted in no pruning of limbs and therefore a “wooly” appearance. Our project will remove these trees from sites where trees did not grow historically, i.e., over the last 700-1,000 years, as described by researchers with Northern Arizona Ecological Restoration Institute. Removal of these trees will allow the site to return to a natural grassy opening to benefit wildlife, soils, and watershed function.

**Response 34.5:** As stated in response 34.3, the definition of VSS 1 is an unstocked opening. Unstocked means no trees. This guideline in the Forest Plan is based on the final EIS for Amendment of Forest Plans published in October 1995. The glossary of this Regional EIS defines openings as “breaks in the forest canopy that may allow the forest floor to be covered by grasses, forbs, shrubs, tree seedlings, or areas with sapling-sized trees and larger that are stocked less than 10 percent of the area’s capacity.” This definition does not suggest the presence of large trees, even a single large tree. The idea of retaining individual trees within openings was not brought forward at the proposed action stage and, therefore, was not discussed in the DEIS. A discussion of this question with

The answers to these questions have bearing on the degree to which alternative C meets project objectives. The best available information on these questions—16" cap monitoring from unit 16 at Ft. Valley<sup>1</sup>—indicates that retaining all trees larger than 16" didn't hinder the creation of large grassy openings. #34.6

ID Team members revealed that some attributes of an opening would remain if an individual large tree was retained, such as the presence of an edge, resulting in increased grass/forb production. However, some attributes of an opening would be lost, such as the full potential for grass/forb and shrub growth. Even a single large tree casts needles on the ground, shades out sunlight beneath the crown, and competes for moisture with grasses and forbs. Under Alternative A, trees 16 inches dbh and greater that could be removed are not mature yellow pines. The trees targeted for removal have dense and low crowns that produce a lot of needle cast that affects understory vegetation. Given the extreme deficit of openings in the Kachina Village Forest Health Project, we are reluctant to compromise the function of any of the openings created.

**Response 34.6:** This comment refers to recent experiences at the Fort Valley project, where a 16-inch dbh limit was used. The monitoring referred to did not include a category for creating openings. However, the information provided that pertains to "single trees" and "open crowns" may be very useful for looking at the Kachina Village Forest Health Project. The two categories, "single trees" and "open crowns," are the two main reasons given for leaving 16-inch dbh trees that would otherwise have been removed. Single trees with open crowns are very characteristic of the type of trees we have discussed needing removal to create the grassy openings on Kachina as well. In looking at Fort Valley Unit 16 on the ground, there are very few openings of any size created in this unit, compared to Unit 1 where there was not a 16-inch dbh cutting limit. Unit 1 has larger and a greater number of grassy openings as a result of not placing a diameter limit on the prescription. Thanks for suggesting this comparison.

Based on analyses presented in the DEIS, and with the above questions outstanding, the ecological basis for cutting large trees beyond what is proposed in Alternative D has not been sufficiently demonstrated, and the ecological need for cutting large trees beyond what is proposed in alternative C is uncertain.

Controversy and associated delays are the single greatest potential impediments to implementing the Kachina Village Project. We believe that cutting large trees greatly increases the amount and intensity of controversy likely to affect the Kachina Village Project. By focusing on areas of broad agreement, we think much of this controversy (and associated delays) can be lessened if not avoided. As you well know, these # 34.7 would be delays human and ecological communities can ill-afford.

Therefore, with all the above reasons in mind, we believe there are more prudent strategies for implementing the Kachina Village Project than alternative "A".

b. Alternative "C"

According to the DEIS, alternative C generally meets project objectives, although it presents economic challenges in so doing. Alternative C, by including a 16" diameter limit, captures areas of broad agreement better than alternatives A and D. Grand Canyon Trust supports implementation of alternative C. # 34.8

c. Alternative "D"

According to the DEIS, alternative D meets project objectives while providing additional thinning revenues than alternative C, though fewer than alternative A. Given the need to offset other project costs (such as creating logs and snags), and because there's no ecological basis for cutting large trees beyond what is proposed in alternative D, Grand Canyon Trust also supports implementation of alternative D. # 34.9

d. Alternative "E"

Assessment of alternative E by authors of the DEIS indicate it's unlikely that alternative E will pass muster in the FEIS. Therefore, we hope significant issues driving creation of alternative E are not lost if alternative E is not chosen in the FEIS. We strongly encourage the Forest Service to go beyond mitigation strategies to incorporate "design features" into the FEIS that address these issues. # 34.10

As noted in the DEIS, temporary roads and heavy machinery can be highly intrusive by leaving scars will persist on the landscape for decades, facilitating spread of noxious weeds and erosion. An analysis seeking to maximize the extent to which project objectives south of Kelly Canyon can be met without the use of new temporary roads would be very valuable<sup>2</sup>. # 34.11

One area to consider may be south of Kelly Canyon on the relatively remote land peninsula in sections 11 and 12 (along roads 09426U, 09420L, and sections of 00631 # 34.12

<sup>2</sup> An appropriate GIS assessment would buffer existing roads with the distance in which heavy machinery can operate without needing to construct new temporary roads. The forest within this buffer would qualify for heavy machinery use, that outside the buffer would be relegated to less intrusive methods such as hand crews and str or bobcat skidding.

**Response 34.7:** This comment mentions the increased controversy and potential for delay surrounding Alternative A. See Response 4.0.

**Response 34.8:** It is noted that this comment supports Alternative C as generally meeting project objectives and capturing areas of broad agreement better than Alternatives A and D.

**Response 34.9:** It is noted that this comment also supports Alternative D.

**Responses 34.10:** Best Management Practices to protect soils and mitigation that are proposed to lessen noxious weed spread are described in the DEIS and are part of the proposed action for all alternatives (pages 19-20) of the DEIS.

**Responses 34.11 and 34.12:** These comments are addressed in the Final EIS as an Alternative Considered but Eliminated from Detailed Study.

slated for closure in the project). This would require using hand crews and atv's or bobcats—methods similar to those employed at Elden—in the patch of forest slated for fire potential reduction / forest health improvement / cover management along these roads. However, given that thinning from below for MSO surrounds this patch, necessary crews and equipment would already be in place. This would further prevent repeated heavy machine travel through or near the PAC removing logs from this area, and lack of machinery impacts would contribute to retaining the remote character of the area. For the same reasons, similar opportunities should be explored on this same land peninsula in Section 1 west of road 00631 D, and in currently unroaded areas south of James Canyon and in the Mexican Pocket area adjacent to MSO thinning.

2. The need for post-treatment grazing deferrals in active grazing allotments. #34.13

In our scoping comments, we requested that the Forest Service consider deferring livestock grazing for three years in active allotments following thinning and burning in order to facilitate understory recovery. While we agree with the comment analysis that our comments could have better substantiated our recommendation, this doesn't negate abundant scientific evidence demonstrating ill effects of domestic livestock grazing on understory recovery.

We would all be remiss to re-document known ecological effects of livestock grazing through expensive monitoring (as is proposed) rather than taking the appropriate precautions, as outlined in the Ecological Restoration Institute's "Working Paper for Understory Plant Community Restoration in the Uinkaret Mountains, Arizona"<sup>2</sup>. This paper, based on research of understory responses to ponderosa forest restoration at Mt. Trumbull, recommends removing livestock grazing for a period of years following restoration treatments:

"Limit livestock grazing. Rest from grazing following treatment will allow establishment of herbaceous species, which may take several years."

We feel that the following categories of anticipated effects of livestock grazing adequately substantiate the need for short-term deferrals following restoration treatments:

a. Anticipated effect of livestock grazing: introduction and spread of invasive weeds

The spread of invasive nonnative weeds has been described as one of the greatest threats to the ecological integrity and biological diversity of interior western ecosystems<sup>3,4</sup>. Two factors that contribute to the vulnerability of nonnative weed invasion of ponderosa forest restoration sites are: (1) high invasibility due to (machine-caused) soil disturbance and selective grazing, and (2) introduction and spread of invasive weed seeds by domestic livestock.

Restoration treatments are highly vulnerable to nonnative weed invasions following treatments. The three primary factors contributing to invisibility are (1) "safe sites"

**Response 34.13:** This comment requests deferring livestock grazing for 3 years in active allotments following thinning and burning to facilitate understory recovery. Comment 34.14 gives reasons for this request. Page 22 of the DEIS describes that the annual operating instructions for grazing allotments will be adjusted as needed to allow for recovery of naturally occurring herbaceous communities. In addition, range conservationists will conduct monitoring following both thinning and burning (also stated on page 22). It is standard operating procedure for the Forest Service to coordinate allotment activities with other resource activities. It is common to defer livestock from a pasture where a broadcast burn has occurred until such time as grasses and forbs have been re-established.

available for seed germination<sup>5</sup>, (2) relatively low native plant cover<sup>6</sup>, and (3) high resource availability<sup>7</sup>. Each of these factors favors invasive weeds following restoration treatments: Soil disturbance caused by mechanical thinning creates an abundance of “safe sites” for weed establishment at landings, in burn pile scars, on and along temporary roads, and throughout thinning units in locally impacted areas. The vigor and cover of native grasses and forbs immediately following thinning prior to recovery is very low, particularly in high canopy closure pre-treatment stands where soil disturbance from required heavy thinning is likely to be greatest. In the absence of high tree densities and native grasses and forbs, resource availability (light, nutrients, and water) is high following treatments.

By preferentially grazing native plant species while avoiding most weeds and releasing them from competition, domestic livestock add a fourth factor increasing community invasibility: selective grazing<sup>8,9,10,11,12</sup>. Selective grazing may be particularly pronounced immediately following restoration treatments where new growth of native grasses and forbs is especially palatable (relatively high in nutrients and low in digestion inhibiting fibers and compounds) and more easily killed due to a lack of established root reserves.

Invasive weed transport and deposition by livestock to these highly invasive sites magnifies the threat of weed establishment and spread undermining the recovery of native understory community. For example, sheep have been shown to transport 17 knapweed seeds per animal per day in dung and 39 knapweed seeds per animal per day in fleece<sup>13</sup>, 4.5 knapweed achenes per 10 grams of wool<sup>14</sup> and up to 13 nonnative weed species seeds in dung<sup>15</sup>. Cattle have been shown to deposit as many as 37,000 viable seeds per cow per day in dung<sup>16</sup> and disperse *Cynoglossum officinale* (houndstoung) from their heads, chests, and undersides by rubbing on trees, shrubs or poles<sup>17</sup>.

Numerous additional studies have demonstrated higher invasive plant cover in grazed vs. adjacent ungrazed areas, inferring that livestock transport and spread of viable invasive weed seeds also results in increased invasive weed establishment and persistence. We would be happy to provide a separate bibliography of these studies upon request.

For these reasons, we are concerned that livestock grazing following restoration treatments, while invasibility of sites is high, will cause significant establishment and spread of invasive nonnative weeds. Accordingly, we urge the Forest Service to implement livestock grazing deferrals following treatments and until such time that invasibility of sites is sufficiently reduced.

- b. Anticipated effect of livestock grazing: retarded initial establishment and subsequent proliferation and production of native C4 grasses due to reduced numbers and colonization of arbuscular mycorrhizal fungi.

A central objective of restoring Southwest ponderosa pine forests is to increase understory diversity and productivity trending toward the range of natural variability.

Arbuscular mycorrhizal (AM) fungi, by forming symbiotic relationships with plant roots facilitating transport of water and nutrients from soil to plants, favor the development, diversity and productivity of native plant communities<sup>18,19</sup> including that of obligatory mycotrophic C4 warm season grasses typical of the pre Euro-American ponderosa pine understory community (emphasis added)<sup>20</sup>. In fact, some obligate C4 grasses have been shown to be unable to grow or survive in the absence of AM fungi<sup>21</sup>.

Livestock grazing has been shown to reduce the number of AM fungi in soil and reduce their colonization of perennial grasses. In two separate studies, Bethlenfalvay and Dakessian found that AM fungal colonization of perennial grasses (five native species in one study and crested wheat grass in the other) was 28-60% and 50% lower in grazed versus ungrazed areas<sup>22,23</sup>. Similar results have been recorded in studies using crusted vs. non-crusted soils—used as a surrogate for grazing history<sup>24</sup>.

Given the importance of fungal colonization to native grass establishment and vigor, we are concerned that livestock grazing in the years immediately following treatment will (1) reduce the numbers of arbuscular mycorrhizae present in the soil, and (2) reduce AM fungal colonization of native C4 grasses, reducing their access to soil moisture and nutrients and retarding their establishment and productivity following restoration treatments. While we admit that additional research would better inform the relationships between domestic livestock grazing and AM fungal colonization and persistence, existing evidence and uncertainty provides adequate justification to err on the side of precaution by deferring grazing until understory recovery is sufficient to withstand livestock grazing.

- c. Anticipated effects of livestock grazing: altered understory composition, reduced understory cover and biomass, and associated effects on fire regimes, tree densities and stand dynamics

Although the effects of livestock grazing and trampling on understory cover and composition vary with precipitation, slope, soil and vegetation types and animal numbers, duration, and season, studies comparing livestock excluded and included forest ecosystems consistently show that livestock grazing reduces native perennial grass cover and/or frequency<sup>25 26 27</sup>. As noted above in “b”, native perennial grasses constitute a critical and typical component of the native understory of ponderosa pine forests. These studies indicate (and we are concerned) that livestock grazing will inhibit rather than promote reestablishment and recovery of native grasses in active allotments within the Kachina Village Project by altering understory composition and reducing cover and biomass of native grasses.

We also feel it's important for the environmental analysis to consider long-term effects of livestock-caused understory biomass reduction on tree densities. Prior to Euro-American settlement, two phenomena maintained trees at relatively low densities (1) competitive exclusion of tree seedlings by dense native grasses (primary factor) and (2) frequent thinning of trees in regenerating groups by low-intensity surface fires (secondary factor). Long-term ecological restoration should seek to

reestablish these regulatory ecosystem processes (sometimes referred to the “competition fire filter”). Both of these phenomenon were interrupted by livestock overgrazing in Southwest ponderosa forests in the late 19<sup>th</sup> century, and in combination with an adequate seed crop and abnormally heavy late spring rains, facilitated anomalous recruitment of pine seedlings in the 1910’s—the same overly dense cohort of trees contributing to abnormally high fire severity today.

Although domestic livestock numbers are nowhere near what they were during the late 19<sup>th</sup> century, it’s critical that, as part of the Kachina Village project, native grasses reestablish to sufficiently (1) competitively exclude pine seedlings to maintain relatively low tree recruitment and (2) carry frequent low intensity surface fires. We are concerned that not doing so will result in another flush of tree regeneration causing the same set of problems we’re contending with today.

While we admit that additional research is needed to better inform threshold indicators of these functional goals for understory development, we believe the afore mentioned studies and historical precedent demonstrate that the chances of meeting understory recovery goals are significantly diminished by domestic livestock grazing. This provides adequate justification to err on the side of precaution by deferring grazing until understory recovery is sufficient to withstand livestock grazing.

3. Page 28, 40-50 BA statement; need for disclosure of minimum average basal areas #34.14

The caption to figure 6 on page 28 indicates that 30%—over 3000 acres—of the project area will be managed for a basal area from between 40-50 feet/acre. While we assume this caption was simply an oversight, it contrasts with other descriptions of the 40-120 basal area fire potential reduction prescriptions in the DEIS which “thinning of small trees will develop clumps of trees in a mosaic of varying densities, ranging from 40 to 120 square feet of basal area.” A reasonable interpretation of this description would assume that the average basal area would fall near the median of this range—roughly around 80 feet / acre. Therefore, we suggest specifying a minimum (not to fall below) unit-wide average basal area (in addition to the 40-120 range) to clarify descriptions of the fire potential reduction prescriptions.

Thanks in advance for your time and consideration, we appreciate it. Please feel free to contact Brad Ack or me if you would like to discuss these comments any further.

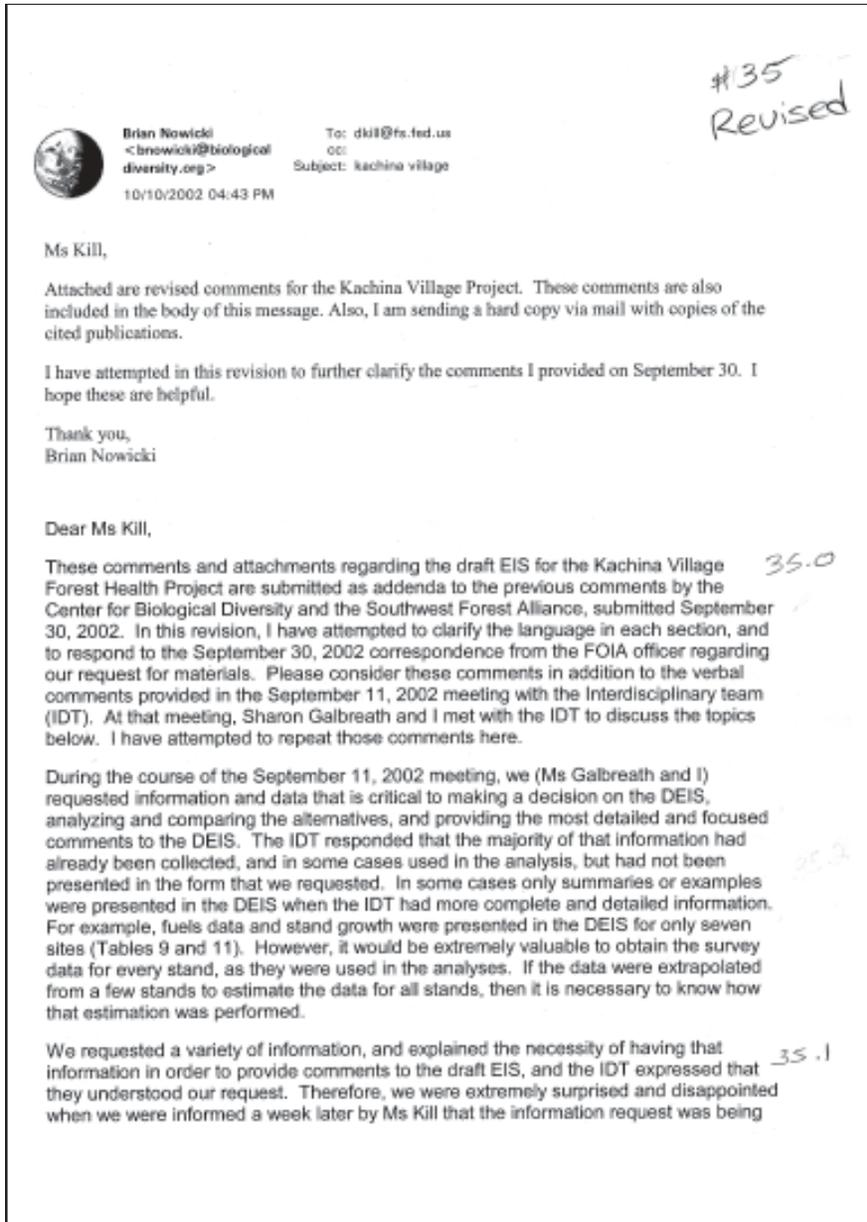
Best regards,



Taylor McKinnon  
Grand Canyon Trust

**Response 34.14:** There is an error on page 28 of the DEIS. The caption should read “Alternatives A, C, and D will result in 30 percent of the treated area in a basal area of 40-50 square feet. Historically (around the turn of the century), levels of livestock grazing did contribute to the large regeneration events that led to the forests of today. This history is described on pages 66 and 67 of the DEIS. However, the analysis suggested here goes beyond the scope of the Kachina Village Forest Health Project. The DEIS describes the direct and indirect affects of changes in tree density on understory vegetation. There is no action that affects the use of those plants by wildlife herbivores or domestic livestock.

## Letter 35 and 35A – Brian Nowicki, Southwest Forest Alliance/Center for Biological Diversity and Letter #35A



A revised comment letter (35A) was received from Brian Nowicki on 10/10/02 from CBD and SWFA. The letter has several additional comments, however, it is mostly a repeat of the original letter; with most changes in the Creation of Openings section.

**Responses 35.0 and 35.1:** It is noted that this comment recognizes the value of a meeting with Forest Service ID Team members and expresses concern that some data was not made available prior to the end of the comment period because the data request was processed as a FOIA.

processed under FOIA, and the information would not be available until after the close of the comment period. This severely undermines our ability to participate in the planning process as authors of one of the alternatives. Furthermore, on September 30, 2002, I received an email message from Ms Nagiller stating that much of the information we requested is not available. These information requests are repeated in these comments, and my response to Ms Nagiller is attached.

The primary reason that CBD and SWFA agreed to participate in the planning process to the extent of contributing an alternative was that we expected the EIS to provide detailed, quantitative analyses of the effects of the proposal. Chief among the effects that we were interested in comparing are: efforts to reduce damage to soils, retention of large trees, and focused protection of the houses and communities at risk from forest fires. However, the DEIS ultimately did not analyze these effects in a quantitative manner, and generally misrepresented Alternative E. #35.2

Currently, there are three major points of concern with the DEIS: 1) the analysis of Alternative E and the comparison to other Alternatives, primarily with regard to the 9-inches cutting cap; 2) the analysis of the fire risk reduction component of Alternative E; and 3) the analysis of the need to remove large trees for the creation of openings. These concerns are described in detail in these comments.

#### The 9-Inch Cap

We had initially requested that no new roads be created for the project, and that heavy machinery be limited to the area north of Kelly Canyon. The reason for these restrictions is that road building and heavy machinery can cause serious damage to soils through disturbance and compaction, leading to erosion, increased growth of invasive plant species, and subsequent reduced productivity of native ground vegetation. These negative impacts should be weighed against the potential positive effects of mechanical treatment. Ms Parker informed us that restrictions to road-building and heavy machinery would result in a 9-inches cutting cap on some sites, a condition to which we agreed. #35.3

Therefore, Alternative E proposes a 9-inches cutting cap on sites on the north end of the project area, beyond the Intensive Zone; the area south of Kelly Canyon; and a small area bordered by 89A, Kelly Canyon, and FR 237. However, this restriction was overly simplified in the DEIS, leading to a serious mistake in the analysis of Alternative E and the presentation of the alternative in general. Specifically, many sites were improperly characterized as having a 9-inches cutting cap, greatly skewing the analysis of Alternative E.

This mistake was most evident in the fire risk analysis map presented by Mr Thornton at the meeting with the IDT. The map, which presented the analyses performed on the effects of treatments on fire hazard, showed clearly that several areas in the north part of the project area that were proposed by Alternative E to be "Intensive Zone treatments" or "60-120 BA thinning" had instead been analyzed as "Thin by Hand with a 9-inch cap". As one would expect, this drastically affected the results of analyses of reduction of fire risk to the communities. (Note: This mistake was evident in the fuels map presented by Mr Thornton, but not in the map in the DEIS. However, it is evident in the text of the DEIS and in Table 9 on page 64 in which the Alternative is described as a "9-inch limit".)

**Response 35.2:** This comment expresses interest in comparing effects for the following items:

- Efforts to reduce damage to soils. Effects discussions are located on pages 72-80 of the DEIS.
- Retention of the largest trees. Effects discussions are located on pages 36-43 of the DEIS.
- Focused protection of the houses and communities at risk from forest fire. Effects discussions are located on pages 60-66 and summarized on pages 42-43 of the DEIS.

**Responses 35.3 and 35.10:** This comment states that areas proposed (by Alternative E) for intensive zone treatments and 60-120 BA thinning treatments were analyzed as a thin-by-hand with a 9-inch dbh thinning cap treatment. In fact, these treatments were not analyzed as thin-by-hand with a 9-inch dbh cap. Mr. Nowicki also states in his comments that only the treatment analyzed for the north part of the project area was the 9-inch dbh thinning cap treatment. Therefore, the "analysis of the fire risk reduction" was inadequate.

Under Alternative E, some areas within 1 mile of the residential areas are treated to a 9-inch dbh cap (see map on page 191 of the DEIS). These areas constitute a compelling threat to Forest Highlands and Kachina Village (see page 62, paragraph 3 of the DEIS). The intensive zone treatment, whether 660 feet or a quarter mile wide, has not proven effective on the Coconino National Forest (see page 62, paragraph 4 of the DEIS). Wildfires on this forest often spot more than half a mile ahead of the fire.

Since neither the intensive zone treatment nor the 60-120 BA thinning treatment eliminate the hazard of thinning with a 9-inch dbh thinning cap within 1 mile of the residential areas, analysis of fire hazard reduction for the other treatments was not necessary. The expected fire behavior within the 9-inch dbh thinning cap areas does not meet the objectives of the proposed action (see page 62, paragraph 6, page 63, last paragraph, and page 64, paragraphs 1-4 of the DEIS).

Also, the DEIS failed to consider the areas adjacent to roads as accessible to thinning of trees greater than 9-inches diameter; for example, along the three branches of FR 631 south of Kelly Canyon; along FR 237 in the small area between 89A, Kelly Canyon, and FR 237; along 89A south of FR 237 and north of Forest Highlands. Thinning in the areas along these roads would not have to include a 9-inches cap because it would be possible to pull the logs or to use a rubber-tired forwarder to bring logs to the road at relatively short distances. This is not necessarily an option for the entirety of each area, but it is certainly possible within a few hundred feet of the road. Such thinning would not necessarily have a large effect on forest structure at the landscape scale, but it would significantly affect the potential fire behavior at the project level by reducing fire risk in some critical areas and breaking up the continuity of fuels at the larger scale. #35.4

As mentioned above, the entire purpose of the hand thinning south of Kelly Canyon (which necessitated a 9-inches cap in some areas) is to reduce the adverse impacts of mechanical treatments on soil. The DEIS describes some of the adverse impacts of mechanical treatments on soils on page 75, and states "The expected duration of effects [of mechanical activities on soil] is less than 10 years. This is estimated to occur in less than 10 percent of the areas that are mechanically treated." This is the extent of the scientific justification provided in the DEIS. However, even the DEIS classifies 903 acres as moderate or severe erosion hazard. There is little justification for using mechanical thinning in areas with moderate and severe erosion hazard, especially since there are 3899 acres rated as slight erosion risk. The EIS should evaluate the effects on the Alternatives of using hand thinning in those areas classified as moderate and severe erosion hazard. Such a method could avoid the most egregious soil damage while achieving the objectives of the Alternatives. #35.5

The table on page 64 of the DEIS was broken into three zones: 1) Within 1 mile of residential areas; 2) Greater than 1 mile of residential areas and north of Kelly Canyon; and 3) South of Kelly Canyon.

In addition, three average situations were analyzed: 1) A 9-inch dbh limit; 2) A 50 BA; and 3) An 80 BA.

The reader needs to look at the treatment maps on pages 189 and 190 of the DEIS to see where the different situations apply for each alternative. In addition, the narrative explains the link between the stands compared in the fire effects table on page 64 of the DEIS and the five alternatives.

**Response 35.4:** The comment states that the DEIS failed to consider the areas adjacent to roads as accessible to the thinning of trees greater than 9 inches dbh. This is not the case. Alternatives A, C, and D explore this alternative. Alternative E did not look at this because the Center for Biological Diversity and Southwest Forest Alliance requested an alternative (Alternative E) that looked at hand thinning only, with a 9-inch dbh limit south of Kelly Canyon and hand thinning only when a temporary road would be constructed. The IDT leader spoke with Brian Nowicki and discussed that the intensive zone would require construction of 2.5 miles of temporary road to thin the intensive zone. Brian Nowicki agreed to this adjustment to their recommended alternative and the alternative was adjusted to add these temporary roads to reach the intensive zone. Alternative E was agreed upon by these organizations, as recommended to the Forest Service and as signed and documented by Brian Nowicki on January 4, 2002 (see PRD 95c, 101, 107, 110a, 114, 119, 137F).

**Response 35.5:** This comment is concerned about the 903 acres classified as moderate or severe erosion hazard. Page 74 of the DEIS explains that 883 thinning acres occur on soils with moderate erosion hazard and 19 acres occur on acres classified as severe erosion potential. Page 75 of the DEIS explains that some on-site soil loss will occur on soils with moderate erosion hazard where ma-

### Fire Risk Reduction

There is a stark difference between the fire risk reduction strategies proposed in Alternative E and the other alternatives. This difference was clarified through a lengthy discussion with Mr Thornton at the meeting with the IDT. The strategy proposed in Alternatives A, C, and D involves reducing fuels in an area extending two miles from the private property boundary along the southern edge of Forest Highlands and Kachina Village. These Alternatives include no focused treatment in the wildland-urban interface (WUI), the area directly adjacent to houses and communities, and instead treat the entire area north of Kelly Canyon as a WUI. #35.6

In contrast, Alternative E proposes to treat the WUI with a community protection zone extending 1/8-mile from houses and communities. The purpose of this treatment is to provide a buffer of reduced fuels directly adjacent to houses, and to provide a potential fireline and firefighter safety zone surrounding the community. Such a treatment would provide focused and directed protection for the communities, and consequently allow treatments of the wildland forest beyond the WUI to focus on the ecological objectives of improving forest health. Of course, one of those ecological objectives is to reduce the potential for high intensity fire throughout the wildland forest. However, Alternative E differs from the other alternatives in that it allows the project to address the fire risk in the wildland forest as an ecological objective, instead of as a huge (and arguably unmanageable) wildland-urban interface.

The detailed argument for the treatment of the area directly adjacent to houses and communities is provided in the attached document "The Community Protection Zone: Defending Houses and Communities from the Threat of Forest Fire" by the Center for Biological Diversity, released August 2002. This paper includes many of the comments we provided earlier in the planning process for the project, but provides more extensive documentation of the scientific justifications. We submit this paper and its proposed treatments as comments regarding the community protection component of this project. Note that the approach proposed in the Community Protection Zone paper differs from the approach in Alternative E in two ways. One, the Intensive Zone is called the Home Ignition Zone, and extends 60 meters from houses, and includes treating the house itself. Two, the Extensive Zone treatment is called the Community Protection Zone, and extends 400 meters (approximately 1/4 mile) from houses (in the Southwest).

The reasoning is based primarily on the research of Jack Cohen and Bret Butler at the USDA Forest Service Fire Research Laboratory. These recommendations are further supported by the National Firewise program. (I am including with this report the most relevant publications by Cohen and Butler, and the recommendations of the National Firewise program.) The basic reasoning is as follows. Houses are at risk of ignition by both the immediately adjacent forest and firebrands. Regardless of the intensity of the thinning treatments, under extreme conditions (during periods of severe drought, high temperatures, and high winds) a forest fire starting outside the project boundary may cross the project as a sustained crown fire. At the same time, a fire may produce firebrands that can travel well over a mile, potentially reaching the communities by air from outside the project area. The best and only protection against these situations is the treatment of the houses themselves and the area directly adjacent to houses, the surrounding 200 feet. Beyond that, the creation of a community protection zone, extending up to 1/4 mile from the house, can provide a firefighter safety zone at the edge of the community where the firefighters may safely defend a fireline. #35.7

Mr Thornton made it clear at the meeting that he has disregarded the research of Cohen and Butler, Forest Service researchers that have published peer-reviewed articles addressing the topic of fire risk to structures and firefighters. Also, I understand that there is often a desire among firefighters to thin the forest as intensively as possible for as extensive an area as possible. However, I believe that such a strategy in fact provides very little protection for communities on days with extreme conditions, the very type of day in which most communities become threatened by forest fires. I urge the IDT and Mr Thornton to reconsider their strategy for community protection.

chines are used (799 acres). Page 75 of the DEIS states that the soil loss effects on moderately erosive soils are small in relation to the surrounding landscape and do not contribute to negative soil and water effects overall. The 19 acres of severe erosion potential are either small patches of slope or erosive soils within a larger stand. It is standard operating procedure that on-the-ground work avoids these sites by moving machinery around the erosive spot. Best Management Practices are followed and contract clauses are written accordingly so the sale administrator has the authority to direct machinery use on-site.

**Responses 35.6 and 35.7:** The comments discuss an intensive zone of 1/4<sup>th</sup> mile in width, however, Alternative E displays an intensive zone of 660 feet or 1/8<sup>th</sup> mile. This width was used based on a comment letter previously received from Mr. Nowicki that requested a 660-foot intensive zone (the letter is shown on page 137 of the DEIS). The comment is concerned that the research of Cohen and Butler has been disregarded by this analysis. Page 62 of the DEIS recognizes that Cohen's research is important to homeowners living in the wildland-urban interface. Research was considered, along with personal experience of fighting fire in the Kachina Village Project area, to reach conclusions. Regardless if the intensive zone were 1/8<sup>th</sup> or 1/4<sup>th</sup> mile in width, the conclusions described on page 62 of the DEIS remain true, i.e., an intensive zone has not proven to be an effective fire stop on the Coconino National Forest (see pages 35, 43, 62, 63, and 65 of the DEIS and Responses 35.3 and 35.10).

Also, page 62 criticizes the research by Jack Cohen: "Mr Cohen's research narrowly focuses on 'home ignitability' and the combustion of structures. It cannot be extrapolated to address the safety of the adults and children living in a home or working in a community that is threatened by wildfire." I hope that this does not imply that the IDT intends for the residents of Kachina Village and Forest Highlands to remain in their homes in the face of an approaching forest fire. This is not what happens elsewhere in the country, and it is not an appropriate comment or concern for the IDT. I propose that the protection of houses is precisely the focus of community protection, along with the safety of firefighters. Furthermore, I propose that this not what is provided by Alternatives A, C, and D. #35.8

The major shortfall of the comparison of Alternatives is the use of flame length necessary to initiate crown fire. This is an important measurement used to determine the risk of a surface fire becoming a crown fire within each site. However, it is largely irrelevant when addressing the potential for crown fires to enter the area from outside the project during extreme conditions. I suggest that torching and crowning indices (expressed as windspeeds) or crown bulk density be used instead. These measurements are much more appropriate for comparing risk of active crown fire during extreme conditions. I have included with these comments a copy of the article "Measuring Forest Restoration Effectiveness in reducing Hazardous Fuels" by Fule et al, from the November 2001, Journal of Forestry, which demonstrates the use of these measurements. #35.9

Lastly, the misrepresentation of the treatments in Alternative E (as described in the previous section) will have a significant effect on the analyses of fire risk. We expect that in the EIS the fire hazard reduction effects will be analyzed using the correct treatments at each site. Also, we expect that an analysis of the indices described above will provide a more appropriate comparison of the alternatives. #35.10

**Creation of Openings**

Removing large trees (greater than 16 inches diameter) from this project area will degrade wildlife habitat, including goshawk habitat, rather than improve it. The large tree component of this area has been seriously depleted by multiple decades of logging. According to the data available for locations 335, 344, 345, and 354 (the only data that has been made available to me), approximately 94% of the trees in the treatment area are 16 inches diameter or smaller. Inversely, only 6% of the trees in the treatment area are larger than 16 inches diameter. This is far less than in historic forests, and more importantly, far less than optimal for many important habitat characteristics. (In the first comment letter dated 9/20 (16 inches was stated as 12 inches.) #35.14  
#35.14a  
16"

**Response 35.8:** This comment misconstrues a paragraph in the DEIS. It is not the intent of the ID team, nor does this paragraph state, that residents remain in their homes in the face of an approaching forest fire. The protection of the community is described on pages 61-66 of the FEIS and within the ROD.

**Response 35.9:** This point disagrees with the measures used to compare alternatives in the Fire section of Chapter 3. There is no NEPA requirement or other requirement that dictates what information an ID Team member may choose to display effects. In this case, the use of flame length necessary to initiate crown fire was a good indicator to show differences between alternatives and was part of a model already in place.

**Response 35.14:** Two letters were received from Brian Nowicki. The first letter presented information about 12" trees, the second or revised letter discussed 16" trees. The first letter requested than an alternative be generated that looked at a 12-inch dbh cap on the project. An alternative of a 12-inch dbh limit was considered by the IDT, and the alternative was eliminated from detailed study, as described on page 26 of the DEIS.

**Response 35.14a:** The effects of the alternatives on Northern goshawk are described on pages 102-107 of the DEIS and show Alternatives A, C and D to have very similar effects on habitat for the species. Alternative A results in the creation of more VSS 1, in line with meeting standards and guidelines for the species. Alternatives A, C, and D improve Northern goshawk habitat over the long term. Under Alternatives B and E, the high fire hazard persists and devastation of goshawk habitat may occur in the event of a large wildfire (page 105) in the DEIS. The comment states that there is concern that only 6 percent of the trees are larger than 16 inches diameter and is reason for not removing these trees. Table 11 on page 68 of the DEIS provides information on existing stand densities and resulting stand density after treatments and the potential for large tree growth in the future. Our purpose and need for this project includes several statements for improving large tree longevity and promoting large tree development for the future, as described on page 5 of DEIS.

Large trees are an extremely important component of the forest structure and wildlife habitat, as well as being the most readily able to contribute to mature forest structure. Removing large trees from an area so depleted in large trees would be a major step backward for the forest structure and wildlife habitat. #35.15

Most importantly, the removal of large trees is entirely unwarranted in order to achieve the objectives of this project. According to the IDT, the removal of large trees is necessary primarily for the creation of openings. However, the DEIS fails to justify the need for cutting large trees from the project site; it merely states the desire to create openings over 10% of the treated area in order to "support a diverse understory". This quantitative goal is not substantiated with any references or justifications. In order to address the objective of supporting a diverse understory, the EIS must clarify: the expected effect of creating openings; the scientific basis for a target of 10% of the area; and the scientific basis for the desired sizes of the openings. #35.11

The DEIS fails to provide an analysis of stand "openness" before and after treatment, and a comparison between alternatives. A quantitative analysis of the "openness" of forest structure throughout the treatment area would inform the need for the creation of openings. The openness of each site must be evaluated to determine the need for (and possibly the location of) the created openings. This analysis would most easily be accomplished by comparing among treatments the VSS classifications for canopy closure (A, B, C) at each site. However, such an analysis must include the current openings of all sizes within the project area. In other words, the need for (as well as size, number and location of) created openings should be determined by the post-treatment canopy closure and the proximity to existing openings. If the canopy within a site has been opened sufficiently to support a diverse understory, there is little justification for removing large trees to create an opening. Alternately, if the site is near an existing opening (in an adjacent site or deferred site), there is little justification for removing large trees to create an opening. 35.16

Most importantly, there are ample opportunities in every site to create openings in areas with few or no large trees. We walked through the treatment areas and identified in every site a great number of areas with few or no large trees. Of course, as the size increases, the likelihood of that opening containing a large tree also increases. Therefore, we propose retaining large trees located within large openings. Created openings containing a relatively small component of large trees can provide the desired habitat characteristics and support a diverse understory, as well as retain the current and future values provided by large trees. The EIS should analyze the potential to create openings using these two strategies, comparing the retention of large trees to the strategy used in the other alternatives. #35.12  
#35.13  
#35.17

**Response 35.15:** This comment is captured in the DEIS on pages 7 and 27, and throughout the Wildlife Habitat Analysis located in Chapter 3.

**Response 35.11:** See Response 34.4, where the definition of an opening is provided via the Forest Plan as a nonstocked opening (no trees). The Forest Plan does not distinguish between dense versus open stands surrounding the 10 percent opening requirement. As stated on page 68 of the DEIS, grasses and forbs are not readily established until the density of the trees reaches 60 BA or lower. The increases in grasses and forbs within thinned stands are likely to occur only where lower densities are achieved (roughly 30 percent of the stands treated with the 40-120 BA variable thinning). Given the unthinned areas where forage response will not occur and other treated sites where the forest is left denser, there is definitely a need for openings over and above where grasses and forbs will increase within thinned areas. This is because, as stated on page 68 of the DEIS, historical reference conditions may have had approximately 85-90 percent of the area in a thriving grass/forb community.

**Response 35.16:** The VSS analysis requested exists on page 85, Figure 23, of the DEIS. In this figure, canopy closure and openings are displayed for all alternatives immediately following treatment.

**Response 35.12:** See Response 34.4

**Response 35.13:** See Response 34.5

**Response 35.17:** Please see Responses 34.3 through 34.7.

**Response 35.18:** There is nothing in the DEIS that states we are conducting this project to generate money from the sale of timber. This was not part of the purpose and need. We agree there is plenty of work to be done achieving the objectives of forest health improvement and community protection. The reasons for removing a few 16-inch dbh trees is described on page 27 of the DEIS. These reasons are purely ecological.

Lastly, if the decision not to include a diameter cutting cap is based partially on the desire to generate some money from the sale of timber, this motivation should be stated directly in the EIS. Creating new jobs is the only economic objective stated in the DEIS. Certainly there is plenty of work to be done achieving the objectives of forest health improvement and community protection, even with the 16-inches cutting cap. # 35.18

Thank you very much for your work in writing this DEIS. I look forward to reviewing the EIS. Thank you also to the members of the IDT that met with us to clarify and explain the project and analyses.

Please contact me if you have any question regarding these comments. I would be pleased to elaborate and clarify any of our concerns.

Thank you,

Brian Nowicki  
Center for Biological Diversity  
PO Box 710  
Tucson AZ 85702  
520-623-5252 x311  
bnowicki@biologicaldiversity.org

Also for:  
Sharon Galbreath  
Southwest Forest Alliance  
PO Box 1948  
Flagstaff, AZ 86002



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## Letter 36 – Ann Beck, Alexis Holle, and David Grandon



**Response 36.0:** It is noted that this comment supports Alternative C, however, the appearance of the thinning treatment will not be very different from Alternative A in the area of concern.

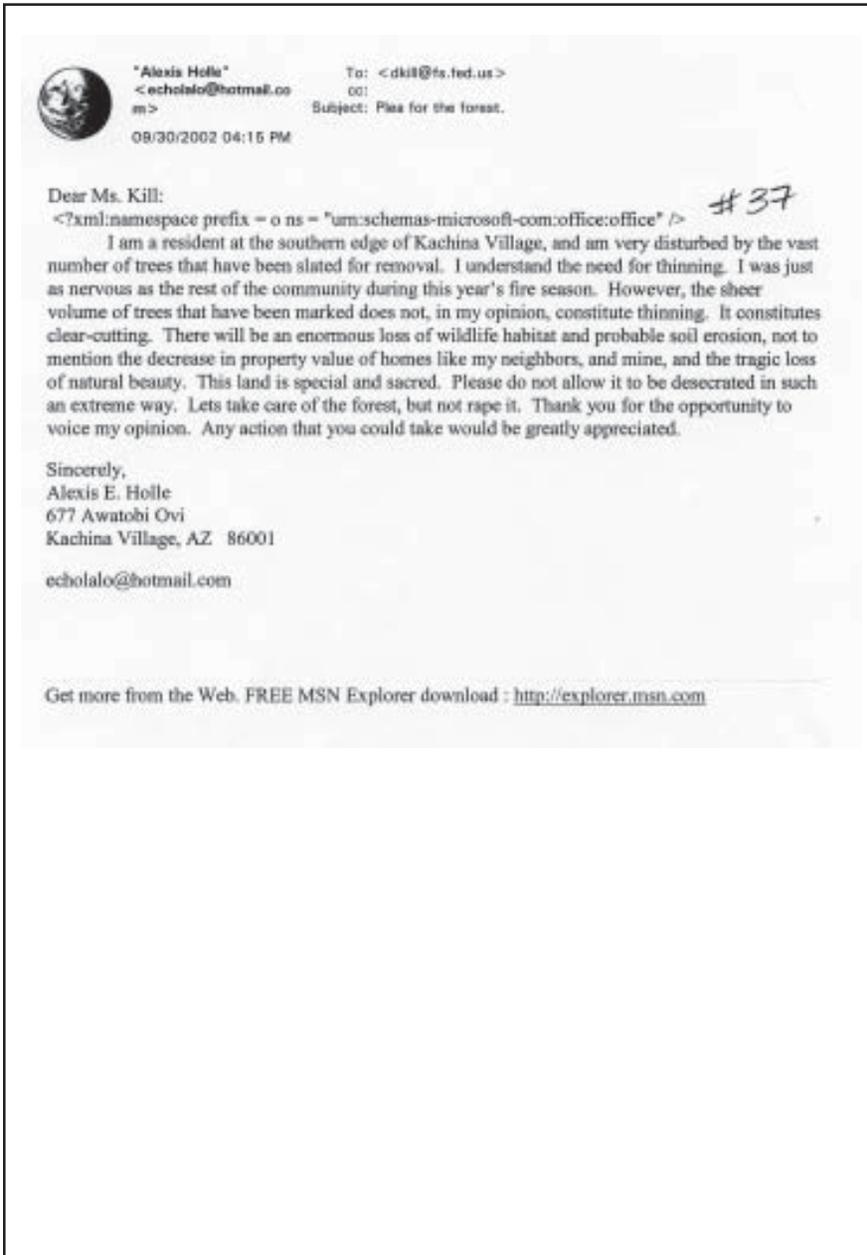
**Response 36.1:** The area described in this letter is important to thin because of its proximity to Kachina Village. The visual effects are described in detail in Chapter 3 of the DEIS (see pages 51-56). It is noted that there will be short-term visual effects that will concern the public.

**Response 36.2:** See Response 36.1 regarding visual effects of slash piles. Pages 72-80 of the DEIS describe the soil and water effects of the different alternatives. Several attempts were made to reach the parties by phone with no phone messages returned.

**Response 36.3:** See Response 11.4 for information regarding the timeframes for cleanup of slash piles. The DEIS discusses bark beetle infestations on pages 66-72.

**Response 36.4:** We are not treating this as a formal request for extending the comment period because there is not a specific person requesting the extension and this writer mailed comments in by the close of the comment period.

## Letter 37 – Alexis Holle



**Response 37.0:** No clear cutting is proposed for the Kachina Village Forest Health Project. Chapter 3 of the DEIS describes effects to wildlife, soils, and visual quality for the area. There will be some short-term impacts but, overall, results will be mostly beneficial.

**Letter 38 – Kimberly Reinhart-Mora**

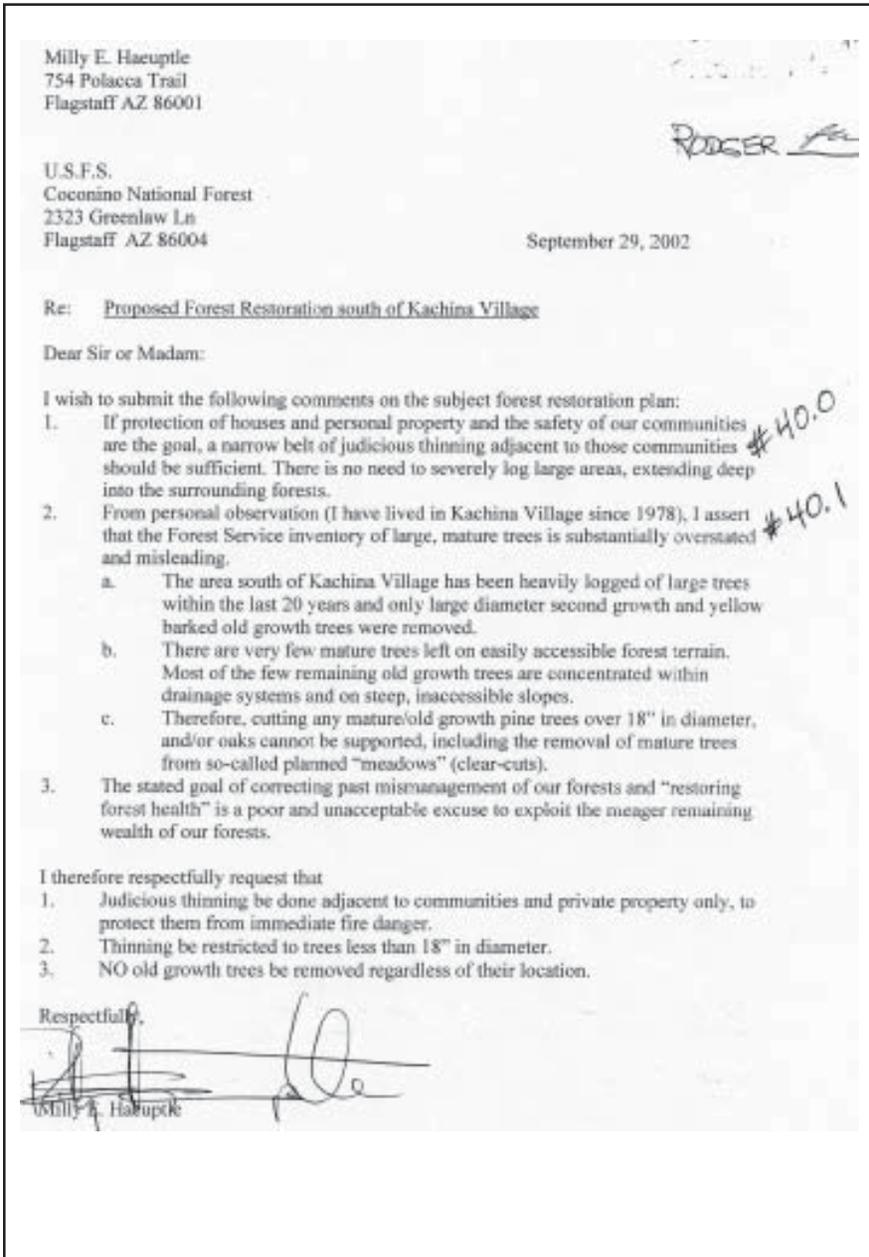
Hellooo. I AM A VERY CONCERNED KACHINA <sup>SIM</sup> ~~REINHART~~ <sup>MORA</sup> VILLAGE RESIDENT. I UNDERSTANDS THE NEED FOR FIRE PREVENTION, BUT BELIEVE IT NEEDS TO BE DONE IN A MANNER THAT STILL PRESERVES THE FOREST. I SUPPORT THE IDEA OF THINNING WITH A 16 INCH CAP. THE REASONS FOR THIS ARE THE FOLLOWING:

- ① It will help conserve the health of the forest & the ANIMALS that inhabit that forest. This beautiful scenery is the reason that most FLORISTANS choose to settle.
- ② It is the smaller trees & brush that cause the high RISK of fire, NOT the larger trees. Simply thinning with NO thought may put our REMAINING FOREST IN FURTHER ENVIRONMENTAL DANGER.
- ③ The benefits of having AN old growth forest if the larger trees are left (in the future) would be NUMEROUS.
- ④ Don't allow this to be AN opportunity for COMPANIES, who are most interested in their OWN profits, to justify the cutting of the big trees in the NAME of fire prevention when in FACT clearing large trees would NOT help.

OCT-2 2002 #38 GRACIAS,  
 Kimberly Reinhart-Mora  
 Kachina

**Response 38.0:** Noted as supporting Alternative C. See Responses 30.1, 28.1, and 32.3.

# Letter 40 - Milly E. Haeuptle (Note: No Letter 39 Assigned)



**Response 40.0:** On page 25 of the DEIS, in response to a comment under the Alternatives Considered but Eliminated from Detailed Study, it is explained that protection of houses and personal property is only one need for the area and that forest health is an important need as well.

**Response 40.1:** As stated on page 27 of the DEIS, all mature old growth or "yellow barked" trees are retained (not cut). As stated on page 27 of the DEIS, trees over 16 inches dbh are chosen carefully and only if absolutely needed to achieve desired conditions for the stand. It is noted that this comment prefers only treating areas near communities and only cutting trees up to 18 inches in diameter.

Letter 41 – John Baker

**John Baker**

Debbie Kill

October 9, 2002

Peaks Ranger District  
5075 N. Highway 89  
Flagstaff, Az. 86004

Debbie,

I am responding in response to the Kachina Village Forest Health Project.

As I have expressed in some meetings, my main concern is there is no plan between A,C,D,E and B. The implicated threat of let us, the Forest Service, over cut the Forest or we will do nothing at all. This unwritten threat appears several times in your hard copy. I was very saddened by this. I feel overall the Forest Service has tried to serve the public well over the years.

I feel the plans A,C,D,E, have to much extensive cutting. You will be creating open areas where they never existed. You say you want to return it to the state it was at the turn of the century. Well the pictures that have been shown to the public are those taken after several years of heavy logging by the railroad. This is not how the forest used to be. There are some photos around taken prior to the heavy logging. Then you also say it is needed to prevent crown fires. Well this is not true. Proper control of under growth and proper thinning will take care of this. There are areas where you will be cutting over 80% of the trees on slopes of the small canyons feeding Kelly Canyon, Leaving only small clumps of trees here and there, with no thought of soil wash out in heavy rains or heavy snow melt off. One area is along road 9498a. This type of plan concerns me very much. You are trying to make the forest into something it has never been, other than after heavy logging. #41.0

I realize personal comments have no place here, but I can not help my self here. This plan cuts so many trees that Bush Park will have more trees than most of the areas you will be working in and they only have a few gardeners to take care if it. So why will we need the forest service after this type of cutting?

Another concern with this plan is the foot paths and restricted camping. Many roads will be closed, shutting out people like my self (disabled, limited walking) from many areas of the forest we grew up in. #41.1

The designated camp site part of the plan, this is a problem to me also. We were told at the meeting they counted several camp fire pits, many of which I am sure have not been used in 30 yrs. or more. This according to your plan this is for fire control. Well I get confused with this, you want to cut down massive amounts of trees for fire control. Looking at the computer generated pictures you could not get a fire started in these areas if you had too. Anyway, with the heavy logging you are doing to . . . #41.2

**Response 41.0:** The alternatives present a range of actions that can be selected by the deciding official. Pages 66-67 of the DEIS discuss the events that have lead to the existing conditions present today. Pages 60-66 of the DEIS discuss the effects of the alternatives on fire. The No-Action Alternative is described as creating severe fire behavior.

**Response 41.1:** In personal conversation with John Baker at the open house and on the field trip, Debbie Kill noted that one road in particular was of concern. This road is FR 9498A and is shown on the road map on page 18 of the DEIS as an open road.

**Response 41.2:** Page 61 of the DEIS states that recreation management activities will reduce fire risk. This comment is also concerned that camping changes are in response to demands from residents. This is not the case. As stated on page 81 of the DEIS, the recreation management changes are in response to inventoried sites where resource damage (soil compaction and unsightly trash) is occurring. Pages 82-83 discuss the effects of the displacement of campers from some areas. Camping will still be available on national forest land within the project area, but to a lesser degree than under no action.

**Response 41.3:** See Response 28.3 related to bark beetles.

October 9, 2002  
Page 2

do why do you need to restrict camping? This does not make sense. The number of camp sites that have been located in this area should tell you something. The public, which pays for their forest are using their forest. This project should not be used to restrict the public from using their forest. A point which should be considered here, the only fires in this area were not started by campers, they were started by the forest service, so why is it you want to restrict camping? The only people which agree with this idea are those who wish to use this area as their personal back yard. This is the land of all the people and they have the right to use it as they want.

I am sure the Parks and Rec. Specialist you have hired is very competent. The problem is, this is not a Park. is the publics forest and we do not need more desiznated camp sights and restricted areas.

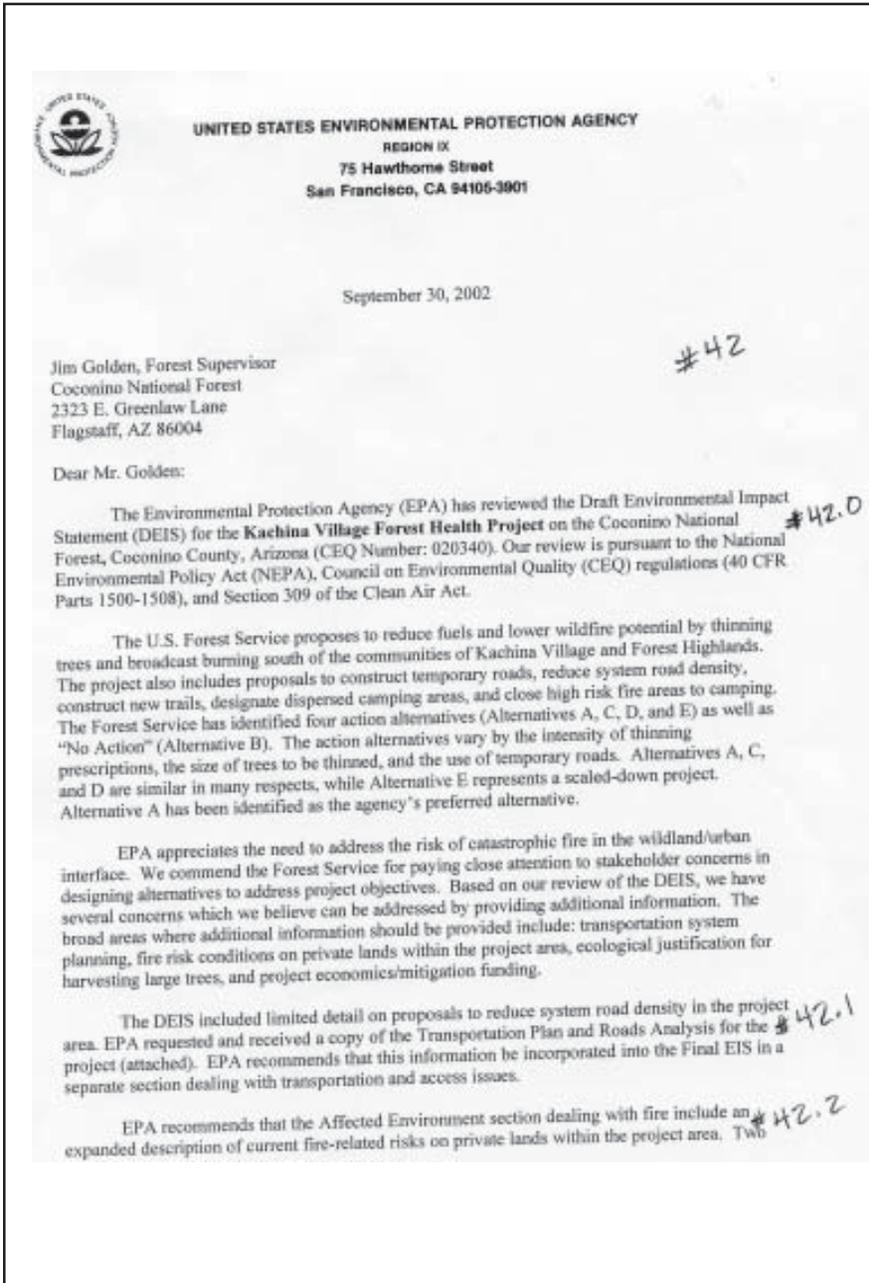
The last issue I wish to bring up is, the United States Government has stated we will have another 8~~4~~ 41.3 yrs. of drought. The bark beetle is infesting our forest and will continue to do so in a dry climate. We could lose a large amount of our forest to the beetle and with the cutting you are planning we could lose it all in some areas.

Thank you,



John Baker

Letter 42 – Lisa B Hanf, Environmental Protection Agency



**Response 42.0:** It is noted that this comment states that review by the EPA is pursuant to NEPA and the Clean Air Act. The comment suggests providing additional information in the Final EIS regarding transportation system planning, fire risk conditions on private lands, ecological justification for the harvesting of large trees, and project economics/mitigation funding. These are discussed in more detail in the following comments.

**Response 42.1:** As suggested by this comment, the Transportation Plan and Roads Analysis for the project has been added as Appendix G to the Final EIS.

**Response 42.2:** Hazardous fuels, steep topography, and high-density housing exist within adjacent communities, making them very vulnerable to home loss in the event of a crown fire. The Highlands Fire Department, which works with both Forest Highlands and Kachina Village communities, is a member of the Greater Flagstaff Forests Partnership and assisted the Forest Service in the design of our project. The Highlands Fire Department and the Forest Service have a good working relationship and are coordinating activities. The Highlands Fire Department has conducted various fuels reduction projects within both communities. However, there is a lot of work yet to be done. In addition, topographic features and high-density areas in Kachina Village create some hazards that cannot be mitigated or will take decades to correct. This subject was briefly addressed in the DEIS on page 25.

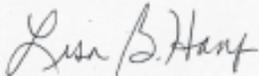
issues, in particular, should be addressed: 1) Do similar hazardous fuels conditions exist in forested areas of the private land parcels? and 2) To what degree have private landowners fireproofed their homes by installing fire resistant roofing, clearing vegetation near homes, etc.? We believe that this information would benefit the decisionmaker in selecting the most appropriate fuel reduction strategy, and identifying opportunities to coordinate fuel risk reduction across the public/private boundary.

Alternative A proposes to cut some trees over 16 inches in diameter "under specific criteria only." Four situations are described briefly on page 27: to create grassy openings, to enhance existing forest openings, to enhance growth and health of larger ponderosa pine to protect future old growth, and to reduce fire potential." These exemptions are potentially quite broad. Our review did not reveal any more specific standards to be applied in identifying specific trees to be harvested, although the chart at page 121 estimates that 7,000 trees above 16 inches in diameter will be removed. Given the ecological value of large trees, both in terms of their inherent fire resistance and contribution to future old growth, and the current lack of old growth in the project area (11.4 percent, as compared to 20 percent recommended by the Forest Plan), we urge the Forest Service to be as specific as possible in identifying an overriding ecological justification for removing trees above 16 inches in diameter. We further recommend that the Forest Service continue to consult with environmental stakeholders during the marking and harvesting phases of the project. #42.3

All four of the action alternatives will result in net costs to the taxpayer, with Alternative A having the lowest potential costs due to potential revenues from the sale of larger diameter trees. Given these cost figures, we are concerned that some aspects of the project may go unfunded or underfunded. We wish to note that our rating assumes the full funding and completion of all ecological restoration activities (including road obliteration), mitigation measures, and monitoring described in the Draft EIS. We look forward to seeing these specific commitments carried forward in the Forest Service's Final EIS and Record of Decision. #42.4

Based on the concerns expressed above, we have assigned a rating of EC-2 (Environmental Concerns—Insufficient Information) to the DEIS. Please refer to the attached "Summary of Rating Definitions" for further details on EPA's rating system. EPA appreciates the opportunity to comment on the DEIS. Please send a single copy of the Final EIS to the address above (Mail Code: CMD-2) when it is filed with EPA's Washington, D.C. office. If you have any questions, please feel free to contact me or Leonidas Payne, the point of contact for this project. Leonidas Payne can be reached at 415-972-3847 or [payne.leonidas@epa.gov](mailto:payne.leonidas@epa.gov).

Sincerely,



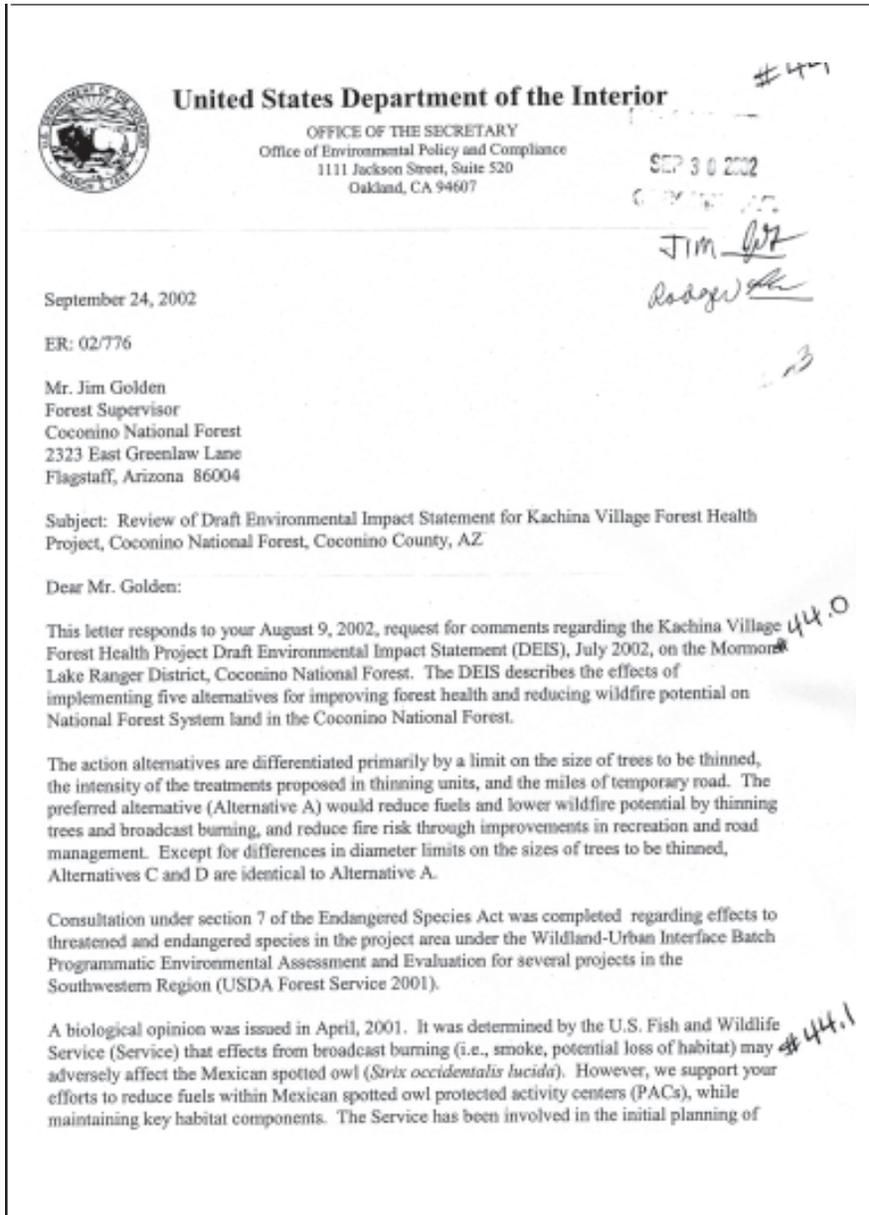
Lisa B. Hanf, Manager  
Federal Activities Office

Attached: Summary of EPA Rating Definitions  
Transportation Plan and Roads Analysis

**Response 42.3:** Please see Responses 34.3 through 34.6. Letter 44 – Patricia Sanders Port, USDI, Office of the Secretary, Office of Environmental Policy and Compliance

**Response 42.4:** This comment has been addressed in the Record of Decision.

## Letter 44 – Patricia Sanders Port, USDI, Office of the Secretary, Office of Environmental Policy and Compliance



**Response 44.0:** This comment summarizes the DEIS and notes that consultation with USFWS has occurred under the Wildland-Urban Interface Batch Programmatic Environmental Assessment and Evaluation for several projects in the Southwestern Region.

**Response 44.1:** This comment supports efforts to reduce fuels within Mexican spotted owl protected habitat.

this project and will participate in the implementation of the thinning treatments within Mexican spotted owl PACs.

The following comments are organized according to the sections of the DEIS, with pages and paragraphs noted as appropriate.

Chapter 2 Alternatives; Proposed Action (Alternative A); Administrative and Strategic Direction for the Project Area: Retain all existing mature ponderosa pine trees or old "yellow-barked" trees, (page 27):

This section states that the Forest Service recognizes and acknowledges the important role that trees 16 inch diameter at breast height (dbh) and larger play in the ecosystem (i.e., snag recruitment, future old-growth objectives, etc.) and their rarity within the project area. The DEIS also states that some trees larger than 16-inch dbh need to be removed to achieve important and valuable objectives, such as creating grassy openings, and reducing wildfire potential. However, it is unclear throughout the DEIS how removing trees greater than 16 inches dbh will assist the Forest Service in achieving these goals. #44.2

The comparison of alternatives A, C, and D reveals little to no difference in reducing wildfire potential. Alternative C (16-inch dbh limit) is expected to result in fewer grassy openings, but there is no difference in the percentage of grassy openings created in Alternative D (18-inch dbh limit) versus the preferred alternative. The reasons for removing trees greater than 16 inches dbh in the preferred alternative are not clearly articulated or justified. We recommend retaining those trees when the removal does not significantly affect plan objectives. #44.3

Chapter 3 Affected Environment and Environmental Consequences: Vegetation: Affected Environment, (page 67):

The DEIS states that, "A larger diameter tree may be cut in place of a smaller one if the larger tree has some flawed growth characteristic, dwarf-mistletoe infection, or has been attacked by bark beetles." We recommend that the Forest Service consider the benefits to wildlife that these types of "flawed" trees provide. Trees with flawed growth characteristics such as forked tops, lightning scars, or other deformities are considered "wildlife trees" due to the unique habitat they provide species such as cavity-nesting birds and mammals. Dwarf mistletoe infection can result in growth loss, reduced seed production, and mortality, but is not a serious problem over the entire area, (page 67). Trees infected with dwarf mistletoe can provide habitat for many species of wildlife. Research has shown that birds, mammals, insects, and fungi eat dwarf mistletoe shoots, fruits, and seeds. #44.4

Witches' brooms formed by dwarf mistletoe infections serve as nesting, roosting, and resting sites for birds and mammals, and dwarf mistletoe can aid in the recruitment of snags for cavity-nesting wildlife. Maintaining dwarf mistletoe-infected trees, in selected areas, may prove beneficial to wildlife within the project area. Currently, mortality to trees from bark beetles occurs in individual trees or small pockets scattered throughout the denser stands, (page 67). This type of mortality can create openings which may positively influence wildlife habitat across the landscape.

**Response 44.2:** The DEIS states that some trees larger than 16 inches dbh need to be removed to achieve important and valuable objectives, such as creating grassy openings and reducing wildfire potential. However, it is unclear throughout the DEIS how removing trees greater than 16 inches dbh will assist the Forest Service in achieving these goals (See Responses 32.7, 34.3, 34.4, 34.5, and 34.6). As summarized on page 33 of the DEIS, the difference between Alternatives A and C is 50 percent fewer openings on the treated areas of the project. With a landscape so devoid of openings, this is an important consideration for species such as Navajo Mountain Mexican voles, northern goshawk, and others (See the wildlife section of Chapter 3 of the DEIS).

**Response 44.3:** The comment states that the reasons for removing trees greater than 16 inches dbh are not clearly articulated or justified. See Responses 32.7, 34.3, 34.4, 34.5, and 34.6.

**Response 44.4:** This comment recommends that the Forest Service consider the benefits of trees with flawed growth characteristics to wildlife. The wildlife section of Chapter 3 did not describe significant negative effects from implementing the alternatives with the description on page 67. The scenario on page 67 applies to the variable thinning areas and not to the other prescriptions. The description on page 67 refers to the cutting of black-barked ponderosa pine and not mature yellow-barked pine. Often, the black-barked pine show less signs of use by wildlife. If a tree shows signs of wildlife use, such as cavities, stick nests, etc., then it will not be removed. This is standard operating procedure. As described on pages 16 and 32 of the DEIS, wildlife biologists will participate in the marking of trees in many locations.

This comment also states that bark beetle mortality can occur in small pockets, resulting in openings. The current level of bark beetle mortality does not result in a need to change the preferred alternative. After thinning, tree vigor will improve and the distance between trees will be greater, thus decreasing the potential for tree mortality from bark beetles. The preferred alternative achieves

We agree that there are situations where bark beetles and dwarf mistletoe-infested trees need to be removed to protect other habitat features and forest stand health. However, management recommendations should include provisions for maintaining "wildlife trees" across the landscape.

*Effects of Snag and Log Creation: Direct Effects of Alternatives A, C, D, and E.*  
(page 89, second paragraph):

We understand why the Forest Service may not consider it economically feasible to create snags and logs out of trees less than 16 inches dbh. Larger snags tend to persist for a greater amount of time and can provide habitat for multiple species, which often equates to greater wildlife value on the landscape. However, we disagree with the blanket statement that there is little value from smaller (less than 16 inch dbh) snags and logs. There are a number of studies which document birds using snags less than 16 inches dbh: #445

- Downy and three-toed woodpeckers were found to prefer smaller trees for nesting in Montana, (McClelland et al., 1979);
- Black-backed woodpeckers used relatively small, hard snags in areas with stand replacing fires in ponderosa pine/Douglas-fir stands in Idaho, (Saab and Dudley 1997);
- While Bull and Meslow (1977) suggested that snags greater than 20 inches dbh should be retained for pileated woodpeckers, smaller birds such as chickadees can use snags as small as 6 inches dbh, (Scott et al., 1980);
- The average dbh of nest trees used by the pygmy nuthatch is 15 inches, (Hay et al., 1983).

We appreciate the opportunity to comment on the Kachina Village Forest Health DEIS. If we may be of further assistance, please contact Shaula Hedwall, Ecological Services Field Sub-Office, Flagstaff, Arizona at 928-226-1811.

Sincerely,

*Patricia S. Port (J.H.)*

Patricia Sanders Port  
Regional Environmental Officer

openings on an estimated 5 percent of the project areas (10 percent of the treated acres). There is still a need for an additional 5 percent openings on the landscape. Therefore, the addition of pockets of bark beetle mortality would progress toward the 10 percent openings described in the forest plan.

**Response 44.5:** This comment disagrees with the statement that there is little value from snags less than 16 inches dbh. The comment provides literature citations. The statement made in the DEIS states that there is little value, not that there is no value. This statement in the DEIS refers to the creation of snags from trees 16 inches dbh or less.