

Decision Notice
&
Finding of No Significant Impact
Including a Non-significant Forest Plan Amendment
Sisters Area Fuels Reduction Project
USDA Forest Service
Sisters Ranger District, Deschutes National Forest
Deschutes County, Oregon

T15S R09W, T15S R10E, W.M.

Decision and Reasons for the Decision

Background

Wildland fire is a natural part of the ecosystems of central Oregon. It has shaped the forests so valued by the area's residents and visitors. However, the forests in the area of Sisters, Oregon have been significantly altered, resulting in increased forest fuels and more closed forest that tend to burn more intensely than in the past. In addition, recent population growth has led to more residential development close to the forests, in what is called the Wildland Urban Interface. These issues were addressed by a multi-jurisdictional group of agencies, organizations, and individuals who through a collaborative process developed the Greater Sisters Country Community Wildfire Protection Plan (GSC CWPP). Working in collaboration with the GSC CWPP steering team to implement the goals and objectives identified in the community wildfire protection plan, the Sisters Ranger District, Deschutes National Forest, designed the Sisters Area Fuels Reduction (SAFR) Project.

Purpose and Need for Action

The *purpose* of the project is to protect structures, property, and human life and safety; improve forest health; and to restore the role of fire within the Greater Sisters Country Wildland-Urban Interface.

There is a *need* to reduce the threat of high intensity wildfire by reducing high levels of unwanted hazardous forest fuels. High intensity wildfires threaten many ecological and social values. This could be accomplished by moving the project area to the desired future condition of a more open, large tree dominated ponderosa pine forest that is less susceptible to large scale, stand replacing fires.

The Purpose and Need for Action is based on public participation, collaborative efforts associated with the development of the GSC CWPP, and is consistent with the objectives of the community wildfire protection plan and related federal land management documents. The project design integrates silvicultural practices that reduce hazardous fuels and improve forest health.

Project objectives include:

- Reduce the risk of high intensity wildfires to nearby communities, private properties, and special natural places by reducing uncharacteristically high levels of hazardous fuels in ground, ladder and canopy vegetation.
- Reduce the risk of high intensity fire to public and fire fighter safety.
- Improve forest health, sustainability, and resiliency and promote the development of old growth forest stands and large trees by reducing the uncharacteristically high levels of competing live vegetation and reintroducing the more natural role of low intensity ground fire.

The environmental assessment (EA) documents the analysis of three alternatives to meet these needs and objectives.

Rationale for My Decision

Based on my careful review of the project Purpose and Need, interdisciplinary team analysis, and public comments, I have decided to implement Alternative 2, the Proposed Action. Overall, Alternative 2 best meets the Purpose and Need for Action. This alternative was developed to address the high priority needs to reduce the risk of high intensity wildfires to local communities as identified in the GSC CWPP and facilitate the development of large ponderosa pine trees so highly valued by the community. Alternative 2 focuses on the goals of reducing the risk of wildfire, providing for the safety of people, protection of property, and improving forest health. At the same time, Alternative 2 is designed to balance the needs and conservation of other resources. My conclusion is based on a review of the record that shows a thorough analysis of relevant scientific information, as well as the acknowledgement of incomplete or unavailable information.

My decision to implement Alternative 2 is informed in part by a comparison of forest health issues relative to Alternative 3. Many Late and Old Structure and black-bark (second growth) ponderosa pine stands found in the planning area have been altered by decades of fire suppression and past logging practices, leading to the development of over dense conifer stands and an increase in competition for water, nutrients, and growing space. This has resulted in a heightened susceptibility of forests to insects and disease, as well as an amplified risk of wildfire. The action alternatives were designed in part to address this change in forest structure. Many stands need to be thinned and the understory brush mowed before fire can be reintroduced. Alternative 2 would thin trees up to 21 inches diameter at breast height, while Alternative 3 would thin trees up to 12 inches diameter at breast height. While both alternatives would treat about 17,000 acres, Alternative 3 would leave about 3,400 acres (about 20%) more than Alternative 2 in an over dense condition that would slow the recruitment of large trees and would leave conifer stands at an increased risk to wildfire, insects and disease. Alternative 3 would also leave more trees, especially old growth ponderosa pine trees, at risk for bark beetle attack and subsequent mortality due to overstocking and resulting competition. Alternative 2 would leave 30% of the project acres in an over dense condition (above the Upper Management Zone) compared to 41% for Alternative 3. By contrast, the Alternative 1 (No Action) would leave 75% of the project area in an over dense condition.

An additional issue I considered in my decision is the Late and Old Structure ponderosa pine forests found in the planning area. These forests provide important wildlife habitat, visual

beauty, and are representative of the pine forests of eastern Oregon. The analysis contained in the EA demonstrates that some of the Late and Old Structure forests in the planning area are in danger of being lost to insects and wildfire without some level of active management to reduce tree density. Analysis of the existing condition indicates that over 98% of the Late and Old Structure stand acres in the project area are above the Upper Management Zone and are considered at risk for bark beetle (mountain and western pine beetle) mortality. Treatments in these stands are necessary to foster growth and crown development in order to provide for Late and Old Structure stand conditions now and in the future. The analysis contained in the EA shows that Multi-strata Late and old Structure stands are above the Historic Range of Variability while the Single-strata Late and Old Structure stands (classic open older ponderosa pine stands) are below the Historic Range of Variability. Only Multi-strata Late and Old Structure will be treated in the planning area; no Single-strata Late and Old Structure stands will be treated.

I find that Alternative 3 will treat less acres of Late and Old Structure forests which will leave them more at risk to bark beetles and wildfire than Alternative 2. Alternative 3 would leave 63% of the Late and Old Structure above the Upper Management Zone as compared to 38% of the Late and Old Structure for Alternative 2. By contrast, Alternative 1 (No Action) would leave about 98% of the Late and old Structure above the Upper Management Zone. Large old ponderosa pine trees are susceptible to forest insects and wildfire, and I feel it is very important to maintain existing large trees as well as foster the development of future old growth trees.

These forest health and other resource issues are discussed in greater detail later in this decision.

Alternative 2 will result in a mosaic of landscape treatments designed to reduce fire behavior potential, facilitate the suppression of wildfires, reduce the threat to valuable resources, and improve forest health. This will help to reduce the risk of wildfire impacting nearby communities. In addition, treatment areas will reduce risk by providing for defensible space adjacent to private lands and along about 26 miles of identified escape and access corridors.

Under Alternative 2, the Forest Service will treat approximately 17,573 acres in 289 treatment units using one or more of the following treatments: (i) thinning from below up to the Eastside Screen 21 inch diameter limit, (ii) mechanical treatment (mowing) of brush, (ii) prescribed underburning, (iii) hand thin and under burn, and (iv) plantation treatments (treatments include various combinations of thinning, mowing, and burning). About 6,894 acres in the project area will not be treated in this decision. Of the total acres treated, approximately 3,022 acres is Late and Old Structure or 69% of the total Late and Old Structure acres (4,350) in the project area. It is expected that under Alternative 2 approximately 1,000 to 5,000 acres of treatments will be accomplished each year depending on available funding and the market for forest products. Commercial forest products (post, poles, fire wood, saw logs, and biomass) will be a by-product of fuels reduction and forest health treatments. Alternative 2 will generate about 12.9 million board feet (including about 59 thousand tons of chip and pulp materials) of sawtimber. This amounts to the removal of an average of about 1,000 board feet per acre from areas that will have a commercial thinning treatment.

My decision is also informed by the extensive collaboration with the public that occurred with the project. This included meetings with the Greater Sisters Country Wildfire Protection Plan Committee, the City of Sisters city council, the Provincial Advisory Committee, the Confederated Tribes of Warm Springs, Oregon, and public meetings and open houses. The

project received a letter of support from the Mayor of Sisters, Oregon. A field trip was also conducted with the representative of the Sierra Club, Juniper Chapter, on August 15, 2008 to review stand level treatments as described in this decision. At that time discussions in the field indicated general agreement with the proposed treatments. I find this encouraging and hope to continue to work with members of the public in order to have this be a successful project.

The following table outlines the treatment acres to be undertaken by my decision.

No Treatment	Burn	Mow & Burn	Thin	Thin & Burn	Thin & Mow	Thin & Mow & Burn	Plantation Treatments	Total
6,894	11	568	1,436	79	830	11,267	3,382	24,467

My decision will include about 84 acres of fuels reduction treatments in Riparian Habitat Conservation Areas (RHCA). This will include about 34 acres of hand-thinning only (trees less than 9 inches diameter at breast height) and about 50 acres of underburning, all concentrated in defensible space adjacent to private property. The hand-thinning areas will be piled and burned at least 100 feet away from perennial water. There will be no road construction, mowing of brush, or temporary road construction in the Riparian Habitat Conservation Areas. No thinning or burning will take place in the primary shade zone (60 feet on either side of a stream). The defensible space treatments adjacent to Cold Springs Campground will be by underburning only. These treatments, while covering a small area, are necessary to ensure the integrity of defensible space adjacent to developed private and public property is maintained.

My decision will also include the treatment of about 364 acres in the Whychus Wild and Scenic River corridor. Treatments include 117 acres of conifer plantation thinning; 30 acres of commercial thinning; 14 acres of thinning and mowing; and 203 acres of thinning, mowing, and burning. Within the river corridor there will be no thinning, mowing or burning within 300 feet of the stream banks. In addition, no activities will affect the stream gauge or the flow regime. I have determined that these treatments will not adversely impact the Outstandingly Remarkable Values for which Whychus Creek was designated a Wild and Scenic River (EA, page 336).

About 932 acres in the SAFR project area were affected by the 2006 Black Crater Fire. The majority of this area burned at night, under favorable conditions, as part of a back burn to control the fire. Burn intensity in unit 123 resulted in a stand replacement fire; consequently this unit was dropped from further treatment. The remaining units (122, 240, 251, 260, 263, 264, 265, and 266) burned at a lower intensity with most of the trees surviving. Treatments proposed under Alternative 2 will be retained for these units.

The Black Crater Fire burned outside of Deer Habitat, Management Area 7, but did reduce functional deer hiding cover by about 80 acres. This amounts to a reduction of about 1% of the hiding cover in the planning area. The planning area still meets the 30% requirement for deer hiding cover for areas outside Deer Habitat, exclusive of black bark ponderosa pine stands.

My decision incorporates specific mitigation measures, including Best Management Practices, which will be used during project implementation (EA, pages 66-75). Mitigation measures will be used to minimize, avoid, or eliminate potentially significant impacts on resources found in the project area. The mitigation measures are based on literature and research, administrative studies, experiences, and professional judgment. The mitigation measures outlined in the EA when used

in conjunction with Forest Plan standards and guidelines will help accomplish the purpose and need for the project.

An estimated five miles of temporary roads may be necessary to access portions of the project units that are not readily accessible from existing forest roads. All temporary roads will be obliterated following vegetation management activities.

An important issue not directly addressed in the EA is climate change. Since my decision will leave stands fully stocked after treatment (fully capable of utilizing the available moisture, nutrients, and growing space on treated sites) the vegetation would continue normal respiration processes and effects to CO₂ would be expected to be inestimable on a local, regional, and global scale. To be able to respond to the influences of global climate changes, it is best to maintain the full range of native species now present in the project area. Some of the species in the project area, such as ponderosa pine, are well adapted to warm dry growing seasons, while other species do well in cool wet conditions. Hence, regardless of climatic changes, a full suite of species remaining in the project area should ensure adaptability for a wide range of climatic conditions.

The Decision will Require One Site Specific Forest Plan Amendment in Order to Achieve the Purpose and Need for Action

My decision includes the approval of one site-specific Forest Plan amendment. During the evaluation of the proposed action against current management direction, it was found that some treatments were not consistent with the Deschutes National Forest Land and Resource Management Plan, as amended. Therefore, a non-significant Forest Plan amendment is necessary to implement my decision (EA, pages 23-26).

Amendment #1: To be able to effectively treat areas of hazardous fuels, including defensible space adjacent to private property, a site-specific Forest Plan amendment is necessary. The amendment has two parts. First, the standards and guidelines for Deer Habitat (Management Area-7) will be amended to allow the exclusion of defensible spaces acres immediately adjacent to private lands from the percent of the project area that meets the definition of deer hiding cover. This removes the requirement that treated areas be limited to 300-500 acres per year with about 600-1,200 feet between treatment blocks. Second, the amendment will remove the standard limiting the use of prescribed fire to 2.0 to 2.5 percent of this allocation in a year. The new standard will require that MA-7 lands in the SAFR project area be managed at 33% in each of the early, mid, and late seral shrub conditions. However, the area of MA-7 in defensible space will be managed to remain in the early seral shrub stage.

About 1,323 acres of MA-7 will be affected by this amendment. This amounts to about 42% of MA-7 in the planning area outside of defensible space that will remain as hiding cover for deer (EA, pages 216-218). Areas outside of MA-7, excluding black bark pine stands, will also remain as deer hiding cover. The amendment will allow more defensible space to be treated and will not apply to lands outside of defensible space. Attempting to maintain deer hiding cover immediately adjacent to private lands would compromise public and firefighter safety and hinder the ability to protect private lands and structures in the event of a wildfire.

The Forest Plan amendment was evaluated for significance in relation to the National Forest Management Act (NFMA) (EA, pages 23-26). The evaluation of significance included timing, location, size, goals, objectives, outputs, and management prescription. The 2008 planning rule provides for a three year transition period for forest plan amendments (36 CFR 219.14(b)(2)). During the transition period, amendments may be made using the procedures from the 1982 planning rule. This decision includes a non-significant site-specific forest plan amendment to the Deschutes National Forest Land and Resource Management Plan following the 1982 planning rule procedures. I have concluded the Forest Plan amendment is not significant in relation to the National Forest Management Act.

The Decision will Reduce Wildfire Hazard to At-Risk Communities in the Wildland-Urban Interface and Improve Public Health and Safety

My decision will reduce hazardous fuels, and therefore the risk of wildfire to communities by thinning over dense conifer stands, mowing unwanted brush, and prescribed burning. My decision will also create defensible space adjacent to private lands and along the Forest Road system found in the project area. Reducing wildfire hazard to at-risk communities helps meet the Purpose and Need for action.

My decision is to treat up to 17,573 acres in the Wildland Urban Interface as defined by the Greater Sisters Country Community Wildfire Protection Plan (GSC-CWPP). All of the lands within the identified at-risk communities are classified as having Medium-High to Extreme risk based on fire ignition rates from 1994-2003 (EA, page 123). The large fires we have experienced in the Greater Sisters Area since 2003 validate that the threat is still high in the remaining untreated or unburned areas. Outside of the communities at-risk, most National Forest lands are rated as High hazard (EA, page 123). My decision will lower fire hazard around the following High Risk communities: Black Butte Ranch, Tollgate, Plainview, Crossroads, the City of Sisters, and other nearby residential developments (EA, page 121). About 3,179 acres of National Forest lands adjacent to private property will have a 600 foot wide area of defensible space after fuels treatments (EA, pages 46-47). Additionally, about a 300 foot corridor of defensible space (removal and reduction of ground and ladder fuels) on each side of identified roads (26 miles) will provide safer ingress for fire fighters and equipment and safer egress for the public during wildfire events (EA pages 46-47). These actions described above would not occur under Alternative 1 (No Action).

I have reviewed the Fire Hazard Reduction Analysis contained in the assessment (EA, pages 114-156). Analysis shows that both action alternatives reduce ground fuels, ladder fuels, and crown bulk density, meeting the objective of hazardous fuels reduction (EA, page 143). However, under Alternative 3, given an upper diameter cutting limit of 12", many stands of trees will still be at risk to insects and disease and subsequent mortality, potentially increasing fire risk over time and slowing the development of future large trees. This will include continued risk to the many old ponderosa pines which are emblematic of the project area. Without the flexibility of being able to thin above 12" dbh, especially in Late and Old Structure stands, there is an increased risk of losing these old pine trees to inter tree competition for limited moisture and nutrients, wildfire, and insects. Thinning in all stands will decrease competition for water and nutrients, allowing an overall increase in forest health across the planning area. Silviculture treatments in combination with other fuel treatments can reduce wildfire hazard by reducing fuels loads and ladder fuels, and by breaking up the continuity of fuels (EA, page 127).

Given these factors I have concluded that Alternative 2 will reduce wildfire hazard to at-risk communities in the Wildland Urban Interface, improve public health and safety, *and* improve forest health over the long-term. Treatments will also help maintain old pine trees in the project area.

The Decision will Improve Forest Health including the Health of Late and Old Structure Forest

An important factor in my selection of Alternative 2 was forest health. The need to improve forest health was identified in the Purpose and Need for action. Many stands of trees in the project area, besides containing a buildup of hazardous fuels, are above the Upper Management Zone (UMZ is a way to define a threshold density levels for a stand of trees above which long term health is jeopardized (EA, page 96)). Of the total acres treated, approximately 3,022 acres of Late and Old Structure will be treated by my decision (69% of the total Late and Old Structure acres (4,350 acres)).

High stand densities put large old ponderosa pine trees at risk. The analysis of the existing condition indicates that on a stand average basis, approximately 98% of Late and Old Growth structure stands are above the Upper Management Zone and considered to be at risk for bark beetle activity (EA, page 99). With density management treatments about 38% of Late and Old Growth structure would remain above the Upper Management Zone under Alternative 2, as opposed to 63% under Alternative 3. In contrast, under Alternative 1 (No Action) over 98% of Late and Old growth Structure would remain above the Upper Management Zone. Multiple-strata Late and Old Structure stands will be moved to a Single-strata Late and Old Structure stand condition. Single-strata Late and Old Structure is more resistant in a fire adapted ecosystem like that found in the project area.

I have carefully reviewed the Eastside Screens (Regional Forester's Forest Plan Amendment No. 2) and their applicability to the treatment of Late and Old Structure stands in the project area. The Screens are very specific in determining when Late and Old Structure stands can and cannot be treated. Analysis of the Historic Range of Variability contained in the assessment show that Multi-strata Late and Old Structure stands are above the Historic Range of Variability and Single Strata Late and Old Structure stands are far below the Historic Range of Variability (EA, pages 97-99). Specifically, the Screens state that "Some timber sale activities can occur within Late and Old Structure stages that are within or above Historic Range of Variability in a manner to maintain or enhance Late and Old Structure within that biophysical environment." (USDA Forest Service 1995, Appendix B: Revised Interim Direction, page 9).

Treatments scheduled for Late and Old Structure stands in this decision will involve thinning trees from below up to the Eastside Screen 21 inch diameter limit, mechanical treatment of brush and small trees, and prescribed burning. These treatments will reduce tree density and improve growth of residual trees, enhance forest health, and reduce potential mortality resulting from inter-tree competition. These activities will more quickly restore historic seral/structural conditions and improve growing conditions for larger trees than either no action or prescribed burning alone. These activities will help to perpetuate large old trees across the landscape and provide for the long term maintenance of Late and Old Structure forests into the future. All Late and Old Structure stands will remain Late and Old Structure stands after treatment (EA, pages 107-113). No trees over 21 inches dbh will be removed except in instances for safety or

temporary road construction (all attempts to avoid this will be made). Treatments in Late and Old Structure stands will not involve any type of regeneration harvest (i.e. clear-cutting or any other even-aged management system). I find that the density management treatments outlined in the EA will maintain and enhance the Late and Old Structure stands so valued in the SAFR project area.

Second growth ponderosa pine stands will be thinned from below (EA, page 43-51). Thinning from below will result in a “gappy, patchy, clumpy” distribution of trees across the project area based on site capability and existing stand densities. The “gappy, patchy, clumpy” tree distribution is based on the stand analysis of old growth ponderosa pine forests. Under this thinning regime the largest and healthiest trees, including trees with old growth characteristics, will be retained regardless of spacing. Thinning in second growth ponderosa pine will increase residual tree vigor as well as reduce crown bulk density and continuity to moderate the spread of crown fires. Thinning will also begin the process of moving the landscape back to the Historic Range of Variability, where smaller trees were removed with frequent low intensity wildfire and large established trees remain on the landscape (EA, page 43-51).

Because the size of trees (up to 21 inches in diameter) proposed to be removed to achieve the project purpose and need continue to be a concern with some members of the public, I will provide an opportunity to review some small demonstration tree marking prior to implementation to address any remaining concerns. This collaborative process worked very successfully with the recently approved Glaze Forest Restoration Project where second growth and Late and Old Structure ponderosa pine stands similar to the SAFR project will be treated.

The Decision will Restore the Role of Fire in the Wildland Urban Interface

My decision will help restore the role of fire in the Greater Sisters Country Wildland Urban Interface. The use of prescribed fire will help move the project area to the desired future condition of a more open, “gappy, patchy, clumpy” large tree dominated ponderosa pine forest that is less susceptible to large scale, stand replacement fires (EA, pages 14-16).

Currently the existing condition shows that for Fire Regimes I and III about 78% of the project area is in condition class 2 and 3. Condition class is the classification of the amount of departure for vegetation/fuel conditions from a reference condition for each Fire Regime. In a condition class of 3, lands have been significantly altered from their historic fire regimes and have missed numerous fire return intervals; in a condition class of 2 the fire regimes have been moderately altered (EA, page 114-115). Areas in these conditions classes have a moderate to significant risk of losing key ecosystem components due to uncharacteristic buildup of hazardous fuels (EA, pages 117-118). Reaching and maintaining amounts of seral and structural stages closer to reference conditions through prescribed burning (i.e. Condition Class 1 - areas that are within the historic range of variability for vegetation) will result in increased sustainability of ponderosa pine dominated ecosystems considering the inherent disturbance processes associated with these Fire Regimes (EA, page 137-138). These seral stages and stand structure conditions will facilitate the application of prescribed fire in the project area. Both Alternatives 2 and 3 provide for the reintroduction of prescribed fire. However, under Alternative 1 (No Action) lands will remain predominately in condition class 3 putting many ecosystem values at risk.

The Decision will not Adversely Affect Threatened, Endangered, and Sensitive Wildlife, Fish or Botanical Species

I have considered the affect of my decision on Threatened, Endangered, and Sensitive Species (TES) relative to the Endangered Species Act. Based on the analysis presented in the EA and the project record, I conclude that Alternative 2 will not have an adverse impact to wildlife and fish species, including Management Indicator Species (MIS) outlined in the Deschutes National Forest Land and Resource Management Plan, as amended. My decision is consistent with the Deschutes National Forest Land and Resource Management Plan, as amended, and the Project Design Criteria Compliance Checklist for the Joint Aquatic and Terrestrial Programmatic Biological Assessment for Federal Lands in the Deschutes Basin. Formal consultation with the U. S. Fish and Wildlife Service is not required.

Habitat for the northern Spotted Owl, great grey owl, western big-eared bat, and Oregon spotted frog does not occur in the project area. The SAFR project is consistent with the standards and guidelines outlined in the Deschutes National Forest Land and Resource Management Plan, as amended, for the following species: Northern goshawk, Osprey, Red-tailed Hawk, Waterfowl, American Marten and Elk. Management of Mule Deer is consistent with Forest Plan direction, coupled with the site-specific Forest Plan amendment for Deer Habitat, Management Area 7, as outlined in this decision.

The only Region Six Sensitive Plant species known to exist in the project area is Peck’s Penstemon. The Species Conservation Strategy for Peck’s Penstemon identified twelve populations of this species in the project area; three “protected” populations, one “proposed protected” population and eight “managed” populations. With adherence to mitigation measures the project “May Impact Individual or Habitat of Peck’s Penstemon, but will not likely contribute to a trend toward Federal listing or loss of viability to populations or species.” There will be some direct impacts to individual plants but mortality limits are compliant with the levels established in the conservation strategy. Given the well documented value of low intensity fire or other cover reducing disturbances to the species, Alternative 2 will have positive indirect, long term benefits to local Peck’s Penstemon populations (EA, page 306-309). There may be some increased risk to Peck’s Penstemon from invasive plants; however mitigation measures are provided to reduce this risk. There are no federally listed Threatened or Endangered plant species within the project area (Biological Evaluation for Sensitive Plant Species and Invasive Plant Species, March 3, 2006).

For ease of reference, the effects of Alternative 2 are displayed in the following table:

Species	Status	Effect
Northern Bald Eagle	Region Six Sensitive, MIS	May Impact (see below)
Pacific Fischer	Threatened, MIS	No Effect
Harlequin Duck	Region Six Sensitive	No Impact
California Wolverine	Region Six Sensitive, MIS	No Impact
Crater Lake Tight Coil	Region Six Sensitive	No Impact
Columbia River Bull Trout	Threatened	No Effect
Interior Redband Trout	Region Six Sensitive	No Impact
Chinook Salmon	Magunson-Stevens, Essential Fish Habitat	No Effect
Peck’s penstemon	Region Six Sensitive	May Impact Individual or Habitat of Peck’s Penstemon, but will not likely contribute to a trend toward

		federal listing or loss of viability to populations or species
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Source: SAFR EA, the Aquatic Biological Evaluation for TES Species, Sisters Area Fuels Reduction, April 26, 2006, and the Biological Evaluation for Sensitive Plant Species and Invasive Plant Species, March 3, 2006. There is no documented presence for Columbia River bull trout or Chinook salmon in the project area.

On August 8, 2007 the northern bald eagle was removed from the U.S. Fish and Wildlife threatened and endangered list and moved to the Region 6 Sensitive Species List. The determination of *May Effect, but Not likely to Adversely Affect* for the No Action Alternative and Alternatives 2 and 3 will change to *May Impact* for northern bald eagles and their habitat; however, the direct, indirect, and cumulative effects analysis contained in the original Wildlife Biological Evaluation will remain the same. Mitigation Measures included in the Wildlife Biological Evaluation will remain in place to ensure impacts to northern bald eagles and their habitat are minimized during project implementation.

The Decision Complies with the Forest Plan and other related Planning Documents

My decision meets the requirements of the Deschutes National Forest Land and Resource Management Plan, as amended, and other applicable laws and regulations (EA, pages 19 and 28). Project implementation will incorporate all mitigation measures outlined in the assessment (EA, pages 66-75). These mitigation measures have been very effective on other similar projects located on the Sisters Ranger District. This EA is also tiered to a broader scale analysis, the Pacific Northwest Region Six Final Environmental Impact Statement for the Invasive Plant Program. This project complies with new management direction regarding invasive plant species.

My decision includes one site-specific Deschutes National Forest Plan amendment for Deer Habitat, Management Area 7. The amendment is inclusive to the SAFR project. The site-specific amendment is not significant in relation to the National Forest Management Act.

The project area is not located in or near an Inventoried Roadless Area (EA, page 21). The entire project area is located east of the “owl line.” Therefore, the standards and guidelines of the Northwest Forest Plan do not apply to the project (EA, page 21).

Alternatives Considered

In addition to the selected alternative, I considered two other alternatives. A comparison of these alternatives can be found in the EA on pages 76-81.

Alternative 1

Alternative 1 is the No Action alternative. This alternative assumes that none of the thinning, mechanical treatment of shrubs or small trees and prescribed underburning described in the proposed action for this project would occur. This alternative provides baseline information on the affected resources, including expected trends. Under this alternative, the only management activities that would occur would be fire suppression and the treatments already approved and on-going in the Canal and Underline projects. The Canal and Underline projects would continue to utilize prescribed fire on approximately 200 to 500 acres each year. However, this amount of

treatment, while helpful, is not expected to have as significant beneficial effect on reducing the risk to nearby communities. Currently about 79% of the planning area is in a fuels condition class 2 or 3 where vegetation patterns have been substantially altered from historic ranges (EA, page 77).

Under this alternative, very limited management actions would be taken to reduce the risk of wildfire at the landscape scale, or to actively develop areas of defensible space around residential areas, high public use areas, and roads identified as critical for evacuation and/or access in the event of a fire. About 75% of the total planning area and about 98% of the Late and Old Structure stands would remain above the Upper Management Zone and considered at-risk for bark beetle mortality (EA, page 77). Ecological trends suggest that the project area would continue to be at risk of high intensity stand replacement fires, including higher rates of insect and disease outbreaks (EA, pages 39-40).

Alternative 3

Alternative 3 was developed based on an issue provided by some groups during the public involvement process. This alternative modifies the Proposed Action by placing an upper diameter limit of 12 inches on the size of trees that would be removed during treatment. Areas where treatments would occur would be the same as that identified in the Proposed Action (Alternative 2).

Some density management reduction would take place under Alternative 3. After treatment approximately 63% of the Late and Old Growth structure would remain above the Upper Management Zone, compared to 98% under Alternative 1 (No Action) and 38% under Alternative 2. Additionally, about 41% of the project area would remain above the Upper Management Zone and be considered at risk for bark beetle mortality, compared to 75% under Alternative 1 (No Action) and 30% under Alternative 2. Overall, about 20% of project thinning acres would remain untreated, and continue to be above the Upper Management Zone in relation to forest health issues. Ecological trends suggest that many stands would continue to increase in stem density putting many ecological values at risk.

Commercial forest products (post, poles, fire wood, saw logs, and biomass) may be a by-product of the hazardous fuels and forest health treatments, but to a lesser extent than Alternative 2. The economic returns from the thinning in Alternative 3 will be less than Alternative 2 and therefore it can be expected that the acres treated each year using Stewardship Contract authorities will be less (EA, page 41). No economic returns are expected for Alternative 1 (No Action).

Public Involvement

Collaboration with the public and other agencies was used to invite and encourage participation in project design. Information received during public involvement was used to determine the extent of the analysis needed to reach an informed decision. In order to fully involve the public scoping was begun early in the planning process. Public issues were used to develop a second action alternative (see above).

The SAFR project was announced in the Deschutes and Ochoco National Forest Schedule of Proposed Action (SOPA) in February 2005. Scoping letters were sent to the public and other agencies, including the Confederated Tribes of Warm Springs, Oregon, on November 4, 2005 for

a 30-day comment period. A total of 32 replies were received, of these 12 were form letters. Public meetings and two open houses were held on November 16 and 19, 2005. Several newspaper articles were published describing the project.

Key to the development of the SAFR project was the collaboration with the GSC CWPP steering committee. The district interdisciplinary team periodically provided an overview of the project to the committee to assure the project was consistent with the goals and objectives of the steering committee. The Sisters City Council was also periodically updated on the project and provided input to the project design. Both the GSC CWPP steering committee and the Sisters City Council submitted letters of support for the SAFR project. A detailed listing of public involvement in chronological order is provided on pages 30-31 of the EA

The EA was released for 30-day public comment on August 20, 2007. Comments were received from ten people in nine letters. Comments were received from Oregon Fish and Wildlife, the Sierra Club, Ochoco Lumber Company, Oregon Wild, the City of Sisters, Oregon, and one individual. Due to the omission of critical text describing the cumulative effects for Fire Hazard Risk Reduction in the original EA, a letter containing this text was mailed to the public on October 18, 2007, initiating an additional 30-day comment period. This additional comment period generated three letters from three people; comments were received from the Sierra Club, the American Forest Resource Council, and one individual. Letters from both comment periods were reviewed to identify all relevant issues represented by the public. A summary of public comment, as well as a response to “opposing science,” was prepared as part of the project record. I have reviewed these comments and their relevance to the analysis contained in the EA in considering my decision.

Finding of No Significant Impact

After considering the environmental effects described in the EA, I have determined that these actions will not have a significant effect on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared. I base my finding on the following:

1. My finding of no significant environmental effects is not biased by the beneficial effects of the selected alternative.
2. There will be no significant adverse effects on public health and safety; in fact, the project will improve public health and safety over the long term by reducing hazardous fuels adjacent to at-risk communities, while providing defensible space adjacent to private property, reducing fuel loadings along the road system, and providing safer ingress and egress of firefighters and the public (EA pages 46-47). There will be some short term effects to local communities from smoke due to prescribed burning. Prescribed burning will be conducted in compliance with the National Ambient Air Quality Standards and under the the Oregon Smoke Management regulations and restrictions (EA, pages 142 and 156).
3. There will be no significant adverse effects on unique characteristics of the area, because no Wilderness, Wilderness study area, National Recreation Areas, Old Growth stands,

- Wild and Scenic Rivers, prime farm lands, or historic or cultural resources will be adversely affected by the implementation of my decision (EA pages 346-347).
4. The effects on the quality of the human environment are not likely to be highly controversial. There is no known scientific controversy over the impacts of the project (EA, Chapter 3, Environmental Consequences, pages 82-345). During the EA public comment period “opposing science” was offered for review. Over 64 pieces of scientific literature were reviewed by the project interdisciplinary team. The literature review did not disclose any information that would require additional effects analysis. The quality of the human environment will be improved by implementing the fuels reduction and forest health treatments outlined in my decision. In addition, I will provide an opportunity, if requested, to review some small demonstration tree marking prior to implementation to address concerns about the size of trees to be removed during the thinning from below operations.
 5. The Deschutes National Forest has considerable experience with the types of activities to be implemented in this decision. Currently the Sisters Ranger District has an active and accomplished prescribed burning program (600- 800 acres/year of prescribed burning). For example, during the 2007 fire season on the Sisters Ranger District fuels reduction treatments adjacent to private property helped to modify fire behavior in the vicinity of Black Butte Ranch. The effects analysis shows the effects are not uncertain, and do not involve unique or unknown risk (EA pages 82-345).
 6. The action is not likely to establish a precedent for future actions with significant effects. Project effects to Threatened, Endangered, and Sensitive Wildlife, Fish, and Botanical species are minimal (see page 8 of this decision and EA, pages 82-345). All Late and Old Structure stands will remain Late and Old Structure after treatment (EA, pages 107-113).
 7. The cumulative impacts are not significant (EA pages 110, 155-156, 232-249, 275-278, 296, 308, 321-324, 331, 333-334, and 336).
 8. The action will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, because sites would be protected through project mitigations (EA pages 333-334). The action will also not cause loss or destruction of significant scientific, cultural, or historical resources, because sites of national significance will be avoided (EA pages 334).
 9. The action will not adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species act of 1973, because there will be No Effect and/or No Impact to Threatened and Endangered wildlife or fish species (see page 8 of this decision). Formal consultation with U.S. Fish and Wildlife is not required. See specialists reports on file at the Sisters Ranger District, Sisters, Oregon.
 10. The action will not violate Federal, State, and local laws or requirements for the protection of the environment. Applicable laws and regulations were considered in the EA (EA page 28). The action is consistent with the Deschutes National Forest Land and Resource Management Plan, as amended, including the incorporation of one site-specific Forest Plan amendment (EA pages 19-21).

Findings Required by Other Laws and Regulations

My decision to implement Alternative 2 is consistent with the intent of the Forest Plan's long term goals and objectives outlined on pages 4-1 to 4-8 of the Deschutes National Forest Land and Resource Management Plan, as amended. The project was designed in compliance with Forest Plan standards and guidelines for all land management allocations found in the project area; Bald Eagle (MA-4), Deer Winter Range (MA-7), General Forest (MA-8), Scenic Views (MA-9), Old Growth Areas (MA-15), Wild and Scenic River Corridor (MA-17) and Front Country (MA-18) (Deschutes National Forest Land and Resource Management Plan, pages 94 to 96, 113-116, 117-120, 121-132, 149-151, 159-163, 155-158, and 159-163).

The Deschutes National Forest Land and Resource Management Plan, as amended, was developed and approved on August 27, 1990 using the provisions in effects prior to November 9, 2000 (the 1982 planning rule). The Forest Service now has a new planning rule (36 CFR 219, published in the federal register on April 21, 2008) referred to as the 2008 planning rule. The 2008 rule specifically states at 36 CFR 219.14(b)(4) that, for plans developed under the 1982 rule, the 1982 planning rule is without effect. There remain no obligations from that regulation, except those that are those specifically in the plan. The only requirement specifically provided in the 2008 rule related to projects is at 36 CFR 219.8(e), requiring that projects and activities must be consistent with the applicable plan components. As required by 36 CFR 219.8(e), I have found that this project is consistent with the Deschutes National Forest Land and Resource Management Plan.

Implementation Date

If no appeals are filed within the 45-day appeal time period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. If appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Administrative Review or Appeal Opportunities

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215. The appeal must be filed (regular mail, fax, email, hand-delivery, or express delivery) with the Appeal Deciding Officer, Regional Forester, USDA Forest Service, Pacific Northwest Region, ATTN: 1570 Appeals, 333 SW First Avenue. PO Box 3623, Portland, Oregon 97208-3623. Appeals submitted by fax should be sent to (503) 808-2255. Appeals can also be filed electronically at: appeals-pacificnorthwest-regional-office@fs.fed.us.

The office business hours for those submitting hand-delivered appeals are: 8:00 AM – 4:30 PM Monday through Friday, excluding holidays. Electronic appeals must be submitted in a format such as an email message, plain text (.txt), rich text format (.rtf), or Word (.doc) to appeals-pacificnorthwest-regional-office@fs.fed.us. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.

Appeals, including attachments, must be filed within 45 days from the publication date of this notice in The Bulletin (Bend), the newspaper of record. Attachments received after the 45 day

appeal period will not be considered. The publication date in The Bulletin (Bend), newspaper of record, is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source. Individuals or organizations who submitted substantive comments during the comment period specified at 36 CFR 215.6 may appeal this decision. The notice of appeal must meet the appeal content requirements at 36 CFR 215.14.

When an appeal is received, the Responsible Official must contact the appellant(s) and offer to meet and discuss resolution of the issues raised in the appeal. When an appellant agrees to meet, the initial meeting shall take place within 15 days after the closing of the appeal period (36 CFR 215.17) at a location in the vicinity of the lands affected by the decision. These meetings are open to the public. The following dates are available for an informal disposition meeting: January 14 and 20, 2009.

Contact

For additional information concerning this decision or the Forest Service appeal process, contact Michael Keown, Environmental Coordinator, Sisters Ranger District, Pine Street and Highway 20, Sisters, Oregon 97759. (541) 549-7735. Email address: mkeown@fs.fed.us. For additional information concerning the project, contact Terry Craigg, SAFR Team Leader, at (541) 549-7748.

/s/ John Allen
John Allen
Deschutes National Forest
Forest Supervisor

11/19/2008
Date

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**Sisters Area Fuel Reduction Project
Decision Notice/FONSI
Appendix A**

Environmental Assessment: Response to Comments

Content Analysis Process

The following is a summary of public comment received by the Sisters Ranger District regarding the environmental analysis (EA) for the Sisters Area Fuel Reduction (SAFR) Project. The EA was made available for a 30-day comment period, under the provisions of the National Environmental Policy Act (40 CFR 1500-1508) and Notice, Comment, and Appeal Procedures for National Forest System Projects and Activities (36 CFR 215).

Content analysis is a method for analyzing public comment. This process strives to identify all substantive comments represented by the public. The intent is to represent the public's viewpoints and concerns as fairly as possible, and to present those concerns in such a way as to assist the Interdisciplinary Team to effectively respond to them. It is important to recognize that the consideration of public comment is not a vote counting process in which the outcome is determined by the majority opinion. Relative depth of feeling and interest among the public can serve to provide a general context for decision-making. However, it is the appropriateness, specificity, and factual accuracy of comment content that serves to provide the basis for modifications to planning documents and decisions. For ease of reference, comments are arranged by topic.

During the first 30-day comment period comments were received from nine different people (respondents) in eight letters. All respondents reside in Oregon and six letters were received from various interested organizations.

After the original EA 30-day comment period ended it came to our attention that the EA omitted critical text in Chapter 3, Environmental Consequences, Fire Hazard and Risk Reduction. A section of text on page 152 was missing, and a section title was incorrectly placed at the top of page 145. The text describing cumulative effects was mailed to the public on October 18, 2007, initiating a new 30-day comment period.

The second 30-day comment period generated responses from the Sierra Club, the American Forest Resource Council, and the City of Sisters, Oregon. The Sierra Club letter reiterated comments from their first letter in addition to providing new comments. These new comments are addressed by paragraph and page number starting on page 21 of this document. About 104 comments were generated during the comment periods.

215 Appeal Standing

Since there were two 30-day comment periods all individuals and organizations that commented on the EA have standing under the Forest Service appeal regulations.

List of Respondents

Date Recvd.	Letter #	Name	Organization	City/State	Number of Comments
9/02/07	1	Jim Fisher	individual	Sisters, OR	2
9/05/07	2	Glen Ardt	Oregon Fish and Wildlife	Bend, OR	3
9/19/07 (11/14/07)	3 plus supplement	Asante Riverwind and Karen Coulter	Sierra Club and LOWD	Bend, OR Fossil, OR	30 (61)
9/20/07	4	John Morgan	Ochoco Lumber Company	Prineville, OR	4
9/20/07	5	Doug Heiken	Oregon Wild	Eugene, OR	8
9/20/07	6	Paul Dewey	individual	Bend, OR	6
9/20/07	7	Brad Boyd	City of Sisters	Sisters, OR	1
9/21/07	8	Joe Stutler	Deschutes County	Bend, OR	3
10/25/2007	9	Shirley Ray	individual	Bend, OR	1
11/05/2007	10	Brad Boyd	City of Sisters	Sisters, OR	1
11/05/2007	11	Charles Burley	American Forest Resource Council	Bend, OR	14

Section I

Topic: Wildlife

Comment: The EA fails to address impacts to avian and small mammal species or their habitats, including impacts to neo-tropical bird migrants (3.2).

Response: Environmental effects to avian species and their habitat, including focal species that act as surrogates for neo-tropical birds, is discussed exhaustively in the Wildlife section of the assessment (EA, pages, 157-163, 166-168, 170-176, 188-199, and 199-204). Birds of Conservation and the Landbird Strategic Plan and associated bird species are also discussed (EA, pages 193-202). Additionally, information about avian habitats, such as down wood and snags, is discussed in the assessment (EA, pages 188-199, 225-238, and 244-249). All mammal species that require habitat analysis, including Management Indicator Species, are included in the Wildlife section of the EA (EA, pages 156-249).

Comment: We are concerned about the potential cumulative effects of prescribed fire on small mammals and the deer population (which we understand to be in decline) (2.5).

Response: Management direction for Deer Habitat (MA-7) is found in the Deschutes National Forest Land and Resource Management Plan (EA, page 19). There will be some displacement of deer immediately to subdivisions (defensible space) as hiding cover and browse species will be removed through thinning and prescribed burning. About 42% of Management Area (Deer Habitat) outside of defensible space will remain as hiding cover (EA, page 216-221). No adverse cumulative effects to deer populations are anticipated from the project (EA, pages 240-243).

Comment: The EA fails to disclose to seasonal restrictions of management actions to protect nesting and fledgling avian species, small mammals, and seed producing plants (3.3).

Response: Wildlife mitigation measures and any seasonal restrictions are disclosed in the Mitigation Measures section of the assessment (EA, pages 67-69). Currently there are no formal mitigation measures for seed-producing plants.

All avian and small mammal species identified as having potential habitat on the Deschutes National Forest that are Threatened, Endangered, Regionally Sensitive, or Management Indicator Species were considered for the SAFR project. In addition, bird species identified as USFWS Birds of Conservation Concern and birds within the Landbird Strategic Plan were analyzed if potential habitat existed within the SAFR project area (EA, pages 208-210 and 230-238).

As required within the Joint Aquatic and Terrestrial Programmatic Biological Assessment and the Deschutes National Forest Land and Resource Management Plan, as amended, any Threatened, Endangered, Regionally Sensitive, and Management Indicator Species that require direction on seasonal restriction periods were utilized in the SAFR project (EA, pages 67-69).

Comment: There has been little to no monitoring of wildlife species in the project area. The EA fails to disclose why survey information is lacking. Adequate surveys are necessary to make informed decisions about project effects to wildlife (3.8).

Response: Monitoring has been conducted for wolverine (EA, pages 163-165) and American marten (EA, pages 175-176 but 1.5 miles south of the planning area). Surveys to Regional protocol were conducted for northern goshawk, sharp-shinned hawk, and Cooper's hawk (EA, pages 170 and 172-174).

Surveys were completed for all species that have regionally accepted survey protocols. Some specific species surveys elicit response for other species (e.g. goshawk protocol elicits responses from both sharp-shinned and Cooper's hawk).

Comment: The EA fails to disclose the effects of treating LOS stands on wildlife connectivity corridors (3.9).

Response: The project is consistent with the standards and guidelines for wildlife connectivity as outlined in the Regional Forester Forest Plan Amendment #2 (EA, pages 206, 223-224, and 243-245). In wildlife corridors, trees up to 4 inches dbh can be removed mechanically. No additional thinning is allowed (EA, page 225). Treatments will not degrade or eliminate the utility of the corridors for wildlife. All LOS will remain LOS after treatment (EA, pages 92-93, and 97-99).

Comment: The EA fails to disclose adverse impacts to interior forest wildlife species (3.18).

Response: Interior forest wildlife species specific to the project area include northern goshawk, Copper's hawk, sharp-shinned hawk, and American Marten. These species are discussed in detail in the Wildlife section of the assessment (EA, pages 156-249).

There are two northern goshawk nest sites in the project area. Each nest core will have a 30-acre no treatment area around it. Within the post fledging area thinning will take place on 501 acres. Thinning was designed to meet goshawk requirements by maintaining current LOS and moving younger conifer stands toward LOS (EA, pages 211-212). While treatments may reduce current

goshawk habitat, thinning is expected to move the ponderosa pine plant association towards its historic condition (EA, pages 211-212). The SAFR project is consistent with the standards and guidelines outlined in the Deschutes National Forest LRMP for northern goshawk as well as the Regional Foresters Forest Plan Amendment #2.

There are no known Cooper's or sharp-shinned hawk nest sites in the project area. However, 172 acres of potential habitat will be thinned leaving 306 acres of potential habitat in the project area (EA page 208-209). The SAFR project is consistent with the standards and guidelines outlined in the Deschutes National Forest LRMP for Cooper's hawk/sharp shinned hawk as well as the Regional Foresters Forest Plan Amendment #2.

About 162 acres of American Marten habitat will be treated, leaving about 324 acres of habitat untreated (EA, pages 214-215). There are both negative and beneficial impacts to American Marten. Thinning will result in more open stands by reducing canopy cover, which may impact use and dispersal in the project area. Beneficial impacts should result from reducing risk (fire) to existing suitable habitat and facilitating the development of future habitat (EA, pages 214-215). The SAFR project is consistent with the standards and guidelines outlined in the Deschutes National Forest LRMP for American Marten.

All wildlife species identified as having potential habitat on the Deschutes National Forest that are Threatened, Endangered, Regionally Sensitive, or Management Indicator Species were considered for the SAFR project. Of those species, the ones that had potential habitat within the SAFR project area were analyzed. In addition, bird species identified as USFWS Birds of Conservation Concern and birds within the Landbird Strategic Plan were analyzed if potential habitat existed within the SAFR project area.

Comment: The EA does not fully and adequately disclose project effects (loss of forest canopy cover and structural continuity) to neo-tropical and native bird species. The project violates the Migratory Bird Treaty Act (3.27).

Response: Project effects to native bird species are thoroughly discussed in the Wildlife section of the assessment (EA, pages 156-249). Focal species who act as surrogates for neo-tropical bird species are also discussed in this section of the EA. The project is consistent with the Landbird Conservation Strategy Objectives and the Migratory Bird Treaty Act (MBTA).

Currently the USFS and the USFWS are working on an agreement in accordance with the MBTA. The wording of the MBTA reads very similar to Endangered Species Act on the prohibitions on take (including harm, harass, pursue); however, the MBTA pertains to intentional take, whereas ESA also covers unintentional take. In other words if there is unintentional take while completing a project the USFS is not in violation of the MBTA. However, it is the wildlife biologists' responsibility to provide information to the decision maker on the effects of the proposed action and alternatives on migratory birds as directed under NEPA. The focal species in the land bird conservation plans were added to this NEPA analysis, to disclose the effects to habitat for these birds along with the qualitative effects summaries of destroying nests or disrupting nesting behavior if the project is planned during nesting season.

Comment: The direct, indirect and cumulative effects to northern goshawk are not adequately discussed. Thinning LOS will adversely impact goshawk foraging, fledging, and nesting habitat (3.27).

Response: Project effects to northern goshawk are thoroughly discussed in the assessment (EA, pages 172-174, 203, 211-212, and 235-236). Thinning LOS will not adversely impact northern goshawk foraging, fledging and nesting habitat (EA, pages 221-223 and 243-244).

Comment: The EA does not adequately disclose project effects to American Pine (sic) Marten (3.26).

Response: Project effects to American Marten are thoroughly discussed in detail in the Wildlife section of the assessment (EA, pages 175-176, 204, 214-215, and 238-239).

Comment: The proposed action could help meet recommended conservation actions for the Whychus Creek Conservation Area (EC-05) listed in the Oregon Conservation Strategy (2.0).

Response: No response is necessary.

Comment: The proposed action to increase LOS and snag densities across size classes could benefit OCS Strategy Species for the East Cascades Ecoregion (2.1).

Response: No response is necessary

Comment: These actions coupled with meeting the other MA-7 standards and guidelines, and implementing a no silviculture prescription in 10% of the non-designated cover units, should help conserve habitat needed to moderate energy expenditures by the declining Upper Deschutes winter population of mule deer (2.2).

Response: Effects to mule deer are discussed in the EA (EA pages 177-181 and 216-221). There will be some displacement of deer immediately adjacent to subdivisions (defensible space) as hiding cover and browse species will be removed through thinning and prescribed burning. About 42% of Management Area (Deer Habitat) outside of defensible space will remain as hiding cover (EA, pages 217-218). No adverse cumulative effects to deer populations are anticipated from the project (EA, pages 240-241).

Topic: Silviculture

Comment: Silvicultural prescriptions to thin conifer stands will increase fire risk and increase fire hazard in the project area, thereby increasing future severe fires in the planning area (3.5).

Response: Crown bulk density, a measure of stand susceptibility to crown fire, would be reduced through thinning in both action alternatives (EA, page 143). Silviculture treatments in combination with other fuel treatments can reduce wildfire hazard by reducing fuel loads and ladder fuels, and by breaking up the continuity of fuels (EA, pages 127-128). Recent fire

behavior in the vicinity of the Black Butte Resort demonstrates the efficacy of fuel reduction treatments.

Comment: A considerable portion of the planning area is in healthy mature or old-growth forest or areas recovering from over-logging and does not need to be thinned to reduce hazardous fuels (3.6).

Response: About 4,350 acres (18%) of the project area were determined to be potential Late Old Structure (LOS) (EA, pages 97-99). On a stand average basis, approximately 98% of the Late and Old Structure in the project area are above the Upper Management Zone and considered to be at-risk for bark beetle mortality (EA, page 99). A majority of the large old ponderosa pine in the project area are in “fair” to “poor” condition, indicating a general decline in the health of those trees (EA, page 99). Additionally, for Fire Regimes I and III, 77% of the project area is currently in condition class 2 and 3. Areas in these condition classes have a moderate to significant risk of losing key ecosystem components due to uncharacteristic buildup of hazardous fuels (EA, pages 117-118).

Comment: The EA incorrectly identified that multistory Late Old Structure (LOS) are above or within the Historic Range of Variability (HRV), providing a justification for converting multi-story LOS to single-story LOS. There will be a loss of multi-story LOS in the planning area. (3.7).

Response: The Historic Range of Variability (HRV) for LOS has been correctly identified in the EA (pages 92-94). Some multiple-story LOS will be converted to single story LOS but will remain within the HRV for that particular stratum. All LOS will remain LOS after treatment and within the HRV (EA, pages 92-94, and 97-99).

Comment: The SAFR project will log virtually every area of old growth and mature forest in the project area. Such activity will not achieve the desired future condition as outlined in the EA (3.12).

Response: Approximately 3,021 acres (69%) of a total of 4,350 acres of currently mapped LOS in the project area would be treated; 17% of the entire planning area. All LOS would remain LOS after treatment (EA, pages 92-94, and 97-99). The desired future condition is “a more open, large tree dominated ponderosa pine forest that is less susceptible to large scale stand replacing fire events” (EA, page 15). The action alternatives outlined in the EA (page 40) were designed to move the project area towards the desired future condition.

Comment: The project proposes to cut fire resistant trees up to 21” dbh to reduce hazardous fuels. There is no scientific support to indicate that commercial thinning reduces fire risk (3.19).

Response: Crown bulk density treatments to reduce hazardous fuels are outlined in the EA (page 143). Thinning up to 21” dbh meets the Purpose and Need of meeting Forest Health objectives (EA, pages 85-113). Approximately 92% of the project area is above the Upper Management Zone (75%) and/or has high densities of small trees (18%) (EA, pages 94-95). All action alternatives remove trees where densities or ladder fuels are high and can indirectly benefit remaining large trees by reducing risk and competition for nutrients or water (EA, page 104).

The point of the treatments is to reduce crown bulk density and ladder fuels. The Decision Notice provides an opportunity for public review of demonstration tree marking prior to project implementation.

Topic: Fire and Fuels

Comment: The EA fails to sufficiently address the consequences of extensive prescribed burning in the project area (3.13).

Response: Fuels reduction and prescribed burning strategies are discussed in the assessment (EA, pages 46-47). The Soils section of the assessment (EA, pages 250-278) discusses effects to the soils resource from prescribed burning. Prescribed burn plans would comply with all applicable Deschutes National Forest Land and Resource Management Plan, as amended, standards and guidelines and Best Management practices prior to initiation of burn treatments. The Sisters Ranger District currently conducts about 600-800 acres per year of prescribed burning. Also see Chapter 3, Environmental Consequences, sections dealing with wildlife, fuels, and vegetation.

Comment: The EA fails to give a scientifically adequate explanation of how mechanical fuels treatments can reduce the risk of fire (3.15).

Response: Silviculture treatments in combination with other fuel treatments can reduce wildfire hazard by reducing fuel loads and ladder fuels, and by breaking up the continuity of fuels (EA, pages 127-128). Additionally, thinning treatments that are followed by reductions of surface fuels can significantly limit wildfire spread under wildfire conditions (EA, page 127). Recent fire behavior on the GW Fire on the Sisters Ranger District shows the utility of fuels reduction projects around and near private homes and dwellings.

Comment: Prescribed burning and fuels treatments will harm and possibly kill remnant old-growth trees and LOS in the project area, violating the Purpose and Need for the project (3.16).

Response: There is a need to reintroduce fire to the ponderosa pine ecosystem found in the SAFR planning area (EA, page 16). Thinning from below will reduce ladder fuels in LOS stands and improve forest health in the project area (EA, pages 107-110). To the extent possible, all large trees over 21" dbh will be maintained in LOS stands (EA, page 45). Prescribed burning would be conducted in the spring (normally the wettest time of the year), with subsequent burning occurring in the fall (EA, pages 46-47). Experience on the Sisters Ranger District indicates that about 1%-2% of old growth trees are expected to die from prescribed burning. These trees would function as wildlife snags and down wood in the future. Trees would also die from a wildfire event. The maintenance of ponderosa pine requires understory burning over the long term and meets the Purpose and Need for Action (EA, page 16).

Comment: The EA does not adequately address the science that shows slash piles from logging create a greater risk of fire. The EA should disclose how activity fuels will be treated with this project (3.20).

Response: Activity fuels (slash) will be machine or hand piled and subsequently burned in the fall following stand treatment.

Comment: The EA does not disclose how conifer stands treated for hazardous fuels in the project would be maintained over the long-run (3.22).

Response: Following thinning and mowing, stands would be underburned in the spring and fall (EA, pages 46-47 and 53-55). The Sisters Ranger District currently conducts about 600-800 acres of maintenance burning per year as part of its normal prescribed burning program. Burning under this program is normally on a 3-5 year maintenance schedule. There would be subsequent NEPA analysis to conduct additional prescribed burning.

Comment: Accelerated fuels reduction must be done on the Sisters Ranger District if we have any hope of reducing the impact of large wildfires in the area (1.1).

Response: The Purpose and Need for Action (EA, page 16) and the action alternatives (EA, pages 40-41) address this concern.

Topic: Aquatic Species and their Habitats

Comment: The project will have adverse impacts to aquatic species and their habitats. The project may violate provisions of the Clean Water Act (3.28).

Response: Full reference information to aquatic species and their habitats is found in the Aquatic Biological Evaluation for Threatened, Endangered, and Sensitive Species (TES), Sisters Area Fuels Reduction Report (EA, page 309). The project will have No Effect to Columbia River and Chinook salmon and No Impact to Interior Redband Trout (EA, page 10). The project complies with the Clean Water Act (EA, pages 28 and 278-296).

Topic: NEPA

Comment: EA fails to disclose past logging history (3.0).

Response: While not exhaustive, past logging history is discussed in the assessment (EA, pages 14-15). Past, present, and future foreseeable actions are described in Chapter 3 (EA, pages 82-84). The project follows the recommendations contained in the June 24, 2005 letter from the Council of Environmental Quality (CEQ) regarding how an agency can consider documenting past actions.

Comment: The EA calls for two Forest Plan amendments. The amendments would violate existing Forest Plan standards (3.10).

Response: Forest Plan amendments are allowed under current Planning regulations. One amendment is necessary to meet the Purpose and Need for the Project (EA, pages 16 and 23-26). This amendment would modify the standards and guidelines for Deer Habitat (MA-7) and allow for the exclusion of defensible space acres immediately adjacent to private lands from meeting the definition of deer hiding cover. The amendment was evaluated for significance in relation to the National Forest Management Act (NFMA) (EA, pages 23-26). Elements of evaluation included timing, location and size, goals, objectives and outputs, and management prescriptions (EA pages 23-26). The amendment is not significant and applies *only* to this project. Forest Plan standards and guidelines still apply to the project. The 2008 planning rule provides for a three

year transition period for forest plan amendments (36 CFR 219.14(b)(2)). During the transition period amendments may be made using the procedures from the 1992 planning rule. This decision includes a non-significant site specific forest plan amendment to the Deschutes National Forest Land and Resource Management Plan, as amended, following the 1982 planning rule procedures.

Subsequent analysis indicated that a second Forest Plan amendment is not necessary to treat Late Old Structure (LOS) in the planning area. The project moves Multi-strata LOS to Single-strata LOS. Since there will be no net loss of LOS a second plan amendment is not required.

Comment: The action alternatives call for Forest Plan amendments to meet the Purpose and Need for the project. An action alternative should have been developed that did not require Forest Plan amendments. A full range of alternative was not developed (3.11).

Response: NEPA does not require that an alternative be developed that does not require a Forest Plan amendment. An additional action alternative was developed in response to comments received during scoping. The two action alternatives are considered to be a reasonable range of alternatives, including the No Action Alternative

The EA contains three alternatives; the No Action Alternative (Alternative 1), the Proposed Action (Alternative 2), and Alternative Three. Alternative 3 was developed in response to the Key Issue #1, the size of tree to be cut to achieve project objectives (EA, pages 31-32). No other Key Issues were raised during the scoping process (EA, page 32).

Comment: The SAFR EA is not based on the best available science, violating the requirements of NEPA. Hazardous fuels reduction is scientifically controversial and this controversy was not addressed in the EA (3.17).

Response: Use of the most current scientific literature to conduct effects analysis for all resource areas is outlined in the EA (pages 349-363). Fuel reduction strategies (EA, pages 46-47) and proposed fuels treatments (EA, pages 53-55) are based on established methods conducted successfully throughout Region Six (also see EA, page 127). A Response to Science received during public scoping is included as an appendix in the EA for the project (EA, pages 364-393).

Comment: The EA does not adequately address cumulative effects in a thorough and conclusively meaningful way. Highway widening, development, future fires, increased recreation, future timbers sales that may occur over the next 20 years should be addressed (3.21).

Response: A twenty year time period is not considered “reasonably foreseeable.” Reasonably foreseeable future actions are listed on page 84 of the EA. However, the cumulative effects are discussed throughout the EA: Forest Health, pages 110, 113; Wildlife, pages 168 and 232-241; Soils, pages 275-276 and 277-278; Hydrology, page 296; Botany, pages 308-309; Fisheries, pages 321-324; Visuals, page 331; Heritage pages 333-334; and Recreation, page 336. The cumulative effects section for Fire was omitted from the original EA. This text was mailed to the public on October 18, 2007 and initiated an additional 30-day comment period for the EA.

Comment: The EA does not adequately discuss or propose mitigation measures. The effectiveness of mitigation measures is not discussed (3.23).

Response: Mitigation measures and their effectiveness are discussed thoroughly in the assessment (EA, pages 66-75).

Comment: Since the project is projected to occur over a seven year period, a monitoring plan is required (3.24).

Response: The implementation schedule of the project is based on available funding. Anywhere from 1,000 to 5,000 acres could be treated per year. All district projects are required to have an Implementation Plan. Compliance Checks are part of the Implementation Plan. Compliance Checks insure that the EA is being implemented correctly. Specific monitoring plans are not required but can be developed on a case-by-case basis. During project implementation, changed conditions will be considered and additional NEPA analysis may be needed if project effects differ from those disclosed in this NEPA document. All projects on the Sisters Ranger District have Project Implementation Plans prepared to ensure that project design criteria and mitigation measures contained in the environmental assessment are incorporated into project layout and design.

Comment: The SAFR project is just a thinly veiled excuse to meet hidden timber volume target quotas. The EA fails to disclose that the Purpose and Need is in reality a mechanism to harvest commercial timber to meet Regional timber harvest objectives (3.29).

Response: The focus of the Purpose and Need for Action is to protect structures, property, and human life and safety, improve forest health, and to restore the role of fire within the Greater Sisters Area Wildland-Urban Interface (EA, page 16). Any timber products generated through silvicultural activities to reduce hazardous fuels and improve forest health are strictly a by-product of meeting the Purpose and Need for Action. On average, timber sawlog volumes removed amount to about 1,000 board feet per acre under Alternative 2 and about 545 board feet per acre under Alternative 3 (EA, page 344). Timber harvested in this project would contribute to the Deschutes National Forest Potential Sale Quantity (PSQ).

Topic: Eastside Screens

Comment: AFRC believes the District is misstating the standards in the Screens and not applying them properly. The EA states that the screens “contain standards that indicate commercial harvest is not permitted when [LOS] is below the [HRV].” This is not entirely accurate. The Screens state under Scenario A of the Wildlife Standard “If either one or both of the [LOS] stages falls BELOW HRV in a particular biophysical environment within a watershed, then there should be NO NET LOSS OF LOS from that biophysical environment. DO NOT allow timber sale harvest activities to occur within LOS stages that are below HRV.” (10-4)

Response: The commenter is correct, the District misinterpreted the screens; no Forest Plan amendment is needed for treating Multiple-story Late Old Structure in the project area as proposed in the SAFR EA. The project will not result in the reduction in overall LOS in the watershed.

Comment: The Screens also state that for the purpose of HRV, LOS is defined as “structural stages where large trees are common, i.e. Multi-stratum with Large Trees and Single-stratum with Large Trees.” AFRC could not find in the EA a table showing acres of LOS as defined in the Screens. Table 3 of the EA shows that 534 acres of the 24,467 acre planning area are Old Growth Areas (MA-15). This is only two percent of the planning area. Also in Table 3 it shows that of the 17,573 acres to be treated, only 510 acres or three percent are Old Growth Areas. (10-4)

Response: Table 15 in the SAFR EA displays the percent of LOS in each plant association group (PAG) for the project area. To further clarify, the table below is Table 15 from the EA that has been modified to include acreages.

Plant Association		LOS Structural Stage	Historic Range of Variability (HRV)	Approximate Area of PAG		Relation to HRV
Name	Acres			%	Acres	
Ponderosa Pine (Dry & Wet)	22,373	Multi-Stratum with Large Trees	0-7%	18%	3,915	Above
		Single-Stratum with Large Trees	25-60%	<1%	9	Below
		Total LOS	25-67%	18%	3,924	Below
Mixed Conifer (Dry & Wet) & Riparian	2,068	Multi-Stratum with Large Trees	8-15%	21%	395	Above
		Single-Stratum with Large Trees	18-38%	2%	37	Below
		Total LOS	26-53%	23%	407	Below

Table 3 of the EA was intended to show the number of acres in each management allocation under the Deschutes National Forest Land and Resource Management Plan, including Management Area (MA) 15 (Old Growth) and the number of treatment acres within each management allocation. The old growth management allocation does not represent all acres that could be considered “old growth” under the Region 6 Interim Old Growth Definitions, 1992.

Comment: The EA states that in general “the structure of the stands across the project area is *multi-storied, unevenaged, second growth* consisting of small, even-aged cohorts of trees of various sizes and ages with the majority of trees less than 21” dbh.” (Emphasis added.) The same paragraph continues “approximately 11% of the acres in the project area are dominated by trees 21”+ dbh and 18% of the acres in the project area have enough trees 21”+ dbh to be considered possible old growth stands.” (Emphasis added.) AFRC questions where the direction or policy is that says areas with enough trees 21” and over may be considered old growth stands. This is particularly the case when this area is mostly second growth as the EA states. (10-5)

Response: On page 97 of the SAFR EA, under the heading “Late and Old Structure (LOS) Stands” the analysis of the project area for “possible LOS” or old growth is described. The Region 6 interim definition of old growth was used and the number of trees/acre 21”+ dbh is 1 of the 6 criteria used in this definition. If the number of trees/acre of 21”+ trees is above the minimum number needed to meet the Region 6 interim definition of old growth then these stands

were considered to meet the LOS stages 6 or 7 in the Eastside screens where the definition requires “Large trees are common.”

Comment: Tables 13 and 14 of the EA show the Structural Stage HRV/Current Condition Comparison for the Ponderosa Pine PAG and Mixed Conifer PAG respectively. Both tables clearly show “Multi-stratum with Large Trees” and “Single-stratum with Large Trees” as being “Late (LOS)” seral stage. But there are no acres presented for these seral stages anywhere in the EA. Tables 13 and 14 show for both PAGs that the multi-stratum with large trees is above HRV and the single-stratum with large trees are below HRV. (10-5)

Response: See table under the response for the second comment related to the eastside screens above for acres for the LOS stages. The commenter is correct the multi-stratum with large trees is above HRV and the single-stratum with large trees are below HRV for both PAG’s.

Comment: Since one of the two is below HRV, then Scenario A of the wildlife screen applies. In this case, the Screens say “Some timber sale activities can occur within LOS stages that are within or above HRV in a manner to maintain or enhance LOS within that biophysical environment. It is allowable to manipulate one type of LOS to move stands into the LOS stage that is deficit if this meets historical conditions.” Therefore the Multi-structural with Large Trees for both Ponderosa pine and mixed conifer can be treated to move them to single-stratum with large trees. (10-5)

Response: The commenter is correct, and that is what the SAFR Project proposes to do by treating multi-stratum LOS, therefore, no Forest Plan amendment is needed to treat LOS under the SAFR Project.

Comment: The Screens continue “Outside of LOS, many types of timber sale activities are allowed. The intent is still to maintain and/or enhance LOS components in stands subject to timber harvest as much as possible, by adhering to the following standards...” One of these standards is the limit on 21-inch trees.

But as pointed out in 2003, the agency has the authority to do a project-specific forest plan amendment to remove trees over 21 inches in diameter.¹ Under “Strategies for Improving Forest Health”² it states that thinning will always take the smaller trees with three exceptions—one being to restore historic tree species composition. Here it states the exception will be “when a smaller tree is a more desired species than a larger tree, in which case the larger tree may be removed instead of the smaller tree. For example, a larger white fir or western juniper may be removed to favor a smaller ponderosa pine.” What if the white fir is over 21” dbh? This is precisely the problem with the arbitrary standard of not removing any tree over 21 inches in diameter. (#10-5)

Response: Agreed, however, for the SAFR project the Decision Maker did not feel that this scenario would occur often enough in the project area to make a Forest Plan amendment worthwhile.

¹ Regional Forester memo to eastside forest supervisors, June 11, 2003.

² SAFR EA pages 44 through 46.

Comment: The second principle issue regarding the Screens is the proposed forest plan amendment #1 for treatments occurring within LOS stands. On page 22 it states that an amendment would be needed to implement either of the action alternatives to allow treatment within the LOS stands. AFRC agrees with this because the single-stratum with large trees for both PAGs is below HRV. But AFRC also believes the amendment should allow the removal of trees over 21” dbh in stands that are not LOS because of the exception to thinning standards discussed in the above paragraph. The same applies to Multi-stratum with Large Trees because this is above HRV.

Furthermore, pages 22 and 23 do not provide an adequate explanation of just what the forest plan amendment #1 would be. It provides the goal and significance of the amendment but it does not explain with any detail just what the amendment would be. (10-5)

Response: The intention of amendment #1 was to allow the treatment of LOS stands to meet the project purpose and need for action. However, as the commenter noted earlier, the project intends to treat LOS in such a manner that there will be no net loss of LOS and the Eastside Screens already allow for this treatment, consequently, no Forest Plan amendment is needed. No Single-strata LOS will be treated with this project.

Comment: AFRC requests that 1) the EA state more accurately what the Screens standards are and include a copy of the Deschutes Forest Plan amendment that incorporates the Regional Forester’s Amendment #2 so readers can see exactly what the Forest is working with; and 2) that the EA be revised to more explicitly state what the forest plan amendment #1 is and that this amendment include deviating from the 21” dbh limit for stands not in LOS and for Multi-stratum with Large Trees where above HRV. (10-5)

Response to part 1): In August 1993, the Regional Forester issued a letter providing direction to National Forests on the eastside of the Cascade Mountains on retaining old-growth attributes at the local scale and moving toward the historic range of variability across the landscape. This direction was called “Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales, Regional Forester’s Forest plan Amendment”, and became known as the “Eastside Screens”. A decision notice issued in May 1994 amended all eastside Forest plans to include this direction. The May 1994 decision notice was revised in 1995 and was called “Revised: Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales, Regional Forester’s Forest plan Amendment #2”, and has continued to be know as the “Eastside Screens”.

Since the 1995 revision, there have been several letters of clarification from the Regional Office regarding the eastside screens. The most recent clarification, of June 3, 2003, “Guidance for Implementing Eastside Screens”, replaces all previous clarifications. This most recent clarification notes that the objective of increasing the number of large trees and LOS stands on the landscape remains, but, encourages Forests to consider site-specific Forest plan amendments where these amendments will better meet LOS objectives, particularly, but not only, in Forests historically dominated by single-story LOS.

Response to part 2): The project is only proposing to commercially treat LOS stands that are multi-stratum with large trees that is above or at HRV and move these stands toward single-

stratum with large trees with no net loss of LOS. This is already allowed under the East-side Screens, consequently, a Forest Plan amendment will not be needed to commercially treat multi-stratum with large tree stands. The interdisciplinary team for the SAFR project considered the need to remove trees greater than 21" dbh, especially trees such as white fir when they were competing with smaller, more desirable ponderosa pine, however, the Decision Marker did not feel that this situation occurred enough to warrant a Forest Plan amendment.

Topic: The SAFR does not thin enough trees to meet the purpose and need

Comment: The SAFR is not treating the land as thoroughly as possible leading to marginal reductions in fuels and the risk of catastrophic wildfires. The EA is replete with information on why the project is necessary and in general terms what is intended to happen on the ground. But nowhere is there any quantifiable information to show how much biomass is actually being removed. Granted there are acres of various treatments, discussion about "upper management zones", and diameter limits but the reader can not determine if enough of the fuels are being removed.

In fact there is reason to believe that not enough is being removed.

We have seen many different fuel reduction treatments over the past several years and many of the monitoring trips always result in the agency representatives saying we should have removed more. Yet AFRC fails to see this monitoring information being factored in the next project.

The SAFR is just one more example of not applying what we have learned in previous projects.

Under Direct and Indirect Effects of Alternatives 2 and 3 it states "*None of the alternatives result in enough improvement to in [sic] seral/structural class composition to reach Condition Class 1, however there is improvement for both Alternatives 2 and 3 as shown in the table above.*" (Emphasis added.)³

In the absence of any direct measures of how much is actually proposed to be removed, AFRC relies on Table 83: Product Volumes and Values by Alternatives. This table shows the estimated acres and total sawlog volume for the various treatments by alternative. For Mechanical Thinning 1 (≥ 1.5 mbf/ac) under Alternative 2, it shows 6,452 mbf from 3,082 acres. This equates to an average of 2.12 mbf/acre removed. For the other two thinning regimes, the average volume/acre removed is 1.01 and 0.24 mbf/acre. Since the EA gives no indication of the existing inventory volume, AFRC believes that an estimate of 5 to 6 mbf/acre existing is not unreasonable. Therefore the three thinning regimes remove one-half of the existing volume at most and about five percent at the least.

If the SAFR is to truly reduce fuel loads and do it in a manner that won't require re-entering in the near future, the proposed action should remove more volume per acre. (10-14)

³ SAFR EA page 146.

Response: The thinning treatments proposed for the SAFR project were designed to meet the purpose and need and objectives for the project (EA page 16). Analysis of the effects of the action alternatives are found on pages 82 to 345 of the EA. The Fuels models were used to display the effects of the action alternatives and how the alternatives meet the Purpose and Need for the project (EA, pages 129 - 156).

Topic: Whychus Wild and Scenic River

Comment: The EA does not disclose sufficient information to analyze the effects of treating stands in the Whychus Wild and Scenic River corridor. Far more analysis is needed. A Wild and Scenic River Plan is yet to be completed (6.3).

Response: About 366 acres, including 117 acres of plantations, located in the river corridor would be thinned, mowed, and prescribed burned. The 366 acres is outside the Riparian Habitat Conservation Area (RCHA) boundary. There would be no changes in fish habitat, measurable sedimentation, or changes in stream temperature. The Fisheries Outstandingly Remarkable Value (ORV) would be protected (EA, pages 320 and 323). Until a management plan is written, the river corridor is managed as MA-17, Wild and Scenic River, in the Deschutes National Forest LRMP. A summary of the ORVs are found on pages 336-337 of the EA.

Topic: Economics analysis

Comment: The Economics analysis in Chapter 3 of the EA is woefully inadequate. For one thing there is no discussion and no attempt to quantify the economic impacts of the project. For instance, what is the impact on jobs, payroll, payroll taxes, 25% payment to counties, etc? (10-8)

Response: Impacts related to employment are discussed in the EA on page 341, albeit in a qualitative manner rather than a quantitative manner as noted by the commenter.

Comment: In addition, there is no comparison of the costs of reducing fuels versus potential costs of wildfire suppression in the absence of treatment. In fact the EA states “Cost and benefits associated with reducing the risk of moderate to high severity wildfire were not assigned a dollar value.”⁴ Why not? Isn’t this the fundamental reason for the project? The agency should be showing the public how best to spend its tax dollars. (10-8)

Response: The economic analysis for the SAFR EA focused on comparing the market costs and returns between the action alternatives.

Comment: The assumed delivered log prices in Table 81 are reasonable. AFRC could argue the values are not entirely accurate in today’s market but based on conversations with members, the figures will work for the purpose of this analysis. The same is true for the \$25/ton assumed price for chip or biomass prices.

However, on the same page, there is an assumption that AFRC must contest. The assumption that logging costs for Alternative 2 will be higher than Alternative 3 is wrong.

⁴ SAFR EA page 337.

Alternative 2 will remove trees with an average diameter greater than Alternative 3. It is a common understanding that the larger piece size (on average), the lower the unit cost. To assume logging costs are going to be 5% higher for Alternative 2 that has a higher average diameter to be removed is simply wrong. It should be just the opposite. (10-10)

Response: It appears that the EA may not have been clear on what was meant by the statement, "Total logging costs under Alternative 2 would be 5% higher to allow for the removal of trees between 12" and 21" dbh." Logging costs were computed on a per acre basis, not on a cost per unit of volume or piece-size basis.

Comment: Pages 331 (page 340) and 332 (page 341) discuss wildfire costs (even though earlier the EA said it would not quantify the costs and benefits of reducing the risk of wildfire). Table 82 on page 332 gives no source for the data. Furthermore, why does the table only show costs from 1987 through 1997? Why not use costs to the last fire season? Certainly that data is available. In addition, the average costs for the Sisters Ranger District are significantly low when compared to actual costs of fires there in 2002 and 2003. (10-9)

Response: At the time of the analysis for the EA the data in table 82 was readily available from past projects. In addition, in the paragraph after table 82 there are costs for more recent fires from 2002 and 2003 (Eyerly, Cache Mt. and the B&B fires)

Comment: On page 332 (page 341) the EA discusses employment and the effect on local communities but again there is no quantification of this effect. In the past the Deschutes National Forest and Sisters Ranger District have relied heavily on Oregon inmate crews for a lot of hand work associated with fuel reduction. Do you plan to do that with this project? If so, what is the effect on local jobs? (10-11)

Response: The EA contains a "Wood Utilization Strategy." In this strategy it is noted that "The objective of this project is to utilize as much of the thinned material as possible through commercial means to help offset the costs of meeting project objectives." This strategy also notes, "...there is uncertainty regarding future technology, markets and funding for the disposal and utilization of the material generated by thinning; consequently, flexibility is incorporated into the project to be able to take advantage of new technology, markets and funding sources (EA, page 50)."

Comment: Tables 83, 84, and 85 on page 335 show the costs and returns for the project. As discussed earlier, the SAFR is not proposing to remove enough fuel or biomass. In Table 84, one sees that the average volume removed (sawtimber mbf) for mechanical thinning 1, 2, and 3 is 2.12, 1.01, and 0.24 mbf/acre respectively.

Since there is no indication in the EA that could be found of existing inventory volume, AFRC assumes is to be in the range of 5 to 6 mbf per acre. If this is the case, then mechanical thinning 1, the heaviest treatment, is not even removing one-half of the standing volume.

If the project were to remove more, for instance, an average of 3 mbf/acre for all 11,897 acres, then the return would be more on the order of \$11 million dollars rather than the

\$4.2 million dollars displayed in Table 84. This would significantly reduce the net loss, provide more fiber for the market, and result in a better overall project because fuel reduction would be better. (10-12, 10-13)

Response: Agreed, however, our estimates are lower than 3 mbf/acre because much of the project area is dominated by small second growth ponderosa trees. The Purpose and Need of the project is not centered on economic efficiency

Topic: Healthy Forest Restoration Act (HFRA)

Comment: Explain how the SAFR Project is consistent with the Community Wildfire Protection Plan (CWPP) (5.0, 10.3).

Response: The EA was designed to reduce hazardous fuels adjacent to communities at-risk as outlined in Great Sisters Country (GSC) CWPP (EA, pages 16, 22, and 123). Collaboration in project design was conducted with the GSC CWPP steering committee (EA, page 29-31).

Comment: According to the Interim Field Guide the SAFR project should proceed as a HFRA authorized project (10-1).

Response: Our interpretation of HFRA legislation concluded that stand density reduction beyond that needed to reduce fire risk under the HFRA authorized hazardous fuels treatments project(s) is limited to forest health issue pertaining to an imminent catastrophic risk due to an occurring epidemic of disease and/or insect outbreak. Since the project area does not currently meet this condition, the District desire to address forest health issues could not be adequately achieved using the definitions and authorities outlined in the HFRA. The District concluded that stand density management to meet forest health objectives was not synonymous with hazardous fuels reduction. The action alternatives result in a reduction in crown bulk density.

Comments: Disclose how the SAFR Project is part of an Annual Program of Work per the Healthy Forest Restoration Act (HFRA) (5.1).

Response: The Sisters Ranger District treats about 600-800 acres per year of fuels reduction work through a combination of thinning, mowing, and prescribed burning. While consistent with the goals of HFRA, the SAFR Project is not an HFRA project per se. The SAFR EA is subject to notice, comment, and appeal under 36 CFR 215.

Comment: Describe the collaboration efforts of the SAFR Project (5.2).

Response: The collaborative process for the SAFR Project was extensive and involved a high level of public involvement (EA, pages 29-31). The second action alternative (Alternative 3) was developed following public input (EA, page 32).

Comment: Describe how the SAFR Project complies with the old growth and large tree statutory language in HFRA (5.3).

Response: The SAFR Project is not technically an HFRA project. However, stand density treatments in LOS contribute to the maintenance and restoration of old-growth stands to pre-fire

suppression conditions (EA, pages 92-99). The project moves some Multiple-strata LOS to Single-strata LOS. All LOS will remain LOS after treatment..

Comment: Explain how the SAFR Project complies with the Deschutes National Forest Land and Resource Management Plan (5.4).

Response: The project is fully consistent with the Deschutes National Forest Land and Resource Management Plan (LRMP), as amended by the Inland Fish Strategy (INFISH) and the East-side Plan Amendment No. 2 (Eastside Screens) (EA, pages 19-21). The project follows all relevant standards and guidelines outlined in the LRMP, except for MA-7, Deer Habitat, which requires a Forest Plan amendment.

Comment: Explain the methodology and process for determining the fire condition class and fire regime used in the SAFR Project at the site specific level (5.5).

Response: The methodology for determining fire regime and condition class is described in the assessment (EA, pages 114-118). The fire regime is based on plant association group mapping done by the Deschutes National Forest (EA, page 117). Most stands can be grouped into a specific plant association. Condition class was determined using a method developed by the Central Oregon Fire Learning Network and applied to the project area (EA, page 117; see map, page 114). An explanation of fire regime and condition class can be found on pages 115 and 118, respectively, in the EA.

Comment: What is the at-risk community boundary used in the SAFR Project? Explain how the WUI boundary was determined? (3.4, 5.6, 10.3).

Response: A description of the Wildland Urban Interface (WUI) can be found in Chapter 4 of the Greater Sisters Country Community Wildfire Protection Plan (GSC CWPP). The WUI boundary includes the at-risk communities outlined in the GSC CWPP and the EA (EA, page 123). The planning area boundary was determined by the GSC CWPP working group.

Comment: The Wildland Urban Interface (WUI) boundary for the project area exceeds the requirements established by HFRA (5.4).

Response: The WUI boundary is based on the Greater Sisters Country Community Wildfire Protection Plan which was developed by the collaborative group as described in the HFRA. The WUI boundary was not determined by the Forest Service.

Topic: Alternatives

Comment: I support Alternative 2 (1.0).

Response: No response is necessary.

Comment: Ochoco Lumber supports the Purpose and Need for Action (4.0).

Response: No response is necessary.

Comment: We support a modified Alternative 2 that harvests trees greater than 21” dbh (4.1). We urge your planning team to consider a Forest Plan amendment to allow harvest trees over 21” dbh (4.2, 4.3).

Response: Generally, there are relatively low numbers of 21”+ dbh trees per acre across the project area (EA, pages 109-110). Thinning up to 21” dbh meets the Purpose and Need of meeting Forest Health objectives (EA, pages 85-113). The SAFR Project is consistent with the East-side Screens.

Comment: A solution that opens up the crown cover and reduces the potential for a significant crown fire would best protect our residential areas (7.0).

Response: Both action alternatives reduce crown bulk density, surface and ladder fuels, on about 13,000 acres in the project area (EA, pages 142-143). Active and passive crown fire is reduced in the action alternatives (EA, page 143). However, Alternative 2 achieves both forest health and fuels reduction concerns and best meets the Purpose and Need for the project.

Comment: Deschutes County and Project Wildfire support and endorse Alternative 2, the proposed action. (8.0).

Response: No response is necessary.

Comment: We submit that further reducing crown densities by removal of trees up to 21” dbh do in fact reduce fire hazard due to the mitigation of crown fire and reducing the potential for plume/fuels dominated wildfire (8.1).

Response: Protecting structures, property and human life and safety through the reduction of hazardous fuels are important elements of the Purpose and Need for action (EA, page 16). The action alternatives reduce crown bulk density, surface and ladder fuels, on about 13,000 acres (EA, pages 142-143) in addition to reducing active and passive crown fire (EA, page 143). While both action alternatives meet hazardous fuels reduction objectives, Alternative 2 better addresses forest health objectives of treating density management and insect and disease issues than Alternative 3 (EA pages 76-81).

Comment: Treating hazardous fuels directly reduce wildland fire suppression costs and this must be an important selection criterion for this analysis (8.2).

Response: Wildfire costs as related to the project are discussed in the assessment (EA, pages 340-341). It is assumed that firefighters would be better able to control wildfires under the alternatives that reduce surface and ladder fuels and crown bulk densities the most, keeping overall size of wildfires smaller and resulting in lower total costs for wildfire suppression (EA, page 340). While both action alternatives meet hazardous fuels reduction objectives, Alternative 2 better addresses forest health objectives than Alternative 3 (EA pages 76-81).

Comment: My choice is Alternative 3, followed by Alternative 2 (9.1)

Response: No response is necessary.

Section II

Sierra Club Letter dated November 14, 2007

The following set of comments was received from the Sierra Club in a letter dated November 14, 2007 during the second EA 30-day comment period. Comment citations refers to page and paragraph (par) number.

Comment: When conducting commercial thinning projects, land managers should simultaneously take the opportunity to implement other critical aspects of watershed restoration especially reducing the impacts of road systems and livestock grazing (where applicable) and establishing the ecological processes that will allow streams and fire regimes to recover (Comment page 22, par 5)

Response: Watershed restoration is outside the scope of the SAFR EA (EA, page 16). Other past, present and reasonable foreseeable future projects, including stream restoration and road management actions are listed in the EA (page 82 -84). There is no livestock grazing within the SAFR Project Area.

Comment: Restoration of ecological *processes* that are resilient and self-sustaining is essential. Restoration of forest *structure* and stand appearance alone is ultimately a shallow self-defeating approach, requiring continuous expenditures of money and resource efforts to maintain (Comment page 22, par 6).

Response: Restoration of fire as a disturbance process is part of the Purpose and Need for the SAFR project (EA p.16). Ecological processes are in part based on the array of ecological structures (stand conditions) found in a particular area.

Comment: Don't let logging economics determine restoration priorities (Comment page 23, par 1).

Response: Logging economics are not part of the Purpose and Need of the SAFR project (EA page 16). The priority of the SAFR project is based on collaboration and communication with local efforts and government, i.e. Sisters City Council and the Greater Sisters Country Community Wildfire Protection Plan (EA, pages 29-31).

Comment: As the SAFR project proposes logging trees with diameters above potentially legitimate fire risk reduction purpose and need goals, the EA must differentiate to the public and decision-maker how much is scientifically controversial or insupportable logging of mature and old fire resistant trees (Comment page 23, par 1).

Response: The controversial aspect of the proposed action is addressed through identification of Key Issue No. 1 (EA, pages 31-32). Alternative 3, developed in response to Key Issue No. 1, is described in the EA on page 41. It is important to remember that fuels reduction *and* forest health are part of the purpose and need for the project (EA, page 16).

Comment: Use the historic range of variability as a guide, but don't focus on seral stage. Consider also the historic abundance of ecological attributes like large trees, large snags, roadless areas, etc. all of which have been severely reduced from historic norms. In such

areas as SAFR, past and ongoing cumulative impacts have altered natural forest throughout the project area, placing emphasis on the importance of maintaining all existing mature and old trees, which are essential to the restoration of the area's ecosystems and wildlife habitat (Comment page 23, par 2).

Response: Forest health, sustainability and resiliency are included in the Purpose and Need for the SAFR project (EA, page 16). Effects of the alternatives on forest health, sustainability, and resiliency are described in the EA on pages 85-113. Historic Range of Variability (HRV) and how it is used in this analysis is described in the EA on page 92. The use of the HRV analysis is a requirement of the Eastside Screens. Historic Range of Variability is used as a reference point, not a hard goal to achieve. The effect of the alternatives on late and old structure (LOS) is described in the EA on pages 97-113. Wildlife habitat aspects of LOS, including snags and down wood are described in the EA on pages 182-193. There are no Inventoried Roadless Areas within the SAFR Project Area.

Comment: New evidence indicates that far more of the “dry” forests, rather than being typified low severity fire regimes, were in fact dominated by mixed severity fire regimes (including significant areas of stand replacement fire), so mixed severity fire is an important part of the historic range of variability that should be restored. The goal should not be a uniform low severity regime, but rather a wide mix of tree densities in patches of varying size (Comment page 24, par 2).

Response: There is recognition built into the classification systems using either HRV or Fire Regime Condition Class systems to allow for mixed severity fires as a natural part of the low-severity high frequency fire regime identified for the majority of the SAFR area (reference HRV discussion EA page 92, and FRCC discussion EA pages 114-118, and 137-154).

The HRV discussion describes ranges of conditions rather than a single point of reference for each seral stage. The Fire Regime Condition Class system allows up to a 33% departure from reference conditions to be Condition Class 1. This allows a range of vegetation conditions to exist under Condition Class 1

Achievement of uniform conditions reflective of a low severity fire regime is not the goal of the SAFR project, rather it's to move forest vegetation and fuels conditions closer to those supporting a sustainable level of disturbances including insects, disease, and fire. Project objectives are to promote the development of old growth forests and large trees (EA, page 16).

Comment: Prioritize treating dry forest types at low elevation and on south slopes. Treatments in the wildland urban interface may also be a priority, but don't define the WUI too broadly, because fire hazard can be reduced by treating the area immediately adjacent to structures and this home ignition zone is usually on non-federal lands (Comment page 24, par 3).

Response: The SAFR area is entirely located within the WUI identified in the Greater Sisters Country Community Wildfire Protection Plan. Risk rating from the Community Wildfire Protection Plan is summarized in the EA on page 121. The treatment of defensible space adjacent to private property is an objective of the project (EA, page 16).

The SAFR project area occupies the low elevation area between the Cascades and the community of Sisters and surrounding areas.

Comment: Prioritize treatment of the dense young stands that are most “plastic” and amenable to restoration. Another priority is to carefully plan and narrowly target treatments to protect specific groves of fire-resistant, old growth trees that are threatened by in-growth of small fuels, but don’t focus on rigid density reduction targets (Comment page 24, par 4).

Response: The primary forest vegetation prescription, thinning from below, is described in the EA on pages 99-100. As described in the EA on page 100 tree densities would vary under this prescription both across the project area and within treated stands.

Comment: Thin from below, retaining the largest trees, or use “free thinning” with a variable diameter cap ranging between 8 to 18” diameter (18” at most, used only where dense fast young tree growth has resulted in unnatural stand densities), so that some trees of all small and moderate size classes are retained (Comment page 24, par 5).

Response: Alternative 3 (EA, pages 41 and 107-110) provides detailed analysis to address the effects of a lower diameter cut limit than that in Alternative 2.

Comment: Remember that diameter limits are a proven scientifically effective tool for forest management. Don’t reject the tool out of hand (Comment page 25, par 2).

Response: Both of the treatment alternatives incorporate diameter cut limits. For Alternative 2 (EA, page 45), the diameter limit is 21 inches and for Alternative 3 the diameter limit is 12 inches (EA page 41).

Comment: Recognize that thinning affects fire hazard in complex ways, possibly even making fire hazard worse because thinning: creates slash; moves fine fuels from the canopy to the ground (increasing their availability for combustion); thinning increases ignition risk; thinning makes the forest hotter, drier and windier; and makes sites resources available that could stimulate the growth of future surface and ladder fuels (Comment page 24, par 3).

Response: The proposed thinning would reduce stand density and increase crown base height (i.e. reduce ladder fuels). These are two components of the overall proposed action to address fire hazard. Treatment of surface fuels is also included in both Alternatives 2 and 3 that address the reduction of fuels on the ground surface, which will reduce the intensity of a surface fire (EA, pages 127-128). Thinning slash not utilized as a biomass product will be piled and burned to abate any fire hazard.

The FlamMap model was used to address the effects of the alternatives on potential fire behavior (EA, pages 129-133). The FlamMap model operates on a landscape file with inputs for: Elevation, Slope, Aspect, Fuel Model: Crown Class (Crown Closure), Crown Bulk Density, Crown Base Height, and Crown Height.

The landscape file contains values for all of these input themes at a resolution of about 1/6th acre. Each of these themes can be adjusted to account for changes due to proposed treatments. The model makes adjustments for wind speed and fuel moisture based on canopy density and fuel bed shading from the tree canopy. In this way windier and drier conditions due to decreased forest canopy may be accounted for.

The current fire hazard is largely attributable to the existing shrub dominated understory in the SAFR area. This fuel type is represented by a combination of Fuel Model 6, dormant shrub, and Fuel Model 9, Forest Litter. The intent is to change the current surface fuel conditions to that which would support lower fire intensity, represented by a combination of surface fuel model 8, and Fuel Model 9 (EA, p. 133). Given that tree canopy would be reduced by the thinning treatments, with associated higher wind speeds and increased drying of fuel, the following (Table 1) is shown to display the different potential fire behavior that would result under varying conditions.

The shaded and bold values compare the potential fire behavior (Flame Length) that could be expected under higher fuel moisture and lower wind speed conditions with existing fuel model 6, flame length = 5.7 ft., compared to lower fuel moisture and higher wind speed conditions with post treatment fuel model 8, flame length = 2.6 ft.

Proposed fuel treatments in Alternative 2 and 3 reduce surface fuels with a resulting potential fire intensity that is lower than would be expected under Alternative 1. This result occurs considering the higher wind speeds and lower fuel moisture that may be associated with reduced forest canopy cover, reduced shading of surface fuels and increased wind speeds.

This effect is reflected spatially for the SAFR area in the EA on pages 133-156.

Table 1 – Flame Length by Fuel Model, Wind Speed and 1 hr Fuel Moisture

1hr Fuel Moisture Percent and Fuel Model	Wind Speed						
	5	10	15	20	25	30	
2	6	8.4	12.7	16.2	19.3	22.1	22.3
	8	1.5	2.3	2.6	2.6	2.6	2.6
	9	4.1	6.8	8.5	11.7	14	16.1
3	6	7.7	11.6	14.8	17.7	19.6	19.6
	8	1.4	2.1	2.3	2.3	2.3	2.3
	9	3.7	6.2	8.5	10.6	12.7	14.5
4	6	7.1	10.8	13.7	16.4	17.4	17.4
	8	1.3	2	2	2	2	2
	9	3.4	5.7	7.8	9.8	11.6	12.5
5	6	6.7	10	12.8	15.3	15.7	15.7
	8	1.2	1.8	1.8	1.8	1.8	1.8
	9	3.2	5.3	7.2	9	10.8	11.1
6	6	6.3	9.4	12.1	14.3	14.3	14.3
	8	1.1	1.7	1.7	1.7	1.7	1.7
	9	3	5	6.8	8.5	9.9	9.9
7							

	6	5.9	9	11.4	13.2	13.2	13.2
	8	1.1	1.5	1.5	1.5	1.5	1.5
	9	2.8	4.7	6.4	8	9.1	9.1
8	6	5.7	8.6	10.9	12.4	12.4	12.4
	8	1	1.4	1.4	1.4	1.4	1.4
	9	2.7	4.5	6.1	7.7	8.5	8.5

Thinning creates a potential short-term increase in hazard in exchange for a long-term reduction in hazard. Although the threat of crown fire is greatly reduced by thinning, the slash created by thinning is a potential hazard until it is treated by mechanical means or by prescribed fire (EA, pages 46-47 and 127-128). Fuels treatment would generally occur within 1- 3 years following thinning activity.

Comment: There is growing evidence that in order to be effective, mechanical treatments must be followed by prescribed fire. But the effects of such fires must also be carefully considered (Comment page 25, par 4).

Response: Prescribed fire is included as a proposed action in both Alternatives 2 and 3 (EA, page 41). The effects described for the alternatives include these proposed activities.

Comment: Don't thin to uniform spacing (Comment page 25, par 5).

Response: Uniform spacing is not part of the proposed action in either Alternative 2 or 3 EA, pages 46-47). Conifer stands will be thinned from below and reflect a “gappy, patchy, clumpy” tree distribution.

Comment: Establish diversity and complexity both within and between stands (Comment page 25, par 6).

Response: See the above comment.

Comment: Thin heavy enough to stimulate development of some patches of understory vegetation, but don't thin so heavy that future development of the understory becomes a more significant fuel problem than the one being addressed by the current project (Comment page 26, par 2).

Response: Guidelines for shrubs are being followed (EA, pages 48-49).

Comment: The scale of patches in variable density thinning regimes is important, scale should range from small to large (Comment page 26, par 3).

Response: Uniform spacing is not part of the proposed action in either Alternative 2 or 3, (EA, p. 46). Conifer stands will be thinned from below and reflect a “gappy, patchy, clumpy” tree distribution.

Comment: Retain and protect under-represented species of conifer and non-conifer trees (Comment page 26, par 4).

Response: One aspect of the strategy to improve Forest health is to restore historic tree species composition (EA, page 47).

Comment: Recognize that thinning captures mortality and that most stands (especially plantations) are already lacking critical values from dead wood due to unnatural stand history of logging, planting, and disrupted natural processes (Comment page 26, par 5).

Response: Alternatives 2 and 3 include mitigation measures for snags and down wood (EA, p. 69). Effects of the alternatives on snags and down wood are described in the EA on pages 184-188, 206-207, and 225-226.

Comment: Retain abundant snags and coarse wood and green trees for future recruitment of snags and wood (Comment page 26, par 6).

Response: As part of normal operating procedures, all snags will be retained unless they are a threat to human health and safety following OSHA guidelines. Thinning conifer stands from below (EA, pages 45 and 53-55) will leave abundant trees for future snag and coarse wood recruitment. It is expected that Alternative 2 and 3 will comply with the recommended management guidelines for adequate retention of snags, coarse woody debris, and fine organic matter for surface cover, biological activity, and nutrient supplies for maintaining soil productivity (EA, pages 256-257).

Comment: Retain nutrients on site when using whole tree yarding (Comment page 26, par 7).

Response: The design of Alternatives 2 and 3 includes mitigation measures (best management practices) for soil nutrients and site productivity (EA, pages 69-70). Effects of the Alternatives on soil productivity are described in the EA on pages 263-278.

Comment: Avoid impacts to raptor nests and enhance habitat for diverse prey species (Comment page 26, par 8).

Response: The design of Alternatives 2 and 3 includes mitigation measures for protection of raptor nests and habitat (EA, pages 69-70). Effects of the alternatives on raptor habitat are described in the EA on pages 170, 202-203, 209-213 and 232-233.

Comment: Take proactive steps to avoid the spread of weeds (Comment page 26, par 9).

Response: The design of Alternatives 2 and 3 includes mitigation measures consistent with management direction for the prevention of invasive plants including weeds (EA, pages 50 and 72-73). Effects of the alternatives on invasive plants are described in the EA on pages 297-309. The SAFR project is consistent with the direction in the Region Six Record of Decision (ROD) for Invasive Plant Management.

Comment: Buffer streams from the effects of heavy equipment and loss of bank trees and trees that shade streams (Comment page 27, par 1).

Response: The design of Alternatives 2 and 3 includes mitigation measures (best management practices) for protection of hydrology and fish habitat (EA, pages 70-72). Effects of the alternatives are described in the EA on pages 278-296. Mitigation measures state: No ground based equipment will be used in Riparian Habitat Conservation Area (RHCA); there will be no treatment within 60 feet of Whychus Creek; no felling of trees with 30 feet of Trout Creek (EA, page 71). Whychus Creek is listed as 303(d) for water quality (EA, pages 286-287). The action alternatives would not affect water temperature because thinning and burning would not remove the shade component along any stream channel (EA, page 295).

Comment: Protect soils by avoiding road construction, minimizing the use of heavy ground-based machinery, and avoiding numerous large burn piles (Comment page 27, par 2).

Response: Techniques will be used to protect the soil resource by minimizing the extent of new soil disturbance from mechanical treatments by using existing log landings and skid trail networks whenever possible (EA, page 49). Skidders and tractors will be restricted to designated and the amount of traffic from other specialized equipment off of designated areas will be limited (EA, page 49).

Comment: Acknowledge and consider (Comment page 27, par 3):

a. Removing commercial sized logs, and associated roads and slash disposal often conflicts with other resource values..... (Comment page 27, par 3)

Response: The description of treatment strategies to protect resource values are discussed thoroughly in the EA (pages 43-51). The EA also contains a suite of mitigation measures that would be taken to minimize, avoid, or eliminate potentially significant impacts on various resources (EA, pages 66-75).

b. Removal of commercial sized logs can make the stand hotter, dryer and windier, making fire hazard worse instead of better; (Comment page 27, par 3)

Response: In Region Six the minimum piece size for a commercial sawlog is a eight foot long log that has a six inch top. Most stands will be thinned from below (EA, pages 43-45) and not all stands will be uniformly thinned, but will have a “gappy, patchy, clumpy” distribution of trees, to reflect the historic tree species composition. Thinned trees will always be the smaller trees at any particular location. In addition, the treatment of ground fuels will be given higher priority in units that have been thinned (EA, page 45).

c. Commercial logging tends to present significant risks of weed infestations.... (Comment page 27, par 3)

Response: The effects of the action alternatives concerning invasive plants are discussed in the Botany section of the EA (pages 297-309). Three invasive plants are a concern: spotted and diffuse knapweed and St. Johnswort (EA page 301). Mitigations have been developed to reduce, but not eliminate weed risks associated with the project (EA pages 307 and 72-73).

d. Removal of commercial logs necessitates road related impacts on soil and water resources (Comment page 27, par 3).

Response: Impacts from the action alternatives on Soil Productivity are thoroughly discussed in the EA (pages 250-278). Estimated detrimental soil conditions after treatment on a unit by unit basis are outlined in Table 65 (EA, pages 266-272). The action alternatives will comply with Deschutes Forest plan standards and guidelines SL-3 and SL-4 and regional Policy (FSM 2520, R-6 Supplement No. 2500-98-1 for maintaining or enhancing soil productivity (EA, page 273). Sediment production will be negligible because no detrimental soils acres would occur in Riparian Habitat Conservation Areas (EA, pages 293-296). In addition, no ground-based equipment will be used off of existing roads in Riparian Habitat Conservation Areas (EA, page 296). A total of 84 acres of RHCA will be treated in the project area (EA, page 291). This is about 0.5% of the total treatment area.

e. “Capturing mortality” reduces future snag habitat that is already deficient. (Comment page 27, par 3)

Response: Alternatives 2 and 3 include mitigation measures for snags and down wood (EA, page 69). Effects of the alternatives on snags and down wood are described in the EA on pages 184-188, 206-207, and 225-226. The purpose and need for the project does not include “capturing mortality: (EA, page 16). Levels of live tree retention in all units will provide adequate numbers of green tree replacements to provide future snag and down log levels (EA, page 225).

f. Fuel reduction has little or no beneficial effect on low severity fires or on high severity fires (Comment page 27, par 3).

Response: The project area has experienced a number of wildfires since 1919 (EA, pages 82-83). At the same time a number of projects have treated hazardous fuels (EA, page 84). Some of these treatments helped to slow the rate of spread of wildfire, most notably during the 2006 Black Crater Fire. All fourteen communities in the Greater Sisters country Community Wildfire Protection Plan area are rated as Extreme or Medium-High for risk from wildfire (EA, page 123). Both action alternatives show a reduction in the ability to carry an active crown fire through crown bulk density reduction (EA, page 143).

Also see “An Assessment of Fuel Treatments on Three Large 2007 Pacific Northwest Fires”, Pacific Northwest Region, USDA Forest Service and Oregon State Office, USDI Bureau of Land Management, December 2007. This report provides an assessment of the effectiveness of fuel treatments on the GW Fire which occurred on the Sisters Ranger District in the Summer 2007.

g. Uncertain rates of tree mortality and how many young trees need to be retained to ensure proper recruitment of future old trees and snags (Comment page 28, par 2).

Response: Alternatives 2 and 3 include mitigation measures for snags and down wood (EA, p. 69). Effects of the alternatives on snags and down wood are described in the EA on pages 184-188, 206-207, 225-226. Variable stand density thinning (EA, pages 43-45 and 107-108) will leave fully stocked stands that could supply future recruitment of old trees and snags.

h. uncertainty about how much the canopy can be reduced without making the stand, hotter, dryer and windier (Comment page 28, par 2).

Response: The proposed thinning would reduce stand density and increase crown base height, aka reduce ladder fuels. These are two components of the overall proposed action to address fire hazard. Treatment of surface fuels is also included in both Alternatives 2 and 3 that address the reduction of fuels on the ground surface, which will reduce the intensity of a surface fire (EA pages. 56-62 and 126).

i. Uncertainty whether logging has any significant beneficial effect on controlling insects and diseases like mistletoe (Comment page 28, par 2).

Response: The role of insects and disease in forest stands is discussed in the EA on page 91. Moving forest stand densities to conditions similar to the natural or historic range of variability is expected to reduce the risk of widespread insect and disease outbreaks (EA, page 91). It is expected that without some level of density management, trees, including old growth trees, will experience high levels of mortality (EA, page 105). Thinning under the action alternatives would reduce competition stress on larger trees and make younger stands more resilient to insects and disease (EA, page 108 and 111). Under Alternative 2 30% of the stands would be above the Upper Management Zone and under Alternative 3 41% of the trees would be above the Upper Management Zone (EA, page 77). Insects and disease will still be present in the project area at endemic levels.

Comment: Thinning can increase fire hazard instead of decrease it because it makes the forest hotter, dryer, and windier and stimulates the growth of future ladder fuels (Comment page 28, par 3).

Response: The proposed thinning would reduce stand density and increase crown base height, aka reduce ladder fuels. These are two components of the overall proposed action to address fire hazard. Treatment of surface fuels is also included in both Alternatives 2 and 3 that address the reduction of fuels on the ground surface, which will reduce the intensity of a surface fire (EA pages. 56-62 and 126). It is acknowledged that forests grow and change over time, including in-growth of ladder fuels, and that treatments would possibly be needed in the future. Any future treatment would need site specific NEPA analysis.

Comment: Effectiveness of fuels treatment overstated because: a) weather instead of fuels is the controlling factor, and b) there is a relatively low probability that any given treated area will be affected by severe fire during the ~20 year period that fire hazard might be reduced (Comment page 28, par 4).

Response: a) The analysis of the effects of the alternatives on potential fire behavior was done using extreme conditions, a problem fire (EA, page 132). b) Fire occurrence and a comparison of historic to recent fires are described in the EA on pages 119-121.

Comment: Cumulative impacts of the SAFR project and other logging activities have not been addressed (Comment page 28, par 5).

Response: Forest vegetation cumulative effects are described in the EA on pages 105-113. There will be beneficial cumulative effects from creating forests more resistant to the adverse effects of wildfire, drought, insects, and disease as well as enhancing the recruitment of trees into the larger-tree category by favoring growth of dominant and co-dominant trees (EA, page 110). The indirect effects of the potential fire behavior include a landscape area larger than the SAFR Project Area to account for ignitions and movement of fire outside of the project area (EA, page 132).

Comment: A number of references cited to introduce differing opinion regarding the fire regime associated with ponderosa pine forest vegetation (Comment pages 32 – 39).

Response: The correct fire regime was used to classify ponderosa pine forests in the project area. Fire regime and condition class are discussed in the EA on pages 114-118, 127-128, 137, and 146.

The purpose and need for the SAFR project goes beyond restoring conditions that would support historic fire regimes. Reduction of fuel hazard is a primary part of the purpose and need, independent of the fire regime or condition class (EA, pages 14-16).

Comment: Climate change (Comment page 39, par 3).

Response: See response to the Westerling article discussed above. Climate change is also discussed in the Decision Notice for the project.

Comment: Many wildlife species utilize and depend upon (for varying amounts for at least some of their needs) dense thickets of vegetation and dead trees. We should not impose our human vision of neatness and order on the sometimes chaotic and “messy” patterns of nature, which numerous forest wildlife species require (Comment page 40, par 4).

Response: In areas outside Management Area 7, Deer Habitat, the Deschutes National Forest LRMP requires that a minimum of 10% of the area be retained as clumps that will provide screening for wildlife (LRMP, WL-59). In areas within Management Area 7 the Plan requires that a minimum of 40% of the area be retained as cover (EA, pages 47-49). These areas will be identified during project implementation. The effects of the alternatives on various wildlife species and habitat elements are described in the EA on pages 156-249.

The density of trees remaining after thinning would be variable between stands across the project area based on site capability. Densities would also be variable within stands by not treating some patches and by favoring the largest and healthiest trees available regardless of spacing (EA, pages 99-100). About 6,894 acres in the project area will not be treated.

Comment: We agree that ecosystems are driven and renewed by disturbance, while we also must be mindful of the often long intervals between disturbance events. (Comment page 41, par 1).

Response: The Purpose and Need for action acknowledges the need to restore the role of fire in the ponderosa pine ecosystem found in the project area (EA, page 16).

A main objective of the project is to improve forest health, sustainability, and resiliency and promote the development of old growth forest stands and large trees by reducing the uncharacteristically high levels of competing live vegetation and reintroducing the more natural role of low intensity ground fire (EA, page 16),

The design of Alternatives 2 and 3 are intended to meet this Purpose and Need, which would allow forest stands to develop over a longer period of time without the occurrence of a large high intensity disturbance. Insects, disease, and fire will still play a role in the disturbance regimes associated with the project area.

Comment: This (CEQ regulations 40 CFR 1500.6) should help the agency adopt and implement the objective of managing toward the “natural range of variability” not just in terms of seral stages, but in the fullest spectrum of ecological structures, functions, and processes. Under this view, it makes no sense to conduct regeneration harvest, salvage, or capture mortality from mature forests when there is still variable density thinning to do in dense young stands, and it makes no sense to remove fire-tolerant trees large than 15-18 inches dbh (or “capture mortality” from these and larger size classes), when there are fire-intolerant trees smaller than 12” dbh that need to be removed from fire suppressed stands near existing roads (Comment page 41, par 3).

Response: Proposed treatments are described in the EA on pages 56-62. No regeneration harvest or salvage is proposed. Thinning from below is the primary forest vegetation treatment proposed for conifer stands in the project area (EA, pages 99-100). Primarily, thinning is not to “capture mortality” but to reduce crown bulk density (treat ladder fuels) and move stands below the Upper Management Zone to make stands more resilient to insects and disease (EA, pages 143 and 107-110). How the Historic Range of Variability was used in the design of the action alternatives is described in the EA on pages 92-94.

Note: There are several references in the comments on pages 42-44 that apply to the coast and western Cascades, these do not apply to the SAFR area because the studies apply to long-interval high severity fire regimes while the large majority of the SAFR area is within the short-interval low fire intensity fire regime. See the Response to Science appendix located in the SAFR EA.

Comment: Manage within the historic range of variability with restoration efforts that increase under-represented elements and reduce over-represented elements. Commenter lists several points that should be considered (pages 44 – 45).

Response: The Historic Range of Variability discussion in the EA identifies over- and under-represented stand structural elements (EA, page 92-94). In addition the Fire Regime/Condition Class discussion (EA, pages 137-154) reflects the same relationship for forest vegetation.

Effects of the alternatives on other elements including: snags, down wood, and shrubs are described throughout Chapter 3 in the EA.

Comment: All HRV references in the NEPA document must be clarified to specify a geographic and temporal scale and note that whether the same parameter is within the HRV at the more meaningful regional scale (Comment page 46, par 3).

Response: A larger watershed scale (Whychus Watershed Analysis) was considered in the project analysis by resource specialists (EA, pages 16, 21, and 88-89 and reports on file Sisters Ranger District). The historic conditions of the vegetation in the SAFR project area is described in the Whychus Watershed Analysis. This analysis indicates that fire played a role in creating open, fire climax forests across the planning area. The ponderosa pine and mixed conifer dry plant associations 90% and 9% of the project area, respectively, were part of a larger landscape patch dominated by medium/large ponderosa pine habitats with open canopies of 1 to 2 stories (EA, page 88).

Trends in the watershed analysis are addressed through the proposed action (EA, page 18). The temporal and geographic scale of the HRV analysis for SAFR is consistent with Forest Plan direction (Regional Forester's Plan Amendment No. 2) (EA, page 92).

Comment: Information regarding HRV is incomplete (Comment page 47, par 3).

Response: HRV is used as a "reference point from which change can be measured rather than a condition that ecosystem management tries to attain" (EA, page 92). Structural stages, Historic Range of Variability and Comparison to Current conditions are found on pages 92-95 of the EA.

Comment: We suggest that the agency needs to tolerate more dense stands while maintaining enough variability so that disturbances are controlled by discontinuities (e.g. disturbances are not contagious), then make sure that post-disturbance landscapes retain structural legacies and are allowed to recover their complexity (comment page 48, par 2).

Response: The project will implement a variety of treatments across the project area. Not all stands will be thinned (EA, page 18). In many areas with Management Area 7 a minimum of 40% of the area would be retained as cover (EA, page 47). All snags would be retained unless they pose a threat to human health and safety as defined by OSHA. In wildlife corridors only trees up to 4 inches dbh can be thinned (EA, page 47). Variability in forest vegetation condition is provided for in the action alternatives (EA, page 43-45). About 6,894 acres in the project area will not be treated.

Comment: The stand replacing could be either fire or regeneration harvest, so we could choose to delay the phase transition by not conducting regeneration harvest. It might also be persuasively argued that thinning in some cases actually can make forests more resilient to disturbance and forestall the phase transition (Comment page 49, par 3).

Response: No regeneration harvest is proposed in the SAFR project (EA, pages 43-45). Thinning from below is the only treatment proposed under both action alternatives.

Comment: Consider effects of birds on regulating insect populations (Comment pages 49-50).

Response: It is acknowledged that bird species play an important role in regulating forest insect populations. The effects of the project on snag using bird species and other bird species is discussed thoroughly in the effects analysis for wildlife (EA, pages 184-188, 206-207, and 225-226). The action alternatives will not adversely impact habitat for birds that feed on insects.

Forest insects and diseases help regulate a healthy forest.

Comment: The NEPA document failed to consider the beneficial effects of insects and disease (Comment pages 50-53).

Response: The role of insects and disease as disturbance agents in the project area are closely tied to vegetation patterns and structure (EA, page 91). Bark beetles prefer old trees in dense stands with low vigor. Thinning will help old trees last longer on the landscape by control stand density and making them more resilient to bark beetle mortality (EA, page 91 and 104-105). Conversely, beetles help to create snags and down wood and provide a food source for various bird species. However, large old trees are deficient across the landscape and it is imperative to improve the growing conditions of these trees while time permits (EA, pages 110-113).

Comment: There is little evidence that bug killed trees increase fire risk and that logging can help control insect pests (Comment pages 53-56).

Response: Thinning will not control insects in the project area. The point is that 98% of the Late and old Structure in the project area is above the Upper Management Zone and is considered as risk for bark beetle activity (EA, page 107). Without some level of density management, large old ponderosa pine trees which are deficient across the landscape, will continue to die from bark beetle activity (EA, page 105-107). Without some level of thinning, stands in the project area will continue to be dominated by small trees less than 21 inches dbh (EA, page 105).

Comment: Thinning can attract insects (Comment page 56, par 7).

Response: See the above comment.

Comment: “Good” fire is possible and may be preferable to the ground disturbance of logging (Comment pages 57-60).

The project area has had a number of man-caused and lightning fires between 1987 and 2001 (EA, page 119). In addition, a number of large fires have occurred since 1919 (EA, page 120). In 2006 alone, wildfire burned over 14, 000 acres in or near the project area (EA, page 120). Fourteen communities in the project area are classified as Extreme to Medium-High risk from wildfire (EA, page 123). Given this need (EA, page 16) it is imperative that hazardous fuels be reduced in the project area. Under the No Action alternative, there is a high percentage of area that supports high fire intensity and has a high burn probability (EA, pages 141-145).

Comment: Fuel reduction must focus on the smallest fuels and must consider the long-term costs of maintaining treatments.

1. Thinning trees smaller than 12 inches can help reduce fire risk (Comment page 60, par 4).

Response: Thinning small diameter trees does reduce crown bulk density and subsequent fire risk (EA, page 143). However, thinning small trees exclusively does not fully meet the purpose and need for action of improving forest health in the project area (EA, pages 16, 44-45, and 107-110).

2. The in-growth must be treated in order to retain the fuel reduction benefits of the original thinning (Comment page 60, par 5).

One of the objectives of the project is to restore the role of fire to ponderosa pine ecosystems (EA, pages 16 and 46-47). Fire will be one of the tools used to maintain treated stands over time (EA, pages 46-47). Additional NEPA analysis would be required if thinning is needed in the future to treat in-growth of trees.

3. Removing trees over 12 inches can actually make fire risk worse than doing nothing at all (Comment page 61, par 2).

Response: The use of the model FlamMap was used to predict fire behavior over time (EA, pages 129-156). Under the action alternatives, the number of acres supporting active and passive crown fire is less than under No Action Alternative (modeled at 30 mph and at 50 mph wind speeds) (EA, page 143).

4. Fuel reduction efforts should focus on live green stands, not post-fire salvage Comment page 61, par 3).

Response: Post-fire salvage is not proposed in the SAFR project (EA, page 40).

Comment: Don't focus on reducing canopy fuels (Comment pages 62-64).

Response: The silvicultural prescriptions designed to meet the purpose and need for action address both hazardous fuels reduction and forest health (EA, pages 43-45 and 49-51).

Comment: Fuel reduction thinning must retain enough trees to ensure long-term recruitment of future old-growth (Comment page 64, par 4).

Response: Treatments for conifer stands in the project area focus on 1) maintaining existing large trees (trees greater than 21" dbh); 2) moving mid-seral, second growth towards Late and Old Structure; and 3) Moving Multi-stratum Late and Old Structure to Single-strata Late and Old Structure (EA, page 45). All stands will be fully stocked after treatment (EA, pages 85-113).

Comment: Disclose the effect of removing trees over 12 inches (Comment pages 65-67).

Response: Effects of the alternatives are described in the EA, Chapter 3, Environmental Consequences.

Comment: Disclose the adverse effects of felling snags during fuel reduction treatments (Comment page 68, par 2).

Response: All snags greater than or equal to 10 inches dbh are to be retained unless they are a designated hazard as defined by OSHA (EA, page 68).

Comment: Risk reduction treatments in LSR's (Comment pages 68-69).

Response: The project area does not contain the Late Successional Reserve land allocation (EA, pages 19-21). The entire project area is east of the “owl line” (EA, page 19).

Comment: Disclose and consider the effects of thinning on late successional species (Comment pages 69-70).

The habitat for Late and Old Structure species is discussed in the EA on pages 182-184, 221-223 and 243.

Interior forest wildlife species specific to the project area include northern goshawk, Copper’s hawk, sharp-shinned hawk, and American Marten. These species are discussed in detail in the Wildlife section of the assessment (EA, pages 156-249).

There are two northern goshawk nest sites in the project area. Each nest core will have a 30-acre no treatment area around it. Within the post fledging area thinning will take place on 501 acres. Thinning was designed to meet goshawk requirements by maintaining current LOS and moving younger conifer stands toward LOS (EA, pages 211-212). While treatments may reduce current goshawk habitat, thinning is expected to move the ponderosa pine plant association towards its historic condition (EA, pages 211-212). The SAFR project is consistent with the standards and guidelines outlined in the Deschutes National Forest LRMP for northern goshawk as well as the Regional Foresters Forest Plan Amendment #2.

There are no known Cooper’s or sharp-shinned hawk nest sites in the project area. However, 172 acres of potential habitat will be thinned leaving 306 acres of potential habitat in the project area (EA page 209-210). The SAFR project is consistent with the standards and guidelines outlined in the Deschutes National Forest LRMP for as well as the Regional Foresters Forest Plan Amendment #2.

About 162 acres of American Marten habitat will be treated, leaving about 324 acres of habitat untreated (EA, pages 214-215). There are both negative and beneficial impacts to American Marten. Thinning will result in more open stands by reducing canopy cover, which may impact use and dispersal in the project area. Beneficial impacts should result from reducing risk (fire) to existing suitable habitat and facilitating the development of future habitat (EA, pages 214-215). The SAFR project is consistent with the standards and guidelines outlined in the Deschutes National Forest LRMP for American Marten.

All wildlife species identified as having potential habitat on the Deschutes National Forest that are Threatened, Endangered, Regionally Sensitive, or Management Indicator Species were considered for the SAFR project. Of those species, the ones that had potential habitat within the SAFR project area were analyzed. In addition, bird species identified as USFWS Birds of Conservation Concern and birds and within the Landbird Strategic Plan were analyzed if potential habitat existed within the SAFR project area.

Comment: Concerns about fuels management effectiveness (Comment pages 70-77).

Response: The proposed thinning would reduce stand density and increase crown base height, aka reduce ladder fuels. These are two components of the overall proposed action to address fire hazard. Treatment of surface fuels is also included in both Alternatives 2 and 3 that address the

reduction of fuels on the ground surface, which will reduce the intensity of a surface fire (EA pages. 53-55 and 127-128). The action alternatives were analyzed using FlamMap and results are found on pages 133-156 of the EA.

Prescribed fire is included as a proposed action in both Alternatives 2 and 3 (EA, pages 40-41).

Comment: Landscape fire (Comment pages 78-81).

Response: The model FlamMap was used to model fire behavior at the project area level (EA, pages 133-156).

Comment: Eastside and SW Oregon dry forest fire regimes are both similar and unique (Comment pages 81-84).

Response: The fire regimes used in the project analysis are based on plant community mapping done by the Deschutes National Forest (EA, page 117-118). Condition Class was determined utilizing a method developed by the Central Oregon Fire Learning Network (EA, page 117).

Comment: Consider the loss of hydraulic lift provided by trees to be thinned. Ponderosa pine and other trees are known to lift water from deep soil layers closer to the surface where it becomes available to the roots of the bitterbrush. By removing trees that provide hydraulic lift, thinning will likely reduce the moisture content of the shrubs and other ladder fuels and increase fire hazard. The loss of hydraulic redistribution poses a significant fire hazard. (Comment page 84, par 6).

Response: Thinning areas will remain fully stocked with trees following treatments. Therefore, hydrologic lift of water will continue in these areas. In addition to redistribution of soil water through hydrologic lift, trees transpire water through transpiration. Increased transpiration of water caused by an overabundance of trees in over stocked stands causes water stress in existing vegetation, making trees more susceptible to insects, disease, and drought stress.

Comment: Prescribed fire

Significant research supports fire as a fuel management technique but fire management must be carefully planned so as to minimize effects on wildlife, soil, site productivity, and large trees, down woody debris, and snags.

(This section of the letter then raises the following points for discussion).

1) Prescribed fire and the Historic Range of Variability (Comment page 85, par 1, 2)

Response: The Historic Range of Variability was used to determine the degree of departure of Late and Old Structure in the project area from historic conditions (EA, pages 92-95). The current percentage of plant association groups was compared to the range of HRV for different structural stages (EA, page 93, Tables 13 and 14). The Multi-stratum with Large Trees was above the HRV and the Single-stratum with Large Trees was below HRV (EA, pages 92-95). Treatments in Late and Old Structure in the project area will move Multi-strata Late and Old Structure to Single Strata Late and Old Structure as allowed under the East-side Screens (EA,

pages 109-110, and 112-113). All Late and Old Structure will remain Late and Old Structure after treatment (EA, pages 109 and 110).

2) Prescribed fire and loss of nutrients, site productivity (Comment page 85, par 3)

Response: Land suitability and inherent soil productivity are discussed in the Soil Productivity section (EA, pages 250-278). Dominant land types in the project area generally have low to moderate productivity ratings (EA, page 252). All activity areas proposed for treatment for commercial and/or non commercial thinning treatments meet the criteria for land suitability that would allow them to be regenerated or resist irreversible resource damage (EA, page 252). Estimated detrimental soil condition after treatment on a unit by unit basis is displayed in Table 65 (EA, pages 266-272). About 1,569 acres of soil is currently impacted by existing roads, log landings, and recreation trails. It is predicted that the direct effects of the proposed activities will result in an additional 2,968 acres associated with skid trail systems and log landings. The proposed actions would, however, comply with Deschutes Forest Plan standards and guidelines SL-3 and SL-4 and regional policy (FSM 2520, R-6 Supplement No. 2500-98-1) for maintaining soil productivity (EA, page 273).

3) Prescribed fire and wildlife (Comment page 85, par 4)

Response: Prescribed fire can have both positive and negative benefits to wildlife in the project area (EA, pages 156-249). Many wildlife sites in the project area contain dense numbers of trees that if ignited during a wildfire could destroy nesting habitat for some bird species, for example large diameter trees needed for northern bald eagle nest sites (EA, page 159). Dense stands also prevent the development of suitable trees of large size and branch size needed for nest platforms (EA, page 160). These same criteria apply to other wildlife habitat needs through the project area.

Prescribed fire could also have both positive and negative affects on large mammals in the project area. For example, prescribed fire can reduce some hiding cover for elk and deer but also increase the amount of available forage (EA, pages 215-221). While at the same time, wildfire can reduce the amount of hiding cover beyond acceptable levels (EA, page 216). Prescribed burning will also lessen the degree of risk from wildfire to Late and Old Structure stands and corridors that are important for wildlife (EA, pages 221-223).

4) Prescribed fire and Invasive Plants (Comment page 86, par 1-6)

Response: Fuels reduction activities (mowing, thinning, and burning) could result in soil disturbance and a reduction in vegetative cover and litter. These habitat alternations could promote the establishment of invasive plants. The heavy equipment used in affecting these habitat alternations could cause a high risk of inadvertent dispersal of existing weed propagules within the project area. Mitigation measures have been developed to reduce, but not eliminate weed risks associated with the project (EA, pages 307-309)

Comment: Don't abuse HFRA style-guidance or authority. The Sisters Ranger District has devised an HFRA-style project absent any meaningful community and public collaboration. (Comment pages 86 – 89).

Response: The project is in compliance with the Deschutes National Forest Land and Resource Management Plan (EA, pages 19-21), as well as all applicable laws and executive orders (EA, page 28). Collaboration and public involvement for the SAFR project was extensive (EA, pages 29-31). The project involved two open houses, meetings with the Sisters City Council and the GSCCWPP committee, numerous newspaper articles, and meetings with local homeowner associations.

Comment: Consider the Effects of Past Public Lands and Current Private Lands Livestock Grazing on Forest health (Comment pages 89-91).

Response: Effects from past grazing were not discussed in the EA. Currently there are five allotments in the Whychus watershed; four of the five are open but are currently inactive. The allotments have not been grazed since the 1990's. The Glaze Cattle and Horse Allotment was closed in 1998. The only active allotment is the Indian Ford Allotment which was reauthorized in 2008. This allotment is outside the project area.

Comment: Bitterbrush and Fire (Comment pages 91-93).

Response: Bitterbrush is found through the project area and is important browse for deer (EA, page 180-181). The project will generally have flame lengths of less than four feet after treatment (EA, page 147) and should not be preclude the successful regeneration of bitterbrush.

Comment: Agency thinning-logging projects have already resulted in increased fire severity and adverse impacts in the Deschutes National Forest and else where in the Pacific NW Region (Comment page 93, par 3).

Response: The project area has experienced small and large scale wildfires as well as timber sales, road construction, and fuel reduction projects (EA, pages 82-84). The area has also missed numerous fire cycles which has allowed the development of ladder fuels which now threaten ecosystem values, including large old ponderosa pine trees (EA, pages 14-16). The past effects of fire suppression and well as the impacts of timber management activities on forest fuels have been acknowledged as the national level.

Also see "An Assessment of Fuel Treatments on Three Large 2007 Pacific Northwest Fires", Pacific Northwest Region, USDA Forest Service and Oregon State Office, USDI Bureau of Land Management, December 2007. This report provides an assessment of the effectiveness of fuel treatments on the GW Fire which occurred on the Sisters Ranger District in the Summer 2007.

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