Final Decision Memo

GW Fire Timber Salvage Project

USDA Forest Service
Sisters Ranger District, Deschutes National Forest
Deschutes County, Oregon
T14S, R08E, Section 13 and 14 W.M.
T14S, R09E Section 18 W.M.

Background

The GW Fire started in the Mt. Washington Wilderness on August 31, 2007. The fire subsequently burned to the east and outside the wilderness. At the time of containment the fire had burned about 7,357 acres, including 6,029 acres of National Forest System lands administered by the Deschutes National Forest.

Along with other post-fire recovery and restoration efforts, the Sisters Ranger District began considering a salvage project to recover the economic value of fire killed timber soon after the fire was contained. The effects of the fire on various resources and the level of environmental analysis appropriate to document such a project were evaluated with the Region Six Rapid Assessment Team. Initial reconnaissance by the Sisters Ranger District interdisciplinary team (IDT) eliminated some land allocations and other areas of concern from consideration for timber salvage harvest. These areas included Late Successional Reserves, Riparian Reserves, steep slopes, areas of sensitive soils, and other areas of potentially sensitive resource concern. This review indicated that about 626 acres of fire killed timber located in the Matrix and General Forest land allocation could be available for salvage harvest.

Further review indicated that about 408 acres in the Matrix and General Forest land allocation were potentially available for harvest. These acres were further reduced to about 218 acres of economically viable ground-based salvage opportunities. Acres not considered included plantations and some mixed fire severity areas. The 218 acres of economically viable ground based salvage harvest is about 4% of the total area of National Forest System lands burned in the GW Fire. Of the total number of salvage harvest acres, about 145 acres are located in areas of high fire severity and about 68 acres of mixed fire severity where only low likelihood of survival white fir would be removed. In addition, about five acres of danger trees along haul routes are located in the Matrix and General Forest land allocation where danger trees would be felled and removed. Only previously dead, recently fire killed, or other trees classified as *Likely* or *Imminent* (based on failure potential) danger trees would be treated (Toupin and Barger 2005).

Project design gave prominent consideration to resource conditions found in the project area. The project was designed to avoid undesirable cause-effect relationships and potential effects to resource conditions that would lead to a determination that extraordinary circumstances exist with the project.

The project is located in the dry mixed conifer forest, white fir series, at elevations ranging from 3,600 feet to 4,200 feet on the Sisters Ranger District of the Deschutes National Forest northwest of the town of Sisters. Land allocations include Matrix and General Forest as defined in the

Deschutes National Forest Land and Resource Management Plan, as amended. The project area also contains 23 acres of the northern spotted owl Critical Habitat Unit OR-4.

The legal description is: Section 13 and 14, Township14 South, Range 08 East, and Section 18, Township 14 South, Range 09 East, Willamette Meridian.

Need for Action

Some stands of economically valued species such as ponderosa pine and white fir were severely burned during the GW Fire, resulting in 75-100% mortality in areas of high fire severity. As time progresses these fire killed trees lose economic value due to staining, insect damage, and checking (cracks in the wood that occur as the burned wood dries). By the late spring or early summer of 2008 up to 60% of the economic value of these trees could be lost. There is a need to provide economic benefits and generate receipts that can be used for reforestation.

It is possible that many of the stands that experienced stand replacement fire will not have an adequate natural seed source to adequately regenerate the forest to achieve the desired future conditions. There may be a need to plant trees in stands where natural regeneration is inadequate.

The GW Fire burned across about 3.0 miles of roads that would be used as commercial haul routes. Danger trees adjacent to these roads could pose a hazard to log hauling in the project area. This condition would be abated by felling and removing (where appropriate) fire killed and damaged danger trees. There is a need to provide safe conditions for log hauling along designated haul routes.

Purpose of the Project

The purposes of the GW Fire Timber Salvage Project are to:

- Harvest fire killed timber that has economic value within the Matrix/General Forest land allocation.
- Reforest desired tree species (where natural, on-site, seed sources are lacking) within salvage harvest units to aid in the accelerated development of forest conditions consistent with management plan objectives.
- Improve public, administrative and operational safety by removing danger trees along commercial haul routes.

DECISION

Based on my careful review of the Need for Action, the Purpose of the Project, the interdisciplinary team analysis, and the public comment, I have authorized the salvage of about 2.86 million board feet (MMBF) of fire killed timber from approximately 218 acres in the Matrix and General Forest land allocation in the GW Fire area to recover some of their economic value (see Table 1). Salvage harvest will include about 145 acres in areas of high fire severity and about 68 acres of moderate (or mixed) fire severity that contains heavily scorched white fir trees that have a low probability of survival based on the guidelines developed by Scott et al. (2002). My decision includes the construction of about ¼ mile of temporary road to access unit Four.

This road will be obliterated after the unit is harvested. No construction of new permanent roads will take place with this project. In addition, the project will not include any harvest activities in Riparian Reserves.

I have also decided to authorize up to 213 acres of tree planting in timber salvage units where natural regeneration will not adequately achieve the desired forest conditions.

Finally, I have decided to authorize the salvage of *Likely* or *Imminent* danger trees from about five acres in the Matrix and General Forest land allocation to improve public, administrative and operational safety along Forest Roads used as log haul routes.

The total number of acres contained in this decision is about 218 acres; 213 acres are located in twelve discreet harvest units and about five acres of roadside danger tree removal.

I requested an Emergency Situation Determination (ESD) for the GW Fire Timber Salvage Project from the Chief of Forest Service in order to prevent the further loss of timber volume and the economic value of fire killed and fire damaged trees due to checking and drying, blue stain fungus, and wood boring insects. The request for an ESD was authorized by Chief Abigail Kimbell on June 17, 2008. The use of an ESD will allow the timely salvage harvest of trees to maximize their economic value and avoid a potential loss of about $90,000 to the Federal government. The authority for an ESD is found at 36 CFR 215.10.

I have considered the recommendations in the Beschta report (Beschta et. al. 2005). The design criteria used for this project incorporated many of the recommendations in the report. See Appendix B of this decision on how the project addressed the recommendations in the Beschta report.

To meet the Purpose of the Project I authorized that a silvicultural prescription be developed for the harvest units in the project area. The silvicultural prescription provides guidance for the salvage harvest of fire killed trees in high severity burned areas (HSV-SR) and low probability of survival white fir in areas of mixed fire severity (HSV-M) in conjunction with the implementation of the wildlife snag strategy discussed in the Rationale section below. Ponderosa pine and Douglas-fir with any amount of detectable live foliage will be left standing. In addition, no dead or dying Douglas-fir or ponderosa pine will be removed in the mixed fire severity areas. White fir with live foliage will be left or harvested depending on the degree of crown and bole scorch from the fire. The following criteria will be used to assess the low probability of survival for white fir (Scott et. al. 2002).

White Fir

- Trees greater than 30” diameter at breast height (DBH) with greater than 85% crown volume scorch or trees less than 30” DBH with greater then 50% crown volume scorch, **or**
- Trees greater than 30” DBH with 20-85% crown volume scorch AND greater then 80% bole circumference charred (any height), or trees less than 30” DBH with 20-50% crown volume scorch AND greater then 40% of bole circumference charred (any height), **or**
- Trees with 100% bole circumference charred (any height), **or**

- Trees near the threshold of damage under #1 or #2, and also have evidence of charring of lateral roots in two or more quadrants.

Table 1 provides a harvest area summary for the project area.

Table 1. Harvest Area Summary

Unit	Acres	Fire Severity	Prescription	Fuels Treatment	Harvest System
1	1.4	High	HSV-SR	LTA/PB	Ground-Based
2	1.6	High	HSV-SR	LTA/PB	Ground-Based
3	17.1	High	HSV-SR	LTA/PB	Ground-Based
4	7.3	High	HSV-SR	LTA/PB	Ground-Based
5	20.7	High	HSV-SR	LTA/PB	Ground-Based
6	32.2	High	HSV-SR	LTA/PB	Ground-Based
7	6.3	High	HSV-SR	LTA/PB	Ground-Based
8	4.5	Moderate	HSV-M	LTA/PB	Ground-Based
9	30.5	Moderate	HSV-M	LTA/PB	Ground-Based
10	6.9	Moderate	HSV-M	LTA/PB	Ground-Based
11	59.1	High	HSV-SR	LTA/PB	Ground-Based
12	25.8	Moderate	HSV-M	LTA/PB	Ground-Based
Total	213.4				

Note: HSV-SR: Salvage in stand replacement severity; HSV-M: Salvage in mixed fire severity; LTA: Leave tops attached to last log; PB: Burn landing piles. Total acres: about 218 acres (213 acres of salvage harvest and five acres of danger tree removal along log haul routes).

I find that this project meets the requirements of **FSH 1909.15 - 31.2 Categories of Actions for Which a Project or Case File and Decision Memo are Required.** Specifically, the project meets **Category 31.2 (13). Salvage of dead and/or dying trees not to exceed 250 acres, requiring no more than ½ mile of temporary road construction.**

Rationale

Based on a review of the public comments and the interdisciplinary team analysis I have concluded that fire-killed trees can be salvaged in an environmentally sound manner.

The timber salvage categorical exclusion which I am using (31.2(13)) was established after extensive review of similar projects by the Forest Service which has determined these types of projects do not have individually or cumulatively significant environmental effects (Federal Register volume 68, Number 145, pages 44598-44599). I have determined that the project Purpose and Need, limited scale (4% of the total fire area), limited environmental effects due to project design, and findings in the Federal Register provide sufficient rationale to support the use of this category. I have also determined that the preparation of an environmental assessment (EA) or an environmental impact statement (EIS) is not required for the project.

To confirm that this project has negligible effects and to protect resources, I have carefully considered the design of the project, including mitigation measures, the findings of my interdisciplinary team regarding resource conditions, as well as the comments that were submitted to us by the public. Specialists Reports which were used as a basis for this analysis and decision are found in the project record located at the Sisters Ranger District, Sisters, Oregon.

A summary of my rationale follows:

Protection of Soils and Riparian Reserves*:* To protect soils, mitigation measures and best management practices will be used to minimize the impact of timber salvage activities (see Appendix A of this Decision Memo). All units will be salvaged using ground-based logging equipment. To the extent possible, fire-killed trees will be whole-tree yarded, and logging slash will be treated at log landings. All Deschutes National Forest Land and Resource Management Plan (LRMP) standards and guidelines for soil protection will be met.

About ¼ mile of temporary road is necessary to access unit Four and will be obliterated after logging is completed. No construction of new permanent roads will take place with this project.

To protect Riparian Reserves all salvage harvest units will have a 160 foot buffer on each side of an adjacent stream channel. The project will not include any harvest activities in Riparian Reserves.

Protection of Snag Habitat for Wildlife: To help meet the habitat needs for snag dependent wildlife species, I requested that a snag retention strategy specifically be developed for this project that meets the Deschutes National Forest Land and Resource Management Plan standards and guidelines and uses the most currently available scientific literature. Six (6) snags will be left per acre, distributed across the landscape as evenly as possible based on the existing distribution of snags, in all harvest units, including in the mixed fire severity harvest units, to meet snag dependent wildlife habitat needs. The six snags left per acre include three snags greater than 21 inches diameter at breast height and three snags between 10 inches and 21 inches diameter at breast height. The three snags between 10 inches and 21 inches breast height will be clumped within 0.10 acre of one of the greater than 21 inch diameter at breast height snags.

These densities will provide adequate habitat for wildlife focal species and their prey base. The snags retained will primarily be large diameter ponderosa pine; however, white-fir will be retained if ponderosa pine is not present. These densities and sizes will provide adequate habitat for wildlife focal species and their prey base that prefer open stand conditions when considered in combination with the high number of snags on the surrounding landscape. Snags are expected to last through the early stages of the developing stand (perhaps up to 30 years or more) and will function as down woody material as they decay and reach the forest floor. Bird species, such as Black-backed woodpecker, will continue to benefit from more closed post-fire stand conditions in areas outside of the harvest units. About 5,760 acres in the GW Fire area will not be treated with this decision.

In addition, I directed that no green trees, with the exception of heavily scorched white fir that have a low likelihood of survival, will be harvested in any of the twelve harvest units. In the mixed fire severity units only dead and dying white fir that meets Scott's Guidelines for survival (Scott et. al. 2002) will be harvested. Dead or dying Douglas-fir or dead or dying Ponderosa Pine will not be removed in mixed fire severity timber salvage units eight, nine, ten, and twelve.

Regeneration of the Burned Forest: To provide for the regeneration of burned forest, I will authorize the reforestation of up to 213 acres in order to provide for the more rapid establishment of tree species important for the future management of the Matrix and General Forest land allocation and to meet the desired landscape condition by plant association group.

Artificial reforestation will allow succession to take place at a faster rate, helping to achieve Matrix and General Forest land allocation objectives sooner if natural regeneration does not produce the desired outcome.

Other Mitigations: I have approved the mitigation measures attached in Appendix A as part of this decision. Mitigation measures will reduce or eliminate impacts to affected resources.

Findings Regarding the Use of a Categorical Exclusion

I have reviewed the effects analysis provided by the interdisciplinary team specialists assigned to this project. I find that the degree of potential effect on any of the resources conditions listed at FSH 1909.15 (30.3(2)), shown as 1-6 below, does not preclude use of categorical exclusion 31.2 (13). The mere presence of one or more of these resource conditions does not preclude the use of a categorical exclusion. It is the existence of a cause-effect relationship between a proposed action and the potential effect on these resource conditions and if such a relationship exists, the degree of the potential effect of a proposed action on these resource conditions that determines whether extraordinary circumstances exist.

Given these findings, I conclude that there are no extraordinary circumstances associated with my decision. Therefore, further analysis of the project in an environmental assessment (EA) or an environmental impact statement (EIS) is not required.

The following discussions present my findings for each resource condition found in the project area.

1) Federally listed threatened, endangered or sensitive (TES) species, or designated habitat or species proposed for Federal listing, or proposed critical habitat.

Botanical Species

There will be no effect to threatened and endangered plant species, and no impact to sensitive plant species. No threatened, endangered, or sensitive plant species are known to occur in the project area. No invasive plants were recorded in the project area. See the Biological Evaluation for Sensitive and other Rare or Uncommon Plant Species and Invasive Plant Species Assessment found in the project record for more details.

Wildlife Species

Amphibians:

Oregon Spotted Frog (Status: Federal Candidate and Region Six Sensitive Species)

The project will have ‘No Effect’ on the Oregon spotted frog or its habitat. Minimal potential habitat for the Oregon spotted frog occurs on the Sisters Ranger District and there are no known occurrences. There is no suitable habitat (marshes) located within the project area. See the

Biological Evaluation of Threatened, Endangered, and Sensitive Wildlife report found in the project record for more details.

Birds:

Northern Spotted Owl (Status: Federal Threatened and Management Indicator Species)

The project **'**May Effect, but is not likely to Adversely Affect' the northern spotted owl or their habitats**.** The project does not occur within an active home range; or current nesting, roosting and foraging or dispersal habitat. The project will remove some snags and coarse woody debris that could be used by the northern spotted owl and their prey. The effects are expected to be minor. Legacy materials such as snags and coarse woody debris will be left within the units to provide potential future dispersal habitat for the northern spotted owl and their prey (see the snag strategy discussed above). The snag retention strategy will leave legacy material above the minimum recommend levels necessary for high densities of flying squirrels. The project will not preclude the use of harvested areas by northern spotted owl or their prey in the future.

This determination is based on the use of the Project Design Criteria for northern spotted owl as listed in the FY 2006-2009 Programmatic Biological Assessment. The determination meets all of the Project Design Criteria. Please see the Biological Evaluation of Threatened, Endangered, and Sensitive Wildlife report found in the project record for more details.

The project considered the best available science, including the Northern Spotted Owl Recovery Plan (USFWS 2008). A methodology to address the development and maintenance of northern spotted owl habitat was developed for the Metolius watershed during the B&B project (USDA 2004). This approach identified conifer stands suitable for the management of nesting, roosting, and foraging (NRF) habitat for the northern spotted owl. This methodology to manage dry forested landscapes only in areas capable of providing sustainable northern spotted owl habitat will not preclude implementation of the recovery actions outlined in the Northern Spotted Owl Recovery Plan (USFWS 2008).

The Douglas-fir potential natural community (CD plant series) was identified as capable of providing sustainable NRF habitat over time (USDA 2004). The project salvage units do not occur in the CD plant series. The dominant plant series in the project area is the white fir potential natural community (CW plant series) which has a limited potential to provide NRF habitat. The CW plant series is considered to be unstable due to low productivity, limited moisture regime, susceptibility to insects and disease, and lack of habitat structure necessary to provide sustainable NRF habitat over time. The CW plant series in the project area consists of ponderosa pine with a white fir understory which typically lacks the vertical structure to provide NRF habitat. In addition, the CW plant series is in Fire Regime III A which burns at a higher frequency than the CD plant series, inhibiting the development of multi-layered conifer stands. Given the inability of the project area to provide high quality NRF habitat, the project area does have the capacity to provide *future dispersal habitat* for the northern spotted owl.

The snag retention strategy developed for the project will provide legacy habitat such as snags and coarse woody debris to accelerate the development of future dispersal habitat for northern spotted owls and associated prey. Snags and coarse woody debris provide habitat for the flying

squirrel, a primary prey species of the northern spotted owl, as well as Red-backed voles, a secondary prey species. For a more detailed discussion see the Biological Evaluation of Threatened, Endangered and Sensitive Wildlife report in the project file.

Northern Spotted Owl Critical Habitat

The project **'**May Effect but is not likely to Adversely Affect' northern spotted owl Critical Habitat Unit OR-4. The project will remove snags and coarse woody material from about two acres in units one and two located in the Critical Habitat Unit. The effects are expected to be minor. Snag retention guidelines will leave legacy materials above the minimum recommended levels necessary for high densities of flying squirrels.

This determination is based on the use of the Project Design Criteria for northern spotted owl as listed in the FY 2006-2009 Programmatic Biological Assessment. The determination meets all of the Project Design Criteria. See the Biological Evaluation of Threatened, Endangered, and Sensitive Wildlife report found in the project record for more details.

Critical Habitat Units were established by the U. S. Fish and Wildlife Service to develop and maintain essential nesting, roosting, and foraging habitat to support the dispersal of northern spotted owls. The Critical Habitat Units are important for maintaining the eastern extent of the range within the Eastern Cascade province and for providing the north-south continuum of critical habitat along the east slope of the Cascades.

The Critical Habitat Unit OR-4 is approximately 17,300 acres in size. About 2,817 acres of the Critical Habitat Unit is located in the GW Fire area and about 23 acres occurs within the project area. The vast majority of the Critical Habitat Unit OR-4 is located west of the project area.

The portion of the Critical Habitat Unit located in the project area is currently not functioning as northern spotted owl habitat. No nesting, roosting, or foraging habitat or dispersal habitat is located in these areas. The mixed fire severity harvest units included in this decision are not located in the Critical Habitat Unit.

Planting desired tree species will have a slight beneficial effect to the Critical Habitat Unit over the long term.

Mammals:

Canada Lynx (Status: Federal Threatened)

The project will have 'No Effect' on the Canada lynx or their habitat. There is not an adequate amount of primary vegetation to identify any lynx habitat or a Lynx Analysis Unit on the Deschutes National Forest. See the Biological Evaluation of Threatened, Endangered, and Sensitive Wildlife report found in the project record for more details.

Pacific Fisher (Status: Federal Candidate and Region Six Sensitive Species)

The project will have 'No Effect' on the fisher or its habitat. Fishers are not known to utilize the area. They would avoid the high intensity burned areas of the fire. The project will not treat any

Riparian Reserves. Legacy down wood and snags will be left in the Riparian Reserves as well as the upland areas, in varying densities. Reforestation associated with the project could expedite the development of habitat benefiting the fisher in the long-term. See the Biological Evaluation of Threatened, Endangered, and Sensitive Wildlife report found in the project record for more details.

Region Six Sensitive Wildlife Species

The project will have 'No Impact' on Region Six Sensitive Wildlife Species. After a review of the records, habitat requirements, and existing habitat components, it was determined that the following sensitive species do not occur and have no habitat in the project area: bufflehead, harlequin duck, red-necked grebe, tri-colored blackbird, yellow rail, western sage grouse, American peregrine falcon, horned grebe, Crater Lake Tightcoil, and the pygmy rabbit. Habitat for the wolverine is unknown in the project area. See the Biological Evaluation of Threatened, Endangered, and Sensitive Wildlife report found in the project record for more details.

Aquatic Species

There will be 'No Effect' to the Federally Threatened Columbia River Bull Trout in the project area. The project area does not contain Columbia River Bull Trout habitat and the species has not been documented.

There will be 'No Impact' to Region Six Sensitive Species Interior Redband Trout in the project area. The project area does not contain interior redband trout habitat and the species has not been documented.

There will be 'No Adverse Effect' to Chinook salmon Essential Fish Habitat in the project area. Chinook salmon waters are designated Essential Fish Habitat by the Magnuson-Stevens Act. The project area does not contain Chinook salmon Essential Fish Habitat and the species has not been documented.

See the Aquatic Biological Assessment and Evaluation for Threatened, Endangered, and Sensitive Species report found in the project record for more details.

2) Flood plains, wetlands, or municipal watersheds.

Floodplains: Executive Order 11988 provides direction to avoid adverse impacts associated with the occupancy and modification of floodplains. Floodplains are defined by this order as, ". . . the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent [100-year recurrence] or greater chance of flooding in any one year."

There are no floodplains within the project area.

Wetlands: Executive Order 11990 was promulgated to avoid adverse impacts associated with destruction or modification of wetlands. Wetlands are defined by this order as, ". . . areas inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires

saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds."
There are no wetlands within the project area.

Municipal Watersheds

There are no municipal watersheds within the project area.

3) Congressionally designated areas such as wilderness, wild and scenic rivers, or national recreation areas.

The project is not located within a congressionally designated wilderness, wild and scenic river corridor, or national recreation area. The Mt. Washington Wilderness area is located about 2.5 air miles to the west. The Metolius Wild and Scenic River is located about 5 air miles to the northeast. The nearest National Recreation Area, the Oregon Dunes, is located on the Oregon coast far to the west of the project area.

4) Inventoried Roadless Areas.

There are no Inventoried Roadless Areas (IRA) in the project area. The nearest IRA is about 3 air miles southwest of the project area. The project would not result in the construction of any permanent or temporary roads in Inventoried Roadless Areas.

5) Research Natural Areas.

There are no existing or proposed Research Natural Areas (RNA) in the project area. The Metolius RNA is located about 9 air miles northeast and the Cache Mountain RNA is located about 3 air miles northwest of the project area.

6) American Indian and Alaska Native religious or cultural sites. Archaeological sites, or historic properties or areas.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effect of a project on any district, site, building, structure, or object that is included in, or eligible for inclusion in the National Register. Section 106 of the National Historic Preservation Act also requires federal agencies to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. The Archaeological Resources Protection Act covers the discovery and protection of historic properties (prehistoric and historic) that are excavated or discovered in federal lands. It affords lawful protection of archaeological resources and sites that are on public and Indian lands. The Native American Graves Protection and Repatriation Act cover the discovery and protection of Native American human remains and objects that are excavated or discovered in federal lands. It encourages avoidance of archaeological sites that contain burials or portions of sites that contain graves through "in situ" preservation, but may encompass other actions to preserve these remains and items.

This decision complies with the cited Acts.

Surveys were conducted for Native American religious or cultural sites, archaeological sites, and historic properties or areas that may be affected by this decision. One Heritage site is located near a harvest unit and requires avoidance (see Appendix A of this decision). A 'No Historic Properties Affected' determination was made for the project.

No cultural resource sites will be impacted by the project.

See the Heritage Resource Environmental Consequence Report found in the project record for more details.

PUBLIC INVOLVEMENT

The GW Fire Timber Salvage Project public scoping letter was mailed on October 17, 2007 to about 164 people, including the Confederated Tribes of Warm Springs Reservation of Oregon. Ten replies were received; five from individuals and five from various organizations including the Cascadia Wildlands Project, Oregon Wild, Tykeson-Associated Enterprises, the American Forest Resource Council, and the Sierra Club. Most of the comments relevant to the proposed action related to the NEPA process, snag dependent wildlife species, cumulative effects, post-harvest planting, sale design, effects to fish, and area hydrology. Our responses to the public scoping comments on the proposed action are contained in the project file.

The Sisters Ranger District conducted two field trips for members of the public to visit the project area and discuss the proposed action. In the fall of 2007 a visit to the project area was conducted with a representative of the American Forest Resource Council. On May 13, 2008, an additional field visit was conducted with representatives of the Sierra Club and the Cascadia Wildlands Project.

A newspaper article describing the proposed action and a field trip was published in The Nugget on May 14, 2008.

The preliminary Decision Memo was subject to a 30-day comment period pursuant to the Federal District Court for the eastern District of California September 20, 2005 clarification in Earth Island v. Rutherbeck. The comment period ended on May 19, 2008. Eight letters and 103 e-mails were received. Letters were received from the Eastern Oregon Chapter of the Sierra Club, Oregon Wild, Cascadia Wildlands Project, Black Butte Ranch homeowners, and four individuals.

I have carefully considered all relevant public comments on the proposed action. A Response to Comments (30-day comment period) is included in Appendix B of this Decision Memo.

FINDINGS REQUIRED BY OTHER LAWS

Consultation with the U.S. Fish and Wildlife Service

I find this decision meets all the Project Design Criteria as listed in the FY 2006-2009 Programmatic Biological Assessment. Therefore, further consultation with the U.S. Fish and Wildlife Service is not required.

Consultation with the State Historic Preservation Office (SHPO)

I find this decision meets all the requirements for the management of cultural resources. Further consultation with the SHPO is not required.

Consistency with 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 (LRMP), as amended by the *Record of Decision for Amendments to the Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl* (Northwest Forest Plan). The plan complies with all relevant Deschutes National Forest LRMP standards and guidelines.

The entire project area is located in the Matrix and General Forest land allocation. Most timber harvest and other silvicultural activities would be conducted in the Matrix/General Forest where there is suitable forest land, according to standards and guidelines.

I also conclude that the salvage of fire killed timber is consistent with the standards and guidelines of the Deschutes National Forest Land and Resource Management Plan for Management Indicator Species (MIS). The following MIS species have potential habitat in the project area: Coopers Hawk, Sharp-shinned hawk, Northern Goshawk, Red-tailed Hawk, Woodpeckers, American Marten, Elk, Mule Deer, Western Big-eared Bat, Snags, Down Wood and Log Dependent Species, and Special Habitat Species. There is no habitat for the Great Blue Heron, Great Grey Owl, Golden Eagle, or Osprey in the project area. See the Wildlife Report for Non-TES Species found in the project file for more details.

Other Rules and Regulations

The decision is in compliance with the Aquatic Conservation Strategy objectives as outlined in the Northwest Forest Plan. The project will not impede the attainment of the nine objectives of the Aquatic Conservation Strategy at the project or fifth field watershed level (Upper Metolius River watershed). See the Aquatic Biological Assessment for Threatened, Endangered, and Sensitive Species report found in the project file for more details.

IMPLEMENTATION DATE

This Decision Memo is subject to a 45-day appeal period. If there are no appeals, the project can be implemented five business days after the closure of the appeal filing period. With an approved Emergency Situation Determination the stays outlined in the appeal process do not apply.

ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITIES AND EMERGENCY SITUATION DETERMINATION

The 30-day notice and comment period for the preliminary Decision Memo ended on May 19, 2008. Comments received during that time were considered and addressed in this Decision

Memo. This decision is subject to appeal pursuant to 36 CFR 215. Any written notice of appeal of the decision must be fully consistent with 36 CFR 215.11(a) that states "an appeal may be filed by any person who, or any non-federal organization or entity that has provided comment or otherwise expressed interest in a particular proposed action by the close of the comment period specified in sec. 215.6". The notice of appeal must be filed hard copy with the Regional Forester, ATTN: 1570 APPEALS, 333 S.W. First Avenue, P.O. Box 3623, Portland, Oregon, 97208-3623, faxed to (503) 808-2255, sent electronically to appeals-pacificnorthwest-regional-office@fs.fed.us, or hand delivered to the above address between 7:45AM and 4:30PM, Monday through Friday except legal holidays.

The appeal must be postmarked or delivered within 45 days of the date the legal notice for this decision appears in The Bulletin, the newspaper of record. The publication date of the legal notice in The Bulletin is the exclusive means for calculating the time to file an appeal and those wishing to appeal should not rely on dates or timeframes provided by any other source. Electronic appeals must be submitted as part of the actual e-mail message, or as an attachment in Microsoft Word, rich text format or portable document format only. E-mails submitted to e-mail addresses other than the one listed above or in other formats than those listed or containing viruses will be rejected.

On June 17, 2008 Chief Abigail Kimbell found that an emergency situation existed in association with the GW Fire Timber Salvage Project. An emergency situation is defined in 36 CFR 215.2 as "A situation on National Forest System (NFS) lands for which immediate implementation of all or part of a decision is necessary for relief from hazards threatening human health and safety or natural resources on NFS or adjacent lands; or that would result in substantial loss of economic value to the federal government if implementation of the decision were delayed."

The determination that an emergency situation exists does not exempt an activity from appeal. The determination only eliminates the automatic stays built into the appeal review process. This means that my decision may be implemented immediately following the publication of a legal notice in The Bulletin, the newspaper of record. This emergency exemption is based on the economic value the government would lose if the project was delayed during the appeal period. If the timber is not salvaged in a timely manner, the value loss is estimated at about $90,000.

CONTACT PERSON

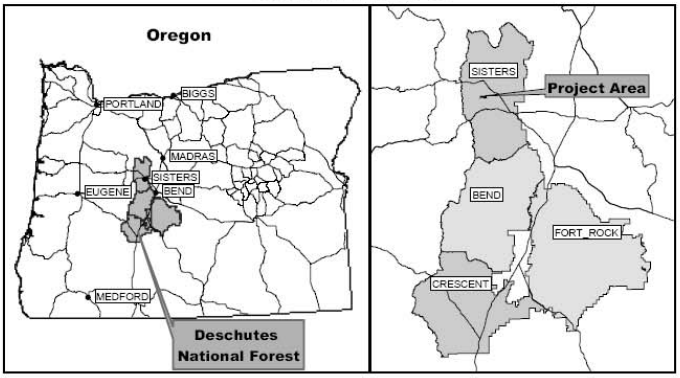
For additional information concerning this Decision Memo, the appeal process, or any other questions regarding the project please contact Michael Keown, Environmental Coordinator, Sisters Ranger District, (541) 549-7735.

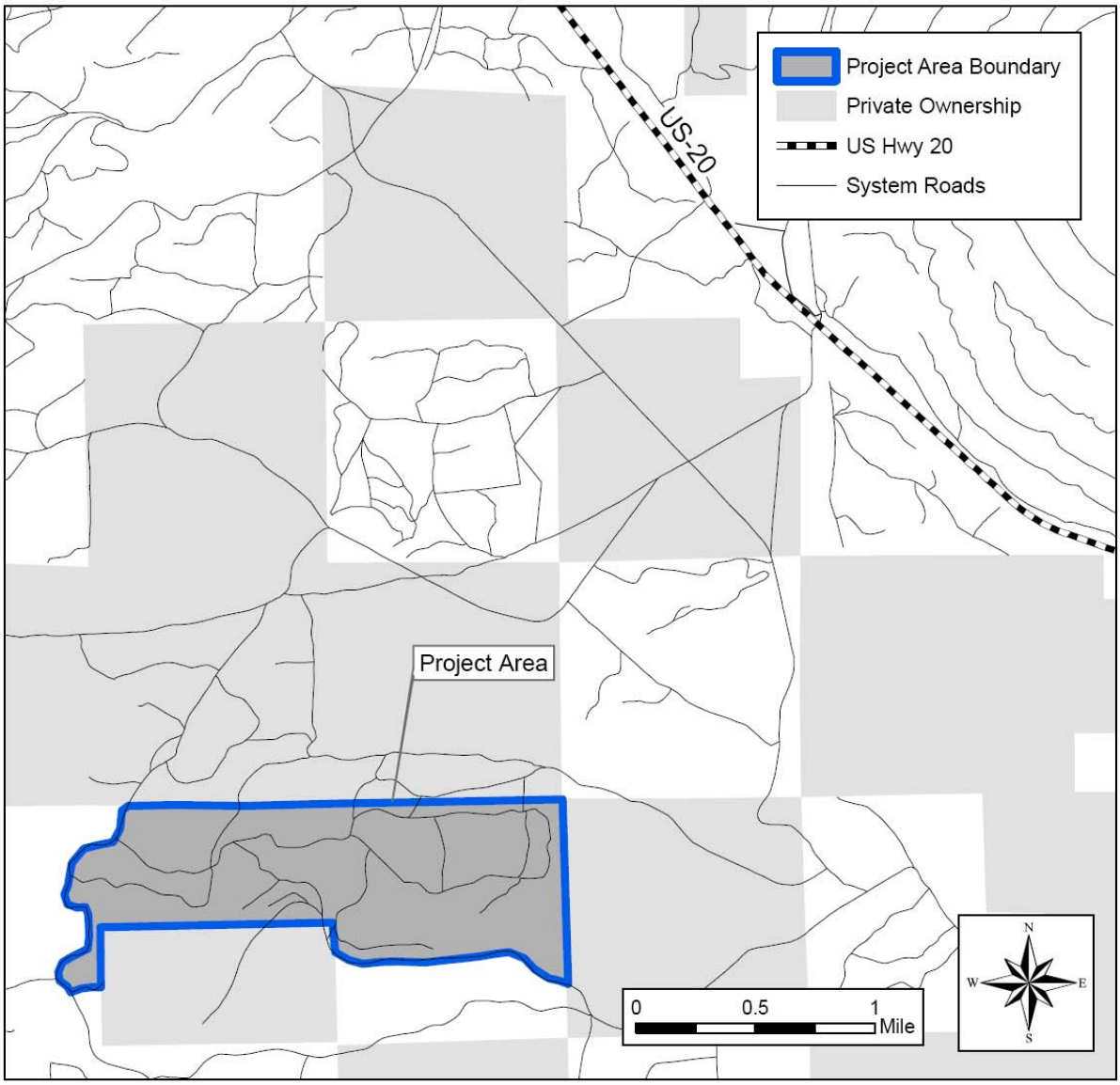
/s/ William Anthony 6/27/2008
WILLIAM ANTHONY **Date**
District Ranger

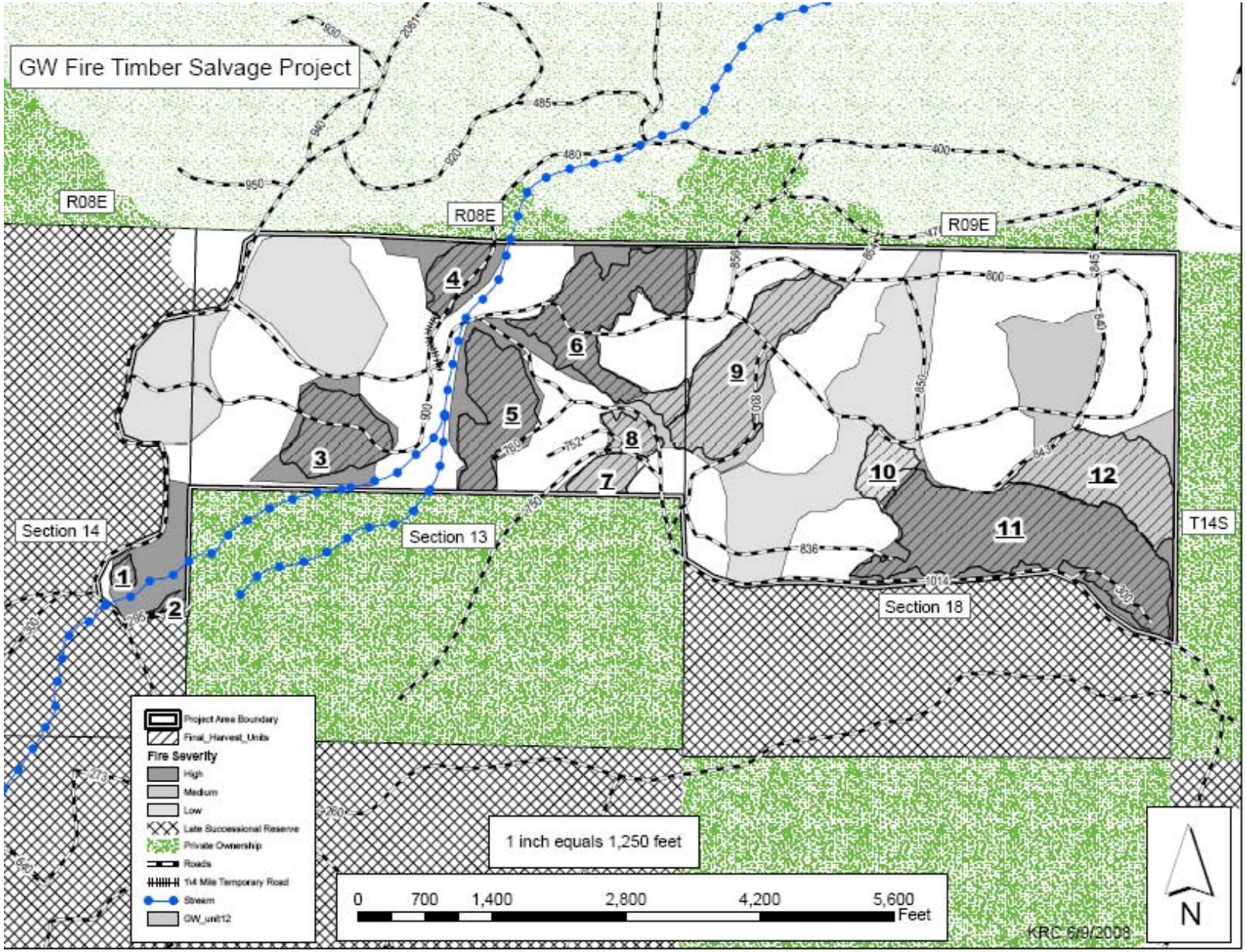
GW Fire Timber Salvage Project Location

Sisters Ranger District
Deschutes National Forest

VICINITY MAPS






GW Fire Timber Salvage Project
R08E
R08E
R09E
T14S
Section 14
Section 13
Section 18
1
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7
8
9
10
11
12
Project Area Boundary
Final_Harvest_Units
Fire Severity
High
Medium
Low
Late Successional Reserve
Private Ownership
Roads
1/4 Mile Temporary Road
Stream
GW_unit12
1 inch equals 1,250 feet
0 700 1,400 2,800 4,200 5,600
Feet
N
KRC 6/9/2008

GW Fire Timber Salvage Project
Final Decision Memo

Appendix A: Mitigation Measures

The following mitigations will be used during the implementation of the GW Fire Timber Salvage Project (Specialists Reports are found in the project record located at the Sisters Ranger District, Sisters, Oregon):

WILDLIFE

Northern Spotted Owl

- Disruptive work activities will not take place within ¼ mile (1.0 miles for blasting, ½ mile for helicopter) of any newly discovered nest sites or activity centers March 1 and September 30. This condition may be waived in a particular year if nesting or reproductive success surveys reveal that spotted owls are non-nesting or that no young are present that year. Waivers are valid only until March 1 of the following year (Programmatic Biological Assessment: Project Design Criteria)
- The south side of Forest Road 1028-295 is located in the Cache/Trout Late Successional Reserve. The road is about 0.10 miles in length. The road will be used to access timber salvage unit 2. Currently there are no Likely or Imminent danger trees marked for felling in this area. However, danger trees could appear as time progresses and there may be a need abate danger trees to provide safe operating conditions. Any danger trees marked along the road in the Late Successional Reserve would be felled and left in place (Northwest Forest Plan: LSR, C-15.6).
- Along the ¼ mile temporary road all danger trees outside of units will be felled and left in place (unit four) (Northwest Forest Plan: Matrix, C-40).

Nesting Raptor Seasonal Restrictions

- Restrict disturbance activities within ¼ mile of newly discovered nest sites. During project implementation, the project area will be monitored for these bird species. There are no nest sites within ¼ mile of the proposed activities (LRMP WL (4-52) – (4-54)).

Species	Seasonal Restriction Dates
Cooper's Hawk	April 15 to August 31
Sharp-shinned Hawk	April 15 to August 31
Northern Goshawk	March 1 to August 31
Red-tailed Hawk	March 1 to August 31

Snags and Down Wood including the American Marten

- To the extent possible all down logs that existed pre-fire will remain post harvest (Northwest Forest Plan: Matrix, C-40).
- At a minimum, retain at least 120 linear feet of logs per acre greater than or equal to 16 inches in diameter and 16 feet long (Northwest Forest Plan: Matrix, C-40).

- Snags that fall prior to harvest that were marked for retention will be left as down logs (Northwest Forest Plan: Matrix, C-40).
- The south side of Forest Road 1028-295 is located in the Cache/Trout Late Successional Reserve. The road is about 0.10 miles in length. The road will be used to access timber salvage unit 2. Currently there are no Likely or Imminent danger trees marked for felling in this area. However, danger trees could appear as time progresses and there may be a need abate danger trees to provide safe operating conditions. Any danger trees marked along the road in the Late Successional Reserve would be felled and left in place (Northwest Forest Plan: LSR, C-15.6).
- Along the ¼ mile temporary road all danger trees outside of units will be felled and left in place (unit four) (Northwest Forest Plan: Matrix, C-40).

BOTANY

Invasive Plant Species

- Use appropriate timber sale contract provisions to prevent the inadvertent introduction of invasive plant species by contractor and administrative vehicles.

SOILS

Apply appropriate Best Management practices (BMPs) to all ground disturbing management activities, as described in General Water Quality Best Management Practices (Pacific Northwest Region, 1988). These BMPs are tiered to the Soil and Water Conservation Practices (SWCP) Handbook (FSH 2509.22), which contains conservation practices that have proven effective in protecting and maintaining soil and water resource values. The Deschutes Forest Plan states that BMPs will be selected and incorporated into project plans in accordance with the Clean Water Act for protection of waters of the State of Oregon (Forest Plan 4-69).

Specific BMPs commonly used to minimize the effects of road systems, fuels and timber management activities on the soil resource are briefly described for this project proposal.

- Use old landings and skidding networks whenever possible. Assure that water control structures are installed and maintained on skid trails that have gradients of 10 percent or more. Ensure erosion control structures are stabilized and working effectively (LRMP SL-1; Timber Management BMP T-16, T-18).
- In all proposed activity areas, locations for new yarding and transportation systems would be designated prior to the logging operations. This includes temporary roads, spur roads, log landings, and primary (main) skid trail networks. (LRMP SL-1 & SL-3; Timber Management BMP T-11, T-14 & T-16).
- Surface drainage on temporary roads – minimize the erosive effects of concentrated water through the proper design and construction of temporary roads (Road BMP R-7).
- Road maintenance – conduct regular preventive maintenance to avoid deterioration of the road surface and minimize the effects of erosion and sedimentation (Road BMP R-18, R-19).
- Coarse woody debris/down wood – assure that on Ponderosa Pine sites, a minimum of 5 to 10 tons per acres of large woody debris (greater than 3 inches in diameter) is retained within activity areas to provide organic matter reservoirs for nutrient cycling that helps

maintain long-term site productivity (LRMP SL-1). Assure that on Mixed Conifer sites, a minimum of 10 to 15 tons per acres (greater than 3 inches in diameter) is retained for long-term nutrient cycling.
- Use sale area maps for designating soil and water protection needs (Timber Management BMP T-4).

HERITAGE

- Within the marked boundary of the Heritage site no skidding, staging, landings, burn piles, or other heavy equipment operations will be allowed off the existing road surfaces. Use and maintenance of the roads through the site area should be minimized as much as possible but recognizing that this impact is already ongoing and these locations in the site are already disturbed by road use and maintenance, it should be allowed.
- The site should be monitored once during harvest operations and after harvest is completed to determine that avoidance has been effective and see if additional heritage resources are exposed from the project.

Literature Cited

Beschta, R. L., Rhodes, J. J., Kuaffman, J. B., Gresswell, R. E., Minshall, G. W., Karr, J. R., Perry, D. A., Hauer, E. R., and Frissell, C. A. 2005. Postfire Management on Forested Public Lands of the Western United Sates. Conservation Biology. Vol. 18. No. 4 pp. 957-967.

Scott, Donald W., Craig L. Schmitt, and Lia H. Spiegel. 2002. Factors Affecting Survival of Fire Injured Trees: A Rating System for Determining Relative Probability of Conifers in the Blue and Wallowa Mountains. USDA Forest Service, Pacific Northwest Region, Wallowa-Whitman National Forest, Blue Mountains Pest Management Service Center, BMPMSC-03-01, November 25, 2002.

Toupin, Richard and Michael Barger. 2005. Field Guide for Danger Tree Identification and Response. USDA Forest Service, Pacific Northwest Region. R6-NR-FP-PR-03-05.

USDA 2004. Metolius Watershed Assessment Update. Deschutes National Forest, Sisters Ranger District.

USFWS. 2008. Final recovery plan for the northern spotted owl, *strix occidentalis caurina*. U.S. Fish and Wildlife Service. Portland, OR. 142pp.

Final Decision Memo

GW Fire Timber Salvage Project

Appendix B

Response to Public Comments

Respondents List

Letter #	Name	Organization	Town	State	# Comments
1	Asante Riverwind	Sierra Club	Bend	OR	41
2	Doug Heiken	Oregon Wild	Eugene	OR	11
3	Dan Kruse Jay Lininger	Cascadia Wildlands	Eugene	OR	9
4-105	Various (emails)	Individuals	Black Butte Ranch	OR	1
106	Stu Phillips	Individual	Eugene	OR	1
108-112	Various (letters)	Individuals	Black Butte Ranch	OR	1

The following is a summary of public comment received by the Sisters Ranger District regarding the categorical exclusion (CE) for the GW Fire Timber Salvage Project. The CE 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) pursuant to the Federal District Court for the Eastern District of California September 20, 2005 clarification in Earth Island Institute v. Rutherbeck.

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 30-day comment period comments were received from 112 different people (respondents). A total of 64 comments were contained in those letters and e-mails. All respondents reside in Oregon and three letters were received from various interested organizations.

Note: Many numbered comments contained subsets of additional comments. The subsets were broken down in order to provide a more detained response. The actual number of addressed comments is greater than that shown in the above table.

215 Appeal Standing

All individuals and organizations that commented on the CE have standing under the Forest Service 215 appeal regulations.

Categorical Exclusion (legality, appropriate usage)

Comment: ***…****we believe that the use of a categorical exclusion for the GW Project is inappropriate, and that the GW Project does not do enough to protect water quality, soils, wildlife, and other post-fire resources that we [Cascadia Wildlands Project] and our members value. (3-1)*

Comment*: Additional CE legal issues to address - legal requirements that FS CE's have been held to are: Categorically excluded projects must document why a particular category was selected. In this case, they choose category 13 (salvage of dead and dying trees…) without providing a rational why it was more appropriate than a different category. Ninth Circuit cases such as Alaska Center for the Env. and California v. Norton, that require agencies to allow scoping for CE'd projects, and require agencies to provide contemporaneous documentation (as opposed to "after the fact" documentation) explaining their reliance on a particular CE, explaining why there will be no significant impacts, and explaining that there are no extraordinary circumstances that will be affected, etc. (1-23)*

[For a more in depth discussion of this comment with regulations, court cases, and references cited please see Letter #1 Pages 7 and 8]

Response: The October 17, 2007 public scoping letter alerted the public that a categorical exclusion (31.2.13) was being considered for the project if adverse impacts to resource conditions, as defined at FSH 1909.15-Chapter 30.3, could be avoided through project design and mitigation. The analysis in the Decision Memo supports the decision to use a categorical exclusion. The decision memo complies with agency direction in FSH 1909.15 (31.2) regarding categorical exclusions. The degree of effect to resource conditions was negligible and did not result in any extraordinary circumstances, and did not preclude use of the categorical exclusion.

The Forest Service Handbook contains explicit direction on when a categorical exclusion can be used to document the environmental effects for a particular project.

If the proposed action is within one of the categories in the Department of Agriculture policies and procedures (7 CFR 1b.3) or one of the categories listed in sections 31.12 or 31.2, and if the proposed action does not involve any extraordinary circumstances, the action may be categorically excluded from documentation in an environmental impact statement (EIS) or environmental assessment (EA). If the proposed action is not within a listed category, it may not be categorically excluded from documentation in an EIS or EA (FSH 1909.15 (11.6).

The rationale for the use of category 31.12 (13) was explained on page four of the Decision Memo. The category was established after extensive review of similar projects by the Forest

Service which determined that these types of projects (salvage) do not normally have significant environmental effects when there are no extraordinary circumstances (Federal Register volume 68, Number 145, pages 44598-44599). The Responsible Official determined that the limited scale (4% of the entire fire area) of the project, limited environmental effects, and finding in the Federal Register provided the rationale for the use of this categorical exclusion.

By definition, projects that are categorically excluded do not individually or cumulatively have significant effects (FSH 1909.15). Resource specialists' reports conclude that cumulative effects, if present, will not have significant or additive negative effects to the natural or social environment. There are no adverse impacts to resource conditions. The "mere presence" of a resource condition, issue, or land management allocation does not provide the basis for the choice of a particular category of NEPA analysis and documentation.

Environmental effects are disclosed in the Decision Memo and project file as required under FSH 1909.15 (31.2). The project file for the GW Fire Timber Salvage Project includes the following reports: Heritage Report, Biological Evaluation of Threatened, Endangered, and Sensitive Wildlife, Wildlife Specialists Report, Soils Resource Specialist Report, Aquatic Biological Evaluation, Botanical Evaluation, Resource Report for Hydrology, Fuels Specialists Report, Transportation Management Report, and Recreation Memo. Additional documentation includes a Wildlife Snag Strategy, Silvicultural Prescription, and Timber Marking guides.

Resource specialists analyzed project impacts to resource conditions in an interdisciplinary format as required by NEPA. Environmental effects to resources of concern are outlined on pages 6-11 of the Decision Memo. These reports are robust and include all relevant information to make an informed decision about adverse impacts to resource conditions. Resource specialists used the best available science to conduct their analysis. Specialist's reports are available in the project record.

The determination of no extraordinary circumstances provided the rationale for the use of a categorical exclusion and subsequent disclosure requirements (i.e. the Preliminary Decision Memo) to document the NEPA analysis for the GW Fire Timber Salvage Project.

***Comment**: As recently disclosed during the Black Crater appeals and litigation, the agency's GW project and area roadside "danger tree" logging projects are Connected Actions. The agency plans to sell these in the same basic timeline, and commence logging during the same general period. This planned timeline has resulted in an expedited attempt to rush the GW project through an illegally abbreviated CE process, along with a planned ESD. As such, these are connected actions as per part (ii) and (iii) of the agency's standard: "The CEQ regulations require 'connected actions' 'to be considered together in a single EIS." Save the Yaak Committee v. Block, 840 F.2d 714, 719 (9th Cir. 1988), quoting Thomas v. Peterson, 753 F.2d 754, 758 (9th Cir. 1985). Actions are connected if they (i) automatically trigger other actions which may require an EIS, (ii) cannot or will not proceed unless other actions are taken previously or simultaneously, or (iii) are independent parts of a larger action and depend on the larger actions for their justification. Id; 40 C.F.R. § 1508.25(a)(1). Here they are all related to GW post-fire management. (1-24)*

Response: The GW Fire Timber Salvage Project will provide for the salvage of fire killed timber that has economic value, in addition to removing five acres of danger trees along commercial

haul routes. The roads identified in the GW Fire Danger Tree Abatement Project include some but not all of the roads needed for safe log haul associated with the timber salvage project; conversely, roads that are not log haul routes were included in the danger tree removal project. The danger tree removal project is an independent action; the project would occur if there wasn't a timber salvage sale. The GW Fire Danger Tree Abatement Project was completed on an earlier timeline. The projects are not connected actions.

The Purpose and Need statements are different for both projects as well at the categorical exclusions that were used: 31.2 (13) for the salvage sale and 31.12 (4) for the danger tree project. The GW Fire Danger Tree Abatement Project will provide for long-term public and employee safety, particularly in those places of relatively high public use or concentrated administrative use by Forest Service employees. Timber harvest is incidental to providing for public safety. No extraordinary circumstances were associated with the project.

***Comment**: We request as well that the agency not seek or employ an ESD [Emergency Situation Determination] for this project. Such a rash action would preclude any potential to resolve these issues, and will leave us no choice but to file immediate litigation. (1-40)*

Response: This comment has been noted. An ESD is considered if there could be substantial loss of revenue to the Federal government. An ESD is decided at the highest level of the Forest Service and resides with Chief Abigail Kmbell. The ESD was granted on June 17, 2008.

Purpose and Need

***Comment**: …the project from the onset fails to incorporate or abide by NEPA's mandate that federal lands management projects be founded upon and incorporate high quality expert science and site-specific conditions and needs. (1-6)*

Response: High quality specialist reports, including references to science, was prepared to document the environmental effects associated with the project and to provide the rationale for the decision (see project record and the Decision Memo, pages 6-11). The analysis conducted for the project addresses site specific conditions in the project area.

***Comment**: The second part of the purpose purports to a likely unnecessary "need" to reforest the project area, and to the "accelerated development of forest conditions." Yet scientific research has strongly established that reforestation following fires is largely unnecessary and often detrimental. Research has also established that natural forest processes cannot be artificially "accelerated," as post-fire forest environments are complex systems, dependent upon myriad interwoven species, conditions, and ecological processes. Research has strongly concurred that post-fire logging, such as the agency has proposed here, not only cannot "accelerate the development of forest conditions consistent with management plan objectives," but in fact impairs natural recovery processes, compounding the impacts of fire with the many known and well-documented adverse impacts of post-fire logging. (1-7)*

Response: The decision authorizes reforestation of up to 213 acres within the project area. The entire project area is located in the Matrix and General Forest land allocation(s) as described in the Deschutes National Forest Land and Resource Management Plan, as amended. All timber harvest and other silvicultural activities would be conducted in the Matrix/General Forest where

there is suitable forest land, according to standards and guidelines (Northwest Forest Plan, page C-39). In order to meet the long range objectives for Matrix/General forest it is necessary to reforest harvest units to aid in the accelerated development of forest conditions consistent with management plan objectives (Decision Memo, pages 2-3 and 5-7). Natural regeneration of conifers would add to the diversity of planted harvest units. About 5,760 acres of National Forest System lands outside of the project area will recover through natural processes. This calculation is based on about 51 acres of danger tree abatement with the GW Fire Danger Tree Abatement Project and about 218 acres with this decision.

Reforestation on mixed conifer plant associations is required to achieve the management goals of the Deschutes National Forest Plan, as amended, the National Forest Management Act (NFMA), and Regional Office direction.

***Comment**: The Forest Service may not base this project's purpose on economic benefits in the short-term regardless of the multiple use management direction for these federal lands. This would violate federal law. In Muckelshoot Indian Tribe v. U.S. Forest Service, 177 F.3d 800, fn. 7 (9th Cir. 1999) the Court held that the purpose and need cannot be so narrow that only one alternative will work. The Forest Service must not draw its purpose and need too narrowly, as it proposes here, apparently in an attempt to limit the alternatives to only those that will serve a logging-economics purpose. As a result of the narrow purpose and need, the Forest Service undermines the NEPA process and does not give serious consideration to the development of post-fire science based restoration alternatives and precludes the selection of a no action alternative. NEPA requires purpose and needs be based upon post-fire science for management proposals in the GW burn area, and as such requires the development scientifically based, forest plan compliant, restoration alternatives. (1-11)*

***Comment**: The second part of this proposed purpose is in contravention to scientific research addressing post-fire forest ecosystems. Among research conclusions calling for protecting natural recovery processes, are recommendations cautioning against replanting – except in limited areas where natural seed sources and process no longer exist due to very severe fire impacts or other causes. Otherwise, science notes that natural ecological processes are the best method of achieving the reforestation of burned areas for wildlife habitat. The analysis for this project must disclose and address pertinent scientific research, and the NEPA process must be based upon a scientifically sound purpose and need. (1-13)*

***Comment**: …the proposal reads as an arbitrarily and capriciously contrived timber sale blueprint, overlaid upon the area's burned forests to meet timber quota targets – rather than arising from purpose and need issues informed by, and respective of, the full wealth of ecological concerns and conditions in the GW fire area, including wildlife and aquatic species issues, restoration concerns, and needed habitat protections. (1-35)*

Response: The purpose of the project is to salvage economically valuable fire killed timber from the GW Fire area. The Agency sees this as a desired output in conducting multiple-use land management on the Deschutes National Forest. The Purpose of the project meets Land and Resource Management Plan objectives of supplying timber products to the forest products industry and ultimately the American people. Under the Deschutes National Forest Plan, as amended, timber salvage is allowed if standards and guidelines can be met. About 5,760 acres of

the GW Fire area will regenerate through natural processes and will not be affected by this decision.

Reforestation on mixed conifer plant associations is required to achieve management goals of the Deschutes National Forest Plan (LRMP), the National Forest Management Act (NFMA), and Regional Office direction.

Range of Alternatives / Alternative Design

Comment: *Alternative design must comply with the applicable science upon which the LRMP regional "Screens" directives are based, as well as NW Forest Plan provisions. Due to cumulative logging and management impacts east of the Cascade Crest, land managers are required to retain all live old growth trees with any green needles, even those the agency rightly or wrongly deems may be "dying." Logging any surviving green trees, however long they may continue to survive, only compounds and exacerbates the detrimental impacts of the fire upon wildlife and area forest ecology. (1-9)*

Response: The project will not remove any live trees with green needles in stand replacement or mixed fire severity units (Decision Memo, page 3). However, the project will remove heavily scorched white fir that has a low likelihood of survival based on the degree of crown and bole scorch following Scott's Guidelines (Decision Memo, page 3-4). The harvest of fire killed and dying timber fully complies with the Deschutes National Forest Land and Resource Management Plan (LRMP), as amended (Decision Memo, page 12). All scorched Douglas-fir and ponderosa pine with green needles will be retained in all harvest units.

Comment: *Please consider at least one non-commercial, restoration-only alternative that invests in restoration and recovery of the fire area by, for instance, eliminating livestock grazing, emphasizing native species recovery, not building any new roads, stabilizing soils disturbed by the fire suppression effort, decommissioning unneeded roads. (2-10)*

Response: A "restoration-only" alternative does not meet the Purpose and Need for the Project. Many of the actions undertaken in the Burned Area Emergency Response (BAER) and other restoration projects address the post-fire restoration needs of the GW Fire area.

The interdisciplinary team analysis concludes that the project will not have adverse effects to resources conditions found in the project area. The GW Fire Timber Salvage Project is small in scale, approximately 218 acres, and the Forest Service has determined that, absent resource conditions that would result in extraordinary circumstances, these types of projects do not have significant environmental effects (Federal Register volume 68, Number 145, pages 445980-44599).

Comment: *… consider an alternative modeled on the recommendations of the Beschta report. Specifically:*

- *Prohibit post-fire logging AND road building on all sensitive sites, including: severely burned areas (areas with litter destruction), on erosive soils, on fragile soils, in roadless/unroaded areas, in riparian areas, on steep slopes, and any site where accelerated erosion is possible. We would add: Late-Successional and*

Riparian Reserves, and protective land allocations or designations including Botanical and Scenic River Areas;

- *protect all live trees;*
- *protect all old snags over 150 years old;*
- *protect all large snags over 20 inches dbh;*
- *Protect at least 50% of each size class of dead trees less than 20 inches dbh. (2-11)*

Response: A number of issues regarding the impact of salvage logging were raised in Wildfire and Salvage Logging: Recommendations for Ecologically Sound Post-fire Salvage Management and Other Post-fire Treatments on Federal Lands in the West (Beschta, et al.1995). The project addresses the recommendations as follows:

Fire salvage should only be permitted where impacts to the environment can be mitigated.

Project effects have been mitigated by careful project design; the project will have no adverse impacts to resource conditions found in the project. Therefore, there are no extraordinary circumstances associated with the project. Mitigation measures are found in Appendix A of the Decision Memo.

Low impact logging systems should be used.

The project will likely be implemented utilizing rubber tired skidders to skid logs to landings; skidders will be restricted to designated skid trails. A Timpco-type shearer will be allowed off skid trails; this type of machinery has been shown to have minimal effects to soils. The project will meet the Deschutes National Forest LRMP threshold of less than 20% detrimental soil disturbance for all timber salvage units (see Soils Specialists Report prepared for the GW Fire Timber Salvage Project).

Fire burned areas should be allowed to naturally regenerate.

The land allocation for the project area is Matrix/General forest as defined in the Deschutes National Forest Land and Resource Management Plan, as amended. Up to 213 acres will be artificially regenerated (planted) in order to achieve the long range objectives for Matrix/General Forest land allocation. All timber harvest and other silvicultural activities would be conducted in the Matrix/General Forest where there is suitable forest land according to standards and guidelines (Northwest Forest Plan, page C-39). Natural regeneration can supplement planted conifers if viable seed trees of desired tree species are present. About 5,760 acres of the GW Fire area will receive no treatment and will regenerate naturally.

No new roads should be constructed.

The decision will not construct any new roads. About ¼ mile of temporary road will be built to access unit four. This road will be obliterated after the unit is logged.

"Sensitive" areas identified should be avoided.

The decision will not impact wetlands, floodplains, Inventoried Roadless Areas, Riparian Reserves, fragile or erosive soils, or steep slopes. No project activities will occur in these areas.

Leave at least 50% of standing dead trees in each diameter class, leave all trees greater than 20" dbh or older than 150 years, and generally leave all live trees.

The decision will result in the harvest of about 218 acres (4%) from about 6,029 acres of the GW fire area in National Forest ownership. About 5,760 acres in the GW Fire area will not be salvaged logged. The wildlife snag strategy developed for this decision will leave three snags greater than 21" dbh and three snags from 12-21"dbh for a total of six snags per acre. No green trees will be harvested with this decision. In mixed fire severity harvest units no dead or dying Douglas-fir or ponderosa pine will be removed.

Livestock grazing is withheld.

The project area does not contain any grazing allotments, no permitted grazing is occurring.

Do Not Implement the Decision

***Comment**: Implementation of the GW Fire Timber Salvage Project as proposed would adversely affect the members and volunteers of our organizations because the proposed logging activities would result in significant irreparable degradation of the ecological integrity and fish and wildlife habitat in and around the analysis area. (1-1)*

Response: The conclusion of "significant irreparable degradation" is not substantiated in the letter. The interdisciplinary team analysis concludes that the project will not have adverse effects to resource conditions and will not result in extraordinary circumstances. The GW Fire Timber Salvage Project is small in scale, approximately 218 acres, and the Forest Service has determined that, absent adverse effects to resource conditions, these types of projects do not have significant environmental effects (Federal Register volume 68, Number 145, pages 445980-44599). No timber harvest will occur in Riparian Reserves or in Late Successional Reserves.

Adequacy of Analysis

***Comment**: Despite raising this issue in our previous comments, the preliminary decision notice still fails to disclose the acreage and boundaries of the overall project analysis area, or the extent of logging haul roads used for this proposed project. The units themselves may occupy only 218 acres; however, the project analysis area covers approximately 760 to 820 acres, as there is contiguous public lands forest located between the proposed logging units. Implementation of this logging project would affect not only the forest areas within unit boundaries, but additionally would affect contiguous forest and waterways surrounded by and adjacent to logging units. NEPA requires projects to accurately disclose the boundaries of their analysis areas. Customarily this is done by the agency including a map of the analysis area boundary, noting proposed units located within this project boundary. NEPA requires scientific and site-specific accuracy as well. The agency may not piecemeal its proposed units across a contiguous forest landscape, like a chunk of Swiss cheese with many holes. Similarly, the agency*

may not identify each tree to be felled as separate "unit" acreage, while ignoring the impacts to the forests in which these trees exist. The notice fails the requirements of NEPA for accuracy by attempting to portray this project as only impacting 218 acres, rather than a minimum of 760 to 820 acres grouped along and between the boundaries of the proposed units. As such, this proposed project fails the requirements of the agency's CE standards, as the project includes and impacts far more than the requisite maximum 250 acres. (1-2)

Response: Timber stands within the project area are not contiguous but have a range of seral stages resulting from past timber harvest. The map that was included with the preliminary decision memo only showed the harvest units. All units are located in the Matrix/General Forest land allocation as outlined in the October 17, 2007 scoping letter and the April 15, 2008 preliminary decision memo. The Matrix is surrounded by either Late Successional Reserve or private lands. A map is included with the Decision Memo. The total number of acres that will be affected by the project is about 218 acres located within 12 distinct harvest units all located in the Matrix land allocation (Decision Memo, page 4). The area within the project boundary is about 766 acres. The area outside the salvage harvest units is about 548 acres. No management actions associated with this decision will occur in areas outside the harvest units other than the removal of danger trees located along log haul routes.

The effects analysis for different resources (wildlife, soils, hydrology, etc) has bounded their analysis in space and time and is different for each resource. In regards to "the agency may not identify each tree to be felled," in the high fire severity units trees were "leave tree marked" that is, the snags designated for retention were marked with orange paint. Those trees not marked will be cut and removed. In the mixed fire severity units, trees were "cut tree marked" with blue paint. Trees marked blue will be cut and removed. In addition, in the mixed fire severity units, snags were painted orange for retention.

The danger trees located along log haul routes were marked individually with blue paint.

No other separate decisions will occur with this decision in the reasonably foreseeable future.

Comment: *Project analysis and alternative design must retain the full optimum habitat components for project-area biodiverse species of concern, incorporate credible post-fire science management recommendations, and include effective meaningful provisions for resource concerns, ecological recovery, and riparian protections and restoration. (1-10)*

Response: The term "full optimum habitat components" is not defined in this letter. The design of the project focused on reducing or eliminating impacts to resource conditions as defined at FSH 1909.15 Section 30.3 (2). There are no impacts to resource conditions associated with the project (Decision Memo, pages 6-11) that resulted in any extraordinary circumstances. All resource reports contained in the project file used the best available science to arrive at the effects determinations outlined in the Decision Memo. The best available science was used, for example, to determine snags and coarse woody debris requirements.

Comment*: The proposal presents possible commercial logging, absent completion of foundationally necessary NEPA analysis across 218 acres of forest. The proposal calls for scientifically unsound post-fire logging – however no information is provided to the public or the decision-maker indicating what wildlife species depend upon this area, if ESA listed and/or*

regional species of concern present would be adversely harmed – and what all of these possible species may be, if steep slopes are present, if erosive soils are present, if salmonid species are present downstream of project area streams and tributaries, if area waterways are 303(d) listed, and/or necessary information on a host of other ecological concerns and issues. This information must be compiled, disclosed, and assessed before any proposal for logging can begin to be developed. (1-34)

Response: The preliminary Decision Memo outlined what federally listed threatened, endangered or sensitive species or designated habitat or species proposed for Federal listing, or proposed critical habitat are found in the project area (preliminary Decision Memo pages 6-8). A detailed discussion of impacts to TES and Management Indicator Species can be found in the GW Fire Timber Salvage Project Aquatic Biological Assessment and Evaluation, GW Fire Salvage Wildlife Biological Evaluation, and the GW Fire Salvage Wildlife Report. A Region Six Sensitive Species and Management Indicator Species discussion is found on pages 9 and 12 of the Decision Memo, respectively.

Cache Creek is a large intermittent drainage flowing through a watershed of over 10,000 acres. Cache Creek flows into Lake Creek very infrequently. Cache Creek is intermittent in the area of the GW fire area and supports riparian vegetation consisting of aspen, cottonwood and mountain alder on National Forest Lands. Cache Creek flowed to Lake Creek during the 1996 flood and in the winter of 1997 (Riehle 2007). Flow has not been observed crossing Highway 20 since 1997. No fish are known to exist in Cache Creek due to its intermittent nature.

Dry Creek is an intermittent tributary to Cache Creek. Dry Creek has a perennial reach flowing to the wilderness boundary for 1 to 1.5 miles near the southern edge of the west end of the burned area. No fish have been found in Dry Creek during electrofishing surveys near the wilderness boundary (Riehle 2007).

The Metolius River is habitat for Redband Trout (sensitive) and Bull Trout (threatened). The river is also listed as Essential Fish Habitat for Chinook salmon. Redband trout spawning occurs in Lake Creek (Houslet and Riehle 1997). Most Bull trout spawning occurs in the Metolius River and tributaries approximately four miles downstream of the Lake Creek confluence. Historical Chinook spawning habitat was located in Lake Creek and the Metolius River from the headwaters to Bridge 99 (Nehlsen 1995). Chinook will be released for reintroduction into Lake Creek and the Metolius River in 2008 but no population exists yet due to blocked migration of the adults at Pelton Round Butte Dams on the Deschutes River. Middle Columbia River Steelhead (Threatened) is not planned for reintroduction to the Metolius River or its tributaries but strays could enter the Metolius River system from reintroduction efforts in Whychus Creek and the Crooked River.

There are two wetlands in the general area, but outside the project area. Dry Creek Swamp is a 48-acre wetland surrounded by a forest of spruce, cotton wood and aspen. Another wetland is located between Forest Service road 1014 and private land. Logging will not occur within 160 feet of area streams or wetlands.

Streamflow

Dry Creek is a tributary to Cache Creek. Cache Creek is a large intermittent tributary to Lake Creek. Lake Creek is a major tributary to the Metolius. Both Cache and Dry Creeks are spring fed headwater streams with stable flows. Both are "loosing streams" that carry less water in the channel as they move downstream. The flow regime in Cache Creek is intermittent, with numerous areas where flows are subsurface. Bankfull flows in Cache Creek appear to be infrequent and low velocity as evident by the vegetated bed. On National Forest System lands within the fire area, Cache Creek has one road crossing on Forest Service Road 1028. On National Forest System lands, Dry Creek has four stream crossings, one on Forest Service Road 1028, one Forest Service Rd 1014, and two on Forest Service Road 1030.

The low drainage density in these subwatersheds is due to the soils and underlying geology (refer to GW Soils Report 2007). Approximately, 5% of the fire area is vegetated lava or barren lava, which has high infiltration rates due to its fractured geology. The remaining soil is primarily volcanic ash with rapid infiltration rates (i.e. the rate at which water enters the soil). Permeability rates, the rate of water movement through the soil profile, for the majority of soils in the fire area that drain into Dry Creek and Cache Creek exceed the 2 yr, 30 minute rainstorm intensities for the same area (permeability for most soils in project area = 20 in/hr; 2 yr, 30 min rain = 0.7 in/hr) (Soil code = 8, 19, 21, 28, 29, HG, MH). As a result of rapid infiltration and high permeability rates, overland flow is rare in the analysis area. The infiltration rate was not significantly altered by the GW Fire (refer to BAER Soils Report 2007). Hydrophobicity slightly increased in high and moderate burn severity areas and, as a result, runoff is expected to increase by 5% in these areas.

Within the GW project area, overland flow does not generally occur from a reduction in evapotranspiration from the loss of vegetation because infiltration and permeability rates often exceed precipitation rates. In addition, vegetation prior to recent fires was already sparse in numerous areas along Dry Creek and especially Cache Creek, due to the arid environment. Although approximately 50% of the GW fire area was burned by a stand replacement fire (> 75% mortality), and approximately 2.4 miles (25%) of Dry Creek and 2.7 miles (20%) of Cache Creek were affected by this type of burn, overland flow is not expected to significantly increase. Both of these creeks were also burned in recent fires; however, only an additional 0.4 miles of Dry Creek and 1 mile of Cache Creek were burned by a stand replacement fire. As a result of high infiltration rates that were not greatly altered by the fire and less than 30% of the stream length that experienced a stand replacement fire, overland flow that could reach Dry Creek or Cache Creek is not predicted to significantly increase. Due to the relatively flat topography and high infiltration rates, these areas are not likely to contribute increased sediment from overland flow. In addition, there will no logging in Riparian Reserve areas within 160 feet of the any stream and in some cases, on steeper slopes buffers extend for more than 160 feet to above the break in slope.

Peak flows in Dry Creek and Cache Creek are not predicted to significantly increase because of overland flow; however, they could slightly increase during a rain-on-snow event. Major rain on snow events are unlikely within the project area because it is above the elevations at which this rain on snow events typically occur. Any increases in peak flows are not expected to exceed culvert capacity at any of the road crossings. Culverts at all crossings appear to be passing flood flows and there are no road maintenance records of any damage at these crossings from past

floods. However, as a result of the GW fire, culverts are at a higher risk of being plugged by instream debris. Instream woody debris is expected to increase in the next 10 years due to the large amount of dead trees adjacent to both Dry Creek and Cache Creek (Hydrology Assessment for the GW Fire Timber Salvage Project).

Sedimentation

Within the GW project area some sedimentation could occur in the short term in Dry Creek and Cache Creek within areas where ground vegetation has been denuded. There is approximately 1,400 acres within 300 ft of Dry Creek and 1,700 acres within 300 ft of Cache Creek were burned by a high or moderate severity fire. However, slopes within 300 ft of the creeks are mostly moderate and less than 15%. As mentioned above, due to the relatively flat topography and high soil infiltration rates, these areas are not likely to contribute increased sediment from overland flow. In addition, there are still tree boles and, in moderate severity burn areas, shrub carcasses and needles that will help reduce raindrop impact and slow overland flow. The area most likely area to cause sedimentation in the short-term is the steep, unvegetated, high burn severity slopes adjacent to Dry Creek immediately upstream of the 1014 road crossing. Although this area mostly showed as a moderate severity in the BARC image, it is considered high severity (existing condition) due to its proximity to the Creek and steeper slopes (Hydrology Assessment for the GW Fire Timber Salvage Project). There will no logging in Riparian Reserve areas within 160 feet of the any stream and on steeper slopes more than 160 feet to above the break in slope. Recruitment of woody debris and ground vegetation is expected to recover in 2-3 years; therefore, reducing long-term sedimentation effects from the fire.

The risk of increasing sedimentation to Dry Creek or Cache Creek from the salvage of dead trees is very low. There is an even lower risk of any sediment traveling 6.8 stream miles to Lake Creek or the Metolius River since these streams only reach SF Lake Creek during extremely high flow events (Aquatic Biological Assessment and Evaluation for TES Species, GW Fire Timber Salvage Project). There is no risk of project activities increasing temperatures in 303 (d) listed Lake Creek or Metolius River, as there will be no salvage of trees near these Riparian Reserve areas (that would reduce the shade component). Therefore, shading of these perennial streams will remain unchanged from its current condition and flows from Cache Creek will not reach Lake Creek or the Metolius River during summer months when stream temperatures can become elevated.

All harvest units are located on slopes generally less than 25%. All units after logging meet Regional direction and LRMP standards and guidelines for protecting and maintaining soil productivity (Soils Report, page 19). Mitigations for soils are also included as part of the final decision memo (see Appendix A).

***Comment**: Since this project involves post-fire commodity extraction (also often referred to erroneously as "salvage" logging) please carefully analyze, consider, and disclose the site-specific analysis of the many reasons NOT to do post-fire commodity extraction, including but not limited to:*

***Comment:** adverse impacts to soil, such as erosion, compaction, displacement, litter disturbance, nutrient depletion; loss of chemical buffering; loss of soil organic matter; loss of burrowing wildlife that help aerate soils; reduction of nitrogen fixing plants that boost soil*

fertility; loss of slope and snow stabilizing effects which could lead to mass wasting or eliminate mechanisms that may mitigate mass wasting;

Response: Seven of the 12 salvage units are located away from Dry Creek and wetlands. Only 87 acres are located in units adjacent to Dry Creek. The five units' located adjacent to Riparian Reserves have sufficient buffers (160 ft) to prevent measurable movements of fine sediment above what is naturally occurring after the fire for these streams and stream channels. The risks of increasing sedimentation to Dry Creek, as a result of the proposed treatments, are very low (Hydrology Assessment GW Fire Timber Salvage Project). There is an even lower risk of any sediment traveling 6.8 stream miles to Lake Creek or the Metolius River where redband trout, bull trout and future populations of Chinook salmon exist. Where the fire burned at high intensity along Dry Creek it appears that some of the preexisting downed woody material was consumed but some still exists along with smaller forest twigs and needles. The burned trees left in Riparian Reserves will continue to fall along the floodplains and channels helping to provide roughness and trap fine sediments during runoff events.

Wood recruitment into streams will not be impacted by the removal of dead trees outside of the Riparian Reserves. The surrounding slopes do not promote debris slides that provide large amounts of wood in short time spans from uplands (Soils Specialists Report GW Fire Timber Salvage Project). Wind-throw and channel migration are the primary chronic mechanisms for wood recruitment in these systems and they would not be affected by this project. The large amount of dead trees in certain locations near Dry and Cache Creeks will increase amounts of woody debris to these streams and associated riparian areas for at least the next 10 years.

The Soil Resource Specialist Report (SRSR) contains a section titled "Management Direction" that list and discusses US Forest Service (FS) Soil Quality Standards (SQS) for protecting the soil resource. Direct, Indirect and Cumulative Effects of soil disturbance to the soil resource are discussed under Measure #1 of the Effects section. The amount of detrimental soil impacts resulting from the salvage operation are not expected to exceed FS SQS (Table 3).

Comment: *loss of down wood functions such as trapping sediment and aiding water infiltration, and creating micro sites favorable for germination and establishment of diverse plants, and habitat for diverse wildlife;*

Response: Wildlife habitat is being provided through the snag strategy developed for the project and as snags decay and reach the forest floor they can provide some of the functions described above. No down wood will be removed in mixed severity areas where fire effects did not remove all of the prefire down wood. Some slash from timber felling will remain in harvest units. About 5,760 acres of the GW Fire area will not be harvested. See Appendix A of the Decision Memo. Measure #2 in the Effects section of the SRSR discusses Effective Ground Cover and Risks of Accelerated Soil Erosion that may result from salvage logging. The salvage operation is expected to meet the Deschutes Land Resource Management Plan (LRMP) SL-6 Standards and Guidelines.

Comment*: loss of decaying wood and depletion of the "savings account for nutrients and organic matter" which affects site productivity through the removal of dead trees which store nutrients and slowly release them to the next stand. Recent studies indicate that wood may release nutrients more rapidly than previously thought through a variety of decay mechanisms*

mediated by means other than microbial decomposers, i.e. fungal sporocarps, mycorrhizae and roots, leaching, fragmentation, and insects;

Response: Salvage is only occurring on 4% of the GW Fire area; about 218 acres of timber salvage, about 5,760 acres will not be harvested. Six snags per acre will remain throughout the salvage stands, in addition to retaining all live ponderosa pine, Douglas-fir and moderate to high likelihood of survival white fir. In the mixed severity stands all live ponderosa pine and Douglas-fir will remain, including dead or dying Douglas-fir and ponderosa pine. The project is in Matrix and General Forest as outlined in the Deschutes National Forest Plan (LRMP), as amended. The project meets the standards and guidelines of the Deschutes National Forest Plan (LRMP), as amended.

Measure #3 in the Effects section of the SRSR discusses Long-Term Soil Productivity and the effects of salvage logging. Based on State Best Management Practices (BMP's) minimum levels of coarse woody debris (CWD) are identified to be retained to assure Long-Term Soil Productivity.

Comment: *loss of nutrients from live trees that are determined to be "dying." Live trees produce serve as refugee for animals, invertebrates, and mycorrhizae; produce litter fall; and help cycle nutrients which are all extremely valuable in the post-fire landscape;*

Response: Salvage is only occurring on 4% of the GW Fire area. In the mixed severity units, only dead and dying white fir will be removed, all other species will be retained. The project is in Matrix and General Forest land allocation under the under the Deschutes National Forest Plan (LRMP), as amended. The project is within the standards and guides of the Northwest Forest Plan and the Deschutes National Forest Plan (LRMP). All green trees will be retained in all harvest units. In mixed severity harvest units, dead and dying Douglas-fir and dead and dying ponderosa pine will not be removed.

Comment: *loss of wood that serves to buffer soil chemistry and prevent extreme changes in soil chemistry;*

Response: Measure #3 in the Effects section of the SRSR discusses Long-Term Soil Productivity and the effects of salvage logging. Based on State Best Management Practices (BMP's) minimum levels of coarse woody debris (CWD) are identified to be retained to assure Long-Term Soil Productivity.

Comment: *water quality degradation;*

Response: Direct and indirect effects to water quality as a result of removing fire-killed trees are not anticipated to occur since there is no harvest within Riparian Reserve areas. All proposed units and temporary road construction areas have been assessed for existing and potential sediment sources and slope stability concerns. There are no areas identified as areas of concern for stability. There is no harvest or temporary road construction inside Riparian Reserves adjacent to stream channels in any of the proposed units.

The risk of increasing sedimentation to Dry Creek or Cache Creek from the salvage of dead trees is very low. There is an even lower risk of any sediment traveling 6.8 stream miles to Lake

Creek or the Metolius River since these streams only reach SF Lake Creek during extremely high flow events (Aquatic Biological Assessment and Evaluation for TES Species, GW Fire Timber Salvage Project). There is no risk of project activities increasing temperatures in 303 (d) listed Lake Creek or Metolius River, as there will be no salvage of trees near these Riparian Reserve areas (that would reduce the shade component). Therefore, shading of these perennial streams will remain unchanged from its current condition and flows from Cache Creek will not reach Lake Creek or the Metolius River during summer months when stream temperatures can become elevated.

Comment: *loss of water storage capacity in down logs;*

Response: About 218 acres of harvest will occur with this decision. About 5,760 acres in the GW fire area will not be harvested. Down logs are prevalent across the landscape. All down logs prior to the fire will remain on site. At a minimum, 120 linear feet of logs will be left per acre to provide coarse woody debris.

Comment: *altered timing of storm run-off which could lead to peak flows that erode stream banks and scour fish eggs;*

Response: Cache Creek is a large intermittent drainage flowing through a watershed of over 10,000 acres. Cache Creek flows into Lake Creek very infrequently. Cache Creek is intermittent in the area of the burn and supports riparian vegetation consisting of aspen, cottonwood and mountain alder on National Forest Lands within the burn area. Cache Creek flowed to Lake Creek during the 1996 flood and in the winter of 1997 (Riehle 2007). Flow has not been observed crossing Hwy 20 since 1997. No fish are known to exist in Cache Creek due to its intermittent nature.

Dry Creek is an intermittent tributary to Cache Creek. Dry Creek has a perennial reach flowing from the source to the wilderness boundary for 1 to 1.5 miles near the southern edge of the west end of the burned area. No fish have been found in Dry Creek during electrofishing surveys near the wilderness boundary (Riehle 2007).

The Metolius River is habitat for Redband Trout (sensitive) and Bull Trout (threatened). The river is also listed as Essential Fish Habitat for Chinook salmon. Redband trout spawning occurs in Lake Creek (Houslet and Riehle 1997). Most Bull trout spawning occurs in the Metolius River and tributaries approximately four miles downstream of the Lake Creek confluence. Historical Chinook spawning habitat was located in Lake Creek and the Metolius River from the headwaters to Bridge 99 (Nehlsen 1995). Chinook will be released for reintroduction into Lake Creek and the Metolius River in 2008 but no population exists yet due to blocked migration of the adults at Pelton Round Butte Dams on the Deschutes River. Middle Columbia River Steelhead (Threatened) is not planned for reintroduction to the Metolius River or its tributaries but strays could enter the Metolius River system from reintroduction efforts in Whychus Creek and the Crooked River.

The risk of increasing sedimentation to Dry Creek or Cache Creek from the salvage of dead trees is very low. There is an even lower risk of any sediment traveling 6.8 stream miles to Lake Creek or the Metolius River since these streams only reach SF Lake Creek during extremely high flow events (Aquatic Biological Assessment and Evaluation for TES Species, GW Fire Timber

Salvage Project). There is no risk of project activities increasing temperatures in 303 (d) listed Lake Creek or Metolius River, as there will be no salvage of trees near these Riparian Reserve areas (that would reduce the shade component). Therefore, shading of these perennial streams will remain unchanged from its current condition and flows from Cache Creek will not reach Lake Creek or the Metolius River during summer months when stream temperatures can become elevated.

***Comment**: delaying the pace of vegetative recovery and reducing the quality/diversity of the vegetation community;*

Response: About 5,760 acres of the GW Fire will not be treated. About 218 acres will be treated in the decision and about 213 acres will be reforested. These areas will be planted with conifers based on the plant association group and using seed from the appropriate seed zone. In the mixed fire severity areas about 68 acres will be salvaged logged, removing only dead and dying white fir that meets Scott's Guidelines.. Natural regeneration is expected to supplement planting done in the high fire severity areas. All dead and dying Douglas-fir and dead and dying ponderosa pine in the mixed fire severity units will be retained.

***Comment:** spread of invasive weeds through soil disturbance and extensive use of transportation systems;*

Response: The spread of invasive plants will be mitigated by using timber sale contract provisions such as requiring vehicles to be washed before entering the project area. There are no existing known populations of invasive plants in the project area.

***Comment:** loss of legacy structures that can carry species, functions, and processes over from one stand to the next;*

Response: A detailed discussion of legacy material is located within the spotted owl section of the GW Fire Salvage Biological Evaluation. The SEI report states that legacy retention is important to prey species following a disturbance, due to the closed canopy without legacies limiting spotted owl prey species (Courtney et al. 2004). Legacy materials left on site increase the complexity of the environment of young stands by increasing horizontal and vertical structure, which provides for greater prey species diversity (Carey and Harrington 2001). Carey and Johnson (1995) suggest conservation of some coarse woody debris, woody plant species diversity, and understory promotion to enhance biodiversity for prey species. Carey (1995) recommends a range of snags from 2.8 to 8.1 snags per acre over 20 inches dbh along with well-distributed patches of dense shrubs for high densities of flying squirrels. The legacy retention can accelerate habitat for spotted owls and their prey.

All legacy trees outside of the salvage units and haul route danger tree removal portions of the fire will be retained to provide interim habitat for spotted owl prey. About 5,760 acres in the GW Fire area will not be harvested.

About 145 acres of stand replacement will be salvaged logged. The snag strategy will retain three trees greater than or equal to 21" dbh per acre and three trees 10-21 inches dbh per acre will be retained to provide legacy habitat for prey species. In review of the above literature, it is

determined that this level of retention within the harvest units will not exclude the use of the harvest units by various wildlife species in the future.

Within the approximate 68 acres proposed for mixed severity harvest only dead and low likelyhood of surviving white fir will be removed based on Scott's Guidelines. All other species of snags and down wood (mostly ponderosa pine and Douglas-fir) will be retained on site to provide legacy material for various wildlife species and their prey.

Comment: *loss of terrestrial and aquatic habitat (mostly snags and down logs) potentially harming at least 93 forest species (63 birds, 26 mammals, and 4 amphibians) that use snags for nesting, roosting, preening, foraging, perching, courtship, drumming, and hibernating, plus many more species that use down logs for foraging sites, hiding and thermal cover, denning, nesting, travel corridors, and vantage points for predator avoidance;*

Response: A detailed discussion of impacts to Threatened, Endangered, Sensitive, and Management Indicator species that utilize snags and down wood can be found in the GW Fire Salvage Biological Evaluation and GW Fire Salvage Wildlife Report. About 218 acres will be salvaged logged (213 acres of harvest units and five acres of danger trees). Within those acres (high and mixed fire severity) a snag retention strategy was developed to leave six snags per acre. The retention of six snags per acre exceeds the standards and guidelines as outlined Deschutes National Forest Land and Resource Management Plan, as amended. In addition, about 5,760 acres will be left untreated to provide snags within the GW Fire. No green trees will be removed in this decision.

In addition to the snags within the GW Fire area there is abundant snag habitat located across the Sisters Ranger District. Approximately 91% of the B&B Fire (69,659 acres); approximately 70% of the Eyerly Fire (17,786 acres); and approximately 99% of the Black Crater Fire (5,147 acres) administered by the Deschutes National Forest remained untreated. The Cache Mountain (2,457 acres) and Lake George (4,937 acres) fires were not salvaged so all available habitat remained untreated. In the treated areas, snag retention guidelines were designed to leave dead wood habitat available.

Comment: *Depletion of large wood structures in streams that can cause: 1) simplification of channel morphology, 2) increased bank erosion, 3) increased sediment export, 4) decreased nutrient retention, 5) loss of habitats associated with diversity in cover, hydrologic patterns, and sediment retention;*

Response: 1) Wood recruitment will not be impacted by the removal of dead trees outside of the Riparian Reserves. The surrounding slopes do not promote debris slides that provide large amounts of wood in short time spans from uplands. Windthrow and channel migration are the primary chronic mechanisms for wood recruitment in these systems and they would not be affected by this project. The large amount of dead trees in certain locations near Dry and Cache Creeks will increase amounts of woody debris to these streams and associated riparian areas for at least the next 10 years.

2) Bank erosion is not expected to increase. Slopes within 300 feet of Dry Creek and Cache Creek are mostly moderate and less than 15% slope. Due to the relatively flat topography and

high soil infiltration rates, these areas are not likely to contribute increase sediment due to overland flow (Hydrology Assessment GW Fire Timber Salvage Project).

3) The five units' located adjacent to Riparian Reserves have sufficient buffers (160 ft or more) to prevent measurable amounts of fine sediment above what is naturally occurring after the fire for these streams and stream channels. The risks of increasing sedimentation to Dry Creek as a result of the proposed treatments are very low or nonexistent. There is an even lower risk of any sediment traveling to Lake Creek or the Metolius River where redband trout, bull trout and future populations of Chinook salmon exist. Where the fire burned at high intensity along Dry Creek it appears that some but not all of the preexisting downed woody material was consumed. The burned trees left in Riparian Reserves will continue to fall along the floodplains and channels helping to provide roughness and trap fine sediments during runoff events.

4) The extent of mineral soil discoloration and the depth of below ground charring following the fire were both observed to be relatively low in the majority of the fire area, indicating that temperatures within the soil profile were well below those capable of volatilizing significant amount of nutrients (Soils Resource Specialist Report).

5) Most cover was removed in the areas of stand replacement by the GW Fire itself. Some cover is maintained before and after salvage in the mixed fire areas. Hydrologic pattern in the watershed are expected to remain the same (Hydrology Assessment GW Fire Timber Salvage Project). Soil disturbance will be within Deschutes National Forest LRMP guidelines of 20% disturbance (Soils Resource Specialists Report).

Riparian Reserves are designed at an adequate width so that large wood recruitment will not be effected by salvage logging. Thus depletion of large wood structures in streams will not occur. In the short term there will be large amounts of woody material added to the stream due to the falling over of trees killed by the fire.

Comment: *commercial salvage usually removes the largest trees, but this will disproportionately harm wildlife because: (1) larger snags persist longer and therefore provide their valuable ecosystem services longer and then serve longer as down wood too, and (2) most snag-using wildlife species are associated with snags >14.2 inches diameter at breast height (dbh), and about a third of these species use snags >29.1 inches dbh.*

Response: The snag retention strategy requires leaving three snags greater than 21 inches dbh and three snags 10 inches dbh to 21 inches dbh be retained per acre. In addition there is approximately 5,760 acres that will be left untreated to provide snags within the GW Fire.

Comment: *Truncation of symbiotic species relations and loss of biodiversity. Sixteen species are primary cavity excavators and 35 are secondary cavity users; 8 are primary burrow excavators and 11 are secondary burrow users; 5 are primary terrestrial runway excavators and 6 are secondary runway users. Nine snag-associated species create nesting or denning structures and 8 use created structures.*

Comment: *Reduced avian and terrestrial species diversity which affects plant and invertebrate diversity. Since different wildlife help disperse different sets of seeds and invertebrates, reduced wildlife diversity can significantly affect pace of recovery and the diversity of the regenerating*

stand. Snag- associated wildlife play a greater role in dispersal of invertebrates and plants, while down wood-associated wildlife play a greater role in dispersal of fungi and lichens. Down wood-associated species might contribute more to improving soil structure and aeration through digging, and to fragmenting wood which increases surface area encouraging biological action that releases nutrients.

Response: The GW Wildlife Report for Non-TES Species discusses impacts of the GW Fire Timber Salvage Project to Snags, Down Wood, and Cavity Nesters. All Threatened, Endangered, Sensitive, and Management Indicator species that have potential habitat in GW Fire were analyzed and impacts to the species were presented. Adequate levels of coarse woody debris and snag habitat will be left in the project area, including 5,760 acres of the GW Fire area that will not be harvested. Please see the GW Wildlife Biological Evaluation and GW Wildlife Report for more details.

Comment: *loss of partial shade that helps protects the next generation of forest;*

Response: Six snags per acre will be retained in all 12 harvest units, with all green ponderosa pine, Douglas-fir and moderate to high likelihood of survival white fir remaining. In the mixed severity stands all ponderosa pine and Douglas-fir will remain as well as all dead Douglas-fir and ponderosa pine. These trees will provide partial shade for the next generation of forest. Salvage is only occurring on 4% of the GW Fire area. The project is in Matrix and General Forest land allocation under the Deschutes National Forest Plan (LRMP), as amended. The project is consistent with the standards and guidelines of the Deschutes National Forest Plan (LRMP), as amended.

Comment: *loss of cover quality and fawning areas for big game;*

Response: See the GW Wildlife Report for a full discussion of impacts of the project to big game. The project is consistent with the Deschutes LRMP Standards and Guidelines for Elk and Deer. The GW Fire Salvage occurs within Mule Deer Summer Range.
Within Summer Range cover is identified as:

- Areas six acres or larger capable of hiding 90% of a standing adult deer from the view of a human at a distance of 200 feet.
- Six acre or larger stand with an average height of 6 feet and which has not been thinned in 15 years.
- Residual clumps of one half acre or larger with advanced regeneration.

The stand replacement areas and mixed severity areas that are part of the salvage unit do not currently meet the definition of cover as described above. The salvage of dead and dying material will have very minor impacts of cover within the units.

The stand replacement areas and mixed severity harvest areas included in this decision are very open and are not considered fawning areas. The salvage of dead and dying material will have very minor impacts of fawning areas in the GW Fire.

Comment: *loss of future disturbance processes such as falling snags that help thin and diversify the next generation of forest;*

Response: Salvage is only occurring on 4% of the GW Fire area. Each salvage unit has at least six snags per acre retained post-salvage. These snags will provide diversity in the stand. The project meets the standards and guidelines of the Deschutes National Forest Plan (LRMP), as amended.

Comment: *increased human activity and human access that can increase fire risk;*

Response: The area is fully roaded and open to the public. Foot travel is also allowed in the project area. For example, members of the public who commented on the proposed action visited the project area. Fire risk from human activity will be mitigated through the fire prevention and fire management programs currently in place on the Deschutes National Forest.

Comment: *increased fine fuels on the forest floor that can cause an increase in fire hazard;*

Response: Salvaged timber will be whole tree yarded and slash will be treated at log landings. Some fine fuels will remain on site and is not considered to be a high fire hazard.

Comment: *loss of seed sources, and loss of diversity of vegetation and microsite conditions.*

Response: Seed used for natural and artificial regeneration will be from remaining live trees on site or local seed from established seed zones. See the reforestation section of the Silvicultural Prescription and Marking Guides document for a more in-depth discussion on seed sources, diversity, and micro-site conditions (pages 6-8). The project is within the standards and guidelines of the Deschutes National Forest Plan (LRMP), as amended.

Comment: *The fact that regional standards for snags and down wood fail to incorporate the most recent science indicating that more snags and down wood (especially large snags and logs) are required in order to maintain species viability and sustain site productivity.*

Response: The project falls under the guidance of the Deschutes National Forest Land and Resource Management Plan as amended. Table 1 displays current snag recommendations.

Table 1. Forest Standards and Guides for Snag Retention within the Northwest Forest Plan.

Deschutes Wildlife Tree and Log Guide (DWTLG)	>10" dbh 2.52 >12" dbh 1.35 >20" dbh .06 Total 3.93 snags/acre	100% MPP Mixed Conifer Neitro et al, 1985*
* The Following species are provided for by guidelines under the DWTLG: Pileated WP Williamson's WP, Northern 3-toed WP, Lewis' WP, Common Flicker, White-headed WP, and Hairy WP.		

The management goal for species richness is to insure that most native wildlife species are maintained in viable numbers and that habitat requirements for all species must be accounted for

(Thomas 1979 p. 141). Habitat requirements, including snag and down woody material levels, were described for a vast array of wildlife species using information known at the time in Thomas (1979) and Brown (1985). However, Bull et al. (1997) states current direction for providing wildlife habitat on public forest lands does not reflect the new information available which suggests that to fully meet the needs of wildlife, additional snags and habitat are required for foraging, denning, nesting, and roosting. Rose et al. (2001) also states that several major lessons have been learned in the period 1979 to 1999 that have tested critical assumptions of earlier management advisory models, including some assumptions used to develop current recommendations in the LRMP Standards and Guidelines. Some assumptions include:

Calculation of numbers of snags required by woodpeckers based on assessing their "biological (population) potential" is a flawed technique (Rose et al. 2001). Empirical studies are suggesting that snag numbers in areas used and selected by some wildlife species are far higher than those calculated by this technique (Rose et al. 2001).
Numbers and sizes (dbh) of snags used and selected by secondary cavity nesters often exceed those of primary excavators (Rose et al. 2001).

This suggests the current direction of managing for 100 percent population levels of primary excavators may not represent the most current knowledge of managing for cavity nesters and that these snag levels, under certain conditions, may not be adequate for some species. In addition, the current direction provides recommendations for green stands only when studies show that cavity-nesting birds require higher snag densities in post-fire conditions versus green stands for nesting and productivity. This is likely due to cavity nesting birds requiring more snags for foraging, cover, and protection from predators in post-fire environments.

The use of DecAid is a compilation of the most recent science and data available. As stated by Rose et al. (2001), DecAid is based on a thorough review of the literature, available research and inventory data, and expert judgment. Information in DecAid will be compared to the current standards and guidelines for this project.

SNAG STRATEGY

Woodpeckers

Unharvested Areas

Hutto (2006) states "The bird species in western North America that are most restricted to, and therefore most dependant on, severely burned conifer forests during the first years following a fire event depend heavily on the abundant standing snags for perch sites, nest sites, and food resources". Saab et al. 2002 found that hairy woodpeckers, white-headed woodpeckers, blacked backed woodpeckers, and mountain bluebirds utilized unlogged areas to nest more often than logged areas in a study conducted from 1994 – 1998 in burned ponderosa pine/Douglas fir forests of western Idaho. Approximately 2,732 acres of stand replacement (89% of the stand replacement within the GW Fire), will remain untreated (danger tree acres are removed from this calculation) and it is assumed that these acres will provide suitable habitat for the afore-mentioned species that select for high density unlogged post-fire stands.

Harvested Areas

Saab et al (2002) found that the American kestrel, Lewis' woodpecker, and western bluebird utilized logged areas to nest more often than unlogged areas in a study conducted from 1994 – 1998 in burned ponderosa pine/Douglas fir forests of western Idaho. Out of the three species identified, the Lewis' woodpecker is a focal species within the Conservation Strategy for Land Birds of the East-Slope of the Cascade Mountains in Oregon and Washington (Altman 2000). In addition, the fire occurred in mixed conifer stands that are predominantly large ponderosa pine with an understory of ponderosa pine and white fir. Therefore the snag retention strategy was developed based upon empirical data on the Lewis' woodpecker synthesized in DecAid. Table 2 displays summarized data in the 30/50/80 percent tolerance levels for the Lewis' woodpecker in post fire habitats.

Table 2. Snags per acre at various tolerance level within DecAid for Lewis' Woodpecker

	30% Tolerance Snags per acre	50% Tolerance Snags per acre	80% Tolerance Snags per acre	Number of Studies
Snags $\geq$ 10"	24.4	39.6	62.9	1
Snags $\geq$ 20"	0.0	6.2	16.1	1

The Lewis' woodpecker is most commonly found in open woodlands and the most important breeding habitat is open canopies with large diameter dead or dying trees. They are an opportunistic feeder catching insects by flycatching and gleaning. Insects included in their diet are carpenter ants, bees, wasps, mayflies, beetles, and grasshoppers (Bock 1970, Tobalske 1997, Marshall et al. 2003).

The data in Table 2 is based upon 0.10 acre plots taken around the nest sites (Saab et al 1998 from DecAid). The data displays Lewis' woodpecker dependency upon densely stocked pockets of snags for nesting habitat. For viable nesting there is a need for these dense pockets of snags to be situated near openings to allow for effective foraging.

Table 3 reverts Table 2 back to the original size of plots collected around nest sites.

Table 3. Snags per acre reflected in 0.10 acre plots from research, displayed at various tolerance levels within DecAid for Lewis' Woodpecker.

	30% Tolerance 0.1 acre plots	50% Tolerance 0.1 acre plots	80% Tolerance 0.1 acre plots	Number of Studies
Snags $\geq$ 10"	2.44	3.96	6.29	1
Snags $\geq$ 20"	0.00	0.62	1.61	1

To create habitats that are similar to sites found in the Saab et al. studies from 1994 to 1998 and to achieve standards and guidelines, the following retention levels will be recommended to implement within the 213 acre treatment units for the GW Fire Salvage (Table 4).

Table 4. Snag Retention Guidelines for the GW Fire Salvage.

Size	Snags Per Acre
0-10" dbh	Not included in harvest.
10-21" dbh	3 *
>21" dbh	3 **
*These three snags will be clumped within .1 acre of one of the > 21" retention snags. **Snags will be retained; these snags will be the largest ponderosa pine available on a per acre basis, favoring smaller pine over larger white-fir.	

The retention strategy within the units will create one clump per acre that exceeds the 50% tolerance level for Lewis' woodpeckers when looking at 0.10 acre plots described in Table 6. In addition two other large snags will be retained per acre.

CONCLUSION

From review of recent literature, recommended snag levels for woodpeckers and secondary cavity nester not only provide nesting habitat, but foraging habitat in post fire scenarios. Table 4 is a comparison of our management direction and the recommendations for snag retention in the GW Fire Salvage derived from current literature/DecAid advisor.

Table 4. **Comparison of Snag Management Direction and Recommended Retention**

Deschutes Wildlife Tree and Log Guide (DWTLG)	>10" dbh 2.52 >12" dbh 1.35 >20" dbh .06 Total 3.93 snags/acre	100% MPP Mixed Conifer Neitro et al., 1985 (Developed for Green Stands)
Snag Retention Recommendations for Harvest Units	0-12" dbh Not included in harvest. 12-21" dbh 3** >21" dbh 3*** Total 6.0 snags/acres	Review of Current Literature/DecAid Advisor for Post Fire Scenarios
* The Following species are provided for by guidelines under the DWTLG: Pileated WP Williamson's WP, Northern 3-toed WP, Lewis' WP, Common Flicker, White-headed WP, and Hairy WP. ** These three snags will be clumped within .1 acre of one of the > 21" retention snags. *** Snags will be retained; these snags will be the largest ponderosa pine available on a per acre basis, favor smaller pine over larger white-fir within each size class (e.g. favor a 23"ponderosa over a 28" white fir) .		

Habitat needs by primary cavity excavators, secondary cavity nesters, and spotted owl prey species, recommended snag retention within harvest units as well as those in the remainder of the fire will provide suitable levels of snags for the above mentioned species. As a result, snags within harvest units retained will exceed levels of the Deschutes WTLG.

Comment: *Arguments in support of the "reburn hypothesis" are specious. (1) partial reburn may be completely natural and desirable in some cases to consume some fuel and diversify the regenerating forest, and (2) salvage logging will cause a pulse of fine fuels on the ground and*

actually increase the reburn risk/hazard above natural levels, and (3) fuels that fall to the ground over time will to some extent decay as they fall.

Response: There are a limited number of scientific studies regarding the pros and cons of reburn risk following a post fire salvage in dry ponderosa pine sites. This response is based on 20 years of personal wildland fire experience.

1) Partial reburn is completely natural and desirable to consume fuels and diversify the regenerating forest at Low Intensities.

2) Salvage logging will cause a pulse of fine fuels on the ground and actually increase the reburn risk in some small areas.

3) Without salvage and in untreated areas large diameter fuels will fall to the ground over time to create a slash type fuel profile which will decay at slow rates in this dry mixed conifer site. As larger diameter fuels accumulate on the ground along with regeneration of shrubs, grasses, and saplings the fire intensity risk could increase which could result in negative effects to soils and hydrology.

***Comment**: Uncertainty calls for a cautious approach.*

Response: The design of the project reflects a very cautious approach to the salvaging of fire killed timber in the GW Fire area. The decision will harvest about 218 acres within a 6,029 acre fire. This is about 4% of the fire area on National Forest lands. No Late Successional Reserves or Riparian Reserves will be harvested in this decision. The decision will not impact habitat for the northern spotted owl. The decision will not construct any new roads. The project was designed from the very beginning to avoid adverse impacts to resource conditions (Decision Memo, page 1).

***Comment:** Compare these adverse impacts of salvage logging to the few scant reasons to salvage (e.g., economic recovery of fiber). (2-9)*

Response: There will be no effect to any federally listed or endangered fish or botanical species or their habitats (Decision Memo, page 6-11). There will also be no effect to flood plains, wetlands, or municipal watersheds, congressionally designated areas such as wilderness, wild and scenic rivers, or national recreation areas, Inventoried Roadless Areas, research natural areas, American Indian religious or cultural sites, or historic properties or areas. There is a May Effect but Not Likely to Adversely Affect for northern spotted owl. There will be no effects to resource conditions that result in extraordinary circumstances associated with the project (Decision Memo, pages 6-11).

EA / EIS Needed

Comment: *Similarly, the proposed action is inextricably connected to the GW Fire area, which impacted 6,029 acres of public lands forest and another 1,328 acres not administered by the USFS, for a total of 7,357 acres. The fire and the proposed GW logging actions cumulatively impact far more than the mere 218 acres, or even more accurate 760 to 820 project area acres. The failure of the agency to address these ecological and legal realities nullifies the agency's ability to issue its proposed decision. The proposed project must be withdrawn and the agency must conduct an EA or EIS for its proposed project analysis area actions, addressing the environmental and cumulative impacts of the proposed GW Fire Timber Salvage Project. (1-3)*

Response: The project will impact about 218 acres (about 4%) of the GW Fire area. About 5,760 acres of National Forest System lands would not be affected by the project. These areas, located in Late Successional Reserve and Wilderness, will undergo natural succession as time progresses. The project meets all legal requirements under the National Environmental Policy Act to inform and disclose the environmental effects of the project, as well as meeting all standards and guidelines in the Deschutes National Forest Land and Resource Management Plan, as amended (Decision Memo, page 12).

The direct, indirect, and cumulative effects of the proposed action are discussed exhaustively in the project file created for the project. Effects to resource conditions have been evaluated. The project will not result in extraordinary circumstances (Decision Memo, pages 6-11).

Comment*: Among the many failures of the proposed project to meet USFS CE categories, are its failure to accurately disclose and address significant resource concerns and extraordinary circumstances in the GW Fire area, including the proposed project units…. CE's were intended by Congress to be used for environmentally benign necessary management actions. The current proposal to issue this project as a CE Decision Memo violates federal laws, USFS CE standards, and the clear intent of Congress, as well as a number of significant judicial rulings. Again, an EA or EIS is necessary for this proposed project. (1-4)*

Comment: *As this proposed project may not be legally authorized under a CE as the notice improperly proposes, an EA or EIS is necessary, including a legally compliant, scientific, ecologically-sound purpose and need, and the development of a full range of ecologically viable alternatives. (1-12)*

Response: If the proposed action is within one of the categories in the Department of Agriculture policies and procedures (7 CFR 1b.3) or one of the categories listed in the FSH 31.12 or 31.2, and if the proposed action does not involve any extraordinary circumstances, the action may be categorically excluded from documentation in an environmental impact statement (EIS) or an environmental assessment (EA). If the proposed action is not listed within a listed category, it may not be categorically excluded from documentation in an EIS or EA (FSH 1909.15 (11.6)). Effects to resource conditions were clearly outlined in the Decision Memo (pages 6-11). There are no impacts to resource conditions that result in extraordinary circumstances associated with this project (Decision Memo, page 6-11).

Comment*: Good quality connective forest habitat exists throughout much of the area, including old growth and mature forest habitat. Interestingly, grand/white firs exist throughout, with some of these supposedly 'fire susceptible" trees surviving the fire – either unburned or partially burned. The proposed logging is in contravention to post-fire science recommendations and*

wildlife habitat needs. As such this proposal should be withdrawn and revised to embody both short and long-term natural resource ecological objectives and goals. (1-17)

Response: Please see the GW Fire Salvage Wildlife Biological Evaluation for a detailed discussion on spotted owl dispersal habitat. For the GW Fire area, connectivity was looked at as spotted owl dispersal habitat. Dispersal habitat was defined by the Interagency Scientific Committee (USDA 1990b) as stands with an average dbh of 11 inches and a 40% canopy cover. Those conditions are not biologically possible in all eastside plant association groups. The Deschutes National Forest convened a Science Team of experts on local conditions to determine plausible definitions of dispersal habitat. The team developed a process by which local biological knowledge of sites would be used to describe dispersal habitat (USDA 1996). The following criteria have been used to define dispersal habitat on the Sisters Ranger District for various projects:

Dispersal Habitat Definitions:

Plant Association Group	**Stand Criteria** **Average dbh, Percent Canopy Cover**
Mixed Conifer Wet	11" dbh, 40% CC
Mixed Conifer Dry	11" dbh, 30% CC
Ponderosa Pine	11" dbh, 30% CC
Lodgepole Pine	7" dbh, 30% CC
Mountain Hemlock	7" dbh, 30% CC

Dispersal habitat was generally available throughout the area prior to the GW Fire. Even though there were high levels of mortality across the project area, some live canopy still remained as well as dense patches of advanced regeneration to provide for dispersal. Miller et al. (1997) found dispersing owls favored old growth structure for dispersal, but utilized many types of forest. Use of open sapling stands during dispersal decreased the probability of mortality, where use of clearcuts increased the probability of mortality. Miller et al. tied the increase of survival in sapling stands to availability of prey. The SEI report (Courtney et al. 2004) noted that owls did not disperse across large unforested valleys but did disperse between areas through forested foothills. The Photo Interpretation layer was utilized and all stands having a canopy cover of 30% or greater was considered spotted owl dispersal habitat. Approximately 1,375 acres of dispersal habitat was altered during the GW Fire.

Monty Gregg (Wildlife Biologist) and Bobbie Rankin-Bates (Forester) reviewed all units and haul routes. Due to fire severity and stand composition it was determined that none of the units or haul routes contained dispersal habitat. Salvage units, haul route danger tree removal, temporary road construction, or reforestation will not occur within dispersal habitat. Based on the above, there are no known direct or indirect effects to spotted owl dispersal habitat.

Significant Impacts

Comment: *CE's may not be used when the size and scope of a project will result in significant impacts to the environment. The GW fire burned over 7,000 acres. The Forest Service is proposing to log 218 acres. The notice for this proposal fails to disclose if any management activities have occurred as a result of this fire on any of the approx. 1,200 acres of private lands*

also burned in the project area. The notice also fails to disclose any impacts from any fire-fighting management actions that may have occurred.

The fire itself resulted in undisclosed but likely significant impacts across the entire 7,357 acres burned. Federal environmental policy law prohibits the Forest Service from segmenting impacts resulting from the proposed logging on Forest Service lands separately from the cumulative connected impacts resulting from the fire itself, any management actions also occurring on the Deschutes NF's portion of the burned area, and/or any private lands logging that has or will occur in the fire area. Together, these management actions and overall fire impacts represent significant impacts upon the environment in the greater GW fire project area, legally requiring that an Environmental Analysis NEPA process be conducted for this proposed project, prohibiting the use of a CE. (1-19)

Response: As defined by NEPA**,** significant impacts are only related to management actions, not natural events. Effects from fire suppression and efforts to minimize threats to human life and property, loss of soil productivity, and deterioration of water quality and their mitigation were carried out through the Burned Area Emergency Response (BAER). Through BAER about four miles of fireline was waterbarred and about 5.5 miles of dozer line was respread and wood pulled across. In addition, woodstraw mulch was applied to some sensitive soils in the watershed to minimize soil erosion, danger trees were felled, and roads were treated to minimize erosion. Cumulative effects are discussed in the Specialists reports contained in the project file. The effects from activities on private lands are also described in the project file. Activities on private lands included the salvage of fire killed timber. There are no significant effects associated with the project.

An analysis of the potential environmental effects associated with the project was carried out in an interdisciplinary team environment as required by NEPA. The full range of specialists reports were prepared for this project in order to arrive at an informed decision.

Comment: *The salvage CE should never have been adopted because the agency has never reconciled salvage logging with the natural ecological processes that the agency is supposed to be stewarding. This will eventually require a programmatic NEPA analysis.*

The effects of salvage logging can be partially mitigated if no roads are built and all the large long-lasting live and dead trees are retained.

The significant impacts of salvage logging are a controversial issue and require an EIS. Salvage logging has long-term consequences because it takes more than a century to develop large snags to replace those that are removed.

The recently adopted final recovery plan for the spotted owl urges the Forest Service to focus on retaining those features of the forest that take the longest to develop such as large trees and large snags. Failure to do so may have significant impacts on the environment. (2-3)

Response: The sale requires about ¼ mile of temporary road to access unit four. This road will be obliterated after the unit is logged. No new road construction will take place with this project (Decision Memo, page 3). The wildlife snag policy developed for the project acknowledges that

snags that are retained in the project have a standing life of about 30 years (Decision Memo, page 5) before they fall to the forest floor and function as down woody debris.

The project does not occur within an active home range; or current nesting, roosting and foraging or dispersal habitat. The project will remove some snags and coarse woody debris for northern spotted owl and their prey. The effects are expected to be minor. Legacy materials such as snags and coarse woody debris will be left within the units to provide potential future dispersal habitat for the northern spotted owl and their prey (see the snag strategy discussed above). The snag retention strategy will leave legacy material above the minimum recommend levels necessary for high densities of flying squirrels. The project will not preclude the use of harvested areas by northern spotted owl or their prey in the future.

This determination is based on the use of the Project Design Criteria for northern spotted owl as listed in the FY 2006-2009 Programmatic Biological Assessment. The determination meets all of the Project Design Criteria. Please see the Biological Evaluation of Threatened, Endangered, and Sensitive Wildlife report found in the project record for more details.
The project considered the best available science, including the Northern Spotted Owl Recovery Plan (USFWS 2008). A methodology to address the development and maintenance of northern spotted owl habitat was developed for the Metolius watershed during the B&B project (USDA 2004). This approach identified conifer stands suitable for the management of nesting, roosting, and foraging (NRF) habitat for the northern spotted owl. This methodology to manage dry forested landscapes only in areas capable of providing sustainable northern spotted owl habitat will not preclude implementation of the recovery actions outlined in the Northern Spotted Owl Recovery Plan (USFWS 2008).

The CD plant series, the Douglas-fir potential natural community, was identified as capable of providing sustainable NRF habitat over time (USDA 2004). The project salvage units do not occur in the CD plant series. The dominant plant series in the project area is the CW plant series, the white fir potential natural community, which has a limited potential to provide NRF habitat. The CW plant series is considered to be unstable due to low productivity, limited moisture regime, susceptibility to insects and disease, and lack of habitat structure necessary to provide sustainable NRF habitat over time. The CW plant series in the project area consists of ponderosa pine with a white fir understory which typically lacks the vertical structure to provide NRF habitat. In addition, the CW plant series is in Fire Regime III A which burns at a higher frequency than the CD plant series, inhibiting the development of multi-layered conifer stands. Given the inability of the project area to provide high quality NRF habitat, the project area does have the capacity to provide *future dispersal habitat* for the northern spotted owl.

The snag retention strategy developed for the project will provide legacy habitat such as snags and coarse woody debris to accelerate the development of future dispersal habitat for northern spotted owls and associated prey. Snags and coarse woody debris provide habitat for the flying squirrel, a primary prey species of the northern spotted owl, as well as Red-backed voles, a secondary prey species. For a more detailed discussion see the Biological Evaluation of Threatened, Endangered and Sensitive Wildlife report in the project file.

Extraordinary Circumstances

Comment: The Forest Service should publish an EA or EIS because there are extraordinary *circumstances and because the GW Project may cause significant environmental impacts…. The proposed GW Project should not continue as a categorical exclusion and instead should have an EA or EIS to inform the public and the agency decision-maker of the project's potential environmental impacts. Although the GW Project covers a relatively small percentage of the area that burned - 218 acres of a 7,357-acre fire - extraordinary circumstances exist that disqualify the categorical exclusion of the project. Many of these extraordinary circumstances were raised by the CWP in our scoping comments, but were not addressed or acknowledged in the Preliminary Decision Memo. The GW Project is a logging project, and despite the fact that it is a post-fire logging project (and in many ways because it is a post-fire logging project), it should be assessed with the same thoroughness as any other proposed logging project with comparable environmental impacts. There is substantial evidence in the record to show that the GW Project's cumulative impacts and effects to soil and water quality are circumstances that are extraordinary. Public controversy and scientific uncertainty surrounding post-fire logging are also extraordinary circumstances that should be considered. (3-3)*

Response: The Decision Memo clearly discloses effects to resource conditions in the project area. There are no extraordinary circumstances associated with the project (Decision Memo, page 6). Resource conditions that should be and were considered in project analysis are defined at FSH 1909.15 (30.3). The mere presence of one or more of the resource conditions defined at 30.3 does not preclude the use of a categorical exclusion. The project file developed for the project includes the full range of resource reports that would be included for any environmental analysis, and included a through discussion of direct, indirect, and cumulative effects associated with the project (see GW Fire Timber Salvage project file). The effects to resource conditions were fully disclosed in the Decision Memo (pages 6-11). The project will not affect resource conditions that result in extraordinary circumstances (Decision Memo, page 6-11). Information contained in the project file fully informed the responsible official of the potential impacts associated with the project.

***Comment:** The Forest Service should publish an EA or EIS because there are extraordinary circumstances and because the GW Project may cause significant environmental impacts…. …Soils in the project area have been severely impacted by the fire and may therefore constitute another circumstance that could reasonably be considered extraordinary. There is higher risk for erosion in areas of high fire intensity caused by the loss of downed woody material, duff, and other vegetation matter. MWAU Ex-23. High infiltration rates of soils and relatively gentle slopes may temper erosion but the risk of erosion posed by wildfire still exists. In particular, 87 acres of the GW Project are in units adjacent to Dry Creek. Aquatic Biological Assessment and Evaluation (ABAE) 9. (3-5)*

Response: We disagree with the comment "soils in the project area have been severely impacted by the fire." Measure #3: Long-Term Soil Productivity, Soil Specialist Report page 8 states "In general, the effects of the fire on the soil productivity were negligible due to relatively short durations of elevated soil heating." This section of the report describes severe or detrimental burn conditions for soils and notes that less than 2 percent of the area met the definition of detrimental burn conditions.

Measure #2: Effective Ground Cover and Risk of Accelerated Soil Erosion, Soil Specialist Report page 7 discusses the risk of accelerated soil erosion in both the short term and long term. The risk of accelerated soil erosion is a function of effective ground cover, which over the next two years, is expected replace ground cover lost in the fire. A salvage operation is not expected to have a significant effect on ground cover recovery.

***Comment**: CE's may not be used for projects where there exist extraordinary circumstances. The project is located in the Dry Creek subwatershed, which is a seasonal tributary to salmonid waterways in the greater area containing downstream habitat for ESA threatened-listed bull trout, as well as red band trout and other aquatic species of concern. Proposed logging units 1, 2, 3, 4, 5 and 6 are located near or immediately adjacent to Dry Creek and/or seasonal tributaries to the greater area's salmonid water systems. Erosion and sedimentation increase following a fire, and post-fire logging has been well documented as causing severe sedimentation and water quality degradation, adversely impacting aquatic species. The notice does not disclose if Dry Creek and/or the downstream waterways to which it is a tributary are listed as a 303(d) stream.*

Spotted owl LSR habitat exists directly across the small Forest Service roads from the proposed logging units. Old and mature forests span both sides of this road, representing contiguous viable post-fire habitat for spotted owls and other forest dependent wildlife species. The proposed project includes logging into LSR areas, widening the area roadways and further fragmenting and disrupting forest continuity. Such fragmentation and roadway widening is known to be detrimental to spotted owls and the area's many interior forest dependent species. A full NEPA analysis process is legally necessary due to this project's many significant extraordinary circumstances issues. At a minimum an EA is needed before this project may proceed. Proposed alternatives should be designed to protect and help restore aquatic resources, recovering post-fire forests, and listed-species habitat. (1-20)

Response: The five units located adjacent to Riparian Reserves have sufficient buffers (160 ft) to prevent measurable amounts of fine sediment above what is naturally occurring after the fire for these streams and stream channels. The risk of increasing sedimentation to Dry Creek as a result of the proposed treatments is extremely low. There is an extremely low risk of any sediment what so ever of traveling to Lake Creek or the Metolius River where redband trout, bull trout and future populations of Chinook salmon exist. Where the fire burned at high intensity along Dry Creek it appears that some but not all of the preexisting downed woody material was consumed. The burned trees left in Riparian Reserves will continue to fall along the floodplains and channels helping to provide roughness and trap fine sediments during runoff events.

The low drainage density in these subwatersheds is due to the soils and underlying geology (refer to GW Soils Report 2007). Approximately, 5% of the fire area is vegetated lava or barren lava, which has high infiltration rates due to its fractured geology. The remaining soil is primarily volcanic ash with rapid infiltration rates (i.e. the rate at which water enters the soil). Permeability rates, the rate of water movement through the soil profile, for the majority of soils in the fire area that drain into Dry Creek and Cache Creek exceed the 2 yr, 30 minute rainstorm intensities for the same area (permeability for most soils in project area = 20 in/hr; 2 yr, 30 min rain = 0.7 in/hr) (Soil code = 8, 19, 21, 28, 29, HG, MH). As a result of rapid infiltration and high permeability rates, overland flow is rare in the analysis area. The infiltration rate was not significantly altered by the GW Fire (refer to BAER Soils Report 2007). Hydrophobic slightly

increased in high and moderate burn severity areas and, as a result, runoff is expected to increase by 5% in these areas.

Danger Trees located along the log haul route leading to and from the project area were assessed using Regional standards. Only those trees that are rated as danger trees were marked for felling.

The GW Fire Burned Area Emergency Response (BAER) Report assessed the intensity and severity of the burned area. In this report the soils in the project area were not identified as being "severely impacted by the fire." Measure #2 In the Effects sections of the SRSR discusses Effective Ground Cover and Risks of Accelerated Soil Erosion that may result from salvage logging.

There are no proposed salvage units, temporary road construction, or reforestation occurring within the LSR associated with the GW Fire Salvage.

There is approximately 0.1 mile of danger tree removal along haul routes located in the LSR (1028-295 spur). Monty Gregg (Wildlife Biologist) field verified the NRF along the haul route in the LSR and found that due to fire severity (stand replacement resulting in a loss of canopy cover), the identified NRF habitat is no longer functioning as suitable habitat. All danger trees along haul routes within the LSR will be fall and leave. Structure will remain on site, but will change from horizontal to vertical.

Cumulative Effects

Comment: *The Forest Service should publish an EA or EIS because there are extraordinary circumstances and because the GW Project may cause significant environmental impacts…. Significant cumulative effects of the project, when added with the other past, present, and reasonably foreseeable future actions, require the Forest Service to publish an EA or EIS. 40C.F.R. § 1508.27. The impact of past actions such as logging, fire suppression, off-highway vehicle use, road construction, and others has been extraordinary, and the GW Project, when combined with the impacts of past actions, will likely have significant impacts.*

i. Past logging and road construction on public and private lands have caused significant cumulative effects…
ii. Fire suppression operations caused significant cumulative effects…
iii. Noxious weed spread is a significant cumulative effect of the proposed action…
iv. Off-Highway Vehicle use is a significant cumulative effect of the proposed action. (3-4)

[For specific examples please refer to Letter #3 pages 2 – 9]

Comment: *i) Past logging and road construction on public and private lands have caused significant cumulative effects…*

Response: Logging and road construction in and of themselves are not "significant cumulative effects." Effects from the proposed action as well as cumulative effects were analyzed and documented in the project record. There will be no significant cumulative effects associated with the project. The road system planned for commercial use in the project area will not change from pre-fire to post-salvage condition. There will be no road construction, reconstruction, or change

in road system status for public access over the long term (Roads Analysis letter, January 24, 2008).

Comment: *ii) Fire Suppression operations caused significant cumulative effects.*

Comment: *Backfiring and burnout operations accounted for a large fraction of the total area burned in the GW fire. Records obtained through FOIA show that the Payson Hotshots and possibly other fire crews ignited significant acreage of native forest in "Division C", where the GW fire Salvage Project now is located, to prevent wildfire from reaching young managed plantation stands.*

Comment: *GW Salvage Fuel Specialist Report (FSR) at 1. The elevated fire hazard condition described above did not result from an unforeseeable or uncontrollable natural event. It directly resulted from management activity during the GW fire suppression operation. Therefore, it must be evaluated as a cumulative effect on the environment together with the proposed action to salvage fire-killed timber. We discuss fuel management efficacy of post-fire salvage and replanting activities in our November 19, 2007 scoping letter.*

Response: Backfiring and burnout operations did not account for a large fraction of the total area burned in the GW fire because there was no backfiring done on the GW fire; only burnout operations were conducted on the GW fire. Backfiring and burnout are two distinct fire suppression tactics with inherently different objectives and effects. Backfiring and burnout can be distinguished as follows: "Backfire - A fire set along the fire side of a control line or barrier to consume the fuel in the path of an advancing wildfire or to change the direction of force of the fire's convection column. Note: Doing this on a small scale and with closer control, in order to consume patches of unburned fuel and aid in control line construction is distinguished as burning out." (Glossary of Fire Behavior & Fire Weather Terms, Website: Geographic Area Coordination Center, Rocky Mountain Area Coordination Center, an Interagency Incident Support Website). Backfiring is the operation that can lead to stand replacing fire effects, whereas burnout is used to burn small to medium sized unburned patches between the fire and the control line or unburned islands within the fire and rarely does burnout result in stand replacing effects.

It is important to note that 'burning out' is a routine action carried out by firefighters on a daily basis as an integral part of securing existing fire, or fireline under construction. 'Backfiring,' on the other hand, is a rarely used large-scale process that usually takes several shifts of preplanning and preparation. There is nothing in the documents obtained by the FOIA request of 11/20/07 and submitted as comments on 5/19/08 that would indicate that the Payson Hotshots or any other suppression resources engaged in a 'backfire' operation that consumed any "significant acreage" of native forest. Division "C" was the active head of the fire that was threatening the community of Black Butte Ranch. The primary suppression on Division C occurred the night of September 3 and consisted of direct attack by dozers on the active fire's edge, followed by 'burn-out' of unburned fuels along the line to secure the fire line. Direct attack means that suppression forces worked directly adjacent to the edge of the flaming front or along the blackened edge after the fire passed. Most of this activity occurred to the south and east of the GW Fire salvage project area in sections 16 and 20 (National forest System lands) and sections 17 and 19 (private lands).

The effects of any "management activity" are exactly the same as those caused by the "non-management" activity of the wildfire. Those cumulative effects are adequately addressed in the project record.

Comment: *Research conducted in the Klamath-Siskiyou Province of southwest Oregon demonstrates that high severity fire effects tend to recur, i.e., where fire consumes tree canopies and stimulates grass and brush emergence and over time creates a fuel bed of fire-killed trees, subsequent fires can severely impact emergent vegetation and maintain early-successional habitat (Odion et al 2004, Taylor and Skinner 1998, Thompson et al. 2007). In other words, high severity fires beget high severity fires. This scenario is not inherent to fire-adapted ecosystems and ponderosa and mixed conifer forests historically develop late-successional characteristics over time even after stand-replacing events (Baker et al. 2006, Beaty and Taylor 2001, Lentile et al. 2005, Sherriff and Veblen 2006, Shinneman and Baker 1997). The key factors are ignition sources and fire weather in between fire events. Nevertheless, it is possible that the suppression tactics applied in the GW fire incident may have created conditions for the natural perpetuation of a fire regime in which any ignition could resist control and effects on vegetation and soil could be severe. This is a cumulative management impact, not a natural occurrence.*

Response: This comment speculates that stand replacing events that resulted from suppression tactics that occurred in the GW fire area could lead to recurring stand replacing events, something that the comment also contradicts by noting that this phenomenon is not inherent to fire-adapted ecosystems, such as those found in the GW fire area.

The contention that the stand replacement portions of the GW fire are a result of suppression tactics is not supported by the fire record.

The contention that "….high severity fire begets high severity fires" in the GW fire area is unclear and therefore is not valid for the GW fire. Additionally, even if this contention did apply to the GW fire, one might surmise that the salvage of fire-killed trees, as proposed in the GW Fire Salvage Project, would interrupt the cycle of high severity fires begetting high severity fires by reducing the fuel needed for future stand replacing events.

Comment*: …the proposed project would log one tree length (150 to 200 feet?) distance into spotted owl LSR post-fire forests. Field surveys in the area revealed that this logging would remove many old growth snags and diminish forest connective structure, resulting in a superhighway wide-open swath alongside the small Forest Service roads. Many trees considerable distance from the roadway, including those leaning the opposite direction, standing upright, and/or large diameter snags unlikely to fall within the next ten years – are all marked to be logged in near clearcuts spanning a significant number of miles.*

Further, this proposal is segmented from additional "danger tree" post-fire and forest road management proposals nearby, spanning many miles of forest system roads reaching to the wilderness and elsewhere across the adjoining forests. Cumulatively these actions are connected, and should be analyzed in one NEPA analysis document. Failure to do so, attempting to artificially and inaccurately present these project's as separate, employing contrived acreage figures in an attempt to meet arbitrary CE acreage figures and thus circumvent requisite NEPA analysis, violates the requirements of federal environmental policy laws. (1-15)

Response: About five acres of danger trees are located in the Matrix and General Forest land allocation. Currently there are no danger trees located in Late Successional Reserves; however, danger trees could develop over time. Regional standards will be used to identify danger trees. See Appendix A of the Decision Memo.

See Response on page 4 concerning connected actions.

***Comment**: There is no sound ecological basis for removing large snags when there is a regional shortage of large snags and when the over-riding objective of management is to retain large trees, in part so that they can become large snags. Although this project is "small" in the grand scheme, there are always cumulative impacts. (2-2)*

Response: The retention of six snags per acre exceeds the standards and guidelines outlined in the Deschutes National Forest LRMP, as amended. We agree that the project is "small" since it only impacts 4% of the GW Fire area in National Forest ownership. We do not agree that there is a shortage of snags on the Sister Ranger District. About 91% of the B&B Fire (69,659 acres), about 70% of the Everly Fire (17,786 acres), and about 99% of the Black Crater Fire (5,147 acres) located on the Sisters Ranger District were not salvaged logged. In addition, the Cache Mountain Fire (2,457 acres) and the Lake George Fire (4,937 acres) were not salvaged logged. This is about 99,986 acres that provide wildlife snag habitat on the ranger district. And if areas that have not burned but contain high levels of insects and disease were also included, the actual number of wildlife snag habitat acres would be quite higher.

Scientific Uncertainty / Public Controversy

***Comment:** The Forest Service should publish an EA or EIS because there are extraordinary circumstances and because the GW Project may cause significant environmental impacts…. …Public controversy and scientific uncertainty surrounds post-fire logging. Findings within the MWAU confirm that the controversy is a real issue in the Metolius watershed. MWAU Ex-31. The presence of this uncertainty and controversy alone may require the Forest Service to publish an EA or EIS for the GW Project. 40 C.F.R. § 1508.27. We are particularly concerned with the controversy and uncertainty surrounding snag retention and the impacts of post-fire logging on species that depend on the large influx of standing dead wood, such as the white-headed woodpecker, the black-backed woodpecker, and Lewis' woodpecker. We discuss this controversy in our November 19, 2007 scoping letter. (3-7)*

Response: See the discussion on page 22 concerning the wildlife snag strategy developed for this project. Impacts of post-fire logging to the species and/or their habitats mentioned have been discussed in the Wildlife Reports for the GW Fire Timber Salvage Project.

New proposed action or project / Recommendations

Note: The following comments were submitted as a subset of comment 3-7.

***Comment: Post fire management recommendations consistent with scientific research:** The agency should revise its proposal to incorporate the following post-fire scientific management recommendations:*

Response: No scientific literature was directly incorporated in this letter to support the following items. Literature that was supplied separately in addressed in our response to science.

- *Reduction of sediment production from firelines and roads;*

Response: Fires lines and roads were treated after the fire and through the GW Fire Burned Area Emergency Response (BAER). No effects from the firelines are evident.

- *Replacing faulty drainage structures;*

Response: This in not part of the purpose of the project.

- *Planting native species depleted by fire or previous management activities;*

Response: Conifers will be planted on up to 213 acres in the project area. Seed sources will be from trees in the project area or from the same seed zone.

- *Reducing or eliminating factors that degrade forest ecosystems and prevent recovery;*

Response: The term 'factors' is nebulous and cannot be defined. Mitigation measures have been developed to preclude undesirable impacts in addition to the design of the project to avoid Late Successional Reserves, Riparian Reserves, and resources of concern.

- *Fire and other natural disturbances in landscapes where natural biological integrity is relatively intact are not detrimental to the maintenance of diverse and productive aquatic ecosystems;*

    a. *Riparian vegetation is quite resilient to fire and rapidly recovers following fire.*

Response: We agree with this statement. Riparian Reserves will not be harvested in this decision.

- *Commonly applied post-fire treatments may compound ecological stresses:*

    a. *Soil exposure and the compaction of ground-based yarding equipment may substantially increase following post-fire salvage logging;*

    b. *The removal of standing and downed wood may remove important structural components for the recovery of terrestrial and aquatic systems;*

    c. *Seeding of exotic species, livestock grazing, or salvage logging can alter succession and delay restoration by removing elements of recovery or by accentuating damage to soil and water resources.*

Response: a) Detrimental soil conditions will not exceed 20% in the project area. This meets Deschutes National Forest LRMP standards and guidelines; b) the snag strategy will provide sufficient conditions for those wildlife species that prefer open stand conditions. The project meets all standards and guidelines for coarse woody debris by leaving all coarse woody debris existing prior to the fire and, at a minimum, 120 linear feet of logs per acre in the harvest units. Riparian Reserves will not be harvested in this decision. About 5,760 acres of the GW fire area will not be harvested; c) The project will not seed exotic species and the possibility of importing

invasive species will be mitigated through timber sale contract previsions; surveys were conducted for invasive plants and no invasive plants were found in the project area; there is no permitted livestock grazing in the project area; and up to 213 acres will be reforested to meet the goals for the Matrix and General Forest land allocation.

- *Post-fire treatments should be implemented only when they are needed to facilitate ecosystems recovery and do not interfere with natural succession or to reduce human disruption of natural ecosystem processes;*

Response: The purpose of the project is to recover the economic value of fire killed timber. The project will have no impacts to resource conditions that would result in extraordinary circumstances.

- *Natural recovery could be augmented by rehabilitation of areas disturbed by fire suppression activities or other management practices (e.g. dozed firelines, roads);*

Response: Suppression activities were addressed through fireline rehabilitation and the activities associated with the GW Fire Burned Area Emergency Response (BAER).

- *Planting of conifers may be needed where seed sources have been lost by fire;*

Response: This is part of the Purpose of the Project.

- *Impacts to early successional plant species during post-fire logging, where such species are nitrogen fixers, can significantly affect a major pathway of nutrient replenishment in the post-fire environment;*

Response: It is expected that early seral plant species will still occur after salvage logging. This has been our experience on other extensive areas that have been salvaged logged on the Sisters Ranger District.

- *Management should not increase soil erosion or reduce soil productivity;*

Response: Detrimental soil conditions will not exceed 20% in the project area. This meets Deschutes National Forest LRMP standards and guidelines.

- *Decreased infiltration, increased overland flow, accelerated sedimentation following ground-based logging not only degrade forest soils, but can also affect aquatic systems, including reduced survival of salmonids and other aquatic species;*

Response: The risk of increased sediment reaching Dry Creek as a result of the harvest treatments is extremely low (see the Hydrology Assessment for the GW Fire Timber Salvage Project). There is even a lower risk of any sediment traveling to Lake Creek or the Metolius River where redband trout, bull trout and future populations of Chinook salmon exist. There is no adverse effect to fish species in the project area (Aquatic Biological Assessment for TES Species, page 2).

- *The recovery of organic matter in soils, which is essential to the recovery of soil productivity in areas with moderate to high severity burns, can be accomplished efficiently and inexpensively by leaving burned areas undisturbed;*

Response: About 68 acres of moderate fire severity will be harvested where only low probability of survival white fir will be removed. About 145 acres of high fire severity will be harvested; in these areas will have about six snags per acre left to provide wildlife habitat. In addition, up to 213 acres will be planted in the fire area. About 5,760 acres of the GW fire area will not be harvested. Logging activities will be restricted to designated skid trails, reducing ground disturbance to less than 20% of a harvest unit.

- *Avoid additional damage, repair potential problems from fire suppression activities (e.g. firelines and fire camps), and enhance the reestablishment of native vegetation to provide soil cover and organic matter;*

    a. *Highly disturbed sites should be rehabilitated (e.g. through waterbars and seeding with native species).*

Response: This was accomplished through fire rehabilitation and BAER work. The ¼ mile of temporary road to access unit four will be obliterated after use.

- *Only species and seed sources native to the site should be utilized;*

    a. *Seeding grasses in burned ecosystems can lead to long-term changes in ecosystem composition and structure;*

    b. *Rates of growth and survival of shrubs and conifer seedlings were reduced in areas seeded following fire;*

    c. *Establishing a dense cover of seeded grasses, which decreases the survival of woody plant seedlings, may cause long-term diminution of many important functional roles of species that shape ecosystem structure and productivity, roles including nitrogen accumulation, alternative hosts to mycorrhizal fungi, wildlife habitat, and erosion control;*

    d. *Established exotic grasses can increase the flammability of burned sites; thus, reburns through these sites can have severe ecological consequences;*

    e. *Dense stands of grasses will increase the likelihood of a reburn;*

    f. *In reviews of grass seeding and post-fire erosion, researchers could not find a significant relationship between establishment of grass cover and reduction in erosion in the years following wildland fire;*

Response: No seeding will occur with this decision.

- *Avoid the use of structures in and near stream channels;*

    a. *Cost of structures, combined with limited functional utility and short lifetimes limits their value, especially in streams with elevated sediment and flow;*

b. *Instream structures often interfere with important interactions among sediment flux, channel form, and erosion, thus negatively affecting the maintenance and diversity of aquatic habitats;*

c. *Managers should not assume that these structures mitigate the negative effects of other post-fire management practices (e.g., road construction, post-fire logging) that might accelerate sediment delivery into streams;*

Response: The project does not involve the placement of any stream structures.

- *Salvage logging may be especially detrimental in those watersheds where only a few large trees or snags remain following a fire;*

Response: About 5,760 acres of the GW Fire will not be harvested. In addition, the district has over 90,000 acres of fire burned areas that has not been salvaged harvested.

- *Post-fire salvage logging inherently involves the removal of large trees that play important roles in numerous biophysical processes and provide habitat for a variety of species;*

Response: The project will leave six snags per acre in areas of high and mixed fire severity to provide wildlife habitat. In mixed fire severity areas only white fir with a low probability of survival will be removed. In addition, no dead or dying Douglas-fir or dead or dying ponderosa pine will be removed in the mixed fire severity harvest units.

- *Large wood has multiple roles in the ecological recovery of disturbed aquatic ecosystems;*

Response: The project will not harvest trees in Riparian Reserves.

- *Salvage logging conducted in or near riparian zones or streams diminishes the source of large wood important for stream structure and function;*

Response: The project will not harvest trees in Riparian Reserves. There is a 160 foot buffer on each side of the stream channel.

- *Damaging effects from post-fire logging in riparian areas can persist for many decades because of the loss of dead trees that would normally become incorporated into stream channels and forest floors over several decades or more;*

Response: See the above comment.

- *Logging large trees from upslope areas that are prone to landslides would also reduce, over time, the recruitment of large wood to riparian and aquatic ecosystems; (1-36)*

Response: Slopes in the project area are moderate and no harvest units are greater that 25% slope. The project will not harvest trees in Riparian Reserves. There is a 160 foot buffer on each side of the stream channel. The project area does not contain any soils that are prone to land slides.

- *Planting native species depleted by fire or previous management activities;*
- *Planting of conifers may be needed where seed sources have been lost by fire;*
- *Only species and seed sources native to the site should be utilized;*

Response: Native conifer species grown from seed collected locally will be planted on about 213 acres in the project area. See detailed information on proposed regeneration/planting can be found in the Silvicultural Prescription and Marking Guides document (pages 6-8).

Comment: *If the agency was to comply with ecological post-fire scientific recommendations, and optimum recommended wildlife habitat requirements, and conduct a project that:*

1. *Protected all post-fire old structure forest habitat and forests contiguous with the area's LSR and wilderness forests from logging;*
2. *Proposed limited logging only within already logged, roaded and managed areas;*
3. *Retained all snags over 15 to 20 inches and above;*
4. *Did not construct any new, reconstructed, or temporary roads;*
5. *implemented PACFISH/INFISH buffers or greater buffers around all riparian areas;*
6. *Retained all scorched trees with green needles over 15" dbh;*
7. *did not conduct any logging on steep post-fire slopes over 25%;*
8. *employed full suspension mechanical yarding equipment or small helicopters economically capable of smaller diameter tree harvest, ensuring minimal soil disturbance, removing only smaller diameter trees and logging slash fuels;*
9. *prohibited logging operations during nesting and fledging periods for avian species;*
10. *prohibited logging within or adjacent to PFAs for goshawks and other species of concern;*
11. *conducted restoration on steep slopes above riparian habitat;*
12. *conducted surveys to locate and protect from logging impacts rare plant species, and biodiverse species of concern including terrestrial, avian, and aquatic species;*
13. *and included other ecologically protective measures and mitigations as appropriate;*

It is possible that some limited commercial removal of small diameter fire-killed trees (not including any "likely to die trees" could be implemented in the GW Fire area. If the agency instead still proposes intensive logging operations as described in this notice, a full NEPA environmental analysis process is required before a legal decision may be reached. (1-38)

Response: No science was directly cited in this letter. Scientific literature that was supplied is addressed in our response to science. The design of the project incorporates a number of the elements described above. Numbers refer to the above comments.

1.1 The project will not involve salvage harvest in Late Successional Reserve or Wilderness areas. The wildlife snag strategy will leave six snags per acre to provide post-harvest wildlife habitat. The mixed severity harvest units will only remove dead or dying white fir that meets Scott's Guidelines. These areas combined will provide sufficient structure forest habitat to provide continuity with adjacent untreated forest lands. About 5,760 acres of the GW Fire area will not be salvaged harvested.

2.1 The project area is allocated to the Matrix and General Forest land allocation and has been managed for timber production in the past. The road system is in place to access stands that will be treated under the decision. Seven of the stands that will be salvaged have had at least one previous silvicultural entry (Silvicultural Prescription and Marking Guide, page 6).

3.1 The wildlife snag strategy will provide sufficient habitat for wildlife species that prefer open stand conditions. About 5,760 acres in the GW Fire area will not be salvaged and these areas will continue to provide snag habitat for numerous wildlife species.

4.1 The project will not build any new or reconstructed roads. About ¼ mile of temporary road is needed to access unit four. This road will be obliterated after the stand is salvaged logged.
5.1 All of the Riparian Reserves in the project area have a 160 foot buffer area on each side of the stream. This buffer width meets Northwest Forest Plan direction for riparian protection. PACFISH/INFISH direction is not applicable to areas of the Northwest Forest Plan.

6.1 The project will not harvest any live trees except heavily scorched white fir that meets Scotts Guidelines.

7.1 No slopes over 25% will be logged.

8.1 The road system is in place in the project area and stands can be accessed by ground based logging equipment. Helicopters are not an economically viable harvest system given the distance of stands from exiting roads. Soil disturbance in all harvest units will not exceed 20%; this meets Deschutes National Forest LRMP standards for detrimental soil disturbance.

9.1 The project has been designed to avoid adverse effects to avian species. If new nest sites are discovered during project implementation seasonal restrictions will apply (Decision Memo, Appendix A).

10.1 There are no known goshawk nests within the GW Fire Area. See pages 16-20 of the GW Fire Timber Salvage Wildlife Report for Non-TES Species.

11.1 There are no plans to conduct restoration within riparian habitats. Each Riparian Reserve has a 160 foot buffer area on each side of a stream channel. This meets Northwest Forest Plan guidelines for the protection of riparian areas.

12.1 The project will have no effect to resource conditions that result in extraordinary circumstances (Decision Memo, pages 6-11). This conclusion is based on the specialists reports found in the GW Fire Timber Salvage Project file. Surveys for rare plants were conducted in the project area (see Botanical Report for the GW Fire timber Salvage Project). None were found.

13.1 The project was designed to eliminate or mitigate adverse effects to resource conditions in the project area. Mitigation measures are found in Appendix A of the Decision Memo.

Comment: *So what would a "common ground" series of changes to GW look like, as it is unlikely to entail all the science-based recommendations described earlier above? A few possibilities (but these remain largely undiscussed due to prior agency refusals):*

- *Pull back unit boundaries away from riparian areas, to where the slope descends away from – rather than into the creek below, or to where the slope angle is more moderate, and/or to a larger buffer extent – as buffers were created for green unburned forests – not more sensitive postfire environments and fail to adequately or effectively protect against sedimentation and erosion harms, particularly in units 4, 5, 6, 3, 1, and 2.*
- *Add two or more trees per acre or per grouped clumps in the High Severity Burn units;*
- *Retain all trees with full or ½ full green crowns regardless of bole scorch. Even if these are "dead" – which is questionable – they are for all practical purposes possessing nearly full green canopies capable of providing essential wildlife habitat in the area's post-fire environment for the short term – of at a minimum this and possibly through and into next spring's nesting/wildlife habitat seasons.*
- *Do not fell any trees with active nests;*
- *Restrict hazard/danger tree felling to only those clearly dead trees which by lean or location are likely to fall upon area roads;*
- *Retain connective cover from unit areas to surrounding forests;*
- *And other modifications to be determined through more thorough meaningful discussions. (1-39)*

Response: The project design criteria meets most of the suggestions contained in this comment (see Decision Memo). All Riparian Reserves have a 160 foot buffer as required under the Northwest Forest Plan. The wildlife snag strategy takes into account the 5,760 acres of the GW Fire that will not receive any silvicultural treatment; these areas are expected to provide snag habitat now and into the future. No green trees will be cut in the project unless they are fire damaged white-fir that meets Scott's Guidelines. No active nest trees that have been identified during surveys will be cut. If new nest sites are found they will be preserved (see Appendix A of the Decision Memo). Only danger trees that meet Regional definitions will be cut in this project. Conifer stands that are adjacent to harvest units will not be treated and mixed severity units will only remove fire damaged white-fir that meets Scott's Guidelines; in addition, no dead or dying Douglas-fir or dead or dying ponderosa pine will be removed. Stand replacement harvest areas (high fire severity) will continue to function as habitat for those wildlife species that prefer open stand conditions. About 5,760 acres of the GW Fire area will not be salvage harvested.

Economics

***Comment**: The proposed purpose and need fails to meet the legal mandates of the NEPA …. Similar with the district's previous ill-fated illegal Black Crater timber sale, and with the agency's simultaneously occurring Malheur NF Thorn EIS post-fire project, the primary purpose for this project is the "economic value" of "fire-killed timber" Unlike other agency post-fire management proposals, this purpose and need is not modified by the usual agency claim that these 'economic timber values' would result from removing trees that are "surplus to other resource needs." Indeed, this proposed project decision makes no such provisions, placing perceived economic benefits above all other post-fire forest values. (1-5)*

***Comment**: Limiting the acreage logged, refraining from logging on steep slopes, and in riparian areas; represents significant beginning steps evidencing some logging restraint. However, the project's main motivation and focus remains commercial logging in contravention to all credible scientific recommendations for management actions in post-fire forest ecosystems. (1-14)*

Response: The purpose of the project is to salvage economically valuable fire killed timber from the GW Fire area. The Agency sees this as a desired output in conducting multiple-use land management on the Deschutes National Forest. The purpose of the project meets Land and Resource Management Plan objectives of supplying timber products to the forest products industry and ultimately the American people. The GW Fire Salvage is within the Matrix/General Forest land allocation of the Deschutes National Forest Plan (LRMP), as amended. The project meets the standards and guidelines of the Deschutes National Forest Plan (LRMP), as amended. The project will harvest about 4% of the GW Fire area. Under current management plans salvage is allowed if standards and guidelines can be met.

***Comment**: The Forest Service's first job is to ensure the health of the forest. Money should be a concern that is way down on the list. Please make sure, with any decisions made, that the forests' health is kept the primary concern.*

Response: The purpose and need for action will harvest fire killed trees of economic value. The project will not have any effect to resource conditions that would result in extraordinary circumstances (Decision Memo, page 6-11). Mitigations have been designed to reduce or eliminate impacts to resource conditions in the project area (see Appendix A of the Decision Memo).

Best Use of Science

***Comment:** CE's may not be used for projects where there exists significant public and scientific controversy, and where expert scientific advice clearly shows the project will result in significant adverse impacts. Abundant credible scientific research strongly recommends against post-fire salvage logging. Years of scientific research clearly document numerous significant irreparable harms to the environment resulting from commercially logging post-fire areas. Given the expert scientific advice against implementing commercial logging in post-fire areas, well-documented known adverse impacts of post-fire logging, emphatic conservation community unity against such logging, public interests in protecting and restoring public lands ecosystems, and the*

requirements of federal environmental policy laws, the agency must conduct an Environmental Analysis NEPA process for this proposed project. (1-21)

Response: The project meets the requirements under NEPA to disclose and inform the public of the environmental effects associated with the project (see the Decision Memo). The project has been designed to avoid negative effects to resource conditions. No significant effects are associated with the project (Decision Memo, page 6-11) that would result in extraordinary circumstances. Scientific literature was used by all District resource specialists to inform and document their environmental analysis (see GW fire Timber Salvage project file). Science that was provided during the public scoping period was assessed to determine its applicability to the project. Additional science that was provided during the 30-day comment period on the preliminary decision memo was also assessed (see GW Fire Timber Salvage project file).

Restoration / Reforestation

Comment: *The notice states that the purpose is to recover the economic value of the fire-killed trees, however, federal policy laws, judicial rulings, Forest Service policy, and credible science mandate that projects in burned areas must also address restoration needs. No mention is made of the range of restoration and ecological protection needs, including vegetative recovery, the prevention of invasive weeds (a known issue with post fire situations that is exacerbated by post-fire logging soil disturbance), protection and restoration of aquatic species and wildlife species habitat, removal of excess or resource damaging roads – if these exist, and other post-fire ecological management concerns. Soil erosion on steep post-fire slopes is also an issue here. This project needs to be redesigned to comply with the restoration needs of the area, address logging impacts – and whether logging is appropriate at all, and the long-term ecological recovery objectives for this area. (1-22)*

Response: The effects from salvaging fire killed timber are addressed in the specialist reports located in the project file prepared for the project. The project will have no adverse effects to federally listed or endangered wildlife, fish, or botanical species or their habitats (Decision Memo, page 6-11). Soil disturbance will meet the standards and guidelines established in the land and resource management plan as well as Soil Quality standards (Soils Resource Specialists Report). The project will have no effects to fish (Decision Memo, page 9). No timber harvest will occur in Riparian Reserves (Decision Memo, page 5). Impacts from the GW fire were addressed through activities outlined in the GW Fire Burned Area Emergency Response (BAER). About 5,760 acres of the GW fire area will recover through natural processes. Harvest will occur on slopes less than 25%.

Comment: *Tree species mixes proposed for replanting must be based upon accurate site-specific HRV compositions… (1-30)*

Response: : Proposed tree species and mix of tree species for replanting within the GW Fire area are based upon the historic species composition of the stand, Plant Association Groups (PAG), and existing overstory vegetation. More detailed information on proposed regeneration/planting can be found in the Silvicultural Prescription and Marking Guides document (pages 6-8). Reforestation on mixed conifer plant associations is required to achieve management goals of the Deschutes National Forest Plan (LRMP), the National Forest Management Act (NFMA), and Regional Office direction.

Comment: *Salvage is not Restoration. Salvage logging and replanting will convert a structurally complex landscape into a simplified and biologically depraved landscape. Un-salvaged, naturally regenerated, young stands are one of the rarest forest types in the Pacific Northwest, and their biodiversity rivals that of old-growth forests. (2-5)*

Response: No attempt has been made to portray the GW Fire Timber Salvage Project as "restoration." The purpose and need for the project focuses on the recovery of economically valuable fire killed timber while protecting resources of concern in the project area. The wildlife snag strategy developed for the project will leave structure in harvest units to function as wildlife habitat. Reforestation of harvest units will meet the long range objectives for the Matrix/General forest land allocation. About 5,760 acres in the GW Fire area will recover through natural processes.

Only 4% of the total GW Fire salvage area will be salvage harvested and replanted. There is a large amount of un-salvaged, naturally regenerated, young stands present across the Sisters Ranger District following wildfires since 2002. Approximately 91% of the B&B Fire (69,659 acres); approximately 70% of the Eyerly Fire (17,786 acres); and approximately 99% of the Black Crater Fire (5,147 acres) administered by the Deschutes National Forest will remain untreated. In the treated areas, snag retention guidelines were designed to leave dead wood and natural habitat available. The Cache Mountain (2,457 acres) and Lake George (4,937 acres) fires were not salvaged so all young stands remained untreated.

Reforestation on mixed conifer plant associations is required to achieve management goals of the Deschutes National Forest Plan (LRMP), the National Forest Management Act (NFMA), and Regional Office direction.

Drop Specific Units

Comment: *Unit 2 is adjacent to a wetlands meadow, very similar to a small version of Glaze Meadows. The edge of unit 2 forests has cottonwood trees and a tree which may be red alder. Logging in unit 2 would result in the loss of moisture retention and damage hydrological forest functioning, which in turn would lower the water table and adversely impact this wetlands meadow. Cumulative harms to the meadow already exist from the road along its south and east sides. These would be compounded by the proposed logging, and as such this unit should be dropped entirely, or restricted with post-fire provisions … adapted throughout this project, providing for the retention of all trees greater than 20" dbh, all live trees, and prohibiting logging near riparian areas, sensitive ecological areas, nests and dens, and on steep slopes. (1-18)*

Response: Unit 2 is not adjacent to a wetland meadow. The nearest meadow to the unit is located on private property, which the Forest Service does not have jurisdiction over. The edge of the wet meadow is about 195 feet from the southeast corner of unit 2; the distance to the middle of the wet meadow is about 260 feet. The distance from the southeast corner of unit 2 to the private property boundary is about 158 feet. These distances were shot with a laser distance finder.

Soils

Comment: *Surveys found fire impacted fragile forest soils already evidencing slumping and erosion. Much of the area contains moderate to steep slopes, with many water runoff channels leading to incised seasonal tributaries to area water systems. It is likely that come spring there will be an abundance of tree seedlings and recovering vegetation across much of this area. Already, there are returning plants, and areas that were spared during the fire, where vegetation is present that can help recovery processes and provide foraging for wildlife species in the area. Management actions must take care not to disturb or impair these areas. (1-16)*

Response: Some level of erosion is to be expected after a fire event. Harvest is on slopes less than 25%. Designated log skid trails are included as part of the mitigation measures for the project (see Appendix A of this Decision Memo). About 5,760 acres of the GW Fire area will not be harvested and will provide foraging habitat for wildlife species in the area. The snag strategy will provide habitat for species that prefer open stand conditions. The mixed fire severity areas will only remove white fir with a low probability of survival.

Steep slopes is a qualitative measure and therefore difficult to address quantitatively. There are no areas within the salvage units that exceed a slope of 25%. Measure #2 In the Effects sections of the SRSR discusses Effective Ground Cover and Risks of Accelerated Soil Erosion that may result from salvage logging.

Comment: *No heavy logging machinery should be used on fire-damaged soils or steep slopes. … Only light on the land equipment should be used in post-fire forest environments, and this used only at a minimum needed to help ongoing natural restoration processes (1-29).*

Response: Overall, harvest units are on slopes less than 25%. Soil disturbance in all harvest units will not exceed 20%; this meets the thresholds defined in the USDA Forest Service Soil Standards (Soils Resource Specialist Report, page 15). Mitigation measurers are outlined in Appendix A of this Decision Memo.

The SRSR identifies specific "Mitigation Measures" that are expected to reduce soil impacts from equipment operations. There are no areas within the salvage units that exceed an average slope of 25%. The type of logging equipment used will be such that the mitigation measures outlined in Appendix A will be met.

Aquatics

Comment: *A 160-foot Riparian Reserve is proposed to minimize the risk of erosion into Dry Creek. Areas along Dry Creek were impacted by high intensity fire that consumed preexisting downed woody material. Without this necessary vegetation to help slow and filter the soils, the riparian reserves likely may not minimize the erosion caused by post-fire logging in the surrounding units. Expanded buffers for activities in burned reserves are recommended for the watersheds of the Metolius, such as Dry Creek. MWAU Ex-36. (3-6)*

Response: Erosion from the salvaging of the five units located at least 160 feet adjacent to Dry Creek is not expected to occur and if it did it is highly unlikely that the sediments would reach Dry Creek in amounts above what would be naturally generated by the surrounding burned

portions of the watershed. Five of the 12 units are located adjacent to Dry Creek. Unit 1 and 2 are located on relatively flat ground with gentle slopes 160 feet adjacent to Dry Creek. Unit 3 is located on a flat bench and a small ridge that primarily drains away from Dry Creek. Unit 4 is located on gently sloping hill that sits atop a small bench. A flat valley floor exists between the base of this bench and the stream. Unit 5 is over 160 feet from Dry Creek and is located on a gently sloping hill that flattens out before it hits the edge of a small bench which then slopes down to Dry Creek. The unit 5 boundary is located on top or beyond the slope break of the small bench. The topography of the units in relation to the stream channel and the porous soils combined with the remaining woody debris, and forest litter will reduce the potential for adverse effects from sedimentation.

The low drainage density in these subwatersheds is due to the soils and underlying geology (refer to GW Soils Report 2007). Approximately, 5% of the fire area is vegetated lava or barren lava, which has high infiltration rates due to its fractured geology. The remaining soil is primarily volcanic ash with rapid infiltration rates (i.e. the rate at which water enters the soil). Permeability rates, the rate of water movement through the soil profile, for the majority of soils in the fire area that drain into Dry Creek and Cache Creek exceed the 2 yr, 30 minute rainstorm intensities for the same area (permeability for most soils in project area = 20 in/hr; 2 yr, 30 min rain = 0.7 in/hr) (Soil code = 8, 19, 21, 28, 29, HG, MH). As a result of rapid infiltration and high permeability rates, overland flow is rare in the analysis area. The infiltration rate was not significantly altered by the GW Fire (refer to BAER Soils Report 2007). Hydrophobicity slightly increased in high and moderate burn severity areas and, as a result, runoff is expected to increase by 5% in these areas.

***Comment**: Post-fire Logging and Road Construction May Retard or Prevent Attainment of Aquatic Conservation Strategy Objectives.*

The Preliminary Decision Memo states that the GW Fire Salvage Project follows the 2004 Decision to Clarify Provisions Relating to the Aquatic Conservation Strategy (ACS). That "clarification" was rejected by a court as illegal, and the 1994 Northwest Forest Plan (NFP) controls management activities in the Sisters Ranger District. NFP standards require the Forest Service to "maintain and restore" specific features of aquatic habitats described in nine ACS Objectives (USDA 1994: B-11). Among them, foresters must "maintain or restore" the sediment regime as well as "the timing, magnitude, duration and spatial distribution" of in-stream flows (see ACS Objectives 5 and 6). Project activities must "meet" or "not prevent attainment" of the objectives at site and watershed scales as well as in the short and long terms.

The Preliminary Decision Memo (DM) states that post-fire logging and road construction activities in the GW Fire Salvage Project would not impede ACS Objectives "at the fifth field watershed level," that is, at the scale of the Metolius River Key Watershed (DM at 10). The Fisheries Biological Evaluation (FBE) supporting the DM is more specific, stating on page 13:

> *"Sediment production and transport is likely to be maintained within levels that the aquatic system can store and transport within existing stream channels and would likely be restored to pre-fire levels over the next five to ten years. Although **some localized changes to the sediment regime may occur in the short-term within the Dry Creek 6th field subwatershed**, the existing sediment regime throughout the Upper Metolius River watershed would be maintained."*

Even if the proposed action would not directly or cumulatively overwhelm the aquatic system with sediment beyond its ability to transport to the Deschutes River over time, that does not equate to ACS compliance…

…Three additional risk factors are present in the GW fire area: (i) sediment from upland erosion, (ii) channel instability and erosion where fire consumed downed coarse wood in Riparian Reserves, and (iii) storm runoff including during summer thunderstorms (USDA 2004: Ex-25). Of these, the last is perhaps worst overlooked in the GW project record. …

… Sources of potentially significant sediment delivery to local waterways exist in the project area. "The area most likely area to cause sedimentation in the short-term is the steep, un-vegetated, high burn severity slopes adjacent to Dry Creek immediately upstream of the 1014 road crossing. Although this area mostly showed as a moderate severity in the BARC image, it is considered high severity due to its proximity to the Creek and steeper slopes" (HR at 6-7)… The Forest Service must also "maintain and restore" the distribution, diversity, and complexity to protect aquatic systems (ACS Objective 1). The proposed post-fire logging would remove nearly all that remains of diverse, older forests in project area. Even though the trees are burned, their size creates stand diversity and wildlife diversity. Moreover, the reasoning that dead wood should be removed to allow post-fire planting that will establish a variety of green trees of different age classes is flawed because post-fire planting can occur without the removal of dead wood (ABAE 11). Replacing old-growth trees including snags with planted saplings eliminates the oldest age class of trees and merely creates a younger sub-class of trees within an already young forest. (3-9)

[For more in depth discussion and cited references referring to this comment please see Letter #3 pages 10-15.]

Response: The reference to the 2004 decision in the preliminary decision memo was incorrect and the correct reference to the Northwest Forest Plan regarding the Aquatic Conservation Strategy is used in the Decision Memo. The findings regarding the Aquatic Conservation Strategy in the preliminary Decision Memo will not change due to this omission.

All ACS references to scale in the Record of Decision for the Northwest Forest Plan (USDA and USDI 1994) refer to the watershed or landscape scale.

"The Aquatic Conservation Strategy must strive to maintain and restore ecosystem health at watershed and landscape scales to protect habitat for fish and other riparian-dependent species and resources and restore currently degraded habitats. This approach seeks to prevent further degradation and restore habitat over broad landscapes as opposed to individual projects or small watersheds. Because it is based on natural disturbance processes, it may take decades, possibly more than a century, to accomplish all of its objectives (USDA and USDI 1994, Page B-9)." The risk of increasing sedimentation from the salvage of dead trees to Dry Creek or Cache Creek (6^{th} field subwatersheds) is very low to nonexistent. There is an even lower risk of any sediment traveling 6.8 stream miles to Lake Creek (Adjacent 6^{th} field subwatershed) or the Upper Metolius River (5^{th} field Watershed) which contain fish populations. These streams only reach SF Lake Creek during extremely high flow events (Aquatic Biological Assessment and Evaluation for TES Species, GW Fire Timber Salvage Project). During this spring (2008) with higher than

average snowpack and period of intense runoff from record hot weather in May followed by mild temperatures and rains Cache Creek was dry from at least the Hwy 20 crossing to SF lake Creek (approximately 2.5 river miles). In contrast other nearby streams such as Lake Creek was flowing at or above a 5 year flood event.

There is no risk of project activities increasing temperatures in 303 (d) listed Lake Creek or Metolius River, as there will be no salvage of trees near these Riparian Reserve areas (that would reduce the shade component). Therefore, shading of these perennial streams will remain unchanged from its current condition and flows from Cache Creek will not reach Lake Creek or the Metolius River during summer months when stream temperatures can become elevated.

The last time Cache Creek was observed flowing to Lake Creek was during some of the highest flows on record in the Upper Metolius Watershed and this was the result of winter rain on snow events so it is extremely unlikely that a summer thunderstorm would produce a flood event comparable to some of the highest flows on record which were caused by rain on snow events. At the watershed scale harvesting approximately 218 acres of timber in a fire of about 7,357 acres should leave ample amounts of standing dead trees adjacent to the salvage units. Other nearby recent fires such as the Cache Mountain Fire and Lake George Fire has also created large tracts of dead standing trees. Planting a diversity of trees and shrubs in the fire area and salvage units will help to promote the distribution, diversity and complexity of future trees and shrubs. Although some wood on the ground did burn up there still remains wood and organic litter on the ground throughout the project area in the areas that will not be harvested. The Riparian Reserve buffer of 160 ft either side of the stream channel between the salvage units and Dry Creek will help to maintain and add large woody debris to the stream channel and surrounding slopes as it falls down over time.

Comment: *The Agency must address cumulative impacts to the environment in a NEPA analysis process.*

> ***Aquatic resources:*** *Surveys show that the project area contains portions of, and tributaries to, Dry Creek, which flows into the area's greater salmonid water systems. Regional Species of Concern, and ESA listed aquatic species downstream in this greater watershed may include: Bull Trout, Steelhead, and Redband Trout. Potential likely adverse impacts to these listed aquatic species and/or their habitat resulting from the proposed logging activities include increased seasonal peak flows, shorter periods of water flow with prolonged dry periods, loss of moisture retention, sedimentation, and increased water temperatures – all of which are known to harm water quality and fisheries. The notice fails to disclose if the greater watershed contains waterways listed by the state of Oregon as Water Quality Limited, or disclose any monitoring for aquatic species, hydrological conditions, and water quality concerns. NEPA analysis for this project must address, analyze, and disclose this pertinent information. (1-25)*

Response: Cache Creek or Dry Creek are not listed as water quality limited for any water quality parameters by the state of Oregon. However Lake Creek which contains the closest downstream fish populations of any species is listed as water quality limited for temperature. This is primarily from the fact that it flows out of Suttle Lake and essentially contains the upper 0.5 to 1.0 feet of the lakes surface water which naturally warms to levels above the Oregon state temperature standards. Sediment regimes or stream temperatures in Lake Creek will be almost

certainly remaining unaffected by the actions of this project due to the reasons listed in the previous response.

Wildlife

Comment: *Maintaining viable wildlife populations, such as populations of cavity nesting birds, is a responsibility of the Forest Service and by leaving only 6 snags per acre there is concern that viable populations cannot be maintained. As seen through the studies provided in the scoping comments and the Aquatic Biological Assessment and Evaluation (ABAE) and the Hydrology Assessment for the GW Fire Timber Salvage Project (HA), there is also disagreement about how to apply scientific findings to post-fire landscapes. With scientific uncertainty and public controversy apparent, the Forest Service should publish an EA or EIS. (3-8)*

Response: The best available science was used in developing this project, including the snag retention strategy. Within all harvest units a snag retention strategy was developed to leave six snags per acre. The retention of six snags per acre exceeds the standards and guidelines outlined in the Deschutes National Forest LRMP, as amended. In addition about 5,760 acres will be left untreated to provide snags within the GW Fire

In addition to the snags within the GW Fire there is snag habitat located across the Sisters Ranger District. Approximately 91% of the B&B Fire (69,659 acres); approximately 70% of the Eyerly Fire (17,786 acres); and approximately 99% of the Black Crater Fire (5,147 acres) administered by the Deschutes National Forest remained untreated. The Cache Mountain (2,457 acres) and Lake George (4,937 acres) fires were not salvaged so all available habitat remained untreated. In the treated areas, snag retention guidelines were designed to leave dead wood habitat available.

Comment*: The Agency must address cumulative impacts to the environment in a NEPA analysis process…Terrestrial and Avian Wildlife Species: The Deschutes is home to far ranging wildlife species, including wolverine, lynx, as well as raptors including spotted owls, eagles, goshawks, and avian species including numerous neotropical migrant birds as well as various bats. The project location is within an area where wolverine and lynx have been previously reported, and near viable wilderness area habitat for these species. Additionally, territorial home range exists in the project for other native wildlife species such as cavity nesters including black-backed, white-headed, pileated, sapsuckers, and other woodpeckers; native and Neotropical songbirds, American marten, and other species of concern. The notice fails to address the likely adverse cumulative impacts to these numerous diverse species resulting from the proposed logging in conjunction with fire impacts, and other management activities. In the absence of an assessment of these impacts, and disclosure in a NEPA process, the agency may not proceed with the proposed logging project. An EA or EIS is necessary for this project. (1-25)*

Response: All Endangered, Threatened, Sensitive, and Management Indicator Species that could potentially be impacted by the salvage sale have had cumulative impacts analyzed. See the GW Fire Salvage Wildlife Biological Evaluation and the GW Fire Salvage Wildlife Report for detailed cumulative impact analysis.

Comment: *… our recent May 13 field trip to GW discovered a "horny lizard" – our area's version of a "horny toad" near the road at the edge of a proposed high severity burn logging*

unit. What impacts may result to this and related small terrestrial species if this area is near clear cut logged? An EA needs to disclose species present to the public, and assess and disclose potential impacts. (1-27)

Response: All Endangered, Threatened, Sensitive, and Management Indicators that have potential habitat or could be impacted by the GW Fire Salvage were analyzed. Please see the GW Fire Salvage Wildlife Biological Evaluation and GW Fire Salvage Wildlife Report for details. The "horny lizard" is not an endangered, threatened, sensitive, or management indicator species, therefore impacts to this species were not analyzed.

***Comment**: Many species of wildlife thrive on dead trees. The Oregon Wildlife Conservation Plan recommends maintaining and creating snags and down logs for a variety of at-risk "strategy" species, including: American marten, California myotis, Fringed myotis, long-legged myotis, Pallid bat, ringtail, silver-haired bat, Townsend's big-eared bat, three-toed woodpecker, black-backed woodpecker, flammulated owls, Lewis' woodpecker, spotted owl, Pileated woodpecker, western bluebird, western purple martin, white-headed woodpecker, clouded salamander, Oregon slender salamander, Chace sideband, evening field slug, Oregon shoulderband, and traveling sideband. (2-7).*

Response: All Endangered, Threatened, Sensitive, and Management Indicator Species that have potential habitat or could be impacted by the GW Fire Salvage were analyzed. Please see the GW Fire Salvage Wildlife Biological Evaluation and GW Fire Salvage Wildlife Report for details. The retention of 6 snags per acre exceeds the standards and guidelines outlined in the Deschutes National Forest LRMP, as amended. In addition, about 5,760 acres will be left untreated to provide snags within the GW Fire.

Snags

***Comment:** Part of the natural post-fire recovery process is that beetles eat some trees parts and excrete nutrient-rich frass which enhances the growth of surviving and newly established plants. New science indicates that salvage should be avoided or delayed and snags must be retained well-distributed in order to realize the nutrient-cycling benefits of beetle frass. (2-6)*

Response: The retention of 6 snags per acre exceeds the standards and guidelines outlined in the Deschutes National Forest LRMP, as amended. In addition there is about 5,760 acres that will not be treated to provide snags within the GW Fire area.

***Comment:** Consider and disclose reasons NOT to remove snags. Science tells us that natural forests develop after disturbance with abundant structural legacies. These legacy features include snags and down wood which play a wide variety of valuable ecological services for the developing forest, including but not limited to:*

- *nutrient uptake, storage, and release*
- *water uptake, storage, and release*
- *micorhyizal colonization*
- *wildlife habitat, in particular for primary cavity species which are recognized as a "keystone" element of healthy forests*

- *allowing some forest species to linger in burned forests after disturbance and to recolonize burned forests sooner after disturbance, thereby shortening the period during which burned stands are unsuitable for wildlife*
- *providing food for insects that in turn feed a wide variety of other wildlife such as birds and bats*
- *favorable sites for seed germination and establishment*
- *mechanical thinning of the regenerating stand due to the process of snag fall*
- *shade and cover for everything from seedlings to big game*
- *perches, nest, and den structures,*

In general, the larger the piece size, the longer they tend to last. But salvage logging removes those very elements that are most valuable for wildlife and most difficult to replace. (2-8)

Response: A detailed discussion of legacy material is located within the spotted owl section of the GW Fire Salvage Biological Evaluation. The SEI report states that legacy retention is important to prey species following a disturbance, due to the closed canopy without legacies limiting spotted owl prey species (Courtney et al. 2004). Legacy materials left on site increase the complexity of the environment of young stands by increasing horizontal and vertical structure, which provides for greater prey species diversity (Carey and Harrington 2001). Carey and Johnson (1995) suggest conservation of some coarse woody debris, woody plant species diversity, and understory promotion to enhance biodiversity for prey species. Carey (1995) recommends a range of snags from 2.8 to 8.1 snags per acre over 20 inches dbh along with well-distributed patches of dense shrubs for high densities of flying squirrels. The legacy retention can accelerate habitat for spotted owls and their prey.

All legacy trees outside of the salvage units and haul route danger tree removal portions of the fire will be retained to provide habitat for spotted owl prey.

Within the approximate 145 acres proposed for stand replacement harvest three snags greater than or equal to 21" dbh per acre and three snags between 10-21 inches dbh per acre will be retained to provide legacy habitat for prey species. In review of the above literature, it is determined that this level of retention within the harvest units will not exclude the use of the harvest units by spotted owl or their prey species in the future.

Within the approximate 68 acres proposed for mixed severity harvest only dead and low likely-hood of surviving white fir will be removed. All other species of snags and down wood (mostly ponderosa pine and Douglas-fir) will be retained on site to provide legacy material for spotted owls and their prey. The same snag strategy applies to the mixed severity fire harvest units.

Roads

Comment: *No temporary roads should be proposed for this project. The EA analysis must address road density and impacts issues, including impacts to aquatic species and wildlife habitat. (1-28)*

Response: It was determined that a Roads Analysis was not necessary for the project (see Roads Analysis letter, date January 24, 2008). The road system planned for commercial use in the project will not change from pre-fire to post-salvage condition. There will be no new road

construction, reconstruction, or change in road system status for public access over the long term. There will be about ¼ mile of temporary road construction to access unit four. This road will be obliterated after the unit is harvested. The categorical exclusion used for this project (31.12.13) authorizes no more than ½ mile of temporary road construction.

Invasive Plants

Comment: *Invasive plant control needs and actions that could result from this project must be assessed and disclosed in the project EA/EIS analysis, and cannot be deferred to "another NEPA document." (1-31)*

Response: No invasive plan species were encountered during project specific surveys for the project (Botanical Evaluation for the GW Fire Timber Salvage Project, page 5). No known occurrences of invasive plant species are known to occur within or immediately adjacent to any proposed sale unit and only two invasive plant species are known to occur within the burned area (ibid, page 3). A Risk Ranking was done as part of the botanical analysis. The risk of introduction and spread of invasive plants in the project area is rated Moderate. Standard timber sale contract provisions will be use to mitigate the spread of invasive plants in the project area (ibid, page 7). See Appendix A of the Decision Memo.

Salvage Logging / Activities / Danger tree logging

Comment: *"Danger tree" logging proposed across the area must be disclosed and analyzed in one NEPA document with this proposed project. (1-32)*

Response: See the response to this comment on page 4.

Comment*: The development of a logging plan for this area, before any environmental analysis has even been conducted, violates the requirements of the NEPA. This project has NEPA analysis legal issues where scientifically insupportable post-fire logging has been proposed before any real analysis or legitimate assessment has been made regarding area concerns or conditions. (1-33)*

Response: On August 24, 2007 the district planning staff conducted a meeting with the Region Six Rapid Assessment Team to discuss options and resource conditions in the GW Fire area. At that time a proposal to salvage fire killed timber was considered. The purpose and need statement was then crafted by the responsible official. This also involved a decision not to salvage harvest in the Late Successional Reserve found in the GW fire area and to limit potential salvage harvest to the Matrix and General Forest land allocation. It was felt that categorical exclusion 13 would be appropriate to document the environmental analysis if resource conditions were not adversely affected by the proposal. The proposal was then crafted into a proposed action to be considered through the interdisciplinary team analysis and the public scoping process.

The October 17, 2007 scoping letter stated that a categorical exclusion allowing salvaging timber harvest was being considered in the project area. Subsequent analysis by the interdisciplinary team indicated that impacts could be eliminated through project design, analysis, and mitigation measures. This analysis provided the rationale for the use of categorical exclusion 13 (Decision Memo, page 4). No harvest will occur until a decision is signed.

Comment: Recommendations relating to logging and harvest methods:

- *Salvage logging should leave at least 50% of standing dead trees in each diameter class;*
- *No harvest of live trees within burn perimeters;*
- *No harvest of dead trees >51cm dbh or older than 150 years;*
- *No logging in late successional forests;*
- *Salvage logging can increase the potential future fire intensity and rate of spread of these sites over the short-term;*
- *Even where salvage logging occurred in winter over approximately 60 cm of snow, logged areas had significantly lower understory biomass, species richness, species diversity, growth, and survival of both tree and shrub species;*
- *Logging can have detrimental effects on the microhabitats of organisms associated with recovery;*
- *Logging may be suitable where accelerated soil erosion and increased soil compaction are unlikely to occur and where there will be no impairment of hydrologic and soil biological integrity;*
- *Helicopter logging and cable yarding systems (particularly those providing full suspension) that use existing roads and landings also may be appropriate in some areas;*
- *Salvage logging should be prohibited on sensitive sites, including riparian areas, moderately or severely burned areas, fragile soils, steep slopes, roadless areas, watersheds where sedimentation is already a problem, where significant impacts to early successional vegetation may occur, and sites where accelerated surface erosion or accelerated mass soil erosion are likely to occur;*
- *The construction and reconstruction of roads and landings is not consistent with postfire ecosystem restoration. (1-38)*

Response: See the responses on pages 8-9 and 38-45.

***Comment**: We have significant differences with the Forest Service about salvage logging. These disagreements are not just ideological disputes, because salvage logging has significant long-term impacts on large snags and dead wood which are essential features of healthy forests. Dead wood is vastly under-appreciated but is slowly coming to recognize that maintaining moderate-to-high levels of dead wood is critical to the functioning of complex ecosystems, carbon storage, nutrient cycles, and hydrology. Respecting these processes are core to the mission of the Forest Service as stewards of the forest. Complex old forests come about through processes that involve disturbance and development through complex young and mid-seral forests. Salvage logging truncates succession and establishes structurally depauperate young forests that we already have in excess. (2-1)*

Response: In stand replacement areas in the project area conifer stands have been "set back" to an early seral condition. The wildlife snag strategy developed for the project will leave six snags per acre to provide some structural complexity during the first 30-years of the stand before snags decay and fall to the forest floor (Decision Memo, page 5). The project will provide for coarse woody debris according to Forest plan standards and guidelines. Woody debris left on site would provide material for future nutrient recycling and habitat for small mammals.

***Comment**: The agency must prepare a new programmatic EIS to consider the effect of salvage logging on young complex forests and the development of complex older forest. (2-4)*

Response: There is some uncertainly about what the word "new" means in this comment. The preparation of a programmatic document is outside the scope of this project. The project does not salvage harvest "young complex forests."

***Comment**: Prevention of reburn must not be used as a justification for post-fire logging, without carefully documenting the rationale and providing references to published scientific studies (not just hypotheses and speculation and anecdotes). Also, the Forest Service must explain whether logging will increase or decrease the risk of reburn in terms of fuels profiles over various time horizons, ignition sources, etc. Salvage logging increases fine and mid-size fuels in the short-term by leaving treetops, branches, and needles on site. Fine and mid-size surface fuels also occur in unsalvaged areas, but accumulate gradually over time. It is unlikely that fuels in an unsalvaged area would reach the same magnitude as in the post-salvage scenario because decomposition breaks down new material accumulates. As noted by scientists interviewed by the Oregonian, "There would be less risk by leaving dead trees standing where they gradually would decay while keeping their tinder above the reach of flames." Michael Milstein. "Scorched forests best left alone, study finds." The Oregonian, Jan 6, 2006. (2-9)*

Response: The prevention of 'reburn" is not part of the purpose of the project.
Small diameter fuels such as grass, needles, and tree limbs are considered low intensity light flashy fuels; they are also the primary carrier of fire because of their high surface area to volume ratio. The primary concern with light flashy fuel is rate of spread. The combination of light flashy fuels combined with a heavy dead and down slash fuel profile presents a classic scenario for high intensity or extreme British thermal units (Btu's = the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at a specified temperature) per acre of wildfire.

The above statement is very general and more likely attached to a specific site within the body of the Oregonian article. The dry ponderosa pine fire regime on the east side of the Cascade Mountains does not experience high rates of decomposition in the large diameter fuel types.

Do not implement / not in favor of the project

***Comment:** Don't cut any timber from this burn, it will hurt recovery badly, make noise, destroy the ecosystem, it is not a good idea at all, just makes money for big business while hurting/destroying the environment, leave the ecosystem/trees alone to recover by themselves, leave the burn alone to recover on it's own… (106-1)*

Response: The purpose of the project is to salvage economically valuable fire killed timber from the GW Fire area. The Agency sees this as a desired output in conducting multiple-use land management on the Deschutes National Forest. The Purpose of the project meets Land and Resource Management Plan objectives of supplying timber products to the forest products industry and ultimately the American people. Under the Deschutes National Forest Plan as amended by the Northwest Forest Plan, timber salvage is allowed if standards and guidelines can be met.

The project will have no effects to resource conditions that would result in extraordinary circumstances (Decision Memo, pages 6-11).

***Comment**: I've seen many log trucks coming down Rd. 15, with loads of cut trees that were supposed to be fire damaged trees. They were hauling trees that were large, healthy and not a black, scorch-mark on them. None of the trees were parched or showed burns at all. Harvesting perfectly good timber, in the name of "salvaging damaged timber" should be illegal. The burnt area is environmentally weak and devastated enough without having logging companies going in there to get their monies worth out of the effort. Why is there not a better monitoring system…? (107-1)*

Response: Forest Road 15 is not located in the project area. No live trees will be harvested with this project.

Support of the project

***Comment**: I [we] understand that the USFS is restricted in its salvage efforts, but it is critical that as much "old fuel" as possible be removed as a preventative measure against another high intensity fire in the next decade or longer. (Emails 4-105; this is a representative comment)*

Response: Fuels treatments are not part of the purpose and need for the project (Decision Memo, page 2). Activity fuels that are generated from the harvest of fire killed timber will be piled and burned at log landings (Decision Memo, page 5). The removal of fire killed trees from the project area is to capture their economic value (Decision Memo, page 2-4).
***Comment:** I and the property owners [Black Butte Ranch] are very concerned about the proposed salvage work in the thousands of acres west of the Ranch, burned by recent fires. …we hear that the USFS is restricted in its salvage efforts. If that is the case, we believe it is critical that as much "old fuel" as possible be removed before the next fire comes through the area in 10 or 20 years. Leaving too much old fuel in the previously burned areas only assures the next fire will be a high intensity burn when. Not if, it occurs. (Letters 108-112; this is a representative comment).*

Response: See the above response.

Incorporation by Reference

***Comment**: We incorporate by reference the comments we submitted during scoping for the GW Project**.** (3-2)*

***Comment**: We herein incorporate by reference, in addition to these comments, the comments of the Cascadia Wildlands Project on this preliminary decision memo, as the issued raised therein further document many of our ecological and legal concerns. Additionally, we also herein incorporate by reference our recent comments, appeals, and litigation, along with all of our exhibits on the Black Crater Fire and Five Buttes Projects, as many legal, ecological, and scientific issues connected with post-fire logging and logging in LSR areas are addressed therein, and as Deschutes NF planning staff for the GW Fire Project are already familiar with or have these previous comments and exhibits available. (1-41)*

Response: Comments specific to this Decision Memo have been addressed in this response to comments. Comments received during public scoping are addressed in the project record. Title 36, CFR, section 215.2 states that, “comments within the scope of the proposed action, specific to the proposed action, have a direct relationship to the proposed action, and include supporting reasons for the responsible official to consider.”

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