PUEBLO RIDGE RESTORATION

ENVIRONMENTAL ASSESSMENT

Objection

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Carson National Forest
Region 3, U.S. Forest Service
New Mexico

Reviewing Officer: James D. Duran, Forest Supervisor
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from

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[redacted]

I support and encourage honest restoration actions and reasonable fuel reduction actions (fuel breaks) in the project area. However, the EA is more about heavy long term logging than restoration.

Therefore, I am appealing/objecting to the "Pueblo Ridge Restoration" Environmental Assessment on the Camino Real District of the Carson National Forest, Region 3, U.S. Forest Service; **with the following <u>exceptions</u> for restoration and fuel break actions:**

1) Thinning in ponderosa pine stands.

2) Thinning in frequent fire dry mixed conifer stands. However, this forest type was not naturally "clumpy" like ponderosa pine. No thinning to create a "clumpy" condition is allowed. No creation of "interspaces" is allowed in this forest type.

3) Thinning a fuel break along the ridge between Taos Pueblo lands to the north and Forest Service lands to the south. Spruce-fir stands along the ridge will not be thinned. A representative from Taos Pueblo should concur, in the field, with the location, layout and methods to be used for the fuel break.

4) Thinning of all additional fuel breaks.

5) Thinning will be limited to hand crews and/or mechanical masticators. Masticators will not be used on slopes greater than 40%. Hand piling and burning or broadcast burning is acceptable.

6) Removal of conifers from aspen stands.

7) Restoration of riparian areas.

8) No new roads will be constructed.

9) Thinning means cutting of smaller diameter trees. Large trees > 16" dbh will not be cut.

If the Forest Service wants to conduct a logging project in the drainage, it needs to produce an EA or EIS with a title that clearly states it is a "logging" project, to honestly inform the public of their plans. Further, the true and complete impacts of that proposal must be included in the EA or EIS, as required by law.

My original comments on June 15, 2019 included:

1. The document lacks detail, is misleading and contains wrong information.
2. The document was confusing, misleading, poorly written and impossible to really grasp exactly what was being proposed.
3. Clearly this document is inadequate and needs to be completely revised and re-written.
4. NEPA documents need to be comprehensible by most of the general public so they can understand what is being proposed on their land. This document completely fails.
5. The most glaring problem is that it is not a restoration project contrary to the name. The title needs to be changed to "Pueblo Ridge Logging Project, Preliminary EA". A true restoration project would not require 40+ miles of open logging roads for 10 years, heavy logging equipment, the need to change the definition of "old growth" or the need to change the Forest Plan to allow heavy equipment on steep highly erodible slopes [to 75%].
6. This project will do extensive damage to forest, land, water, wildlife, and habitat.
7. While there are some good things thrown in, they are far outweighed by the massive destruction being proposed.
8. The forest, land, water, wildlife, and community would be far better served if the forest was left alone rather than implementing this project, or if an honest restoration project was implemented.

The following appeal/objection details why the above are correct.

TABLE OF CONTENTS

1) EA Title

The document is titled: "Pueblo Ridge Restoration". **The title is a lie, it is not a "restoration" project.** This is a large long term logging and grazing project. Forest restoration involves thinning and restoring fire, it does not require heavy logging equipment, heavy logging equipment on steep slopes to 75%, 43 miles of open logging roads for 10 years, or changing the definition of Old Growth.
I agree that some appropriate thinning and restoring fire in the project area would be good, a logging project will not be good for the forest, wildlife, water, soil, recreation or residents of Taos Canyon. Thinning, piling and burning can and should be done by hand crews, or where appropriate a masticator, which will have minimal impacts to the environment. The extensive WUI thinning already done was by hand crews cutting, piling and burning. The only reason I can imagine that the Forest Service lied with the title was to intentionally avoid public scrutiny. This is contrary to at least the intent of NEPA, but it seems to have worked. Very few people commented. I suspect they saw "restoration" in the title and didn't read further.

2) Purpose & Need

- Insects & disease: The document states there is a "need" to "improve tree vigor and stand resilience to reduce the risk of tree mortality from insects and disease". However, it also says insects and disease are at normal levels in the project area. I have watched insects and disease go through normal fluctuations in Taos Canyon for decades (45 years). Some tree mortality which results in snags and Course Woody Debris (CWD) is natural and valuable for wildlife including cavity nesting birds, black bears, bats, and some small mammals. Dwarf mistletoe is valuable for wildlife for nesting, cover and food. While overly dense forests may increase mortality to a degree, it does not lead to the massive mortality seen from Colorado north into Alaska. That type of mortality is the result of a warming climate ("Climate change causing more severe wildfires, larger insect outbreaks in temperate forests". Science Daily. Nov. 2018). The Carson NF has a history of unjustifiably using insects & disease as an excuse for logging. During the 1960s there was a bark beetle outbreak in spruce-fir in the Osha Pass area of this District. They used that as an excuse to clearcut. Perhaps they didn't realize beetles fly. They did attempt some restoration which has failed. They planted some Engelman spruce but after about 55 years the area is still not a spruce-fir forest! The adjacent Rio Grande NF in Colorado, has had a massive die off of Engleman spruce (500,000 acres) but the CNF claims they have no problem with their spruce and continue to log it. Massive die-offs may come to the CNF but it will be due to climate change, not dense forests with normal insect fluctuations. Insects and disease are not a valid justification for this large logging project.

- Fire Risk: "Reducing the risk for high-intensity, stand replacing wildfires" is a listed "Need" for the project. While I agree some appropriate thinning would be

good in the project area (i.e., with hand crews, which is certainly feasible, and/or a masticator where appropriate), a heavy logging project is not appropriate or good for the forest. The document correctly lists impacts from past logging as one reason the forest is over crowded. However, past logging is not included in the Cumulative Impacts portion of the document. More logging will not correct the damage from past logging, it will continue to make conditions worse.

- Wildlife Habitat: "Improving habitat for wildlife and forage for range and wildlife" is listed as another "Need". This logging project will not improve wildlife habitat but will have massive short and long term negative impacts on numerous species of wildlife, including at least deer, elk, black bear, turkey, Abert's squirrel, and red squirrel. Appropriate thinning with hand crews or masticator could accomplish some wildlife benefits with minimal negative impacts.

- Watersheds & Water Quality: "protecting project area watersheds and associated water quality" is listed as a "Need" in the document. While appropriate thinning and fuel breaks would help, a large logging project with heavy equipment on steep slopes with highly erodible soils and 43 miles of open logging roads for 10 years will have significant adverse impacts to water quality in the Rio Fernando de Taos and its tributaries. One significant storm event will bring large amounts of sediment into the stream. It seems highly likely there will be one or more significant storm events during the 10 years of the project plus the 5-10 years of recovery after the project.

- Logging: Although this is clearly a large long term logging project, there is no mention of logging in the Purpose & Needs section. Logging appears to be the primary purpose of the project.

- Purpose: The purpose of the project is stated as "moving vegetation condition .... towards the desired conditions". One of the main desired conditions is uneven age stand structure. If young trees, which are ladder fuels, are continually removed through cutting and burning that should push the stands towards an even age condition, not uneven. How will the proposal promote uneven age stands?

3) Public Involvement

- Taos Valley Watershed Coalition: The document states, "This project has been an integral component of a larger landscape-scale community-based collaborative initiative referred to as the Taos Valley Watershed Coalition (TVWC) ... This project is an integral part of the TVWC's Landscape Restoration Strategy (LRS)." This appears to be false. The LRS document refers to thinning and restoring fire, not logging. Further it implies, the group's unanimous support. There are several entities which were part of the LRS document's development that do not fully support this logging proposal.

During the field trip, the representative from the New Mexico Department of Game and Fish reiterated concerns the Department had mentioned in their comment letter. The Department was a member of the TVWC and part of the LRS that this project was supposedly based on. Unbelievably, he was informed that their letter was received 2 days past the deadline and their comments would not be considered. Then the Forest Service waited one full year before publishing the final EA. That is the way the Forest Service treats our State Wildlife agency? The EA is long, convoluted, inadequate and almost unreadable, with very little time allowed for comments on the draft.

4) Alternatives

- Only Logging Alternatives: While the title of this document claims it is a "restoration project", there were only two alternatives both involving logging, heavy equipment, 40+ miles of logging roads and 10 years of logging. Alternative 2 was heavy logging on slopes to 40%. Alternative 1 (the preferred and selected alternative) is super heavy logging on slopes to 75% on highly erodible soils (40%=22 degrees; 75%=45 degrees). Both alternatives have significant direct, indirect, short term, long term, and cumulative adverse impacts for wildlife, wildlife habitat, water, soil and recreation. While the EA does not provide the detail necessary to fully assess all the impacts, as required by NEPA, there is enough information (heavy equipment on very steep slopes, highly erodible soils, 43 miles of logging roads, 10 years of activity plus 5-10 years of post project recovery) to know the impacts will be significant and long term. Some of the details that are lacking include: size and species to be cut?; where? (no prescriptions have been written); how many board feet of saw timber will be cut? The document says intensive stand exams have been done. Therefore the Forest Service knows what it plans to cut, how much (board feet) it plans to cut, and where the logs will be cut, but chose not to provide this information to the public although it is crucial to understanding the scope of the proposal. This document does not limit what might be done in the project area during the 10 years, it commits the FS to nothing. The only limit appears to be the legal restrictions required for the Mexican Spotted Owl. Based on the recent shut down of all forest management activities in New Mexico, they haven't been doing that very well at following those.

- Not An Honest Assessment: Statements to the affect that the forest will be healthier and fires should be less intense, and therefore the impacts aren't significant, are not true, and are not an assessment of impacts. This EA does not meet the intent or letter of the law of NEPA, is dishonest and intentionally misleading. This is not an honest document.

- No Restoration Alternative: There was no restoration alternative in spite of the "Restoration" title. An honest restoration alternative would have been appropriate including thinning, piling and winter burning by hand crews, and where appropriate using masticators (on <40% slopes). The EA falsely claims

that hand crews aren't practical. All of the WUI thinning in the area was done with hand crews and much of North America was logged off by hand using cross cut saws and horses. There would be some impacts using hand crews and masticators but they would be minimal and short term compared to the logging alternatives. This is not a "restoration" project.

- No "No Action" Alternative: There is no "No Action" alternative. While I agree no action would not accomplish the thinning that should be done on this area, or allow fire restoration, the result of doing nothing would be far better for the forest, wildlife, wildlife habitat, water, soil, recreation and the residents of Taos Canyon than what is proposed by the heavy logging project. You won't fix past logging damage with more logging.

- Public Comments: There were very few comments to the FS "Restoration" EA. I strongly suspect it is because of the dishonest title and that people saw the word "Restoration" in the title and looked no further. I don't believe many people in Taos Canyon or organizations that care about wildlife, water quality or recreation support a large scale long term logging project in the area, especially when they find out it doesn't really provide the fire protection implied by the EA.

5) Thinning versus Logging, and Forest Health

- Thinning versus Logging: There is a very significant difference between thinning and logging, and the impacts associated with each.

  Thinning removes smaller diameter trees from the understory. This is valuable on appropriate sites such as ponderosa pine and frequent fire mixed conifer where logging, grazing and elimination of fire has resulted in dense unnatural conditions. Appropriate thinning can improve the overall health of the forest, increase large tree vigor and permit restoring fire to the system. Thinning, piling and burning can be done by hand crews and is practical on this project area, contrary to what the document states. It can be done with minimal negative impacts to wildlife, wildlife habitat, water, soil and recreation. The extensive WUI thinning that has been done by the FS in the area has been done by hand crews. There may be locations where masticators can be used for thinning without excessive negative impacts, on slopes less than 40%.

  Logging removes larger trees (saw timber). The larger trees are generally the most fire resistant trees and often comprise old growth which is especially valuable for some wildlife species. Logging requires heavy equipment and logging roads. Heavy equipment and logging roads have significant direct, indirect, cumulative, short and long term adverse impacts to wildlife, wildlife habitat, water, soil, and recreation. Logging does not lead to a healthy forest, it leads to an unhealthy forest, promotes the growth of brush, forbs and grasses which are flashy fuels that generally have a higher rate of fire spread and within a few years become ladder fuels Logging is one of the practices that have created

the problems the document claims to correct. Forests that were damaged by past logging won't be fixed by more logging.

- Mixed Conifer; Wet versus Frequent Fire Types: There is a significant difference between wet and frequent fire (dry) mixed conifer forest. The LRS document recognizes this. The FS EA does not recognize the difference, and comments during the field trip indicated they have not identified or mapped the different types. Apparently, the FS plans to treat wet and dry mixed conifer the same, which is completely inappropriate.

  Frequent fire mixed conifer tends to occur on more southerly hotter drier exposed slopes. Natural fire would be expected to be fairly common with a frequent fire return interval. White fir and probably juniper would not have naturally occurred in this forest type, but are common now due to fire exclusion, logging and grazing. White fir and juniper tend to be ladder fuels and thinning to eliminate these trees would be appropriate on frequent fire mixed conifer slopes.

  Wet mixed conifer, which has not been mapped or assessed in this proposal, tends to be on the more northerly slopes. White fir is natural and should be present on these areas. Under natural conditions the fire return interval would be longer than the dry sites. A study by Baker (2018) in the southern San Juan mountains (not far north of the New Mexico border) found a fire return interval of 78 years in dry frequent fire mixed conifer and 113 years in wet mixed conifer. Most fires burning on the dryer sites during low to moderate burning conditions would go out when they reached the cooler wetter sites. Apparently this project plans to also log the wet mixed conifer sites. The difference in flammability between south and north exposures is significant. Wet mixed conifer is also the forest type that provides important cover for wildlife, especially black bear, deer, elk and turkey. Wet mixed conifer needs to be identified, mapped and not cut or thinned.

  Under natural conditions CWD, including down logs, which are important components for wildlife, would be abundant on sites with a long fire return interval such as spruce-fir, wet mixed conifer, aspen and oak. CWD would have been less dense on sites that burned often such as ponderosa pine and frequent fire mixed conifer. Down logs are generally not a problem in the spread of fire, especially if they are away from control lines. The fine fuels (grasses, forbs, brush and small trees which are promoted by logging) and spotting ahead of the main fire are primarily responsible for fire spread. Spruce-fir, wet mixed conifer and probably aspen should have much higher densities of CWD and down logs than proposed in the EA.

  The Pacheco fire on the Santa Fe NF was a plume dominated fire that burned fast and hot through the southern exposure slope of the drainage all the way to the ridge at Santa Fe Baldy peak. The northern exposure of the drainage was steep spruce-fir with typical down logs and limbs to the ground (ladder fuels). The Pacheco fire did not burn the spruce-fir.

- Grazing: Fire in the ponderosa pine in the South West mostly stopped about 1900 due to heavy grazing. The fine fuel grasses were grazed to the point they did not carry fire. The document correctly points out that livestock grazing has been one of the primary factors in eliminating natural fire, and grazing is planned to continue on the area. However, "reintroducing fire as a natural part of the ecosystem" is listed as one of the "Needs" for the project. Grazing has been a factor in the project area for a long time, will continue into the future, and perhaps will be increased as a result of this proposal. The cumulative impacts assessment needs to analyze past, present and future impacts of grazing on the forest, fire regime and wildlife. Continued or increased grazing will affect the area's ability to carry natural fire.

- Area Covered by Cumulative Impacts: Cumulative impacts will affect an area much larger than the project area boundary but the supposed assessment is illogically limited to the project area. For example, wildlife will be displaced for a long time and will likely affect surrounding areas, including private property outside the project area and Pueblo lands, likely by short term increases and then long term population reduction in at least the deer, elk, black bear, turkey and Abert's squirrel populations. Wildlife can be expected to be displaced onto adjacent Pueblo lands to the north. Short term overpopulation of some areas is to be expected followed by longer term population reductions. It will take some time for wildlife to recover after the habitat becomes useable in 15-20 years. Loss of old growth will take a very long time to recover from, if it ever does. Likely, siltation to the Rio Fernando de Taos will occur outside the project area. Limiting the cumulative affects area to the project area boundary is not honest, realistic or adequate. Ignoring miles of reconstructed logging roads, heavy logging traffic for 10 year, new road construction, etc. all beyond the project boundary is not honest. Limiting the cumulative affects to only the period of actual logging, ignoring the past logging of the 1960s and 1970s, and post-logging impacts is not realistic or adequate. The cumulative affects analysis does not meet the requirements of NEPA. Additional cumulative impacts beyond the project boundary and beyond the time of actual logging are discussed below.

- WUI Thinning: There has been considerable thinning under the WUI program in recent years, done in areas near the project area but beyond the project area boundaries. Some are extremely thin and when I became aware that Pueblo Ridge was a priority for thinning I assumed it had already been done. The WUI projects that have been done have certainly impacted wildlife and their habitat. The WUI thinning needs to be assessed in the cumulative impacts analysis. Some of the WUI areas that were done a few years ago have now grown significant numbers of white fir ladder fuels. What is the plan to maintain these areas? If not maintained they increase the amount of ladder fuels due to increased sunlight to the forest floor and have exactly the opposite effect from what was intended.

- High Voltage Power-line Corridor: There is a high voltage power line that runs from Angel Fire to Taos along the ridge between highway US 64 and Taos Pueblo lands, including the project area. The right-of-way for that power line is regularly cleared by the line owners using chain saws and ATVs. That activity certainly has an impact on at least wildlife and wildlife habitat. The FS has indicated plans to open up closed roads for the power line company. Those roads need to be identified in this proposal and the added siltation and disturbance included in the assessment. The power line impacts need to be part of the cumulative affects analysis.

- North Boundary Haul Road: The current recreation trail/old closed logging road that runs along the Taos Pueblo boundary is proposed as a logging haul road all the way to OK Canyon, which is miles beyond the project area. The impacts from that road need to be included in the impacts analysis. That road will have direct, indirect, short term, long term and cumulative impacts to wildlife, wildlife habitat, recreation and siltation to Rio Fernando de Taos.

The old north boundary road goes through a portion of Taos Pueblo land. The Pueblo advises that a haul road can not go through Pueblo lands. That means that new road construction will be required (roughly ¼ mile). The new road construction is not mentioned in the EA.

6) Roads

- 43 Miles of Logging Roads: The document calls for 43 miles of open logging roads for 10 years. A few of those miles (perhaps 5 miles) are FS system roads to Shadow Mountain Ranch and the monastery. Of the remaining 38 miles of roads, 13 miles will supposedly be "decommissioned". What is the plan for the remaining 25 miles of roads? Most of the non-system roads in and near the project area were closed to vehicular traffic as part of the EIS for the Forest Plan for wildlife protection. In addition the area is covered under the Wildlife Conservation Act for wildlife protection. Will all of the currently closed roads continue to be closed to vehicular traffic after the project? Will all the currently closed roads be "decommissioned"? Roads have significant direct, indirect, short term, long term, and cumulative adverse impacts on wildlife, wildlife habitat, recreation, solitude, aquatic systems and siltation. The document repeatedly refers to Best Management Practices. What are they? The document needs to clearly and completely identify the plan for all the roads, and accurately assess the impacts to the environment. All the roads need to be assessed in the Cumulative Impacts section, not just those within the project boundary.

In the EA figure 17 shows the eastern approximate half of the project area as "Semi-Primitive Motorized". The roads in this area were closed to motor vehicles by the Forest Plan EIS and the Travel Management Plan. The area is also covered under the Wildlife Conservation Act, all for wildlife protection. Is this EA proposing to change the status for motorized vehicles in this area? There is no discussion or

analysis of that in the EA. This would be a significant change with large impacts for the wildlife, soils, recreation, solitude, and aquatic systems. This change, if it is intended, should be a separate EA or EIS with all of the associated impacts honestly assessed. Sneaking it into a logging EA titled "Restoration" is both dishonest and illegal.

- Decommissioning: The document specifies "decommissioning" 13 miles of logging roads. The methods "may ... including but not limited to, abandonment, scarifying, revegetation of road beds, re-contouring of roadbeds, installation of dirt or stone barriers, scattering of activity-generated large woody debris on roadbeds". The document needs to specify what method will be used and where. The impacts are very different between "abandoning" and "re-contouring" a road. During logging in the 1960s and 1970s the roads were abandoned with some earth berms added. It took decades for those roads to naturally revegetate and they certainly contributed silt to the aquatic system for many years. The document suggests erosion structures will be maintained during the project and assumes they will therefore prevent siltation to the stream. Even if that were true, which I doubt, how would these structures be maintained during the years and decades that follow while the logging units and roads recover? Will the FS be driving these roads for years maintaining the structures? Does the FS really consider "abandonment" as a valid "decommissioning" of a road? The impacts of the various possible decommissioning methods need to be assessed. Has the CNF ever re-contoured a road to decommission it? Where?

- ATVs: The document indicates there will be All Terrain Vehicle (ATV) use of the 43 miles of logging roads until they are closed. Many years ago "Tank Traps" (large earthen berms), were effective road closures. When 4 wheel drive vehicles became common, Tank Traps were no longer effective. The New Mexico Dept. of Game and Fish was expressing concerns to the CNF over ineffective road closures in the 1980s. With the relatively recent development of ATVs the problem has gotten much worse. Often, if ATV drivers know a road is there, they will drive it, and if a road has been open with regular ATV traffic for a long time (e.g. 10 years) then closed, it will be driven if at all possible. Unless a road is made impassable, it is not really closed. Gates, berms, rocks, tank traps, logs, brush, hiding the entrance, and etc. are no longer effective road closures. ATV traffic has significant, direct, indirect and cumulative adverse impacts on wildlife, their habitat, siltation and recreation. These impacts need to be fully assessed. I suggest you look at the FS file for the Valle Vidal EIS (1990-1993) for the CNF biologist's personal communication with Jack Ward Thomas (elk researcher and former Chief of US Forest Service) regarding impacts of roads on elk. Further, with the current FS road management system based on poor maps showing open roads, it will be almost impossible to legally enforce closures. As a former Off Road Vehicle patrolman for this District of the CNF, I know the only enforceable method is "all roads are closed unless signed open", or they are made impassable. I see no evidence of any enforcement relative to illegal ATV activity.

- "Walking the Talk": Jack Ward Thomas, former Chief of the Forest Service, said the agency needed to "Walk the Talk". Unfortunately, it is not happening on the CNF. A recent trip up FR 437, the Garcia Park Road from highway U.S. 64 (a major heavily traveled FS system road, across the canyon from the east end of the project), showed no indication of maintenance in many years. The road used to be drivable at about 20 mph but is now all rock, and has become a 1-5 mph road "not passable for passenger cars". About 5 miles of the road appears to have lost all the surface material down to large rock; at least 1 to 4 inches of material is gone. Five miles at 1 inch and at least 12 feet wide calculates to about 1,000 cubic yards of material (500 tons, or 250 - 4 yard dump trucks full). I saw no indication of sediment trapping structures. Some of that material probably was trapped by forest vegetation and became incorporated into the forest soils. It seems likely, a large portion ended up in the Rio Fernando de Taos. If you can't maintain those 5 miles of a major FS system road, it is not believable that you will maintain 43 miles of logging road. There are numerous legal and illegal side roads off these 5 miles that are not even included in 1,000 cubic yards estimate.

  The CNF Travel Management Plan calls for travel only on FS system roads, cross country travel is illegal. I walked the old closed logging road from Garcia Park to Paradise Park, about 1.5 miles. The start of that road is closed with some big "tank traps" and a sign "no motorized vehicles". There has been considerable truck traffic on that road to the end, and several side roads obviously driven by trucks. Evidence of latilla and firewood cutting is obvious. Where the road ends at Paradise Park, the ATV tracks continue. It is clear there has been no significant enforcement of the Travel Management Plan in this area. If you can't manage the illegal truck and ATV traffic in that area, you certainly won't manage it in the proposed project area.

  The EA appears to be a paper exercise only. Perhaps the people that wrote the document actually believed what they were saying, but if the paper direction doesn't get transferred onto the ground, it is just a meaningless piece of paper. The CNF does not "Walk the Talk".

- Dozer Line: The document mentions dozer line(s) but fails to say where they would be, how long they would be, or why they are needed. Dozer lines are particularly susceptible to erosion and producing large amounts of sediment. The use of dozer line is not justified in the document or assessed as to the impacts.

7) Wildlife

- Project Area Wildlife: The project area has a high diversity of wildlife owing to the range of habitat types from pinyon-juniper at the lower end near highway US 64 to spruce-fir on Casita de Piedra Peak along the Pueblo boundary (i.e., pinyon-juniper, ponderosa pine, frequent fire mixed conifer, wet mixed conifer, aspen, oak, and spruce-fir). Wildlife in the area seems to be abundant, probably because

the roads have been closed to vehicular traffic for many years, good cover, and old growth forest on steep slopes.

At least 208 vertebrate taxa potentially occur on the project area. These taxa are known to occur in Taos County and use one or more of the terrestrial habitat types which occur on the project area. These 208 vertebrates include 3 amphibians, 15 reptiles, 127 birds, and 63 mammals. In addition, at least 18 taxa of woodland snails use one or more of these habitat types. Of these 226 taxa, known habitat type associations includes:

spruce-fir	140 species
aspen	135 species
ponderosa pine	189 species
mixed conifer-wet&dry	173 species
pinyon-juniper	202 species

- Legal Status (number of species):

2	Federal Threatened
4	State of NM Threatened
21	State of NM "Species of Greatest Conservation Need"
123	species covered by Migratory Bird Treaty Act
87	species are neotropical migrants
5	big game species
10	furbearer species
5	small game species
[20	total game species]

- Habitat Components (the minimum # species using each component):

61	species use snags
39	species use course woody debris (CWD)
5	species use stumps
41	cavity nesting species, snags
11	species which nest under bark, normally snags
6	nest in mistletoe
17	forage on snags
11	forage on down logs
11	perch/roost/rest on snags
6	perch/roost/rest under bark, snags

- Wildlife Displacement: The logging operation will result in the displacement of wildlife from the general area for 15-20 years. Species such as deer, elk, black bear, bobcat, coyotes, and mountain lion will mostly leave the area. Likely, most of the movement will be across the ridge to the north onto Pueblo wilderness land. Some may be to the east onto private land. Due to the resulting higher density of game animals on the Pueblo, hunting should be

good there for a year or so until the displaced animals are "harvested" or die due to overcrowding. In the long term the result will be a decrease in number of animals because the surrounding habitat can not be expected to support the additional density for very long, certainly not for 15-20 years. When the disturbance stops at the end of the project, assuming roads are closed, wildlife numbers will gradually increase. Wildlife populations in the area will not recover for 15 to 20 years after the start of the project, perhaps longer. I likely won't see the wildlife recover during my lifetime, if it does recover. Following the logging in the 1960s and 1970s, sign of deer, elk, bear, turkey, and bobcat was scarce to non-existent. It took decades for the wildlife to recover to today's levels. Likely it would take decades to recover from this proposed logging operation if the roads were closed. If the roads are open to motorized vehicles, it will likely not ever recover.

- Habitat Destruction: Without the detail of what is to be cut and where, it is not possible to fully asses or predict impacts. With a large long term logging operation there will be significant habitat loss for many species. The document needs to include details adequate to fully predict and asses the impacts. One can guess, that a significant amount of logging is to occur in old growth ponderosa pine. If so, Abert's Squirrel, brown creeper, bats and flammulated owls in particular will be negatively affected. However, guessing is not adequate as an assessment. The EA claims there were extensive stand exams done throughout the project area. If that is true, then the Forest Service knows what they want to cut, size of trees they want to log, how many board feet they expect to take out. One can deduce that this information was intentionally left out of the document to minimize public concern. Abert's squirrels, a game species, are dependent on old growth ponderosa pine with interlocking crowns. Reducing canopy cover below 60% will adversely impact Abert's squirrels.

- Black Bears: Black bears are an important component of this ecosystem. The wet mixed conifer in particular seems to provide excellent cool dense cover for bears. The density of down logs seems to be providing a valuable summer foraging source of carpenter ants. If down log densities are greatly reduced it will impact bears. Down logs under natural conditions would vary greatly between forest types. Ponderosa pine and frequent fire mixed conifer would not have many down logs because of the shorter fire return intervals. Wet mixed conifer, spruce-fir and possibly aspen would have much higher densities of down logs because of the long fire return intervals. During fall in northern New Mexico, bears are dependent on acorn mast if they are to go into hibernation in good condition. Pregnant female bears reabsorb the fetus during hibernation if in poor condition. The project area seems to be important for acorn mast production. Loss of oak in this area, especially older oaks, will negatively impact the black bear population, including reproduction, as well as harming other species that use acorns including at least deer and turkey. Black bear was not even discussed in the EA even

though it is an important part of the local environment. NEPA requires assessment of potential impacts to the environment, of which black bears are an important component in this area.

- Closed Roads: Many of the roads in the project were closed to vehicle traffic by EIS for wildlife protection and are under the Wildlife Protection Act. It is not clear in the EA as to what roads will be closed and how they will be closed. This missing information is necessary and critical in order to assess impacts to wildlife. See roads above.

- Pacific Marten and State Listed Species: Pacific marten (often called pine or American Marten) occur in the spruce-fir on Casita de Piedra Peak along the Pueblo boundary, contrary to statements in the draft document. They are listed Threatened by the State of New Mexico. Marten are closely tied to mature and old growth spruce-fir forest with an abundance of down logs and CWD. The population on Casita de Piedra Peak is apparently dependent on the high quality spruce-fir on the Pueblo side of the ridge (per Rene Romero during field trip). Spruce-fir forests in New Mexico are at high risk due to the warming climate. Spruce-fir needs to be protected, not cut or thinned.

  There are 4 State of New Mexico Threatened species potentially occurring on the project area: Pacific marten, boreal owl, peregrine falcon, and gray vireo. It is very disappointing that the Forest Service ignores New Mexican wildlife that is already stressed and in trouble and promote their continued decrease and possible loss from the wildlife diversity of New Mexico. State listed species were not mentioned in the EA.

- Steep slope old growth refugia that was not logged in 1970s: During the heavy logging in the area during the 1960s and 1970s, logging equipment was not allowed on slopes greater than 40%. As a result, large trees were left on the steeper slopes. Much of that is old growth. The area appears to have functioned as a refugia for wildlife and likely is why the area has such good wildlife diversity and abundance. The real purpose of this project appears to be logging that old growth, to the detriment of the wildlife, and forest health. Appropriate thinning in that area can be done by hand crews without the significant adverse impacts to the environment that are called for in the EA.

- Snags and De-formed Trees: Snags are a very important component of wildlife habitat. At least 61 of the potential species in the project area use snags. Snags are used for nesting, perching, and foraging. Some species are cavity nesters, some nest and some forage under the exfoliating bark of large snags, especially ponderosa pine. These habitats are temporary and require a regular supply of new large snags. Logging in ponderosa pine reduces or eliminates suitable large trees from becoming snags. In the South West, ponderosa pine is often cut before it can become large enough to be useful for some species, supposedly because

growth slows down. As a result, these critical habitats are decreasing or disappearing.

De-formed trees are those with broken or dead tops, or those branching at the base, or those with mistletoe. They don't make good saw logs. However, they are especially valuable for wildlife, for nesting and roosting. Mistletoe is valuable for wildlife for nesting, resting and food. The document indicates a preference for cutting these trees. The adverse impact of cutting de-formed trees needs to be assessed in the document.

During the field trip we stopped at a clump of fairly large ponderosa snags and some large live ponderosa trees. When the FS was asked what they would do there, the response was to cut down some snags and kill some of the live trees to make new snags. This made no sense and indicated a complete lack of understanding of the value of snags and large live trees that would eventually become suitable snags. At another location we passed a large tree that had been felled with a saw. It appeared to have been the only large tree in the area. When the FS was asked why it was cut, the answer was "practice". These attitudes towards management of forest resources do not instill confidence in the agency.

- CWD and Down Logs: As previously indicated, these are important habitat components for a number of species. They provide foraging for some and cover for others and are important for the fungi necessary for healthy trees. During decomposition they provide nutrients to the soil.

- Wildlife Corridors: Wildlife movement corridors are a concern and becoming more critical with Climate Change as habitats change and move. Casita de Piedra Peak is probably the area that some species move through when going between the mountains to the north of the Pueblo and mountains to the south of Taos Canyon. It is the second highest peak along the ridge system. Continuous cover needs to be maintained from the peak to heavier cover on the Taos Canyon side of the ridge. This means a movement corridor through at least part of the project area is needed. The fuel break along the ridge probably needs to be as narrow as possible in this area.

- Mexican Spotted Owl (MSO): Dry frequent fire mixed conifer is MSO habitat. It and ponderosa pine with gambel oak understory need to be managed per the MSO recovery plan, not goshawk recommendations. The term "interspaces" does not seem to be in the literature and was apparently created by Renolds et. al. in the GTR-310 document, probably for goshawks and appears to be a concept based on even-aged management. Perhaps it applies to some ponderosa pine for goshawks but is certainly not appropriate for dry frequent fire mixed conifer. VSS structural stage also applies to goshawk management, not MSO. It is appropriate that the Forest Service will conduct two years of MSO surveys. Will they be done with the FWS protocol? Canopy cover in MSO habitat should not be reduced below 60%. Logging of trees >18"dbh on 1,600 acres of MSO habitat is certainly not

justified or ethical. The impacts to MSO habitat and the other wildlife will be significant and long term.

Canadian Lynx: Mature and old growth spruce-fir forest is prime habitat for lynx and their primary food, snowshoe hare. The project area includes a relatively small amount of spruce-fir at the top of Casita de Piedra Peak and the EA proposes to cut spruce-fir and leave a minimal amount of canopy cover (30%). However, when a representative from the Pueblo was asked if there was spruce-fir on the Pueblo side of the boundary, the answer was that there is quite a bit of mature and old growth spruce-fir on the northern exposure (Pueblo side of the ridge). Obviously, the spruce-fir on the Forest side is part of the spruce-fir stand on the Pueblo (the boundary runs over the top of the peak). This likely explains why marten occur on the Forest side of the boundary. The EA only considers what is inside the project boundary. The Forest Service is obviously using modern technology such as GIS, satellite imagery, and image processing to map the vegetation on the project area and should have been aware of the discrepancy. Did they look beyond their boundary? Did they know there was spruce-fir continuous on the Pueblo side? Did the Forest Service intentionally mislead the U.S. Fish and Wildlife Service (FWS)? The FWS used the information provided by the Forest Service to prepare their biological opinion. The biological opinion states:

Canada lynx
There are no known historical or recent lynx observations within 10 miles of the project boundary. The closest known extant lynx population is located approximately 60 miles north in southern Colorado. There are approximately 51 acres of potential lynx habitat in the Engelmann spruce cover type; however, this habitat is very fragmented and covers much less area than what would be necessary to support even one female lynx home range. In addition, any treatments that would occur within these 51 acres would maintain at least 30 percent canopy cover, providing adequate cover for any lynx moving through the area.
The Service concurs with your determination of "may affect, not likely to adversely affect" for the Canada lynx. The Service bases this conclusion and concurrence on the absence of positive observations within the immediate vicinity of the project area, in addition to the sparse potential habitat present. The Service also bases this conclusion on the implementation of project design features that would help maintain adequate canopy cover for any potential lynx moving through the area.
Conclusion
This concludes informal section 7 consultation with the U.S. Fish and Wildlife Service for implementation of the Pueblo Ridge Restoration Project. Please contact the Service if: 1) new information reveals changes to the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, 2) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not previously considered, or 3) a new species is listed or critical habitat designated that may be affected by the action.

That there are no lynx records with 10 miles is not surprising, no one has looked. The radio tracking was primarily in Colorado, not New Mexico. Nor have there been any surveys of snowshoe hare in the area. There are a few records of lynx in the Sangre de Cristo range as far south as Santa Fe. Obviously, lynx at least move up and down the mountain range. Are they denning on the Pueblo? "If you don't want to know the answer, don't ask the question" seems to be the attitude.

The FWS biological opinion was clearly based on mis-information or a lack of complete information. Condition #1 from the FWS conclusion, " Please contact the Service if: 1) new information reveals changes to the action that may affect listed species or critical habitat in a manner or to an extent not previously considered", applies relative to Canada Lynx. It appears that the Forest Service needs to go back to the FWS with complete information. A new biological opinion is necessary. Also, clearly the NEPA assessment of impacts to lynx and their habitat is not adequate. The fuel break along the boundary in this area should be limited to the old logging road with no additional thinning.

8) Water

Water quality, sedimentation and siltation are discussed in the following headings and subsections:

Purpose and Need:
- Watersheds and Water Quality

Roads:
- 43 Miles of Logging Roads
- Decommissioning
- ATVs
- "Walking the Talk"
- Dozer Line

Models:
- Sediment Model

Monitoring:
- Sedimentation to Rio Fernando de Taos

Cumulative Impacts:
- Area and time covered by cumulative impacts
- High Voltage Power Line Corridor
- North Boundary Haul Road

Water drafting was mentioned. Where will it be taken from? How much will be taken? What will the impacts be?

In addition, concerns over eColi reaching the Rio Fernando de Taos were expressed during the field trip. This stream is already listed by the NM Environment Dept. as exceeding allowable standards for eColi. This bacteria can cause sickness in people and can come from humans, cows and ungulates. Research is ongoing to determine the source of eColi in the stream. In this portion of the watershed the preliminary data suggest the eColi is coming from cows and birds. The increased runoff from 43 miles of logging roads and logging will increase eColi and sediment contamination to the Rio Fernando de Taos.

9) Recreation

There is a significant amount of recreation in and adjacent to the project area. Activities include hiking, cross country skiing, wildlife watching, solitude, mountain biking and

hunting all of which will be adversely impacted by this proposal. The exceptional wildlife value of the area is one reason it is popular and many of the roads were closed to vehicular traffic for wildlife protection by the Forest Plan EIS and the Travel Management Plan. The area is also covered by the Wildlife Protection Act for these reasons. My wife and I have been hiking, cross country skiing, watching wildlife and enjoying the solitude of the project area and east of the area (which includes a proposed logging haul road) for 45 years. The loss of wildlife for 15 to 20 years will be significant to me, I likely won't live long enough to see the wildlife recover. Nor will the area be suitable for me to hike and ski again in my life time. It will also impact my family's ability to enjoy the area for many years. The negative impacts to recreation will be long term and significant, and extend far beyond the project boundary and active logging period. The impacts need to be assessed, including cumulative impacts.

10) Fuel Storage

- Fuel Storage and Transfer Operations: The plans for fuel storage in the document are completely inadequate and irresponsible. Fuel storage tanks, of any size much less >600 gallons, should be at least 100 yards (300 feet) from any water channel. The document calls for 200 feet. All fuel storage of any size should be in a secondary container that will hold at least 125% of the container capacity. The document doesn't even mention secondary containments. Equipment such as light plants and generators should be in similar secondary containments. All machinery should be parked no closer than 300 feet from any water channel.

- Inspection & Fuel Spills: Is all equipment, including pickup trucks, inspected for leaks prior to being allowed on the project? Who does the inspection? Are inspections documented? How often is the equipment inspected for leaks? Is leaking equipment removed from the area immediately? Is there secondary containment under all hose connections during fuel transfer operations and refueling? Is the project area where equipment has been operating inspected for fuel leaks and spills? Do you know what the reporting requirements for fuel spills are? Who is responsible for reporting? How is contaminated soil handled? Does it go to an approved incinerator? Where is the incinerator? What is the spill contingency plan? What spill clean up material will be on site? Fuel from contaminated soil will spread quickly through additional soil during any rain and will be in the Rio Fernando de Taos with the first significant storm event. Spills and leaks need to be detected and cleaned up quickly which means frequent inspection and contractor liability written into contracts.

11) Grazing

- Fence repair/maintenance: The document claims that if livestock fences are damaged, they will be repaired. Surely this was added as a joke. Some of our neighbors and I have complained for years that the Forest Service perimeter fence in our area is down and that the Forest Service cows spend much of the summer on private land, but the fences still haven't been repaired in many years. It also

means that the range data for the Baca Pasture is meaningless. Are other statements in the document, such as Best Management Practices, also just lip service and meaningless?

- Springs: The document calls for developing and maintaining springs for livestock. Will there be roads constructed to these springs? Will roads be needed for maintenance? If roads are to be constructed, how many miles of new roads? The details need to be spelled out in the document and the impacts fully assessed.

- Livestock Numbers: Will livestock numbers be increased as a result of this proposal? If so, there will be additional impacts to wildlife. Further, livestock grazing reduces the ability of the land to carry fire. Fire almost stopped in ponderosa pine in the Southwest around 1900 as a result of livestock grazing. It is the primary cause of the overstocked condition and ladder fuels in ponderosa pine today. One of the stated "Needs" for this project is restoring fire to the system. How will grazing affect this "Need", especially if livestock numbers increase? This District is notorious for its range management. During the last significant drought when cows were being pulled off the Santa Fe NF, this District increased livestock numbers on at least one allotment. More cows will mean more eColi in the creek.

12) Models

- Models and Bias: Models can be useful tools to provide some measure of predictability for the outcome of an action or event. Models can also provide a misleading or erroneous result. Models are "garbage in, garbage out" programs. Models use assumptions either built into the model or used in the data input to the model. To be useful, coding in the model has to be correct and logical. To assess the latter requires analyzing the source code. It is relatively easy to bias the output from a model by biasing the input.

  I have had some bad experiences with FS use of models and their models themselves. I have learned to be skeptical of simple stated output. While looking at a proposed timber sale, the FS personnel pointed to their model output and claimed it showed that after 10-15 years post logging the habitat was back to normal. Closer examination showed exactly the opposite, they had compared immediately post logging with 10-15 years later. The model output actually indicated no recovery at all in the 10-15 years. Later, I had a chance to look into the source code for that model. There were serious problems with the logic used and the coding. Further, the model depended on 1,500-2,000 coefficients to 3 decimal places. A careful look at the coefficients by three biologists found most were poor at best. To have any confidence in the output from any model, one needs to know the input data, assumptions for the input data, and assumptions built into the model. One also needs some confidence that the model does what it claims to do.

- Fire Flame Length Model: In general I have confidence in the Fire Model itself. I used and looked at the source code of Rothermal's early model in the 1980s. It was a useful tool. I am skeptical of the fire modeling output for the current project. A brief look at the area, during the field trip, compared with the model output suggests problems. It looks like one overall value was input for each vegetation type and it seems like values for the most dense and steepest area was used, not an overall average. Frequent fire mixed conifer and wet conifer were not separated but burning intensity and flame length should be very different. The wet mixed conifer tends to be on north facing cooler wetter sites and burning intensity and flame length should be much less even with the denser cover and white fir naturally present on these sites. The only input specified was 5 mph wind but no data was presented for humidity, fuel moisture, or slope. The flame length output seems to be much higher than I would expect. To me it looked like most fires up to moderate burning conditions could be handled by hand crews using direct and indirect attack methods.

- Sediment Model: I am skeptical of the sediment modeling output. The modeling indicates up to 65 tons of sediment produced from roads during the 20 years they would be producing sediment. To put that in perspective, 1,000 pounds of dirt/sand/gravel is about 1 cubic yard. Sixty five tons would be 130,000 pounds or about 130 cubic yards, or over 30 - 4 yard dump trucks full. That is a lot of sediment if it gets to the stream. The document claims the potential for water and sediment reaching the streams is low. This is apparently based on the idea that erosion control structures along the roads and Best Management Practices (BMP) will contain the sediment and that the logging areas will not have sediment leaving the project area (Note: erosion hazard for almost 7,000 acres of the project area is listed as "severe"). What are these BMPs that will supposedly stop the sediment, including suspended and dissolved solids? The input for precipitation isn't listed but I suspect it uses "normal/average" rainfall. Clearly significant storm events (i.e., heavy rainfall) are not included. Heavy rains in the mountains of NM are episodic and may occur on a site every few to many years. However, when they do occur, water runs everywhere as sheet flow and in drainages, and structures and buffers become meaningless. Much or all of the silt trapped in erosion control structures and on the logging areas will be in the Rio Fernando de Taos in addition to the sediment coming off the roads due to the storm. I suspect the probability of at least one significant storm event hitting the project area during a 20 year period is very high. Imagine 3inches or more of rain on this project area in a short period of time with active or recent logging! Even one significant storm will make all the modeling output meaningless. With the warming climate, weather events are becoming more intense and predicted to increase in frequency and intensity.

  I happened to be at a proposed timber sale in the Jemez Mountains when a heavy rain event occurred. Water flowed everywhere on the slopes, which were gentle, in drainages and across the road. No structures or buffers would have prevented massive amounts of sediment from reaching the stream if logging had been

occurring. This past summer while on a FS volunteer Project, a heavy rainstorm stalled over the Resumidero area of the Santa Fe NF. Again, there was water everywhere, sheet flow and heavy mud running off the Forest Roads. No amount of sediment traps or buffers could have prevented the heavy sediment flow.

13) Fire

- Thinning and extreme burning conditions: The document strongly suggests that logging and thinning will reduce the risk and intensity of fire in Taos Canyon. Appropriate thinning (not logging) will help during low, moderate and probably into high burning conditions. Under extreme and probably very high burning conditions forest management becomes irrelevant, all vegetation burns. Sugarite State Park near Raton, NM was ponderosa pine and heavily thinned. The Track Fire (2011) started west of the Park, jumped the freeway and went through the Park killing all the trees. Thinning had no affect. Many of us have been saying the increases in fire size and intensity during recent years is the result of forest management. If true, there should be good correlation between management practices and large intense fires. A study in the northern Rockies (Warming and Earlier Spring Increase Western U.S. Wildfire Activity. Westerling et. al. Science vol. 313. August 2006) found no correlation with management practices! The large intense fires were correlated with the warming climate. There was a partial exception for ponderosa in the Southwest where thinning can help to a degree.

  Appropriate thinning will only help with fires during low, moderate and maybe into high burning conditions (partial exception for ponderosa in the Southwest). These are "normal fires" and not the kind that will take out the entire Taos Canyon. Under extreme and probably very high burning conditions (i.e., hot, windy, low humidity, low dead and live fuel moisture) thinning or other forest management is meaningless. These conditions result in the large intense fires that will take out the entire Taos Canyon, unless initial attack is successful.

  The EA does recognize that reducing canopy cover will increase increase surface fire spread rate and intensity due to increased fine fuels. This is contrary to the supposed "Need" for the project.

- Time to be honest with the public: The document suggests or implies that logging this area will solve or greatly reduce the fire risk. It is time the Forest Service was honest with the public and educate people to the fact that under the extreme burning conditions we are seeing across the western U.S., due to climate change, there will be some extreme fires, and that forest management can't prevent or control them. The predictions are that extreme conditions and large extreme fires will increase due to climate change. Most of the responsibility for protecting structures rests with the owner, not the Forest Service.

- Flame length: The document presents modeling results for predicted "flame length" in mixed conifer at 9.2 feet (i.e. too much for hand crews). Based on the

limited area seen during the Field Trip, I am very skeptical of those results. While there are areas that might have flame length that long, much of what I saw could be handled by hand crews using direct and indirect attack, up to and including at least moderate burning conditions.

- Burn Piles: During the field trip it was stated that it might take years before piles (done by hand crews) could be burned. This is nonsense! I regularly burn piles during the winter following cutting, even with two feet of snow on the piles. The key is to use the correct tool for the job, which is a propane weed burning torch and a 5 gallon or smaller propane tank strapped to a pack-board. The torch is inserted into the pile for 10-15 minutes, even with two feet of snow on the pile. Burn intensity is controlled with a snow shovel. There is no risk to surrounding vegetation. Drip torches are worthless for this purpose. Broadcast burns after using a masticator may require a season to dry.

- Large CWD (down logs): Down logs normally do not contribute much to the spread of fires unless they are close to a control line. These logs are important wildlife habitat components and should be retained in significant amounts in wet mixed conifer, spruce-fir and aspen forest types where natural fire frequency is long term. Densities should be much higher than specified in the EA. Down log densities can be expected to be lower in habitat with short fire return intervals such as ponderosa pine and frequent fire mixed conifer.

- Soil Sterilization: The document mentions burning piles during winter on frozen ground to prevent sterilization of the soil. I have been burning piles for decades during winter on frozen ground. Those fires sterilize the soil for many years, contrary to what is claimed in the document.

- Fuel Breaks: Fuel Breaks can be helpful for controlling fires under low and moderate burning conditions, but not under extreme burning conditions. I am not clear on where most of the proposed fuel breaks are located or what the areas look like. The maps in the EA do not allow for finding specific areas on the ground, so it is not possible to figure it out from the EA where they are. We were not able to look at proposed fuel breaks during the field trip. As with many things, "the devil is in the details" and the EA doesn't contain the necessary details. However, if the fuel breaks are designed to produce logs (i.e., cutting large trees or old growth) then they are not an asset to the health of the forest, they are a detriment and the impacts need to be fully assessed. The EA indicates logs >18" dbh will be cut on fuel the breaks. No large trees should be cut for fuel breaks. They should be located in areas that provide natural fire resistance such as aspen and gambel oak which minimizes the need to cut trees in the first place. Apparently the proposed fuel breaks are mostly a justification for logging, and not pertinent to fire control.

  The fuel break along the Pueblo-Forest Service boundary was discussed during the field trip. This fuel break would help to avoid fires crossing between the

drainages. Rene Romero, the Pueblo representative on the field trip, did indicate that the Pueblo does embrace the Pueblo Ridge Restoration Project. While I have not hiked or skiied the boundary in recent years, I suspect a hand crew and/or masticator could create a fuel break along the ridge with minimal impact. The one concern I am aware of is the spruce-fir at the top of Casita de Piedra Peak. That habitat is used by Pacific marten, a State of NM listed species, and spruce-fir is a habitat type that is at high risk in New Mexico. The fuel break should avoid cutting in the spruce-fir by going south of the spruce-fir. Further, that peak is probably a normal and important wildlife movement corridor between Taos Canyon and the Vallecitos Peak / Wheeler Peak area along the north boundary of the Pueblo. It is the second highest point along the Taos ridge and the closest to the peaks to the north. Lynx are known to move south in the Sangre de Cristo Mountains as far as the Santa Fe area. It is likely they would travel via Casita de Piedra Peak which Mr. Romero said has old growth spruce-fir on the Pueblo side. There may be snowshoe hare (primary lynx food) on the peak but no surveys have been done.

- Extreme Burning Conditions (hot, windy, low humidity, low live and dead fuel moisture):

There are only two chances to stop fires under these conditions: a) initial attack, and b) night shift.

a) Initial attack must be in **minutes** (i.e., airborne firefighters, helitack and/or smokejumpers on standby ready to go in minutes, and not too far away). Retardant must be on scene quickly when firefighters are on the ground (i.e., automatic dispatch and not too far away). Even with excellent initial attack some fires will not be caught under these conditions.

b) Night shift is the second chance to catch these extreme fires, and is only a poor chance at best. To have any chance of success it probably has to be the first night before the fire gets too large. Initial attack forces are currently inadequate and getting enough crews on the line the first night is unlikely. The extreme condition we are seeing are correlated with climate change, not forest management. No amount of thinning or logging will have an affect on the extreme fires.

At present, no agency (FS, BLM, NPS, etc.) seems to have the capability needed to effectively stop fires under extreme conditions.

The Camp Fire in California which burned through the town of Paradise occurred under extreme burning conditions. CalFire was reportedly on scene within about 10 minutes but the fire was already beyond control. Spotting on that fire was reported to be 1-3 miles ahead of the main fire which is why evacuation routes were on fire as people tried to escape. No amount of thinning or logging would have changed that fire.

The Hondo Fire is cited in the document and it is stated or implied that it was because of past forest management. Forest management was irrelevant for that fire. The conditions that Sunday were intense. The wind was blowing pretty hard, humidity was low, it was hot and the forest was dry. While I don't have the numbers (wind speed, humidity, fuel moisture) I have enough fire experience to know conditions were explosive. I was at my property in Taos Canyon that day and it felt like sitting on a keg of dynamite smoking a cigar waiting for an explosion. About every 15 minutes I went to where I could see down the canyon and checked for smoke. If a fire had started down Taos Canyon that day it would have come up the canyon as a fire storm. No amount of thinning, logging or fire trucks would have mattered.

The Encebado Fire is also cited in the document. I was not in Taos that 4th of July but friends that watched the fire start said it was about 3 hours before an air tanker showed up. Initial attack failed on that fire and the air tanker was not requested for an hour after it started. The tanker had to come from the Gila National Forest in southern New Mexico. There was no night shift until day seven. The fire was a plume dominated fire. Firefighters were put out on the line in the morning, pulled back to safety zones probably about 10 AM as the fire started to crank up. Firefighters were then pulled off the fire in the evening (i.e. on the line only a few hours). The fire behaved exactly as the Fire Behavior Officer predicted: cranked up about 10 AM, the start of the burning period, became plume dominated during the day, began to lay down about 8 PM and was completely down by midnight.

- Structure Fires: The Forest Service seems to imply that their Wildland-Urban Interface program (WUI) will protect structures. It will help, but not in extreme burning conditions. It is often implied that crown fires are the cause of many lost structures. This is rarely true. Most structures are lost to ground fires. Even the intense Los Alamos fire came into the urban areas as a ground fire. Structures are usually lost because of lack of preparation by the owner. Things like firewood and flammable fuels near the building, wood decks, gutters full of needles or leaves, and flammable curtains are the primary causes of burned structures. Other preparations that are the responsibility of the owner include raking near structures, prepositioning sprinklers and hoses, having a foam unit ready, pump and hose if near creek or pond, and a fire bunker if they don't plan to, or can't evacuate. These actions are the responsibility of the owner, not the Forest Service, and the public needs to understand that. A large logging project will not reduce the risk to structures in Taos Canyon and will likely increase the risk in the long term due to the increase in flashy fuels.

- Fire return interval: The document states the dendrochronology results show a natural fire return interval of 2-8 years in the project area. It was a small sample size and the tree species sampled is not mentioned. That is often considered a normal fire return interval for ponderosa pine in the Southwest. Dry frequent fire mixed conifer and perhaps pinyon-juniper have a longer interval. It is certainly not correct for spruce-fir (200+ years), wet mixed conifer, aspen, oak or riparian areas. Baker (218) working in the southern San Juan mountains (just north of

New Mexcio) found natural fire return intervals of 31 years in ponderosa pine, 78 years in dry frequent fire mixed conifer, and 113 years in wet mixed conifer.

14) Riparian

There are over 200 species of wildlife known to occur in Taos County and use the Montane Riparian habitat type. The document proposes cutting and/or logging on up to 10.5 miles of riparian habitat. The document states, "... treatments could include conifer removal, ladder fuel reduction, and interconnected canopy reduction." Is this a logging plan? The document contains no details about what is to be cut and where. Therefore it is impossible to asses potential impacts. What conifers would be cut, Engelman spruce or Blue spruce? Blue spruce grow along the Rio Fernando de Taos and are a normal part of the cool damp riparian area. The cool damp riparian areas tend not to be a fire problem, except under extreme conditions. The document needs more detail and it needs to be possible to look at what is proposed on the ground.

15) Highway US 64 is Dangerous in Taos Canyon

Long trucks (e.g. log trucks) on highway U.S. 64 in Taos Canyon and on the Angel Fire side of Palo Flechado pass, with its numerous very sharp curves, are dangerous and a problem. When meeting any long truck on these curves it is normal to find at least the trailer of the truck across the center line in your lane. Shoulders are often minimal resulting in no place to move over. Traffic has increased significantly since the logging in the 1970s and accidents are to be expected, even with signs. Hopefully, there won't be fatalities. Will the FS accept responsibility for accidents and fatalities?

16) Monitoring

- Sedimentation to Rio Fernando de Taos: The document claims there will be no significant siltation to the Rio Fernando de Taos, in spite of 43 miles of logging roads and heavy equipment on slopes up to 75% on highly erodible soils. I am extremely skeptical of that conclusion. The logging roads from the 1960s and 1970s have taken decades for vegetation to re-establish. The Forest Service stated during the field trip that is has no plan to monitor siltation to the Rio Fernando nor acquire baseline data from upstream and downstream of the project. Their comment during the field trip was someone else could do that. There needs to be baseline data and monitoring. There need to be details as to how much siltation is "acceptable" and what actions will be taken if the limits are exceeded. In the mountains of New Mexico heavy thunderstorms are not uncommon during the monsoon season. While looking at a proposed logging project in the Jemez Mountains during a significant storm I watched heavy sheet flow across the entire area. If logging were occurring at the time, there would have been no structures or buffers of any width that could have prevented heavy siltation to the creek.

That project was not even on steep slopes or highly erodible soils. What is the probability that there will be a heavy thunderstorm on the area during the approximately 15 to 20 years before the vegetation recovers? I suspect the probability of one or more significant storm events, during this period is very high, and will result in heavy siltation to the Rio Fernando de Taos. The Forest Service attitude here seems to be the ostrich approach.

- Wildlife Monitoring: There is no indication in the EA that the FS plans to acquire baseline data or do any monitoring of wildlife during or after the project. Clearly there will be significant impacts. The old saying, "if you don't want to know the answer, don't ask the question", seems to apply here.
- Roads: The document states, "monitoring could determine if illegal ..." and "... steps could be taken to prohibit ...". The approach of "could" is not adequate. What "will" you do?

17) Cumulative Impacts

- Temporal and Spacial Limit: The cumulative impacts analysis is limited for time to only the actual active logging, and just the project area boundary. Both limits are completely inadequate ignoring past, present and future impacts pertinent to the project.

- Past Logging: Much of the project area was heavily logged in the 1960s and 1970s although logging did not occur on slopes steeper that 40%. Large trees, old growth and potential old growth remained on the steeper slopes. The unlogged steep slopes have likely provided good wildlife habitat and a refugium from the damaged areas where the logging occurred. This proposed project plans to log on slopes up to 75% with highly erodible soils. The goal of this project appears to be to logging the remaining large old growth trees that are providing important wildlife habitat. The real goal of the project appears to be meeting large timber targets and nothing to do with forest health or fire risk reduction. The document correctly points out that "the existing condition has been influenced by ... past timber harvest". However, the cumulative affects analysis fails to include the last logging in 1960s and 1970s, and only includes actions within the project boundary, which is certainly neither reasonable nor rational.

- The cumulative impacts analysis needs to include the increased fire risk created by past logging.

- The proposed project has significant cumulative impacts in time and space. They need to be included in the analysis.

- The logging roads and use of heavy equipment have significant cumulative impacts in time and space not included in the document.

- Grazing has significant cumulative impacts which need to be analyzed for past, present and future impacts and well beyond the project boundary.

- The WUI projects done in the area during recent years need to be included in the cumulative impacts assessment.

- The high voltage power line which runs through and beyond the project area and is subject to regular thinning, ATV traffic and apparently new roads needs to be included in cumulative impacts analysis. The power line has impacts both in time and area way beyond the active period and boundary of this project.

- The North Boundary Haul road extends miles beyond the project area. The impacts to wildlife, water and recreation not only extend beyond the project boundary but will have impacts well beyond the active logging portion of the project. The old road/trail goes through a portion of the Taos Pueblo lands. The Pueblo says the Pueblo lands are not open to logging trucks passing through their lands. Therefore, construction of a new road (about ¼ mile) will be necessary. This is not mentioned, discussed or analyzed in the EA. The North Boundary Trail goes through an active logging area at the OK Canyon end. This is not mentioned, discussed or analyzed in the EA. All of the impacts associated with the North Boundary Haul road need to be included in the EA.

- The 43 miles of logging roads will have impacts beyond the boundaries of the project area and for a long time. They need to be assessed in the cumulative impacts analysis.

- ATV traffic during and after the project will have significant cumulative impacts to wildlife, water, solitude and recreation.

- There will be cumulative impacts to water quality from this proposal that extend far beyond the project boundaries and active logging period. The cumulative impacts from the power line and it's associated activity, other proposed new roads, WUI projects, climate change, and other project or actions being contemplated need to be assessed in the cumulative impacts section.

- The anticipated cumulative impacts to riparian and forest vegetation, water and fire need to be assessed in this document.

- The cumulative affects analysis is inadequate and incomplete both in time and area.

18) NEPA Summary

- It is impossible to fully and accurately asses impacts from this document. There are no details as to how much timber will be cut, what size, what species, or where. The document assumes that fires will be more moderate and there will be

increased tree vigor, and therefore the impacts will not be significant. This is not an assessment of impacts. However, the use of heavy logging equipment on steep slopes up to 75% on highly erodible soils, 43 miles of open logging roads, and a length of 10 years suggests there will be significant impacts to wildlife, water, soils, vegetation, aquatic systems, and recreation. NEPA requires an assessment of impacts and this document fails miserably.

- The document title, "Restoration" is a lie. It is a logging project, not a restoration project. This appears to be intentional to avoid public scrutiny and comments. It is contrary to at least the intent of NEPA, and probably the letter of the law.

- NEPA also requires a reasonable range of alternatives. This document had two alternatives heavy logging and extremely heavy logging. There is no "restoration" alternative, in spite of the title. There wasn't a "no action" alternative. Both the missing alternatives would have far less adverse impact on the environment than the proposal. It seems clear that a full and honest EIS, including an appropriate title, details of what is actually proposed and a full assessment of the impacts, is needed.

- The document correctly identifies logging as one of the major past negative impacts on the area. However, the cumulative affects time frame starts after the last heavy logging. This does not allow an adequate assessment of cumulative impacts, even if there were enough details to assess the current direct and indirect impacts of the proposal, which there aren't. You can't correct the damage done by past logging by doing more logging!

- The impacts from the proposal extent far beyond the project boundary and time frame. The EA does not include the direct, indirect, short term, long term and cumulative impacts to the environment from the project. The document is completely inadequate as an assessment of impacts to the environment as required by the National Environmental Policy Act of 1969.

19) FONSI

The finding of no significant Impacts (FONSI) contains several untrue statements which include but may not be limited to the statements from the FONSI below. *My comments and reasons they are false statements are in italics.*

Proposed treatments would improve the health and sustainability of forested conditions in, and surrounding, the project area by reducing hazardous fuels and moving vegetative conditions in the project area toward the desired conditions. Potential adverse effects of the approved treatments would be minimized through implementation of project design features and monitoring guidelines outlined on pages 20 through 36 of this document. The scope of this project is limited to the project area. Thus, the context of this project indicates effects of implementing alternative 1 are localized and not significant.

False. The proposal will increase fire risk. Adverse affects are not minimized, they are maximized by the heavy logging aspects of the proposal. The affects are not localized and are significant.

Both beneficial and adverse effects have been considered for alternative 1 and are disclosed in section 2 of the environmental assessment. While the project may result in adverse effects to certain resources, these effects have been determined to be localized and largely short term in duration

False. The full adverse impacts are not disclosed in the EA. The significant adverse impacts are neither localized or short term. Decades is not short term.

This project would not result in significant irretrievable or irreversible commitments or losses of resources.

False. This proposed project will result in significant long term loss of some resources.

Alternative 1 would not adversely affect unique characteristics of the geographical area.

False. The wildlife diversity and abundance in the area are geographical unique. The wildlife in the area, well beyond the project boundary, will be severely impacted by this heavy logging project. It took decades for the wildlife to recover from the logging in the 1960s and 1970s.

This factor pertains to disagreement between experts in a given field over the potential effects of a project. Public concerns and input have been considered throughout the analysis process. Comments received for the project did not provide evidence that effects of alternative 1 have been wrongly predicted, though comments did elicit clarifications and modifications in the environmental assessment. While there may be disagreement regarding certain components of the project, there is no unusual or high degree of controversy related to the anticipated effects of the project

Public scrutiny and interest was intentionally avoided by calling the project a "Restoration" project. It is a heavy logging project. I believe that if the title had been "Logging" project, there would have been considerable public scrutiny, concern, opposition and contoversy.

The Carson National Forest has considerable experience implementing the types of activities in alternative 1. Potential effects of proposed actions in alternative 1 have been analyzed and disclosed in section 2 of the environmental assessment.

False. The CNF has no experience with heavy logging equipment on highly erodible soils on slopes above 40% (22 degrees), much less on slopes to 75% (45 degrees). The impacts of this project were not analyzed or disclosed in the EA.

Alternative 1 is not likely to establish a precedent for future actions with significant effects nor does it represent a decision in principle about a future consideration. This project is site

False. The use of heavy logging equipment on slopes to 75% on highly erodible soils will set a precedent.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

The project was evaluated and analyzed with consideration for cumulative effects of past, present, and reasonably foreseeable future activities, as listed in section 2 of the environmental assessment. Alternative 1 would not result in significant cumulative effects, as disclosed under each resource heading in section 2 of the environmental assessment

False. There is no analysis of pertinent cumulative impacts. Neither past, current or future activities and actions were analyzed. That included impacts on the project area and near the project area. The stated time frame excluded the heavy logging of the 1960s and 1970s.

The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

This project is not anticipated to result in significant adverse effects to federally listed species or their designated critical habitats. The potential effects of the project on federally listed species is analyzed and disclosed in the "Wildlife" section of the environmental assessment (page 72).

A determination of "may affect, not likely to adversely affect" was made for the Mexican spotted owl for alternative 1. Due to the limited temporary negative effects on habitat or individuals and the likelihood, reduction in risk of habitat loss to stand replacement fire, and consistency with management recommendations contained in the 2012 recovery plan for improved habitat quality after implementation activities, alternative 1 may affect but is not likely to adversely affect the Mexican spotted owl.

A determination of may "may affect, not likely to adversely affect" was made for the Canada lynx for alternative 1. Alternative 1 may reduce habitat suitability on 51 acres and temporarily alter the behavior of individual lynx temporarily dispersing from Colorado to New Mexico. However, there is no evidence of lynx occurrence or potential for home range persistence in the project area. In addition, treatments on 51 acres would not affect lynx movements at the landscape level. Therefore, the effects of the proposed action are likely insignificant or discountable for the Canada lynx; thus the proposed actions in alternative 1 may affect but are not likely to adversely affect the Canada lynx.

False. The FWS was provided with false information, possibly intentionally. The project will have adverse impacts to MSO habitat, lynx habitat, and possibly directly on lynx.

Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The project would not violate applicable Federal, State, or local laws or requirements for protection of the environment.

False. The proposal violates at least the Endangered Species Act of 1973 and the National Environmental Policy Act of 1969.

20) Sample of the types of problems with the EA. These are taken from just the first 5 written pages of the EA. Most of the more than 100 pages in the EA have similar problems.

Note: page number [page #] refers to EA page, regular type is from the EA, *Italics are my comments.*

[page 1]

1. Introduction

This environmental assessment determines whether effects of the proposed activities may be significant enough to prepare an environmental impact statement. By preparing this environmental assessment, we are fulfilling Agency policy and direction to comply with the National Environmental Policy Act and other relevant Federal and State laws and regulations.

This EA does not assess the impacts of the proposed action, which will be significant and adverse. This EA does not fulfill the letter of the law or the intent of the law as specified in the National Environmental Policy Act of 1969. If agency policy is to intentionally mislead the public, then it might be fulfilling agency policy.

1.1 Format of this Environmental Assessment

The Council on Environmental Quality regulations define an environmental assessment as: "A concise public document that serves to "briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact (FONSI)."

This EA does not provide evidence or analysis for a FONSI determination. However, 40+ miles of open logging road for 10 years and heavy logging equipment on slope up to 75% on highly erodible soils clearly implies a large logging operation and will have significant environmental consequences. While the title states it is a "restoration" project, it is clearly a large logging project that may include some restoration aspects.

1.2 Project Location and Background

... within an area susceptible to insect and disease threats that could impact forest health and increase the undesired effects of high-severity wildland fire. This is a product of overstocked conditions that jeopardize key ecosystem functions.

All vegetated systems, including healthy one, have insects and disease. Insects and disease on the project area are at normal levels and have fluctuated normally for at least the past 45 years. Insects and disease are not a valid justification for a large logging project.

The project would improve resilience by reducing the density of small trees and ladder fuels that cause fires to travel from the ground and into the larger trees.

This statement is not valid because it lumps all the vegetation types in the project area. The project area includes: Pinyon-Juniper (P-J), ponderosa pine, dry frequent fire mixed conifer, wet

mixed conifer, gambel oak, aspen, and spruce-fir. Appropriate thinning in ***ponderosa pine and dry frequent fire mixed conifer (FFMC)*** *would be good for the forest and wildlife, and reduce potential fire problems. Both those types have a frequent fire return interval under natural conditions.* ***Wet mixed conifer (WMC)*** *has a longer natural fire return interval and is not a fire problem under most burning conditions. White fire is normal in WMC and should be there. This EA does not separate FFMC from WMC which is a serious problem. They are not the same and can not be treated as the same.* ***Aspen****, is not over stocked and generally a pretty fire resistant type. Aspen does not need to be thinned or logged. If white fir or juniper occur mixed with aspen, they should be removed.* ***Gambel oak*** *is not a problem relative to fire. Oak in this part of New Mexico is more of a shrub, rather than a tree. It is critical for wildlife and should not be cut. Further, it is the primary species that comes in following fire, even more so than aspen. Oak grows very quickly from roots in the soil. Oak that I cut a couple months ago is one foot high at present and will be about two feet high by the end of the summer. Acorns (mast) is a critical wildlife food for at least black bear, deer and turkey. The older plants produce the mast.* ***Spruce-fir*** *is not a problem fire type under most burning conditions. The natural fire return interval in spruce-fir is 200+ years. Thinning and logging in spruce-fir is damaging to the forest and is not justified.*

... residents of communities in Taos Canyon are concerned about wildfire risk to private residences and infrastructure adjacent to National Forest System lands.

Of course people living in places where vegetation can burn are and should be concerned with fire. Thinning in Ponderosa pine, FFMC and possibly pinyon-juniper is appropriate. Thinned fuel breaks in appropriate places can help without an excessive amount of adverse impact. However, vegetation manipulation is only helpful for low, moderate and perhaps into high burning conditions, and these are not the fires that will take out the entire Taos canyon. Under extreme burning conditions (low humidity, low live and dead fuel moisture, wind, and usually hot) all vegetation and ground cover burns, and any vegetation management is irrelevant. Almost all structures lost to fire are from regular ground fires, not crown fires. Most of the responsibility for protecting structures, remains with the owner. Some actions the structure owner is responsible for include: flammable material and vegetation away from structures, non-flammable materials for decks, roofs and walls, preset sprinkler systems that can be quickly turned on before evacuating, fire shelters if they can not or decide not to evacuate. In forested mountains in the western United States, fire is a risk that comes with the territory. People need to be educated to that fact and understand what actions they are responsible for. The large intense fires since the 1970s do not correlate with forest management practices, they correlate with the warming climate.

[page 2]

The project is being designed to create a landscape that improves the resilience of vegetation in response to wildland fire and insect and disease outbreak and encourages the return of low- and moderate-intensity fire as a natural process in the ecosystem.

Not a true statement. The project was clearly designed to produce logs, in spite of the title. Insects and disease are at normal levels. Logging was a partial cause of the current situation. Logging will make conditions worse, not better. Appropriate thinning, in ponderosa pine and FFMC would improve the forest condition and allow for the return of low intensity ground fires.

1.3 Purpose and Need for Action

The purpose of the Pueblo Ridge Restoration Project is to improve the health and sustainability of forested conditions in, and surrounding, the project area by reducing hazardous fuels and moving vegetation conditions in the project area toward the desired conditions.

The real purpose of the project is clearly to produce logs, not improve forest health.

The needs for the Pueblo Ridge Restoration Project include:

- • improving tree vigor and stand resilience to reduce the risk of tree mortality from insects and disease

Not true. Insects and disease are at normal levels and have fluctuated normally for at least 45 years. Some tree mortality is normal in a healthy forest and provide critical habitat for native wildlife. Appropriate thinning in ponderosa pine and FFMC would improve forest health and allow for the return of low intensity fire.

- • reducing overall stand densities and moving stand conditions toward forest structures considered to be more typical of forest structure under presettlement fire regimes that have exhibited resilience to disturbance

This is not a valid generalization which lumps all forest types together. It is not true for spruce-fir, aspen, or gambel oak. In forest types where appropriate, this can and should be done by thinning, not logging. Appropriate forest types include ponderosa pine and FFMC. Possibly also pinyon-juniper, which may need thinning.

- • reducing the risk for high-intensity, stand-replacing wildfires

Can and should be done by thinning, not logging. Only valid under low, moderate and possibly into high burning conditions, and only for ponderosa pine, FFMC and possibly pinyon-juniper. Under extreme burning conditions, all vegetation burns regardless of what has been done in the forest.

- • reducing fuel build-up to help prevent the spread of wildfire onto private property and into drainages leading into Taos Canyon and Taos Pueblo lands

Some thinned, not logged, fuel breaks would be appropriate in appropriate locations, including along the Pueblo boundary. The thinning should be below any spruce-fir, not through it.

- • providing forest products, such as fuelwood, for people living in Taos and the surrounding area, while protecting these resources for future generations

The real "need" appears to be producing logs to meet the Forest Service direction coming from Washington, DC. Fuelwood, latillas and vigas seem to be available on much of the Camino Real District but are not being managed by the Forest Service. The extensive use of illegal roads and cutting appears to be completely without any enforcement or management.

- • improving habitat for wildlife and forage for range and wildlife

The project as proposed will cause major long term impacts to wildlife and wildlife habitat. The impacts are not assessed in the EA as required by the National Environmental Policy Act of 1969.

This EA violates federal law.

- • protecting project area watersheds and associated water quality

The project as proposed will have a significant adverse affect on the Rio Fernando de Taos perennial stream below and adjacent to the project area. Heavy logging equipment on steep slopes up to 75% grade on highly erodible soils, over 40 miles of logging roads open for 10 years will lead to heavy siltation into the Rio Fernando de Taos. Precipitation in the mountains of northern New Mexico is not a steady uniform event. Precipitation is sporadic, especially during the monsoon season which normally begins about July 1and is primarily thunderstorms. Events with very heavy rain occur sporadically and are often localized. However, when they do occur in an area there is heavy runoff in drainages and sheet flow. If a heavy precipitation even occurs on the project area during or shortly after the project, all of the sediment from 40+ miles of logging roads and the logging areas will be in the creek. Claims in the EA to the contrary indicate complete ignorance of the weather in northern New Mexico or perhaps just wishful thinking. Further, the Forest Service is not going to gather baseline data from the creek or monitor the sedimentation. The old addage: "if you don't want to know the answer, don't ask the question" seems to apply. The probability of a heavy precipitation event occurring on the project area and logging roads during the 10 years of logging or the first few years after the completion of logging, is likely very high.

[page 3 is a map]
[page 4]

1.3.1.1 Existing Conditions

Vegetation

Current forest vegetation conditions are the result of various human activities that have resulted in departure from the historic range of variability of the forests and shaped the existing forest structure and composition.

Not true of all forest types. Lumping all forest types here is not valid. The human activities are primarily grazing, logging and fire control. They primarily affected ponderosa pine, FFMC and pinyon-juniper. Spruce-fir has not been affected except by logging and clear cutting in some areas. Aspen is probably reduced in area due to fire exclusion. Oak has probably not been affected much.

Due to these changed conditions, forests have experienced lowered resistance and resilience to disturbance agents.

Insects and disease are at normal levels on the project area and have been fluctuating normally for at least 45 years. There is concern about the affect of climate change which has resulted in massive mortality of some tree species to the north, including Engleman Spruce in Colorado. However, a Carson National Forest (CNF) biologist assured me that mortality in spruce wasn't a problem on CNF and they continue to log spruce.

Existing stand densities are considerably higher than the historic range of variability when measured by relative density. These elevated stand densities, when combined with drought, can make the existing stands very susceptible to disturbance agents, including bark beetles, spruce budworm, and root diseases.

Not true for all forest types. Lumping all forest types is not valid. Not true for spruce-fir. Not true for aspen. Not true for gambel oak. Probably not true for WMC. Probably true for ponderosa pine, FFMC and possibly pinyon-juniper.

There has also been considerable deviation from the historical stand structure. Stand structure is increasingly homogenous, and openings once dominated by grasses and forbs have been encroached and overtopped with conifers. Stands that were more open and dominated by large-diameter trees now exhibit interlocking crowns with small-diameter, shade-tolerant tree species creating fuel ladders from the forest floor into the canopies of the dominant trees.

It is not valid to lump all forest types together in making such a statement. It is not true for spruce-fir, aspen and gambel oak. It is probably not correct for WMC. It is true for ponderosa pine, FFMC and probably pinyon-juniper. Encroachment has been occurring in forest openings and thinning would be beneficial. The last sentence above only pertains to ponderosa pine and FFMC, not all forest types. Ladder fuels, primarily white fir and juniper, in these two types are a problem. They should be removed by thinning. Ponderosa pine appears to have naturally had a clumpy distribution with clumps often having interlocking crowns. Thinning should remove the smaller diameter trees and ladder fuels to restore the clumpy distribution. The large older trees are the most fire resistant trees and critical habitat for Abert's squirrels. Large ponderosa pine should not be logged.

Many of the stands in the project area are undergoing species conversion from shade-intolerant species to shade-tolerant species. The shade-intolerant tree species tend to be the older and larger dominant trees in most stands. These large trees are being outcompeted by younger shade-tolerant tree species, and the shade-intolerant larger trees are not able to reproduce.

Not true of all forest types. Probably applies to some ponderosa pine stands and FFMC. The white fir and juniper should be thinned out of these stands. I doubt that white fir or juniper are preventing large ponderosa or douglas fir from reproducing.

Stands of aspen are being encroached upon and overtopped by conifers, and they are slowly retreating on the landscape (Guyon 2006; Smith and Smith 2005).

True. Aspen is a seral stage. Thinning and broadcast burning is appropriate. Logging is not needed or appropriate due to all the additional adverse impacts associated with logging equipment and logging roads.

In many areas, riparian vegetation is also being encroached upon and overtopped by conifers.

Probably true but blue spruce are natural in some riparian areas. The EA is too vague to know just what is proposed. What species are proposed for cutting? What size? Where?

Current conditions in the project area include predominately moderate to large trees with moderate to high stand and canopy densities.

This statement lumps all forest types together and is certainly not valid for all types. Probably true of some of the ponderosa pine and FFMC. Not valid for spruce-fir which naturally has high density and long (200+ years) fire return interval. Not valid for aspen or gambel oak. Maybe true of pinyon-juniper, but it is the old large trees that produce the most mast which is critical for some wildlife. Some stands should be thinned, not logged.

Openings and areas that provide space for grasses, forbs, and young shrub vegetation are underrepresented on the landscape. Meadows and aspen stands have been encroached by conifers, and there is reduced forage and small openings for wildlife and permitted livestock. Coniferous

tree species have encroached within some riparian areas, overtaking deciduous riparian species such as cottonwood, willow, and alder.

That statement is a repeat of the paragraphs above it. Appropriate thinning, not logging, would be good in some of these situations.

[page 5]

Fire and Fuels

Fire has played an important ecological role in the history of the ecosystems of the Carson National Forest. The spread of natural fire across the landscape has decreased dramatically and has corresponded with an increased demand for wildland fire suppression to protect life and property. The reduction in spread of fire across the landscape is, in part, a result of more than a century of intensive human activities, including fire suppression, livestock grazing, and logging. These changes have caused increased tree densities and reduced structural and spatial heterogeneity of vegetation.

Some of that statement is true, grazing, logging and fire suppression have affected some of the vegetation on the project area. What was not said is that the CNF underwent an extremely wet 20 year period from the 1970s into the 1990s. The CNF did not burn during those years and was considered "an asbestos Forest". The statement again tries to lump all forest types together which is not valid. Grazing, logging and fire suppression have especially affected the ponderosa pine, FFMC and perhaps P-J. Thinning, not logging, would be appropriate in these types.

In 2016, a tree-ring fire history study was conducted by New Mexico Landscapes Field Station personnel (U.S. Geological Survey and National Park Service) in the Taos Valley watersheds, including the Rio Fernando watershed. Trees in the area surrounding the Pueblo Ridge Restoration project area were sampled. The study noted fire commonly burned synchronously between the Rio Pueblo de Taos and the Rio Fernando watersheds. Thirty-six trees sampled in the Pueblo Ridge area had forty-five recorded fires with minimum fire return intervals ranging from 2 to 8 years (Johnson and Margolis 2017).

The EA implies this was the situation for the entire project area which runs from P-J at the lower elevations to spruce-fir at the top. This is not valid. A fire return interval of 2-8 years is normal for ponderosa pine in the southwest United States. It may be close to normal for FFMC. It is not reasonable for spruce-fir which has a natural fire return interval of 200+ years. It would not be valid for aspen or gambel oak. I am not sure what the natural fire return interval was for P-J but probably not in the 2-8 year range. That fires burned synchronously between the Pueblo lands to the north and the project area suggests that a thinned fuel break along the top of the ridge (boundary between the two drainages) would be wise.

Vernon Bailey provided a narrative overview of the Taos Mountains in September 1903 describing the proposed Taos Forest Reserve that later became the Carson National Forest (Johnson and Margolis 2017). Bailey's description of repeated burns and old ponderosa and Douglas fir trees in the lower-elevation conifer forests suggests the presence of low-severity and likely also mixed-severity fire regimes in lower elevations of the Rio Pueblo and Rio Fernando drainages. The township that includes the Pueblo Ridge Restoration Project area was reported to be ravaged by numerous and periodical fire (Johnson and Margolis 2017).
Since 1971, twenty-two fires have occurred within the Pueblo Ridge Restoration project area. Approximately 195 acres (2 percent) of the project area have burned.

That means that since 1971 there has been a fire in the project area about once every two years, with an average fire size of less than 9 acres. When I worked for the District in the late 1970s, the local Forest Service employees liked to point to about a 10 acre burn (apparently an arson fire) and say it was the largest fire the District had [obviously during recent times]. The dendrochronology study (36 trees) certainly did not determine the number of fires on the project area or size. That data must have come from Forest Service records. While the number of fires they responded to should be accurate, I am very skeptical about the size estimate. Fire size estimates/guesstimates during those pre-GPS days tended to significantly larger than the actual fire. I taught methods for estimating fire size to the Alaska Smokejumpers and Hot Shot crews in Alaska during the early 1980s.

Watershed

Watershed resources in the project area are primarily located in two mainly forested subwatersheds: Headwaters Rio Fernando de Taos and Outlet Rio Fernando de Taos. These subwatersheds contain several perennial streams, including the Rio Fernando de Taos, and a network of intermittent and ephemeral channels with associated riparian areas. Perennial springs also occur in the project area.

Soils in the watersheds vary with regards to erosion risk. The road network predominantly poses the highest risk for increased sedimentation into the project watersheds, especially where roads cross stream channels. Several roads have been rehabilitated in the watersheds. One stream—the Rio Fernando de Taos on the southern border of the project area—is experiencing water quality impacts; it is listed for *Escherichia coli (E. coli)* bacteria. Overall, existing conditions have been classified as functioning at risk because the watershed condition in the project area is poor for fire regime condition, road and trail condition, and the condition of aquatic biota and fair for the water quality, riparian and aquatic habitat, and soils.

Almost all of the project area is listed as "severe hazard for sheet and rill erosion". While the 40+ miles of logging roads pose a significant risk to streams in the area, logging on the 9,000+ acres with heavy equipment on steep slopes to 75% on soils with severe erosion hazard is also a significant risk to the streams including Rio Fernando de Taos. See comments above under"1.2 Project Location and Background; protecting project watersheds and associated water quality." Given the episodic pattern of storm events in northern New Mexico, statements in the EA that sediment will stay on the project area are ludicrous. Even a brief drive up the Forest Service Garcia Park Road (across Taos Canyon from the project area) that has gone from a 20 mile per hour road to a 5 mile per hour road due to erosion, makes it clear that all the sediment from the proposed project will be in the Rio Fernando de Taos.

The eColi contamination in the Rio Fernando de Taos is from cows and birds, not elk. Developing more springs in the project area for cows will likely result in the Forest Service increasing the number of cows. This will mean more contamination to the creek and more trespass of cows onto private land.

[page 6]

1.3.1.2 Desired Conditions

The overall goal of this restoration project is to improve the health and sustainability of forested conditions in and surrounding the project area. The primary objective for forest health is to increase resilience of forested stands. Increased resilience of these stands can be achieved through reduction of existing stand densities, reduction in the amount of shade-tolerant species, and removal of overtopping and encroaching conifers from aspen and riparian areas.

Again, this statement lumps all the forest types into one statement, which is not valid. While thinning would be appropriate in ponderosa pine and FFMC, and possibly in P-J, it is generally not valid in the other forest types. Logging will do significant damage to the health of the forest, the wildlife, wildlife habitat, and aquatic systems. The impacts of the proposed logging are not assessed or analyzed in the EA and are required by federal law..

The alternatives would strategically break up the continuity and arrangement of existing and future hazardous fuels within the wildland-urban interface in Taos Canyon (an at-risk community), while maintaining ecosystem structure and processes. Treatments would be designed to mitigate existing and future heavy fuel accumulations; reduce existing surface and ladder fuels; and create canopy breaks, crown separation, or both to minimize crown fire potential in the event of a wildfire.

While appropriate thinning could accomplish these "goals", the heavy logging proposed in the EA can not. You can't log your way out of the problems created by logging.

1.4 Public Involvement

1.4.1 Collaboration and Scoping

This project has been an integral component of a larger landscape-scale community-based collaborative initiative referred to as the Taos Valley Watershed Coalition. This initiative has brought together representatives of the Carson National Forest, the Nature Conservancy, New Mexico Department of Game and Fish, New Mexico State Forestry, Taos County, Taos Pueblo, Taos Ski Valley, the Village of Taos Ski Valley, the Town of Taos, Trout Unlimited, Taos Soil and Water Conservation District, New Mexico Wildlife Federation, El Salto de Agua Land Association, and a number of Firewise community groups to discuss cohesive cross-boundary priority projects around the Taos area. This project is an integral part of Taos Valley Watershed Coalition's landscape restoration strategy,[2] which was finalized in July 2015. As part of that strategy, a larger cross-boundary Pueblo Ridge effort was determined to be a priority landscape project.

This logging project has not been a part of the Taos Valley Watershed Coalition's landscape restoration stategy. The Coalition's document is about appropriate thinning, not logging. Their document is actually a pretty good map for restoration. The above statement from the EA implies that the members of the Coalition are in favor of this logging project. At least one of the members, the New Mexico Department of Game and Fish, expressed concerns with the logging proposal in their comments to the Forest Service. They were told that their comments were 2 days late and would not be considered. Yet the Forest Service waited a full year before coming out with their final EA. The EA was titled a "restoration project" but is really a large long term logging project. There were very few comments to the draft EA. I believe it is because it was mis-titled. People saw the word "restoration" and did not read further. I believe this was an intentional effort to mislead the public and avoid scrutiny. NEPA is supposed to inform the public about what is being proposed on their land and assess and analyze the inpacts of the proposal. This EA fails on all counts, and is therefore not legal. At the public meeting about the project, 17 people showed upt. How many people would have shown up if it had honestly been titled "Logging Project"? I suspect it would have been a lot of people.

This project is also informed by the 2016 update of the Taos County Community Wildfire Protection Plan. The core team working on this plan has met regularly with Carson National Forest personnel and has collaborated on the design of this project. This project is also informed by a collaboration with U.S. Geological Survey and the New Mexico Landscapes Field Station

personnel; they have conducted a tree-ring fire history study of select watersheds in the vicinity of Taos, including the watershed being analyzed for treatment in this project. The management recommendations from the study have been adopted into the design of this project.

[page 6]

A total of eighteen written comment letters or emails were received during the comment period. As a result of these comments, proposals in the environmental assessment, including project design features, were updated to address confusion, and language was added to the environmental impacts section to better clarify effects of the alternatives. A list of these clarifications and modifications, as well as detailed responses to comments received during the 30-day public comment period, can be found on the project website at https://www.fs.usda.gov/project/?project=52575.

That is not correct, comments to the draft EA are not at that location. After several phone calls I was directed to a different address. My original comments were not adequately addressed.