APPEAL TO THE REGIONAL FORESTER,
PACIFIC NORTHWEST REGION,
OF A DECISION OF THE FOREST SUPERVISOR
OF THE OCHOCO NATIONAL FOREST

OREGON CHAPTER SIERRA CLUB, LEAGUE OF WILDERNESS DEFENDERS - BLUE MOUNTAINS BIODIVERSITY PROJECT, & OREGON WILD,
APPELLANTS,

vs.

JEFF WALTER, FOREST SUPERVISOR, OCHOCO NATIONAL FOREST

DECIDING OFFICIAL

In Re: Appeal of the FEIS and Record of Decision for the East Maury Fuels and Vegetation Management Project, USDA Forest Service, Lookout Mountain Ranger District, Ochoco National Forest

APPELLANTS' NOTICE OF APPEAL,
REQUEST FOR RELIEF, AND
STATEMENT OF REASONS

DATED THIS 22ND DAY OF AUGUST, 2008

I. Notice of Appeal

In accordance with 36 CFR 215, we hereby appeal the decision to implement the **East Maury Fuels and Vegetation Management Project,** Ochoco National Forest, Lookout Mountain Ranger District.

Title of Decision Document: East Maury Fuels and Vegetation Management Project, Record of Decision and Final Environmental Impact Statement, Lookout Mountain Ranger District, Ochoco National Forest, Crook County, Oregon.

Description of Project:

- 13,890 total acres treated
- 5,562 acres of commercial logging;
    - "Sanitation" 237 acres*
    - "Individual Tree Selection" 5,285 acres*
    - Commercial Thinning 1,125 acres*
    - Commercial Thinning in LOS stands 413 acres
    - Aspen Treatment 210 acres*

  * The above acreage totals followed by an * are from the original Alt. 2 numbers. The ROD and FEIS failed to disclose changes to these figures in the selected modified alternative 2, making it difficult if not impossible for the public to accurately ascertain modified 2 acreage for varied logging and thinning actions.
- Noncommercial Thinning – 10.931 acres
    - Precommercial Thinning 7,711 acres*
    - Juniper Thinning 3,327 acres*

  * The above acreage totals followed by an * are from the original Alt. 2 numbers. The ROD and FEIS failed to disclose changes to these figures in the selected modified alternative 2, making it difficult if not impossible for the public to accurately ascertain modified 2 acreage for varied noncommercial thinning actions.
- Fuel Treatment – Total 11,381 acres
    - Underburn (prescribed fire) 8,260 acres
    - Grapple Pile 3,106 acres
    - Hand Pile 15 acres
- Logging Systems 5,562 acres
    - Tractor approx. 5217* acres
    - Skyline 315 acres*
    - Horse <157* acres

  * The above acreage totals followed by an * are from derived by subtracting ROD appendix 1 totals from the original Alt. 2 numbers. However, the ROD and FEIS failed to disclose differences in these acreage changes between specified tractor and horse logging (in particular in unit 264's 194 acres) changes to these figures in the selected modified alternative 2, making it difficult if not impossible for the public to accurately ascertain modified 2 acreage for varied logging systems. Consequently, the figures under logging systems are approximate mathematical guesstimates at best.
- Road Management (miles)
    - Construction 5.7 miles
    - Reconstruction 14.9 miles
    - Decommissioning 2.5

- 16.6 million board feet (mmbf) estimated Volume from Commercial Harvest

    - ❖ As noted some of the above acreage totals (those followed by an *) are either the original Alt. 2 numbers (as these are the only disclosures available to the public) or are derived from "best guess" computations using the partial information provided in the ROD and its appendix 1. The ROD and FEIS failed to properly disclose the full extent of changes to these figures in the selected modified alternative 2, making it difficult if not impossible for the public to accurately ascertain modified 2 acreage for the project's varied logging and thinning systems and actions. Attempts to communicate during the appeal period with agency planning staff and decision-makers to acquire accurate modified two totals for each of these above and additional categories were unsuccessful as agency staff were not available and did not return calls within the limited review time remaining once these discrepancies were identified.

- Location: Lookout Mountain Ranger District, Ochoco National Forest, about 37 miles southeast of Prineville, Oregon. The project area encompasses about 24,239 acres within the Crooked River Watershed and the Pine, Drake, Indian, Lower Camp, and Maury Creek subwatersheds. The project is within portions of Township 17 South, Ranges 20 and 21 East, and Township 18 South, ranges 20 and 21 East. From the DEIS: Elevations range from 6,086 feet to 4,200 feet above sea level. There is one tract of private land (about 40 acres) within the project area boundary.

Date Decision Signed: July 8, 2008

Deciding Officer Name and Title: Jeff Walter, Forest Supervisor, Ochoco National Forest

Notice is hereby given, pursuant to 36 C.F.R. ß 215, that the below listed organizations are appealing the FEIS and Record of Decision of the Forest Supervisor to approve and implement the East Maury Fuels and Vegetation Management Project.

Asante Riverwind,
Eastern Oregon Forest Organizer,
Oregon Chapter Sierra Club
P.O. Box 5534
Bend, Oregon 97708
(541) 322-4065 office
(541) 306-7737 field
asante.riverwind@sierraclub.org

Karen Coulter, Director,
League of Wilderness Defenders-Blue Mountains Biodiversity Project
27803 Williams Lane
Fossil, Oregon 97830
(541) 468-2028 office
(541) 385-9167 voice mail

Tim Lillebo,
Eastern Oregon Wildlands Advocate,
Oregon Wild (formerly Oregon Natural Resources Council)

16 NW Kansas
Bend, Oregon 97701
(541) 382-2616
tl@oregonwild.org

II. APPELLANTS INTEREST

The Forest Supervisor's decision of July 8, 2008 is in error and not in accordance with the National Forest Management Act (NFMA), the National Environmental Policy Act (NEPA), the Clean Water Act (CWA), the Endangered Species Act (ESA), the Migratory Bird Treaty Act (MBTA), the MUSYA, and these statutes' implementing regulations, the Forest Service Handbook (FSH), and the amended Ochoco National Forest Land Resource Management Plan (ONF-LRMP).

The Oregon Chapter of the Sierra Club (hereafter Sierra Club or SC), the League Of Wilderness Defenders - Blue Mountains Biodiversity Project (hereafter BMBP), and Oregon Wild (hereafter OW) have a specific interest in the East Maury Fuels and Vegetation Management Project, indicated by our comments throughout the planning process and continued involvement in management of the Ochoco National Forest. Appellants have standing to appeal the Forest Supervisor's decision according to 36 C.F.R. ß 215.13(a) because of our submission of substantive comments throughout the planning process, and due to our members' interests in and ongoing use of the project area.

Members and volunteers of the Oregon Chapter Sierra Club, the League Of Wilderness Defenders – Blue Mountains Biodiversity Project, and Oregon Wild regularly enjoy Ochoco National Forest public lands within the East Maury Fuels and Vegetation Management Project (hereafter E. Maury Project) and surrounding area. The Oregon Chapter Sierra Club, the League Of Wilderness Defenders-Blue Mountains Biodiversity Project, and Oregon Wild have participated throughout the public NEPA process for the E. Maury Project. Our organizations reviewed and submitted comments on the DEIS for the East Maury Fuels and Vegetation Management Project; participated in meetings with Ochoco National Forest decision-makers and project planning staff about the E. Maury Project; and have hiked, surveyed, camped, and photographed the project area before and during the development of the East Maury Fuels and Vegetation Management Project.

The Sierra Club represents over 23,000 members throughout Oregon, including over 1,000 Juniper Group members throughout central and eastern Oregon. LOWD-Blue Mountains Biodiversity Project has many members and volunteers throughout the Northwest. Sierra Club members feel strongly about nature, wilderness, wildlife and the environment. Our members regularly enjoy hiking, camping, birding, wildlife watching, recreation and ecological study within the national forests of central and eastern Oregon, including the East Maury Fuels and Vegetation Management Project area within the Ochoco National Forest. The interests of our members, and their ability to continue to enjoy and utilize the E. Maury Project area, would be irreparably harmed if the East Maury Project FEIS and ROD are implemented.

Members and volunteers of the LOWD-Blue Mountains Biodiversity Project regularly use the Ochoco National Forest, including the project area, for hiking, ecological study, watching wildlife, viewing forest native botanical diversity, and avian species study. The E. Maury Project would adversely degrade the ecological integrity and native forest species habitat viability of the E. Maury Project area, irreparably harming the interests of LOWD-BMBP members, volunteers and supporters.

Members of Oregon Wild use and enjoy the area affected by this project for various recreational, esthetic, and scientific pursuits including but not limited to: hiking, nature study, solitude, bird watching, fishing, and hunting. The interests and above activities of our members would be irreparably harmed if the East Maury Project decision is implemented as planned, as the excessive logging, road building, vegetation damage and ground disturbance would significantly degrade the forest's ecological integrity throughout the greater project area.

As such, Sierra Club, BMBP, and OW interests will be adversely affected by the E. Maury Project's purported "Fuels Reduction and Vegetation Management" timber sale. As noted herein and in prior comments and meetings with Forest Service officials and staff, our non-profit conservation groups' supporters and members use and enjoy the Ochoco National Forest, including the Lookout Mountain Ranger District East Maury Project area, for recreational, educational, natural, aesthetic and other purposes. The quality and value of those activities will be irreparably harmed if the East Maury Fuels and Vegetation Management Project is implemented. The East Maury Project as planned would result in significant adverse impacts to the area's forests, ecological integrity, waterways, wildlife, aquatic species, and native plants and soils. The East Maury Project if implemented would result in irreparable harms to the area's forest environment, wildlife habitat, and recreation values, causing significant harms to the interests of the members and volunteers of our organizations.All Appellant groups have a long-standing interest in the sound management of this area, and the right to request agency compliance with applicable environmental laws.

III. REQUESTED RELIEF

1. That the Record of Decision and Final Environmental Impact Statement for this project be withdrawn;

2. That this project be modified to meet the objections presented in Appellants' Statement of Reasons, including but not limited to:

    A. Eliminate all commercial logging activities that occur in old growth forest-dependent native wildlife species habitat;
    B. Eliminate all road construction, including so-called "temporary road" construction, and the reconstruction of closed and/or resource damaging roads;
    C. Eliminate all commercial logging activities that occur in goshawk post fledgling areas;
    D. Implement seasonal restrictions on fire and fuels reduction activities to protect nesting and fledging native and neotropical migrant birds, denning mammals, emerging spring plants and native invertebrate species;
    E. Eliminate all units that would commercially log in old growth habitat;
    F. Eliminate scientifically inappropriate fuels reduction logging in mixed conifer mixed and high severity fire habitat;
    G. Eliminate all project activities (including but not limited to commercial logging, road crossings, landings, skid trails, and grazing) from Riparian Habitat Conservation Areas;
    H. Eliminate all units located on sensitive soils, and steep slopes.
    I. Eliminate East Maury Project amendments 1 (Harvest in LOS) and 2 (Harvest in Connective Corridors) to the Ochoco National Forest Land Resource Management Plan, and bring this project into compliance to the Ochoco Forest Plan as amended by the Regional Forester's Amendment Number 2 otherwise referred to as the "Eastside Screens."

3. That this project be revised to ensure consistency with the Administrative Procedures Act, Clean Water Act, Endangered Species Act, National Environmental Policy Act, National Forest Management Act, Migratory Bird Treaty Act, these statutes' implementing regulations, and the Ochoco National Forest Land and Resource Management Plan as amended by the Regional Forester's Amendment Number 2 (Eastside Screens).

IV. Request for Stay

In accordance with 36 CFR 215.10(b) all implementation of this project must cease until 15 days after the appeal is decided.

V. Statement of Reasons

1. The FEIS is premised upon erroneous and scientifically controversial management assumptions and actions, which are incapable of meeting the ecological goals and objectives of the project's purported purpose and need.

> The FEIS and ROD identify the purpose and need of the East Maury Project as:
> "1. There is a need to move the seral and structural conditions of forest stands toward their historic range of variability in order to maintain and increase late and old structured stands, increase the resistance of forest stands to insects and disease, and maintain and increase shrub and broadleaf tree communities.
> 2. There is a need to move the distribution of fire regimes toward its historic range of variability by increasing the amount of low-intensity fire conditions, decreasing the amount of high-intensity fire conditions, and maintaining low-intensity fire conditions where they already exist.
> 3. There is a need to provide wood products to contribute to the health of the local and regional economies consistent with Management Area and Forest-wide standards and guidelines (Forest Plan, pp. 4-31 to 4-32), as well as to provide opportunities for employment and income.

The needs as expressed above are illusory and the analysis in the EIS is unsound for at least two reasons. First, the historic forest conditions and forest health justification for this project is inherently flawed due to the belief that logging can correct past bad management practices, including fire suppression. The underlying assumption that a forest is generally healthier if properly functioning parts of the forest are removed is similarly unsupported by fact.

The ONF interpretations of scientifically controversial research addressing regional forest ecology is based upon the selective and contextually inappropriate misuse of a combination of limited scientific studies, agency assumptions, and politically-contrived timber volume agendas. While there is emerging scientific consensus concerning pre-European settlement era forest stand compositions and varied historical fire patterns in the region, the ONF has largely misapplied scientific conjecture in this project's interpretation of "historic conditions" within the planning area. The resulting project is a hodge-podge of only partially accurate historic stand assumptions mixed with clearly erroneous historic and scientific interpretations. Consequently, overall the project's logging plans will result in far more ecological harm than benefit to the area's complex ponderosa pine and mixed conifer forest ecosystems and their dependent wildlife, native plant, and aquatic species. Agency contentions regarding "historic forest stand conditions" are ecologically simplistic, and largely incapable of factually representing area plant associations and forest conditions that occurred prior to human manipulation of the environment.

Appellants clearly concede that some areas of the planning area are exhibiting overstocked conditions. However, these stand overstocking occurs primarily among young understory trees that have little if any merchantable timber value. Significant portions of the project also contain areas with unnatural logging created openings, old logging skid trails, far too many resource damaging unmaintained logging and user created roads, and overall degraded forest ecosystem conditions due to a combination of past and ongoing management, including logging, road building, livestock grazing, fire suppression, invasive plant introduction and spread, and growing frequency of OHV use.

Still, despite the presence of widespread cumulative management harms, a considerable portion of the planning area contains healthy maturing and old growth trees and forest stands. As past high-grade logging removed many of the largest diameter fir and ponderosa pine trees, significantly altering the area forests, much of the project's forest stands are still in the process of natural recovery from past over-logging. Maturing and mature trees, including many of those marked for logging removal, play an essential role in the ongoing natural recovery process of the area's forests. As most of the area's old growth and large mature trees have been removed during past logging, many of the marked trees provide the essential forest stand structure for wildlife habitat viability and the long term ecological integrity and recovery of the area. Removing so many of these maturing trees as planned would be in contravention to the recommendations of the majority of scientific research studies and to the purported purpose and need goals 1 and 2 of this project.

As noted by scientific research, trees begin to exhibit fire resistant characteristics as they mature, with increased height of branches, thickening bark, vigorous growth, deepening roots, and greater moisture capacity retention. Varying somewhat by tree species and localized conditions, inherent effective fire resistance of growing trees begins to be attained between 8" to 14" diameter. Indeed, former Forest Service Chief Dombeck has been quoted as stating there is no valid rationale for removing trees greater than 12" diameter to meet fuels and fire risk reduction goals. As noted herein, removing too much of an area's basically fire resistant maturing tree forest stand structure actually increases the risk of fire severity and extent of spread, due to greater solar drying, higher wind speeds, and greater prevalence of fire prone brush, vegetation and small diameter trees that soon replaces the more fire-resistant shade-providing/moisture retaining trees removed.

As planned, and marked on the ground, the E. Maury project would further harm the ecological integrity or the area by its planned removal of far too many of the area's maturing trees between 14" and 21" diameter. Such scientifically and ecologically unwarranted logging will seriously degrade existent wildlife habitat, jeopardizing the viability of forest-dependent species of concern throughout the greater project area. The project's two "eastside screens" forest plan amendments, to permit logging in LOS and in connective corridors, absent clear provisions to retain all trees with mature and old characteristics, and absent diameter limits capable of maintaining sufficient habitat conditions, canopy closure, and cover for affected wildlife species of concern, violates the purpose and need for this project, violates the qualified scientific objectives that comprise the foundation of the eastside screens, and would likely extirpate or harm the progeny of affected LOS-dependent native species of concern in violation of the NFMA.

Scientific research noted herein, and contained within Exhibit C of this appeal (submitted to the agency during the comment period for this project), clearly recommends against the excessive extent and level of logging planned in the E. Maury Project. The agency's purpose and need goals 1 and 2 (above) will not be met by the planned logging, which instead will increase the risk of severe fire by excessive opening of the forest structure and canopy and resultant increased solar exposure and drying, increased presence of fire-susceptible brush, grasses, invasive plants, small diameter trees and other small diameter flash-fuel prone vegetation where fire resistant maturing and older trees had previously stood.

The agency's inferred premise that it can somehow improve upon nature's millenas long forest ecological and natural recovery processes by over 5,000 acres of widespread logging is scientifically controversial at best and largely insupportable when weighed in light of the full extent of credible peer

reviewed scientific research, especially within the area's mixed conifer forests, and to the extent of commercial logging removal of essential maturing/mature forest structure in both ponderosa pine and mixed conifer stands. Issues regarding scientific controversy were raised throughout this EIS process, with Appellants submitting applicable scientific research studies as part of our comments. We requested these studies' recommendations be addressed and incorporated into the project, and that the agency disclose and address the ongoing scientific controversy concerning its proposed management actions. The FEIS and ROD however, in clear violation of the requirements of the NEPA, chose to ignore substantive issues of scientific controversy, failing to disclose or address scientific research that contradicts or recommends against the project's actions.

We also requested that the agency substantiate the scientific basis of its proposed alternatives and selected management actions. The FEIS notes selective scientific research to support its thinning contentions, but fails to correlate the extent of its thinning with these studies, in particular as related to stand structural integrity, ongoing natural recovery processes, and cumulative impacts from past and ongoing management. The agency fails to develop a range of reasonable alternatives based upon credible scientific research that is not in accord with the myopic logging-permitting research cited, thus failing to provide the decision-maker and the public with a full range of reasonable scientifically supported alternatives, or even the awareness that the planned actions are scientifically controversial at best.

The agency may not arbitrarily selectively pick only among the limited scientific studies that appear to support its logging plans. It may not just merely list scientific studies in its index, as if these were all incorporated or consulted. The analysis within the FEIS must disclose which studies were incorporated in its planned actions, and must also disclose which studies recommend against such actions, providing the public and decision-maker with NEPA's requisite scientifically and meaningfully informed analysis on which to weigh the impacts, benefits and harms, and efficacy or lack thereof, of proposed agency actions. Alternatives presented where there exists credible scientific controversy must reasonably include a range of actions substantiated by the varied research, so the public and decision-maker can choose which actions may be most effective or desirable in the long-term in a given project area. The E. Maury Project however, only presents three "alternatives" – that of no action (which the agency generally never selects), and two logging actions that differ only marginally in the number of acres logged. Both action alternatives are based upon the same controversial logging premises, with no action alternatives developed that are based upon other – perhaps more – credible peer reviewed ecological science.

In its arbitrary dismissal of other potential alternatives, the agency fails to disclose the existence of any scientific controversy. Instead the agency misuses its limited selective studies, a draft non-peer reviewed internal agency publication Viable Ecosystem Management Guide (VEMG), the internal agency Maury Mountains Watershed Analysis, and the apparent proposed-alternative biased prerogatives of its EIS team staff to arbitrarily and capriciously dismiss a wealth of substantive pertinent peer reviewed scientific research, management directives, the eastside scientific society panel, and accurate site-specific conditions and concerns. These serious analysis development deficiencies violate the requirements of the NEPA, and have resulted in this ecologically harmful, legally non-compliant, logging focused timber volume decision.

Further, the agency fails to effectively and adequately modify its logging plans to incorporate the recommendations of scientific research on the habitat and viability needs of the many affected native forest-dependent species in the greater project area. Here again, to a large extent, the FEIS fails to adequately disclose pertinent scientific research on affected native species. Indeed, the project not only fails to meet these NEPA requirements and NFMA necessities, the ROD proposes two forest plan amendments arbitrarily dismissing "eastside screen" regional forest plan provisions, sacrificing regional forest wildlife habitat maintenance, viability, and recovery goals for the short-term timber economics represented by purpose and need 3 (a legally non-compliant arbitrary and capriciously derived purpose and need). The FEIS fails to adequately disclose and address scientific research and eastside screen

science foundations related to LOS and mature forest-dependent species, waiving away these outright in favor of the agency's logging plans without adequately informing the public or decision-maker of scientific recommendations against such logging, overall wildlife viability recovery objectives, and the accurate extent of the likely harmful consequences of its actions to species of concern that are or may be within the project area.

As the West Maury project, and cumulative past management has already degraded approximately have of the landscape-scale of the Maury Mountains forests, the East Maury project would further remove essential forest structure and cover for species of concern. Combined both projects effectively degrade many thousands of acres of now functioning habitat for species of concern into forest stands that are deficient in necessary structure to provide for these imperiled species needs. The EIS fails to accurately and adequately address this significant scientifically controversial issue, fails to comply with the requirements of the NEPA, and if implemented would violate the NFMA.

As field verification by Appellants indicates, fir and pine species of large diameter once dominated the planning area. Yet contrary to the readily abundant site-specific evidence found throughout the planning area (easily verified by numerous old large diameter stumps, and downed logs, of fir and pine trees), the Forest Service decision would convert areas of historic multi-storied mature and old growth mixed conifer forests to single strata LOS forests.

The agency acknowledges that both multi-strata and single-strata LOS forests are below the HRV for the project area, however seeks to log in multi-strata LOS stands anyway by amending the forest plan, erroneously claiming against the findings of the many agency-ignored scientific studies that their logging actions will simply convert the area to single-strata LOS, reduce fire risks, and create larger trees, etc. Perhaps if the agency had contained their actions to areas of greater scientific consensus, in ponderosa pine stands with frequent low severity fire patterns, limited the planned thinning to better retain all trees with inherent fire resistance, and mature and old characteristics, these claims would have greater scientifically credible merit. But the level of logging as evidenced by unit markings defies scientifically credible ecological recommendations, and would result in severe degradation to the area's forest ecosystems.

The depletion of the HRV of multistoried LOS forests is represented by the many old clearcuts and widespread past high grading of mixed conifer forests, which removed old and mature sized trees of all species throughout the project area. This has been documented by the surveys of Appellants in the project area. This is also readily verified by reviewing aerial maps of the areas forests, which clearly depict the numerous old logging cuts and fragmented forests across the project watersheds.

Given all the above, it defies common sense, and NEPA's reasonableness and accuracy requirements, for the EIS to make its many scientifically controversial and insupportable claims that extensively logging the project area as planned could do anything other than further degrade and harm the Maury Mountains forests.

Among the many issues related to this project's analysis contentions, is the lack of applicability of agency actions to many area units, the harmful level of logging planned, and the inaccuracy and omissions concerning site specific ecological conditions as reported in the FEIS. The section below is a summary of Appellants' surveys of the project area, which are included in full as Exhibit A of this Appeal:

Survey Findings in Project Unit Areas

Project Area Forest Stand Species Composition

LOWD-Blue Mountains Biodiversity Project staff and volunteers field checked much of the East Maury project units, completing survey forms and taking photos as part of the survey work. The project area can be characterized as dry Ponderosa pine/Douglas fir co-dominant plant association over most of the area with the amount of Douglas fir present historically varying by slope aspect, elevation, and site moisture patterns and availability (e.g. riparian areas). The project area also includes some areas of historic Grand fir overstory, sometimes as Grand fir/Ponderosa pine, also tending toward more Grand fir in areas with adequate moisture, and on higher elevation slopes and moderate to higher elevation benches. Historic presence of fir tree species was determined based on the presence of fir old growth diameter logs, snags, stumps and live trees.

Cumulative Impacts from Logging, Livestock Grazing, and Past Management

Much of the sale area is choked with dense spindly Ponderosa pine or mixed conifer thickets due to a combination of past heavy high-grade logging, fire suppression and severe overgrazing by livestock. We observed serious degradation of riparian areas, aspen stands, wet meadow, streams, creek channels, seeps and a marsh due to ongoing livestock grazing as well as overgrazing of elk sedge, grasses and marsh grasses and areas denuded of vegetation from heavy cattle grazing, as well as cattle present at the sites of damage, which we documented with survey notes and photographs. Soils in most sale units were very compacted from past timber sales and livestock use, with numerous unregenerated skid trails and landings. We field checked most tree-marked sale units and had little problem with the marking of smaller diameter trees (up to 12-14" dbh) except for some areas of heavy removal of all the trees in an isolated clump and planned removal of healthy Douglas fir in areas with little healthy Douglas fir. However a consistent marking problem in most marked sale units was planned large-scale removal of healthy mature Douglas fir and healthy orange-bark mature Ponderosa pine between 15 and 21" dbh. The area is largely deficient in this size class of tree due to past logging and even more deficient in old growth trees 21" dbh and larger, indicating the need to protect healthy Ponderosa pine orange bark mature trees and healthy Douglas fir mature trees in this size class for wildlife habitat values and as replacement old growth trees over time. There are many areas in sale units of heavy Douglas fir mistletoe infestation, making it that much more important to retain healthy Douglas firs to replace this portion of the forest, as logging is planned of mistletoe-infested trees. In general, sale planners and/or sale markers seem very biased against retention of naturally occurring Douglas fir despite evidence throughout the sale unit of its historic presence, which we recorded in survey notes and photographs. Any logging in the East Maury sale area should have ecological restoration as its primary purpose given its severely degraded condition. Removing most healthy mature Douglas fir and alot of healthy orange bark Ponderosa pine under 21" dbh does not meet the criteria of ecological restoration in the context of healthy trees in this size category being scarce and planned heavy removal of defoliated, dead, and mistletoe-infested pine and fir in this size class.

We looked at some of the completed West Maury sale units and were not encouraged to expect good results from the planned East Maury sale. The west Maury sale units were wide open, subject to drying out of micro-climate conditions, with huge slash piles and increased fire risk, with few larger, more fire-resistant trees retained. Removal of trees down to 48-63 square feet of basal area as planned in parts of the East Maury sale would have similar effects.

Wildlife species seen or whose sign was observed in the sale units that could be negatively affected by the planned volume and mature tree removal include elk, deer, Blackbacked woodpecker, Northern goshawk, Bald eagles, Osprey, Pileated woodpecker, Hairy woodpecker, Williamson's Sapsucker, Neotropical songbirds and even smaller rodents such as ground squirrels and Douglas squirrels. Potential

species that could be negatively affected include Whiteheaded woodpecker, other bird species, and others.

Other issues of concern include lack of buffering of seeps and side tributaries of creeks and potential sedimentation of creeks from logging on steep slopes and on easily displaced ash soils. There is also alot of very rocky ground in sale units including embedded boulders, making tree regeneration difficult with dry conditions. Large rock formations need to be buffered as potential wildlife denning habitat. Cattle need to be kept out of all riparian areas if these areas are ever to recover and restoring missing vital riparian biodiversity, including aspen stands in decline. Livestock use in this sale area may be causing serious draw-downs of the water table - drying up of once larger creeks and high water table aspen areas and seeps is evident, as well as trampling of wet meadows and a marsh and loss of almost all riparian plants in most creek and stream areas due to cattle impacts.

2. The FEIS selected alternative and range of logging alternatives violate the Ochoco Forest Plan & fail the NEPA

The FEIS ROD states that the E. Maury "project area encompasses about 24,239 acres." The ROD states that the Forest Supervisor "decided to implement Alternative 2 with some modifications." Modifications made acknowledge the project's potential for hydrologic damage in sensitive subwatersheds and potential to harm a newly discovered goshawk nest. Other modifications as noted in meetings with agency staff were done to lessen the extent of new roads, and to reduce impacts to old growth areas and dependent wildlife. Despite these limited modifications, overall the project as planned will result in significant harms to the ecological integrity of the area, and wildlife and aquatic species of concern and their habitat. Survey reviews of the West Maury project units revealed extensive harms to area soils, forest structure, wildlife habitat, increased presence of fire-prone fuels, and unacceptable levels of solar exposure.

On the Ochoco National Forest's Maury Mountains as elsewhere, once vast stretches of eastside mature and old-growth forest habitat have been reduced to a fragmented patchwork that is now sparsely woven together by remnant areas of late successional and mature forest and degraded riparian corridors. The analysis area includes some areas of rare old growth and mature habitat. The analysis area is contains habitat for many forest-dependent species of concern, including dispersal and travel corridors to areas within and beyond the project area itself. The Maury Mountains are to some extent an isolated forest subregion, adjoining BLM and private land ownerships (largely ranch rangelands) that surround the planning area's forests. As such, there is little forest area beyond the combined East and West Maury Mountains projects for wildlife to move to when project logging actions extirpate them from unit areas. Cumulative impacts from West Maury, East Maury, livestock grazing, OHVs, and other management actions are or particular emphasized importance in this contained, limited forest, region.

Past and ongoing management degradation of forest habitat has caused the precipitous decline of species dependent on large areas of old-growth forest habitat such as the northern goshawk, American marten, Pileated woodpecker, numerous neotropical migrant and native birds, and numerous vascular and non-vascular plants. Species that also required large areas of intact, undisturbed forest habitat – like Lynx and Wolverine – are also at risk. These species continue to be pushed towards extinction by additional cutting and fragmentation of mature and old growth forest. Since the Ochoco National Forest has done little or no monitoring of sensitive and rare species on the forest, there are almost no studies on which the USFS or the public can rely for decision-making about resource use and allocation.

Additionally, in contained forest areas such as the greater Maury area, impacts to more generally common species including bear, elk, deer, grouse, badger, cougar, bobcat, porcupine, and others are more pronounced. As substantial logging, roading, hunting, grazing and other management intrusive land and habitat altering actions have and continue to occur throughout the Maury Mountains, it is important that

impacts to these important wildlife species are assessed. The FEIS fails to address this issue or disclose past and likely continuing impacts upon these species, which are generally thought to be more common and in less peril of viability and habitat loss. Surveys throughout both the East and West Maury project areas however note an overall lack of abundance of evidence of some of these wildlife species (deer excluded – however the stag to doe ratio of area herds remains a question needing to be answered due to the project's plans for significantly decreasing hiding cover). The lack of evidence of tracks, sightings, foraging signs, and/or scat of the above species raises serious questions of the project's cumulative impacts across this geographically contained area to these and other wildlife species. Apparently the E. Maury EIS simply chooses to ignore this obvious common sense cumulative impacts concern, focusing lightly instead on species of concern and listed species that may or may not be present, and dismissing impacts issues on these without considering the overall cumulative impacts on once common – but now locally apparently more rarely found wildlife species. A new FEIS/SEIS needs to address this significant issue.

While the Lookout Mountain Ranger District does not seem to dispute that the impacts of logging have been significant, the ONF has failed to adequately quantify and qualify the impacts of the current proposal to log the critical threads of connective forest habitat to mature and old growth forest areas in the planning area and adjoining forests and wildlands. The EIS insufficiently and inaccurately identifies the impacts of the project and does not justify the proposed logging.

Given both the significant impacts of this project and the lack of credible evidence supporting FEIS claims that there will be no significant impacts from the planned logging, the decision to implement the proposed project is arbitrary and capricious and violates the Administrative Procedures Act. As noted above and elsewhere herein, the E. Maury project would also violate the Clean Water Act, the Endangered Species Act, the National Environmental Policy Act, the National Forest Management Act, the Migratory Bird Treaty Act, and the Ochoco National Forest Land and Resource Management Plan (Forest Plan or OFP).

3. Forest Plan amendments violate the Ochoco LRMP, Eastside Screens, NEPA, and NFMA

The E. Maury FEIS claims that project actions respond to the goals and objectives outlined in the Ochoco National Forest Land and Resource Management Plan as amended (Forest Plan), and helps move the project area towards desired conditions described in that plan." However, the selected alternative 2-modified decision, as well as the only other presented action "alternative" requires two Forest Plan amendments to alter existing "eastside screens" standards. Selection of either presented action alternative as such would result in violating forest plan "eastside screens" standards. Planned logging would adversely impact wildlife habitat for imperiled regional species of concern, resulting in substandard conditions that fail to meet desired scientifically-founded resource management objectives. Information distorted within and/or omitted from the EIS as noted contradicts agency claims that this project responds to the ONF LRMP standards and overall objectives, in violation of the accuracy and high quality requirements of the NEPA. Degradation caused by the proposed logging, resulting in substandard wildlife habitat conditions, would violate the NFMA.

Alternative 2-modified is the FEIS ROD selected alternative, its amendments would:

- allow logging in multi-strata LOS, converting these forests to single-strata LOS. Multi-strata LOS is currently below HRV, and following project implementation would likely be even more below its HRV levels, however the FEIS fails to address or disclose the full cumulative consequences and impacts of its logging plans.
- A second amendment allows logging within connective corridors, reducing "canopy closure to less than two-thirds of site potential" – again in contravention to LRMP "eastside screens" standards and wildlife habitat needs.

Implementation of any of the two FEIS action alternatives would have necessitated amending the Forest Plan. The failure of the agency to present any action alternatives - based upon credible science - that comply with LRMP standards and guidelines, offering the public and decision-maker fully developed scientifically and ecologically sound alternatives consistent with the Ochoco LRMP, violates the NEPA. This failure deprives the public and decision-maker of feasible scientifically more appropriate alternatives that proactively protect wildlife and forest ecological integrity. Its omission unlawfully predisposes the decision towards the selection of a harmful logging alternative that fails to comply with the LRMP. NEPA requires the agency to provide a full range of objective unbiased scientifically based alternatives, and an objective purpose and need that does not predispose the decision towards selection of any one alternative. The NEPA regulations allow the agency to explain why a particular option is not feasible, or otherwise not reasonable, and hence eliminate it from further consideration. 40 C.F.R. 1502.14. However, the reasons given must be adequately supported. Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d 800, 813-15 (9th Cir. 1999). The agency may not simply claim – despite the overwhelming scientific research and controversy to the contrary – that a limited, out of context, range of other possible alternative options would not meet the purpose and need of the project – without substantiating this agency contention with reference to an overwhelming presence of scientifically credible research conclusions and recommendations. Instead, the agency utilizes largely internal, non-peer reviewed, non-scientific sources to dismiss the recommendations of accredited scientific experts in the applicable fields of forest restoration, functioning, biodiversity, and native species populations and habitat. As alternatives clearly exist whereby the Ochoco LRMP would not need to be amended, and which have greater scientific consensus regarding efficacy and restoration potential, the agency's dismissal of other alternative actions violates the NEPA.

4. Violations of the Core Tenets of the NEPA

The FEIS and ROD violate the very core tenets of the NEPA:

1) Directing that actions not harm the environment: "NEPA, CEQ Regulation part 1500 - Purpose Policy and Mandate" "Sec. 1500.1 Purpose. (c) Ultimately, of course, it is not better documents, but better decision that count. NEPA's purpose is not to generate paperwork - even excellent paperwork - but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions **that protect, restore, and enhance the environment**. These regulations provide the direction to achieve this purpose."
2) Directing the agency to develop and analyze a reasonable range of alternatives that avoid or minimize environmental harms: "Sec. 1502
    - **a.** (e) Use the NEPA process **to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.**
    - **b.** (f) Use all practicable means, consistent with the requirements of the Act and other essential considerations of national policy, **to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment."**
3) More directions on the range of alternatives: "Sec. 1502.14 Alternatives including the proposed action. This section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment (Sec. 1502.15) and the Environmental Consequences (Sec. 1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. In this section agencies

shall: (a) **Rigorously explore and objectively evaluate all reasonable alternatives**, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."

4) And finally, the very core of NEPA - Congressional intent and directives to "prevent or eliminate damage to the environment" From "The National Environmental Policy Act of 1969; Purpose Sec. 2 [42 USC § 4321]. The purposes of this Act are:
    a. (a) To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality."
    b. (b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may –
        i. 1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
        ii. 2. assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
        iii. 3. attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
        iv. 4. preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;
        v. 5. achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
        vi. 6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.
    c. (c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment."

Clearly, the FEIS itself serves as perhaps the best evidence that the Ochoco National Forest East Maury Project fails to begin to meet these most basic NEPA requirements. The East Maury Project's contrived purpose and need, similar logging action alternatives, analysis failures, environmental harms, and failure to disclose and address significant scientific controversy and contravention to the selected and presented alternatives violate the most elemental requirements of the NEPA.

While the agency seems to believe – as stated by one regional official - that "NEPA doesn't require decision-makers to choose the best alternative, and instead only requires that impacts be addressed," –this perspective is clearly incorrect regarding NEPA's requirements to utilize sound purpose and need, expert advice and high quality science, develop a full range of reasonable alternatives that "take actions that protect, restore, and enhance the environment" (CEQ 1500 §1501.1(c)) and a host of other NEPA core directives that follow above regarding the development of reasonable alternatives that " identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions" to the final directive above about the responsibility "to contribute to the preservation and enhancement of the environment." Clearly the EIS fails the requirements of the NEPA, necessitating that this decision be withdrawn and project be revised in a new legally compliant SEIS

analysis process that develops a full range of environmentally beneficial, scientifically based, LRMP and legally compliant action alternatives.

5. Overly Narrow & Inconsistent Purpose & Need.

The primary Purpose the Forest Service has put forth is an incompatible mixture of scientifically controversial and unsubstantiated logging accompanied by a timber economics objective:

> "3. There is a need to provide wood products to contribute to the health of the local and regional economies consistent with Management Area and Forest-wide standards and guidelines (Forest Plan, pp. 4-31 to 4-32), as well as to provide opportunities for employment and income."

The lack of accurate scientific substantiation of purpose and need goals – however laudable these may sound at first reading, and more so, the inclusion of purpose and need 3 (above) violates the requirements of 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 type of action alternative will work. In this case, the Forest Service has drawn its purpose and need too narrowly, apparently in an attempt to limit the alternatives that will serve the 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 no action alternative, or to the development of forest plan legally compliant and scientifically-based restoration only and variable dbh/non-commercial logging action alternatives. Instead, all action alternatives presented are based upon the same agency selected scientifically controversial and deficient premise. Only two action alternatives are presented, both authorizing extensive similar logging and both requiring amendments to the eastside screens.

In Methow Valley Citizens Council v. Regional Forester, 833 F.2d 810, 815, rev'd in part, 490 U.S. 332 (1989) (internal citations omitted) the Court determined that the EIS was inadequate because it failed to examine all reasonable alternatives. The Court held that "the range of alternatives considered must be sufficient to permit a reasoned choice." Here, beyond the statutorily required "no action alternative," only two largely similar logging alternatives were developed and considered. These logging alternatives differ only by extent and focus of acres logged. They do not differ in substance concerning the action methods, scientifically controversial premise, logging impacts, changes to forest stand structure and wildlife habitat, or economic timber volume objectives. The Forest Service failed to consider other reasonable activities in violation of NEPA.

6. The FEIS Failed to Provide a Legally Compliant Range of Reasonable Scientifically-based Alternatives

The FEIS analysis failed to provide a reasonable range of alternatives that include scientifically and ecologically sound management proposals. The purpose and need was designed in such a way as to constrain alternatives and, in so doing, pre-determined the decision prior to NEPA analysis. EPIC v. USFS, No. 05-17093; D.C. No. CV-04-0175-GEB (stating that similar action alternatives do not meet the requirement of a reasonable range of alternatives and a narrow purpose and need statement is impermissible).

A basic requirement of NEPA is that federal agencies must consider a reasonable range of alternative actions in an EIS. 42 U.S.C. ß 4332(2)(c)(iii); 40 C.F.R. ß 1502.14; Bob Marshall Alliance v. Hodel, 852 F.2d 1223 (9th Cir. 1988), cert. denied, 489 U.S. 1066 (1988). The range of alternatives should "sharply [define] the issues and [provide] a clear basis for choice among options by the decision-maker and the public." Id.

Under NEPA, alternatives analysis must:

(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated. ...
(c) Include reasonable alternatives not within the jurisdiction of the lead agency.
40 C.F.R. ß 1502.14 (a) and (c). See California v. Block, 690 F.2d 753, 765-69 (9th Cir. 1982) (reversing EIS for failure to address reasonable range of alternatives); see also Muckleshoot Indian Tribe v. USFS, 177 F.3d 800 (9th Cir. 1999) (reversing EIS for failure to address reasonable range of alternatives).

The FEIS and resulting ROD ignore core NEPA requirements for an adequate range of alternatives by the improper use of purpose/need to limit alternatives. In this instance, by too narrowly defining the purpose and need for this project, in a manner that is at odds with the original purpose and need, constrains management direction prior to NEPA analysis and disclosure and circumvents NEPA requirements for objective evaluation of alternatives before decisions are made. These actions leave no room for NEPA requisite meaningful real alternatives. Instead the E. Maury FEIS and ROD represent a legally prohibited predetermined decision, based upon legally a deficient purpose and need, faulty analysis, and contrived conclusions.

The FEIS analysis failed to address inherent agency assumptions, inaccuracies, and scientific controversy to the above "purpose and need" objectives. Among these are:

- Where current deficiencies of large late and old forest structure exist across the landscape as a result of past logging, natural or human caused fires, fire suppression, livestock grazing, and other cumulative management actions, scientific research strongly recommendations against further commercially-focused logging and road building actions.
- There is a need to address the impacts of past and ongoing livestock grazing within the scope of this project, as these contributes directly to current deficiencies in hardwood plant species, dense overgrown stands of young conifers, presence of increased fire-prone brush and exotic invasive plants, compacted soils incapable of sufficient moisture retention, altered hydrological patterns, increased risk of severe fires, and impaired water quality.
- Current western juniper levels and extent may likely be well-within natural cycles of juniper expansion and contraction, albeit influenced somewhat as the result of unnatural processes, including logging of conifer and/or hardwood species, grazing, fire suppression, etc. Thinning and removal plans must incorporate accurate research on this overall long-term issue.
- Project area specific past centuries fire history (occurrences, suppression effectiveness/incidences, and fire causes) and variations in the area's natural fire frequency patterns for project forest stands. Consequently the project as marked failed to incorporate accurately how these patterns vary dependent upon elevation, moisture patterns and hydrology, and forest stand Plant Association Groups across project area forests.
- That current fuel levels in certain project areas are within natural variable fluctuations for the area forest's Plant Association Groups. For example, mixed conifer upper elevation forests tend to burn less frequently, with natural accumulations of dead woody materials and growing stand density over time between longer periods of recurrent mixed fire severity cycles. Pine dominated PAGs however, generally have more frequent recurrent fires and less build up of woody debris and understory vegetation. It is important that project planning be tailored to fit, rather than change, natural ecological processes and functioning.
- There exists no legal requirement nor ecologically or scientifically defensible "purpose and need" to "provide wood products for public needs and to contribute to the health of local and regional

economies through opportunities of employment and income." This objective does not properly belong within the project's purpose and need statement. Its inclusion herein violates the clear requirements of the NEPA, as well as a host of court decisions spanning the past two-decades or more. This inclusion predisposes the project's developed alternatives and eventual decision towards an economically based logging outcome, which is illegal under the requirements of the NEPA. Even though we supplied the agency with pertinent legal citations and clear rationale for dropping this P&N statement from the project FEIS and ROD, and requested the agency develop additional science-based action alternatives, the agency instead chose to ignore these legal requirements and scientific recommendations in its legally fatally-flawed ROD and EIS. This is not to say that there can be no commercial volume outcome from this or other projects however. To the extent that the other scientifically founded credible ecological goals can be met, in addition to providing for the wildlife viability requirements of the NFMA and to protecting natural resource concerns including ecological functioning, aquatic species, and water quality can also be met, it may be that there could be wood products in addition to non-extractive resource restoration "employment and income" resulting from the proposed project. However, such economic objectives must be limited by ecological needs, and prevented from unduly influencing or directing project design and development. As such, as per legal rulings and NEPA requirements, there is no legally or ethically tenable basis for the inclusion of purpose and need 3.

7. The FEIS Analysis and ROD Failed the Requirements of the NEPA

The following was submitted as part of our extensive comments on this project. The issues raised below are based upon scientific research, legal requirements, and management actions and concerns appropriate for inclusion within vegetation and fuels reduction projects. The agency largely chose to ignore or inadequately/inaccurately address much of the following within the FEIS and ROD for this project:

1. When conducting commercial thinning projects take the opportunity to implement **other critical aspects of watershed restoration** especially reducing the impacts of the road system and livestock grazing and establishing the ecological processes that will allow streams and fire regimes to recover.
2. Try to **restore ecological *processes*** that can be self-sustaining; don't just restore forest *structure* which requires continuous expenditure of money and effort to maintain. Reed F Noss, Jerry F Franklin, William L Baker, Tania Schoennagel, and Peter B Moyle. 2006. Managing fire-prone forests in the western United States. Front Ecol Environ 2006; 4(9): 481–487. http://spot.colorado.edu/~schoenna/images/Nossetal2006Frontiers.pdf

3. **Don't let logging economics determine restoration priorities**. If we restore primarily those areas that have commercial sized logs and fail to treat the thousands of acres of areas lacking economic return, we will not be accomplishing real restoration which requires carefully and strategically choosing the subset of the landscape that can be treated to provide the greatest gain (both ecological and fire hazard reduction) for the least ecological "cost" in terms of soil, water, wildlife, and weeds. Allowing economics to drive these choices will result in greater ecological impacts and lower ecological gains. The NEPA analysis must honestly disclose what "needs" treatment vs. what is actually being proposed so the public can see what's being sacrificed.
4. **Use the historic/natural range of variability as a guide**, but don't just focus on seral stage. Consider also the historic abundance of ecological attributes like large trees, large snags, roadless areas, etc. all of which have been severely reduced from historic norms.
5. New evidence indicates that far more of the "dry" forests, rather than being typified low severity fire regimes, were in fact dominated by **mixed severity fire regimes** (including significant areas

of stand replacing fire), so mixed severity fire is an important part of the historic range of variability that should be restored. The goal should not be a uniform low severity fire regime, but rather a wide mix of tree densities in patches of varying sizes. This objective can often be met by allowing natural fire regimes to operate, or by leaving significant areas untreated when planning fuel reduction projects.

6. **Prioritize restoration management in dry forest types** at low elevation and on south slopes. Actions in the wildland urban interface may also be a priority, but don't define the WUI too broadly, because fire hazard can be reduced by focused management actions in the area immediately adjacent to structures and this home ignition zone is usually on no-federal lands. Management in forests with naturally mixed-severity fire regimes should be carefully scrutinized to ensure those areas are really outside of the natural HRV and that restorative actions are appropriate. Management actions in mixed severity fire regime areas should be minimized, concentrating on transition zones with dry forest and open areas, allowing interior forests to be left ecologically intact, with natural stand patchy patterns and structure, including sufficient wildlife snags and large dead wood.
7. **Prioritize actions in unnaturally dense young stands** that are most "plastic" and amenable to restoration. Another priority is to carefully plan and narrowly target management to protect specific groves of fire-resistant, old-growth trees that are threatened by ingrowth of small fuels, but don't focus on rigid density reduction targets. Leave all medium and large trees that show old-growth characteristics.
8. **Thin from below**, retaining all trees with mature and old growth characteristics regardless of size, and retaining the largest of the maturing younger trees, or use a variable diameter cap (such as 8" up to 14/16" maximum) so that some trees of all size classes among maturing trees are retained to provide essential wildlife habitat, and become future old growth. Retain all large trees and most medium sized trees so they can recruit into the larger classes of trees and snags. Regardless of size, **retain all trees with old-growth characteristics** such as thick bark, yellowing bark, flat top, asymmetric crown, broken top, forked top, etc. These trees have important habitat value and human values regardless whether they are 21" dbh. Allow natural processes of succession and mortality turn some of these medium and large trees into ecologically valuable snags and down wood.
9. **Diameter limits are an ecologically appropriate and scientifically recommended tool** in restoring forest resiliency and integrity. Economic myopia must not trump ecological science. Both the scientific community and the public appreciate diameter limits as these provide measurable accountability and habitat assurances for adequately maintaining native species biodiversity. In establishing variable limits, these can be species specific as well. It can be appropriate, depending upon HRV stand compositions, to use lower diameter limits for fire resistant species (8" to 12," etc.), and higher limits for fire intolerant species (10" to 14/16," etc.). The exceptional circumstances in which diameter caps allegedly don't work, are more rare than the circumstances in which alternative techniques will lead to unintended consequences, including lack of public trust.[1] Where these allegedly exist, they should be verified with appropriate site-

[1] The Deschutes National Forest used a sensible approach on the Lava Cast Project using a 21" diameter cap for lodgepole, 18" diameter cap for white fir, a 16" diameter cap for Ponderosa pine where the average diameter is the stand is below 12", and 18" diameter cap for Ponderosa pine where the average diameter of the stand is larger than 12 inches. Lava Cast DN. Feb 2007. Similarly, the Ochoco NF employed variable diameter limits as well as basal area targets, to better address providing for wildlife habitat needs and forest stand structure and ecological integrity, in their appeal-modified Spears Project and the Willow Pine project. Other regional projects employing variable diameter limits include BLM's La Pine project (16" and 18" diameter limits), Ochoco's Snowshoe Fuels (12" diameter limit), among others. Other regional eastside projects have adopted provisions retaining all trees with mature and old characteristics regardless of diameter.

specific disclosures and substantiating scientific research, taking care to also disclose contradictory or scientifically controversial recommendations and studies.

10. Recognize that **thinning affects fire hazard in complex ways**. Scientific research has clearly documented that commercial logging thinning can actually increase – rather than lessen - fire hazards because thinning: creates slash; moves fine fuels from the canopy to the ground (increasing their availability for combustion); thinning increases ignition risk; thinning makes the forest hotter, dryer, and windier; and makes site resources available that could stimulate the growth of future surface and ladder fuels; trees begin to achieve fire resistance with age, increased radial growth, increased branch height above the forest floor and understory/adjacent vegetation, and increased bark thickness. Trees above 8" diameter begin exhibiting some of these inherent fire resistant characteristics, and by 12" dbh many species of eastside region conifer trees are inherently fire resistant and resilient. Thinning that removes fire resistant maturing and older trees actually increases fire risk, as these missing trees are soon replaced by more fire-susceptible brush, vegetation (including invasive exotic plants), and small diameter trees. Fuel reduction must be based upon site-specific stand ecological needs and substantiating credible/non-controversial science. It must find the appropriate ecological range of balance, removing enough of the small surface and ladder fuels while retaining enough of the medium and large trees to maintain canopy cover for purposes of microclimate, habitat, hydrology, suppression of ingrowth, etc.
11. There is growing evidence that in order to be effective, **mechanical treatments must be followed by controlled fire**. But the effects of such fires must also be carefully considered. Again, minimizing acres treated strategically to edge areas, limited WUIs, and appropriate frequent low severity fire seral species/plant association groups; while leaving interior and mixed conifer mixed severity fire forests to natural processes, including natural fire cycles and patterns, ecologically is the best management method in the long-term.
12. Where thinning may be appropriate, don't thin to uniform spacing. **Use variable density thinning techniques** to establish a variety of microhabitats, break up fuel continuity, create discontinuities to mimic natural influences that may disrupt the spread of other contagious disturbances such as disease, bugs, weeds, fire, etc. Retain patchy clumps of trees, which is the natural pattern for many species.
13. Use scientific research and knowledge of wildlife habitat needs and site-specific natural HRV patterns to **establish diversity and complexity** both within and between stands. "Gappy and clumpy" is often use to describe the distribution of trees in dry forests. Use skips and gaps within units to help achieve diversity. Gaps should be small, while skips should be a little larger. Landings do not make good gaps because they are clearcut, highly compacted and disturbed, more likely subject to repeated disturbance, and directly associated with roads (these should be minimized). Gaps should be located away from roads and should not be clearcut but rather should retain some residual structure in the form of live or dead trees.
14. Thin heavy enough to stimulate development of some patches of understory vegetation, but don't thin so heavy that future development of the understory becomes a more significant fuel problem than the one being addressed by the current project.
15. The **scale of patches** in variable density thinning regimes is important. Ideally variability should be implemented at numerous scales ranging from small to large, including: the scale of tree fall events; pockets of variably contagious disturbance from insects, disease, and mixed-severity fire; soil-property heterogeneity; topographic discontinuities; the imprint of natural historical events; etc.

16. **Retain and protect under-represented species of conifer and non-conifer trees and shrubs**. Retain patches of dense young stands as wildlife cover and pools for recruitment of future forests.
17. Recognize **that thinning captures mortality** and that most previously logged stands are already lacking critical values from standing large snags and large downed dead wood due to the unnatural stand history of all logged and planted stands.[2]
18. **Retain abundant snags and course wood** and green trees for future recruitment of snags and wood. Retention should be both distributed and in clumps so that thinning mimics natural disturbance. Retention of dead wood should generally be proportional to the intensity of the thinning, e.g., heavy thinning should leave behind more snags not less. Retain wildlife trees such as hollows, forked tops, broken tops, leaning trees, etc. Mistletoe, beetle, and root rot affected mature and old trees provide valuable wildlife habitat and should be retained.
19. If using techniques such as whole tree yarding or yarding with tops attached to control fuels, the agency should top a portion of the trees and leave the greens in the forest in order to **retain nutrients on site**.
20. **Avoid impacts to raptor nests and enhance habitat for diverse prey species**. Train marking crews and cutting crews to look up and avoid cutting trees with nests of any sort and trees with defects.
21. **Avoid harmful impacts to wildlife habitat** including squirrel middens and burrowing mammals often located under large downed trees. Care should be taken during project implementation, especially including controlled burns, to avoid harms to these important habitat features and prey species populations.
22. Take proactive steps to **avoid the spread of exotic invasive plants**. Avoid and minimize soil disturbance and harmful disturbance to native plant species. Retain canopy cover and native ground cover to prevent the introduction and spread of invasive plants.
23. **Do not commercially log within Riparian Habitat Conservation Areas, and buffer zones along waterways, etc. Only light, limited strategically and ecologically appropriate non-commercial thinning should be conducted in these areas. In areas where RHCA thinning is done: buffer streams** from the effects of thinning equipment. Avoid the loss of bank trees and trees that shade streams. Mitigate for the loss of LWD input by retaining extra snags and wood in riparian areas. No trees above 8" to 10" – with limited scientifically substantiated exceptions – should be felled and removed from RHCAs. Recognize that thinning captures mortality that is not necessarily compensated by future growth.[3]
24. **Protect soils** by avoiding road construction, minimizing ground-based logging, and avoiding numerous large burn piles.
25. Acknowledge and consider the following **potentially significant issues** in the NEPA analysis:

[2] Tom Spies made some useful observations in the Northwest Forest Plan Monitoring Synthesis Report: "Certainly, the growth of trees into larger diameter classes will increase as stand density declines (Tappeiner and others 1997). At some point, however, the effect of thinning on tree diameter growth levels off and, if thinning is too heavy, the density of large trees later in succession may be eventually be lower than what is observed in current old-growth stands. In some cases, opening the stand up too much can also create a dense layer of regeneration that could become a relatively homogenous and dominating stratum in the stand. Furthermore, if residual densities are too low, the production of dead trees may be reduced (Garman and others 2003). Thinning should allow for future mortality in the canopy trees." http://www.reo.gov/monitoring/10yr-report/documents/synthesis-reports/index.html

[3] "[T]he data have not supported early expectations of 'bonus' volume from thinned stands compared with unthinned. … [T]hinnings that are late or heavy can actually decrease harvest volume considerably." Talbert and Marshall. 2005. Plantation Productivity in the Douglas-fir Region Under Intensive Silvicultural Practices: Results From Research And Operations. Journal of Forestry. March 2005. pp 65-70. *citing* Curtis and Marshall.

a. Removing commercial sized logs, and associated roads and slash disposal, often conflicts with other resource values such as soil, water, weeds, wildlife habitat, fire hazard, and carbon storage;

b. Removal of commercial sized logs can make the stand hotter, dryer, and windier, making fire hazard worse instead of better;

c. Commercial logging tends to present significant risks of weed infestations because of soil disturbance and canopy reduction;

d. Removal of commercial logs necessitates road related impacts on soil and water resources. Machine piling and pile burning tend to cause significant adverse impacts on soil and water, especially when combined with road impacts and other logging disturbances.

e. "Capturing mortality" reduces future snag habitat that is already deficient. Increasing vigor via thinning delays recruitment of snag habitat that is already deficient;

f. The unavoidable adverse impacts of logging and roads must be balanced against the rather uncertain benefits of fuel reduction. There is actually a very low probability that moderate intensity fire will affect any given stand during the relatively brief time period that fuel reduction is alleged to be reduced. Fuel reduction has little or no beneficial effect on low severity fires (controlled by favorable weather conditions) or on high severity fires (controlled by unfavorable weather conditions).

g. Forest "health thinning" is scientifically controversial at best, recommended in only historic low severity fire regime areas and PAGs, and involves the many interwoven complexities of natural forest ecosystems, with their many feedback loops. There is still a fair amount of scientific uncertainty about several critical factors relevant to a decision about fuel reduction, including: (A) uncertain rates of tree mortality and how many young trees need to be retained to ensure proper recruitment of future stands of old trees and large snags; (B) uncertainty about how much the canopy can be reduced without making the stand hotter, dryer, and windier (and exacerbating fire hazard); (C) uncertainty whether logging has any significant beneficial effect on controlling insects and diseases like mistletoe. In addressing these latter inherent forest components, nature has developed time-proven checks and balances. Insects and diseases are integral to forest ecosystems, fluctuating in complex patterns that may be at times cyclic, widespread, or localized. Their roles must be respected and provided for, allowing natural processes to take precedent over scientifically unfounded or controversial management proposals.

The above list notes additional areas of FEIS analysis deficiencies and failures to incorporate or objectively disclose scientific recommendations. Appellants' organizations request this project be withdrawn, and a new legally compliant comprehensive EIS analysis process initiated for this project.

8. Roads, Soils, and Native Species Vegetation

Given the failure of the area to meet LRMP standards for road density, road maintenance, and riparian systems water quality and waterways; no new or temporary roads may legally be constructed for

this project. The FEIS ROD modified alternative 2 states that new road construction of 5.7 miles, road reconstruction of 14.9 miles, and only 2.5 miles of decommissioning is planned in this overly roaded degraded project area watershed. The decision must be withdrawn and a new EIS or SEIS to be developed which eliminates all new and so-called "temporary" road construction, except where a road may replace and ecologically damaging current road (which is then restored to natural conditions). The new SEIS must also incorporate reducing area road densities to within LRMP standards. The SEIS must address decommissioning excess and intrusive roads within the planning area.

Additionally, the FEIS and ROD fail to adequately or responsibly address: firewood theft; OHV use, trespass and abuse; and existing sedimentation harms from area roads to waterways, native vegetation, and wildlife. All roads "temporary" or otherwise channelize water, cause erosion and sedimentation, conduct invasive weeds, fragment habitat, alter hydrological patterns, increase fire severity risks, increase OHV use and abuse, and remain as scars on the landscape even when closed and recontoured for hundreds of years. In short, there is no such thing as a "temporary" or ecologically benign road.

> "Nothing is worse for sensitive wildlife than a road. Over the last few decades, studies in a variety of terrestrial and aquatic ecosystems have demonstrated that many of the most pervasive threats to biological diversity - habitat destruction and fragmentation, edge effects, exotic species invasions, pollution, and over hunting - are aggravated by roads. Roads have been implicated as mortality sinks for animals ranging from snakes to wolves; as displacement factors affecting animal distribution and movement patterns; as population fragmenting factors; as sources of sediments that clog streams and destroy fisheries; as sources of deleterious edge effects; and as access corridors that encourage development, logging and poaching of rare plants and animals. Road-building in National Forests and other public lands threatens the existence of de facto wilderness and the species that depend on wilderness."

(Noss, Reed; The Ecological Effects of Roads; http://www.wildrockies.org/WildCPR/reports/ECO-EFFECTS-ROADS.html)

The FEIS and ROD fail to adequately evaluate and disclose the full extent of soil degradation from the project, and as a result project implementation will cause significant harm to are soils and forest vegetation. Surveys by Appellants of the nearby West Maury project have documented extensive irreparable damage to area soils and native forest vegetation from logging actions. E. Maury is expected to result in similar widespread illegal harms to the area's forest soils and native species vegetation.

The FEIS and ROD failed to sufficiently and accurately address and disclose the full extent of existing invasive plant sites, potential for increased spread and new introductions of invasive exotics, and the full cumulative extent of soil disturbance from project logging, yarding, burning, non-commercial thinning, past, current and future projects in and near the area, livestock grazing, potential wildfires, and ongoing and potentially increased OHV use. Given the full extent of harmful cumulative impacts upon the area's forests, wildlife, fish, plants, and waterways, it is highly likely that this project will have significant adverse harms, rather than benefit to, the area's forest "health." In other words, ecologically chainsaws and bulldozers make very poor "doctors," and most of the forest health and fuels reduction claims made within the FEIS have been discredited by sound scientific research. Additional road construction and road reconstruction is simply not justified by the purported objectives of this primarily timber board foot volume project unduly disguised as a "restoration" thinning effort. Ground-based logging that allows heavy equipment into interior forest areas/off of roads will cause significant soil disturbance that will not be offset by any intended benefits to the vegetation.

9. Unresolved analysis deficiencies and impacts issues concerning prescribed burning

In appropriate instances and with due care, we generally support prescribed fire as a fuel management technique. However, fire management must be carefully planned to minimize effects on wildlife, soil, site productivity, and large trees, down woody debris, and snags. Fall burning should be considered because that is when nature would have done most of the burning. The effects of spring burning on the life-cycles of plants and wildlife must be fully considered in the NEPA process. Arthur R. Tiedemann, James O. Klemmedson, Evelyn L. Bull[4] recently suggested:

…that a broader array of resource questions be considered before prescribed burning is implemented. We think the objectives of prescribed burning must be clearly defined and realistic estimates stated for out- comes for all affected resources. If the objective is to restore forest health, then we suggest that forest productivity, wildlife, biodiversity, and other resources and values are as much a part of the forest health equation as are the structure of a forest stand and its tolerance to fire. Thus, management aimed at returning forests to an open, seral condition should be carefully evaluated from the perspective of all the key resources and values.

* * *

A primary concern whenever prescribed fire is used in forest management is loss of nutrients and impaired site productivity. …If sites are harvested and residues are burned, not only will nutrients removed in trees be lost, but also —potentially— much of the nutrient pool in slash and forest floor, depending on burning conditions. Thus, the potential to adversely affect long-term site productivity is always present.

Prescribed burning can be used effectively to accomplish goals of fuels reduction and habitat or historic vegetation restoration, but it can also have unintended effects such as large tree mortality. In the event of unintended mortality in a prescribed fire project area, the trees should be left to provide important wildlife habitat.

10. Timber Volume Targets Driving NW Timber Sales

Over the past years, conservation efforts have achieved many negotiated changes, upholding federal laws and limiting timber sales to protect old growth, forest ecosystems, wildlife, and fish. Recently negotiation attempts have hit agency walls. Many Forest Service staff across the region privately complain they are being pressured to meet new timber quotas, and no longer have the ability to modify timber sales to lessen harms to wildlife, salmon, and other important ecological concerns. Recently, the region's Forester wrote the following internal agency letter (included *italicized* in full below), confirming the existence of board foot volume targets driving the region's timber sales.

While the agency may believe it has this discretion, continuing to issue timber sale "purpose and need" statements and analysis documents that fail to publicly disclose timber volumes are a major purpose behind the region's projects violates environmental policy laws. NEPA requires that the public as well as the decision-maker have all pertinent information concerning proposed projects. The failure of the EIS to disclose the existence of Pacific Northwest Regional and Ochoco NF, Lookout Mountains Ranger District timber volume target quotas driving agency projects and influencing the design and selection of alternatives violates the clear disclosure requirements of the NEPA. Additionally, NEPA requires unbiased, scientifically-based, objective analysis and a full range of reasonable scientifically-sound alternatives. The existence of undisclosed quotas unduly influencing this project towards meeting predetermined agency timber volume targets violates the requirements of the NEPA. Quotas sabotage

[4] Tiedemann, A.R., Klemmedson, J. O., and Evelyn L. Bull, *Solution of forest health problems with prescribed Fire: Are forest productivity and wildlife at risk?*, Forest Ecology and Management 127 (2000) 1±18 3, http://147.46.94.112/forestfire/f14_20001271301.pdf

agency projects, illegally predisposing agency analysis towards developing logging-biased alternatives, and predisposing decision-makers towards approving logging that is likely to result in significant harms to imperiled wildlife and biodiverse forest ecosystems. Such is the case with the E. Maury project, which fails to disclose the existence or influence of quotas.

Written in "obfuscate-speak" style, one doesn't have to work hard to read between the lines of this internal letter to understand timber corporation economics trump wildlife and ecological concerns in today's Pacific Northwest Region Forest Service.

Among the ever-growing ranks of harmful sales spawned by timber quotas are: 5 Buttes, Sno-fuels, GW, SAFR, W. Tumbull, and Black Crater in the Deschutes; East Maury and Spears in the Ochoco; Thorn, Knox, Sharps Ridge, and Ant in the Malheur; and Wildcat, Falls Meadowbrook, Farley, Monument, Skull & Flat in the Umatilla. Together these and other sales total many thousands of acres and millions of board feet. The logging they plan to implement would harm wildlife and salmonid spawning habitat, destroy spotted owl nesting habitat; harm pileated, black-backed, and white-headed woodpeckers; degrade habitat for marten; wolverine; lynx; neotropical migrant and native birds; pygmy, flammulated, and great gray owls; and many other biodiverse native species of concern.

It is doubly ironic that this is done under Northwest Forest Plan cover – prioritizing timber volume goals above others. The plan has failed dismally to meet population recovery and old growth habitat protection goals for spotted owls and other wildlife, whose populations continue to decline steadily. As noted in the letter, eastside forests are expected to meet westside NFP timber targets – jeopardizing eastside wildlife and forests as well. This latter is illegal, as eastside volume must be based upon LRMPs and site-specific project analysis, not westside timber volume targets which have no relevance or legal bearing on eastside national forests. The agency's blanket requirement of the region's forests to meet arbitrary timber targets violates federal environmental policy laws. Failure to disclose and analyze the impacts of this additional timber directive violates the NEPA. The following is the timber quota letter announcing the increased timber quotas in the Pacific Northwest Regional Forester's own words:

"Linda Goodman - Regional Forester, Pacific Northwest Region:"

"As we get older, we accumulate things. Sometimes our closets show our life story by the old shirts, slacks or shoes that "hang out" in them. And sometimes, we face the need to downsize our closets and find the usable items that may have benefit to others. We often provide clothes, appliances and other useful items for the greater good of others.

Sometimes, our forests resemble those closets—a bit cluttered and in need of "tidying up." This tidying up not only aids the environment by creating a healthier forest, it also can provide benefits to our local communities.

It takes money and time to do this. For a long time, we have known we didn't have the funds to get this work done. That has changed.

The President and Congress have given us an additional 24.7 million dollars to use for our fuels management and timber program. These dollars come with an expectation for us to increase our timber volume for the Northwest Forest Plan and also the east-side Forests.

We're going to increase our timber offered program to 675 million board feet this year, and 800 million board feet in fiscal year 2008. That is up from 520 million board feet last year. We're going to do this in both young and mature stands to accelerate growth, reduce hazardous fuels, and improve wildlife habitat. This work will help us fulfill the requirements of the Northwest Forest Plan.

One of the key provisions of the Northwest Forest Plan is to provide economic stability to local communities. Unfortunately, due to a host of factors, the local communities have not seen the stability as envisioned by the Plan. By offering an increased volume of timber, local communities will benefit, both in terms of jobs, revenue, and healthy forests.

I realize this work, so late in the fiscal year, won't be easy, and will require a united approach to handle the work. I've appointed Willamette National Forest Supervisor Dallas Emch to spearhead our efforts. Dallas will be working with Forests to make sure we can get the work done in a timely and efficient manner. We know you already had a full schedule of work so we want to look at a full range of options to assist employees in meeting our work. Our goal remains to do this work in a collaborative effort, with counties, partners and citizens all working together for the good of the land and the people

"Tidying up" our forests and providing benefits to local communities makes good sense."

Interesting letter, for interesting times? Yet forests are not "closets." Forests are an integral part of Earth's interwoven ecosystems, supporting innumerable biodiverse species, supplying clean waters, and providing all with the wondrous beauty of untrammeled nature. Forests should not be subject to the political wiles of corporate timber, which has already imperiled not only spotted owls but numerous other LOS dependent wildlife and salmonid species, decimated old growth, and left forest ecosystems in fragmented tatters. We respectfully call for these Northwest Forest Plan dollars to be employed for legitimate restoration, forest protection, and recovery of imperiled species – and not used to toss more irreplaceable trees into the black hole of insatiable timber profits. The agency must begin to responsibly address the failure of Northwest Forest Plan provisions to prevent the continuing serious decline of ESA threatened-listed spotted owls, and a host of other imperiled forest species of concern. The agency must also comply with scientifically founded management directions for eastside forest projects, assuring the attainment of population, habitat, and viability goals for eastside imperiled species. A scientifically and ecologically sound restoration project needs to be designed for the E. Maury project area, and the current illegal EIS logging plan withdrawn.

11. Additional Fire and Logging Analysis Issues, Impacts, and Deficiencies

The FEIS project calls for a great deal of prescribed burning in the planning area. Appellants do not dispute the fact that fire is an important part of the ecosystem in eastside forests. However, Appellants do question the necessity of burning such an extensive area of land, some of which does not exhibit a high level of fuel loading, or historically was not subjected to frequent low severity fires. The project area comprises a diverse mosaic of forest stands, including high elevation moist forest conditions not subject to frequent fire intervals. Appellants have several concerns:

First, as opposed to the EIS – which contains little site-specific disclosure of the level of fuels in each project unit proposed for treatment – the Appellants have gathered data from field surveys that conclusively demonstrate that there is a *low to moderate* level of fuel loading in some units. Surveys by appellants throughout the project area also have found evidence that fire has occurred in some of the unit areas in the past decades—despite agency insinuation that fire has been absent. Some areas with notably high fuel loads exist, with many of these areas having been subject to understory thinning and/or commercial logging where woody debris and logging slash was left in the forest, and where windthrow has increased due consequent to increased forest structural vulnerability from past logging created openings. The EIS fails to adequately and accurately address the area's fire history. It also fails to adequately disclose or incorporate scientific research noting that fuels reduction thinning in mixed conifer forests is ineffective and largely inappropriate.

The Forest Service uses dubious fire modeling assumptions to claim that commercial logging can accomplish fuels reduction goals. The EIS fails to give a scientifically adequate explanation of how mechanical fuels treatment can reduce the risk of fire. (Morrison and Smith, 2005; Veblen 2003; Carey and Schumann, 2003.) The Forest Service must analyze an alternative that will eliminate commercial logging and all fuels treatment in mixed fire severity LOS areas where it is not based in sound ecological

principles, as this is reasonably within the stated purpose and need of the project. The selected alternative significantly degrades multi-storied LOS mixed fire severity forests, harming the habitat of interior forest species that the Eastside Screens, NFMA, and other agency "regional species of concern" directives are intended to protect. The Forest Service selected alternative fails to protect pileated, goshawk, marten, neotropical migrant and native forest dependent birds, Columbia spotted frog, and other interior forest species of concern. To the Forest Service apparently it is acceptable that multi-storied LOS habitat is being degraded, diminished below LRMP HRV level standards. However, the effects to interior forest dependent species of concern under this project are immediate and certain, while the risks (fire and disease) the project is attempting to avoid are distant, hypothetical, and scientifically unsupported in mixed severity fire LOS forest ecosystems. The Forest Service must disclose and address these issues, and develop alternatives that would not degrade multi-storied LOS forests below HRV levels, and would not require forest plan amendments, as NEPA requires it to do. 50 C.F.R. 1500.2(e).

Natural processes are always in dynamic continuum in forest wildlands. The forests of the project area are not static, and represent a complex mosaic of differing conditions. Some areas have received little or no previous disturbance, yet some of these are included within logging units, in contravention to scientific recommendations. The EIS fails to disclose or address this issue. Undisturbed mature forests require little or no restoration. (Baker et al,) Passive restoration is the best way to return forests back to the condition first perceived by the European settlers. (McIver and Starr, 2001) At a minimum, the Forest Service must withdraw this decision, developing a SEIS that presents alternatives that would exclude higher elevation multi-storied mixed conifer, mixed fire severity LOS forests from active logging and ecologically inappropriate forest management activities, protecting and retaining recovering multistoried LOS HRV levels and the many wildlife species dependent upon this habitat.

Second, the EIS fails to adequately address the direct, indirect, and cumulative impacts from this and other burning projects in and adjacent to the planning area. Adverse impacts to numerous biodiverse native species, and impacts to soil, water quality, and hydrology, as well as impacts to mature and old growth trees as a result of burning a large portion of the watershed - all are not reasonably addressed. This serious oversight violates the National Environmental Policy Act (NEPA) regulations, which requires a direct, indirect, and cumulative impacts analysis in each. As a result this project could have harmful likely and unforeseen repercussions to wildlife, aquatic species and watersystems, and LOS forest structure antithetical to the purpose and need goals quoted above. Similar widespread burning beneath old growth trees later witnessed increased patches of old growth tree mortality in sections of the project area, and in other similarly burned old forest areas. Harm to tree roots, and inner cambium layers, while not always resulting in direct tree mortality, is known to increase affected tree susceptibility to insect mortality, particularly bark beetles. As this is a suspected contributing cause to the loss of LOS structure in the region's forests, and as maintaining and increasing LOS structure is a major purported purpose and need of this project, this should have been disclosed and addressed in this EIS. This inadequacy violates the NEPA, and is in contravention to the purpose and need for this project.

12. The FEIS and ROD are Based Upon Inadequate Science

The NEPA regulations require the Forest Service to "insure the professional integrity, including scientific integrity, of the discussions and analyses" in the NEPA documents that it prepares. 40 C.F.R. § 1502.24. Furthermore, the Forest Service must disclose the extent to which the impact of the proposed action is scientifically controversial. See id. §§ 1508.27(b)(4), 1508.27(b)(5).

A. Purpose and Need is Not Based on Best Available Science and is Scientifically Controversial

The E. Maury Project plans to "reduce fuel loadings" through commercial logging and mechanical fuels treatments to protect habitat. However, the mechanical fuels treatments would actually degrade and destroy habitat in the present. The planning area includes diverse stands of forest that are green, healthy and thriving. The project area is home to a diverse array of species, many of which depend upon complex interior forest. The Forest Service's proposal would adversely impact numerous interior wildlife species and fails to be based upon, incorporate, disclose, or address the best available wildlife science. As such, the agency's decision and analysis violates the NEPA and fails to comport with the recommendations of ecological science.

The Forest Service fails to adequately address the adverse impacts of this project to numerous interior forest wildlife species, and fails to fully disclose or assess scientific research recommendations and conclusions pertinent to species of concern in the project area. Similarly, the FEIS also fails to present science showing that wildlife habitat and biodiversity is benefited in the future by destroying habitat in the present. To the Forest Service, the theoretical risks of fire, insects, and other disturbances are apparently as great as the actual impact of logging. Where is the science to support this hypothesis? The Forest Service's plan to protect forest habitat within late and old-structured stands and enhance the growth of future large trees, is to degrade healthy functioning green forest habitat by logging it. Given the many known scientifically established adverse impacts of logging upon forest ecosystems and biodiverse forest species, the agency's planned action is inherently antithetical to its stated purpose.

The E. Maury Project would "convert" hundreds of acres of multi-strata LOS to single-strata LOS. These forests would no longer function as nesting and adequate connective habitat for pileated and other interior LOS species of concern currently utilizing them. Clearly, "converting" multi-storied LOS to single strata LOS is not in the best interests of many interior old growth species of concern, many of which have declining population trends that would be further exacerbated by this project, in violation of the NEPA. The Forest Service does not provide any credible science showing that destroying pileated, goshawk, and other interior forest species of concern's habitat in the present benefits them in the future. Without protection today, as deemed necessary by the Eastside Scientific Society Panel and mandated by the Eastside Screens, the future viability of interior LOS forest dependent species is absolutely uncertain at best, and likely significantly jeopardized if this pattern continues to be repeated by the agency (as the increased logging quotas call warning to). In light of past and continuing scientific information revealing the continuing declining population trends for many interior forest LOS species of concern, the Forest Service has made a very risky and unlawful decision that will likely further stress these populations in the present, and continue to do so over the ensuing years as the forest slowly recovers from logging impacts and stand conversions.

B. Plan for Reducing Fire Risk does not use the Best Available Science and is Scientifically Controversial

There is ample scientific controversy about whether mechanical fuels treatment reduces fire risk. Mature, old growth stands have dense, moist interiors and little wind, which inhibit the spread of wildfire. (Morrison and Smith, 2005; Rhodes, 2007) Fuels treatments that reduce stand density and open up the forest actually enhance fire spread, as fire moves more readily through an open environment. (Morrison and Smith, 2005; Rhodes, 2007) An opened forest allows fuels to dry out faster and winds to blow through the stand. (Morrison and Smith 2005; Rhodes, 2007) Thinning the understory is more effective at reducing fire risk than thinning the overstory (as noted in particular contravention to Spears plans to reduce multi-story rather than understory structure). (Carey and Schumann, 2003) Complex and varied canopies may actually prevent the spread of wildfire better than dense, young, single-storied canopies. (Morrison and Smith, 2005) The Forest Service plan to disturb the canopy and interior forest conditions

of multi-storied LOS forests is not based in the best available science. "Although the assertion is frequently made that reducing tree density can reduce wildfire hazard, the scientific literature provides tenuous support for this hypothesis." (Carey and Schumann, 2003, page 14). The Forest Service is at least required to discuss this very lively scientific controversy about the role of mechanical fuels treatment in reducing the risk of fire in the E. Maury EIS.

There is no scientific support to show that commercial thinning reduces fire risk. (Carey and Schumann, 2003) Despite the stated intention to protect habitat, the E. Maury Project focuses more heavily on commercial logging than it does on "fuels treatments." Commercial thinning is especially controversial when diameter limits permit the cutting of mature old trees up to 21" diameter, many of which can be quite old and have survived recurrent past fires. Science overwhelmingly concludes that cutting fire resistant trees does not reduce the risk of fire and actually can contribute to more intense fires. (Brown et al 2004; Carey and Schumann, 2003; Noss et al, 2006; Rhodes, 2007; Morrison and Smith, 2005; Baker et al, 2006) An undisclosed % of the trees to be logged in this project will be over 12" diameter, a point at which most science notes they are more inherently fire resistant (some studies indicate that fire resistance begins at about 6" diameter and increases with girth, height, and age. The Forest Service decision indicates that *commercial logging* of trees *up to 21" dbh* is the only way to reduce the risk of fire in the planning area. The Forest Service does not need to cut trees up to 21" DBH to reduce fire risk, and the Service's decision to cut so many mature fire-resistant trees does not utilize the best available science. The E. Maury EIS failed to "disclose[s] the extent to which the impact of the proposed action is scientifically controversial," regarding the Forest Services' decision to reduce fire risk by commercially thinning relatively intact, mature stands of mixed-conifer forest. 40 C.F.R. 1507.27(b)(4).

Some of the commercial thinning and fuels reduction in this project will occur in mixed-conifer forests, much of which comprises some of the best available multi-storied LOS habitat for pileated, Lewis's, and white-headed woodpeckers, goshawk, a host of forest cavity nesters, various neotropical and migrant birds and other species of concern. However, thinning is not needed in mixed-conifer forest to prevent fire. Mixed-conifer forests are wetter and have a mixed-severity fire regime. (Noss et al, 2006; Rhodes, 2007) The mixed-conifer stands have developed with both low-severity fires and high-severity fires, often with a widely fluctuating time-range between recurrent fires. In these areas, there is no scientific support to show that the stands' fire regimes have been altered. Where historic fire regimes have not been substantially altered, fuel "treatments" do not help to reduce the risk of severe fire or restore the stand to its natural fire behavior. (Rhodes, 2007) The EIS does not present any proof that the areas multi-storied mixed-conifer forests are at uncharacteristically severe levels with historically excessive fuel loads. The Forest Service just claims that fuels are outside their desired condition, so a large fire is hypothetically expected. However, on a site-specific basis, area forests are not outside of their desired conditions unless the current time period without fire is longer than any time period in the areas' history. (Rhodes, 2007) The mixed-conifer forests in the project area do not require the excessive logging-style fuels management of this decision, especially when the "treatment" will destroy important LOS habitat. Fire is a natural and inevitable component in a functioning forest ecosystem, and the mixed-conifer forests in at least a significant portion of the project area are within their natural range of fire behavior. The Forest Service has not based its determination to alter the natural fire regime of the mixed-conifer forests in the best available science, or upon accurate site-specific conditions, in violation of the NEPA.

The EIS also does not adequately address science that shows how slash piles from logging create a greater risk of fire. The project is predicted to be completed within five or so years approximately. During this time, accumulated forest fuels and slash from commercial logging units will be left sitting on

the ground for an undisclosed extended period of time. Similarly, huge slash piles still remain in the nearby West Maury project – increasing rather than decreasing the risk of a severe fire in that area. Such projects are at best thought to have only a limited 10 year fire risk reduction period at best, if any actual reduction of real risk is realized. Leaving piles sitting during this period actually increases risk rather than decreases it, and further limits the period such projects have any real meaningful purported benefit.

The EIS fails to adequately analyze how logging slash can increase the risk of fire, or increased fire intensities likely if the area should burn before the project is completed, during which time the risk to area private lands may be significantly higher that it is currently. Mechanical fuels treatments generate slash, which are highly flammable and increase the risk of fire. (Rhodes, 2007). Post-wildfire studies have shown that there are severe effects to the landscape if a project's slash is not cleaned up before the next fire occurs. (Carey and Schumann, 2003). Slash is not often cleaned up before the next fire; even if the land manager has plans to clean up the slash, the clean-up often lags years behind the thinning or fuels treatment project occurs. (Rhodes, 2007). The Forest Service must disclose how it will deal with the slash that is generated by this project and address the increase in fire risk due to slash left in the project area. While eventually this slash is slated to be burned, the risk of a severe fire is significantly increased by its presence and growing accumulation until such time as it has been successfully burned.

13. Cumulative Impacts have not been adequately analyzed

The Forest Service is required to discuss and fully analyze the cumulative impacts of a project. 40 C.F.R. 1508.8. "'Cumulative impact' is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. 1508.7. Recently, the Ninth Circuit has held, "[a] proper consideration of the cumulative impacts of a project requires some quantified or detailed information; . . . [g]eneral statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided." Klamath-Siskiyou Wildlands Center v. Bureau of Land Management, 387 F.3d 989, 993 (9th Cir. 2004) *quoting* Neighbors of Cuddy Mountain v. United States Forest Service, 137 F.3d 1372, 1379 (9th Cir. 1998) (internal quotations omitted).

The greater project area has been tremendously impacted throughout the last century, continuing with the nearby West Maury Project and ongoing livestock grazing, among other actions. The E. Maury EIS does not adequately analyze the cumulative impacts of this project area in thorough and conclusively meaningful way. The EIS reveals no "quantified or detailed information" on any of the projects that are listed in the document; such "quantified or detailed information" is required. (Klamath-Siskiyou Wildlands Center v. Bureau of Land Management.) Merely disclosing that an activity has, will, or is occurring is inadequate: the Forest Service must discuss the environmental consequences from the activities. Lands Council v. Powell, *See* 379 F.3d 738, 745 (9th Cir. 2004).

The effects of contemporaneous projects, including private and state lands projects, merit special attention and should have been discussed in a meaningful way in the EIS. As the project will result in substandard multi-forest HRV levels, the EIS must address long-term potential future cumulative impacts – including future fires, increased recreation, private lands impacts, livestock grazing impacts, increased OHV use, and future timber sales, etc,- that may occur during this twenty year period, compounding impacts to wildlife species and the greater forest ecosystem.

The Ninth Circuit has recently held that a project on LSRs on BLM lands, the Timbered Rock post-fire logging project, did not adequately analyze cumulative effects because it did not analyze the effects of fire suppression in the project area, creation of firelines to wildlife and natural resources, and salvage logging on private lands. Oregon Natural Resources Council Fund v. Timber Products, No. 05-35063 (9th Cir 2007) (cumulative impacts analysis must enumerate environmental effects of related projects and consider the interaction of multiple activities) (attached). The E. Maury Project does not analyze the effects its own management activities in conjunction with those noted above, including foreseeable likely future actions occurring over the next twenty years.

Cumulative effects analysis must also include actions that are "reasonably foreseeable." Mechanical fuel treatments have only transient effects on fuel conditions. (Rhodes, 2007) Opening the forest canopy will increase the growth of the most flammable small fuels in the short-term, creating more fire risk. *Id*. The E. Maury project would create a future need for more thinning if the Forest Service really intends to reduce fire risk in the area. There is inadequate discussion of future maintenance of forest "fuels," which would be needed for this project to really have an effective long-term impact on fuels reduction. It makes little sense to degrade LOS HRV while implementing a scientifically unsubstantiated and controversial project where limited and questionable benefits will diminish within a few years, vanishing for the most part within just one short decade. The failure to address this in the EIS violates the NEPA.

14. The EIS does not adequately discuss or propose mitigation measures

As part of the scope of an EIS, an agency must include mitigation measures in the discussion of alternatives. 40 C.F.R. 1508.25 (b)(3). When a decision, based on an EIS, is final, the Record of Decision must adopt a monitoring and enforcement program for any mitigation intended to avoid or minimize environmental harm. 40 C.F.R. 1505.2. The National Environmental Policy Act requires that mitigation measures be analyzed in detail and that the effectiveness of mitigation measures be disclosed. Courts have ruled that a mere listing of mitigation measures is insufficient to qualify as a reasoned discussion by NEPA. Planning documents must analyze mitigation measures in detail and explain the effectiveness of such measures. Best management practices (BMPs) are not adequate mitigation. Environmental policy laws and agency policy explicitly prohibit using mitigation or restoration to substitute for habitat degradation (S&G page C-37).

There is no effective long-term monitoring and enforcement program set up to minimize the environmental harm done by this project. As the project will occur for up to five years (or more?) an effective monitoring plan to cover the duration of this project is essential to be able to meet the purpose and need goals. Mitigation measures are briefly mentioned, but not as part of an enforceable program to lessen the effects of the project, or to correct harms and prevent them from being repeated elsewhere in the project.

Soils require rehabilitation under the Ochoco LRMP. The only mitigation measure intended to off-set the damage to soil conditions is subsoiling. This is not an adequate mitigation measure because it does not actually rehabilitate the soil. Furthermore, there is no analysis of the effectiveness of subsoiling. With no analyses of mitigation measures, the public and decisionmaker do not have all the information they need to ensure a good decision.

Additionally, the E. Maury EIS fails to disclose or assess the effectiveness of mitigation measures and monitoring on related projects. The West Maury fuels reduction timber sale is an example of good intentions gone awry due to ineffective and/or non-existent monitoring. Slash piles the size of apartment complexes exist throughout the project area. These very significantly increase the risk of fire – and will do

so until they are safely removed. Even the "best laid plans" can have unforeseen consequences. The EIS fails to address this significant issue, in violation of the NEPA.

15. The EIS and ROD would harm wildlife, in violation of the NFMA, NEPA, and ESA,
Lynx

Among our many concerns is that of this proposed project's effect on lynx. Based on data from the U.S. Fish and Wildlife Service's (USFWS) Portland office, there have been past sightings of lynx in the Ochoco National Forest and Blue Mountains region. Historic evidence of lynx in these areas include positive occurrence records, lynx bounty claims, and Forest Service Wildlife Statistical Reports, and previous Ochoco NF staff sighting reports (noted in detail during the Bandit I and II appeals/litigation). Positive reports of lynx occur throughout the region and as far south as Modoc County, California. As this is the case, the project area may be important to lynx recovery. It is plausible that lynx are rare in the project area (and in Oregon on the whole) due to bounties, aerial poisonings, and other efforts to eliminate them (and other predators) that were performed systematically for decades, and not due to a lack of habitat, as is the current situation with wolves as well.

The USFS should have addressed how further fragmentation of the planning area will affect lynx. It is clear that lynx habitat is very fragmented, and that large blocks of intact forest are required to maintain viable populations of the species. Without these large blocks, lynx may need larger ranges to survive. The project is located in higher elevation mountainous terrain adjacent to wilderness and roadless areas with in mixed conifer forest habitat known to be preferred by lynx. Project area forests include grand fir, doug fir, western larch, and ponderosa pine, among other species. The proposed logging in the planning area may adversely affect whatever lynx recovery is occurring, as lynx may use portions of this area for both nocturnal foraging as well as migratory and dispersal routes and refuge. Continuing to squeeze lynx out of their habitat range by intensively managing the land runs afoul of NFMA's requirement that the agency maintain viable populations of wildlife that are well distributed across the landscape. 36 C.F.R. § 219.19. The USFS has an obligation to accurately assess the impacts of its project on lynx.

Next, it is clear that data is lacking on the food habits of lynx in Oregon's forests, which represents a critical research need. Ruggiero, 1999b; Aubry, 1999. It is well accepted that lynx are dependant on snowshoe hares as a prey base, but in the southern portions of lynx range squirrels, other rabbits, small rodents, birds and other wildlife may always be an important part of lynx diet. Some of these same prey species may also be important to forest raptors and other wildlife species. It is critical to understanding how this project may impact lynx to examine how it will impact lynx prey.

Snowshoe hares, squirrels, and other mammals have different habitat needs, but many of these species could be negatively impacted by the fragmentation, logging, road building, and other actions associated with this project. Most of these prey species require adequate cover (USFWS, 1999), especially conifer cover in winter (GTR-RM-254), and foliage that is accessible during winter snowpack conditions. Hares, squirrels, and forest-dependent species are typically associated with dense forest cover, including shrubs and "dog hair" thickets of small trees. McKelevey, 1999a. Many of these prey species also perform important roles in the recovery of fragmented forest habitat, helping to spread seeds of forest plants and trees, distributing nutrients throughout area soils, and loosening compacted soil areas—none of which was sufficiently disclosed or addressed in the EIS. Edge areas within and adjacent to dense mixed conifer forests provide viable habitat for many species, including potential prey species for lynx. The adjacent designated wilderness and roadless areas also provide potential habitat, and the project area likely serves as dispersal and migration corridors, as well as supplemental habitat for lynx

which may occur within, or traverse through, the project area. The proposed action alternatives which would log forest LOS habitat, would result in significantly further reducing needed cover for wildlife, jeopardizing both lynx and their prey species viability across the area—in violation of the NEPA, NFMA, and the ESA.

Different timber harvest methods can have detrimental impacts on many of these species, including squirrels, rabbits, rodents, and birds, as well as snowshoe hares. Koehler and Brittell (1988) predict that it may take up to seven years after logging an area for hares to recolonize the site and up to 25 years before they reach their highest densities. Bull (1999) examined the results of a variety of harvest prescriptions on hares and found that in lodgepole stands, the number of snowshoe hares decreased in all types of harvest. She reports that mixed conifer stands appear to be "no longer suitable for hares after harvesting." This same is also true for many of the other forest-dependent species which comprise the lynx's diet.

Squirrels have different habitat needs than snowshoe hares and are associated with mature, cone-producing forests. Ruggiero, 1999a; Buskirk, 1999b; McKelvey, 1999a. They tend to reach their highest densities in late-successional, closed-canopy forests with substantial quantities of course woody debris. The EIS fails to adequately address potential impacts this project may have on squirrels, and ignores an important component of lynx diet. The discrepancies and deficiencies of EIS assertions further underscore the failure of the EIS to adequately disclose and analyze this important issue.

The EIS failed to provide a thorough examination of how the project will impact both hares and squirrels, as well as other wildlife species that are potential lynx prey. Without complete analysis of how these prey species will be impacted, it is impossible to quantify and qualify the impacts to lynx. The EIS must analyze the cumulative impacts of this project on lynx prey in association with other projects on the District, Forest, and surrounding lands. As lynx are far-ranging forest dependent species, the EIS must assess how the project affects the landscape distribution, dispersal and habitat patterns of lynx and their prey species.

Lynx, as many wildlife species, are of necessity adaptable somewhat during migrations and while establishing new or historic territories. Many diverse species not generally noted as among a particular species preferred prey at times substitute for sustenance and survival. The project FEIS failed to address this issue in relation to lynx which may travel through or re-establish territory in this project area.

In sum, The Lynx Conservation Assessment and Strategy (LCAS) clearly asks that the Forest Service perform project specific analysis for each project. The lack of project specific analysis has been a long-standing problem with the Forest Service. The USDA Office of the Inspector General in its January 1999 report (No. 088001-10-At.) tries to correct this problem but the Forest Service has ignored the recommendations of this report. The LCAS executive summary states:

> Plans that incorporate the conservation measures, and projects that implement them, are not generally expected to have adverse effects on lynx…. However, because it is impossible to provide standards and guidelines that will address all possible actions, in all locations across the broad range of the lynx, project specific analysis must be completed.

It is clear that the Forest Service has not completed NEPA required accurate analysis and therefore is in violation of the LCAS, as well as the ESA and NFMA. The EIS makes little mention as to any site-

specific recent surveys supporting its determinations, fails to disclose surveys or survey protocol, methodology, areas or frequency. As such, this determination is arbitrary and capricious and therefore illegal. The EIS must be withdrawn and a new SEIS conducted which addresses and corrects these analysis deficiencies and illegalities.

Wolverine

It is possible that wolverine may use the planning area as part of their seasonal and nocturnal foraging and territorial wandering patterns. Winter season surveys by our organization over the past decade have found likely wolverine snow tracks within the region's forests. Wolverine are known to have a 150 square mile or more winter range, and are also known to utilize remote forest areas where human populations are not extensive. It is also well known that human disturbance related to the proposed activities is likely to alter the movement patterns of wolverine and other wildlife species. Failing to adequately address the likely impacts to wolverine by the proposed projects, given the large home ranges of these animals (approximately a 150 square mile winter range), and the likelihood of wolverines in the Ochoco and possibly Maury Mountains forests, violates both NEPA and NFMA.

The EIS fails to adequately analyze how wolverine will be affected by the proposed project. Because it is probable that the species utilizes the planning area for some life cycle needs, the USFS is required to accurately address how the commercial logging and road building projects will affect those needs and the species itself. The EIS's failure to do so, and its irresponsible dismissal of the proposed project's likely adverse impacts to wolverine, including the project's likely incremental role in ongoing trends pushing this species towards uplisting under the ESA, violates NEPA and NFMA. 40 C.F.R. § 1502.16 (environmental consequences); 36 C.F.R. § 219.19 (fish and wildlife resources).

Given the sensitive nature of this species, it is likely that the proposed project will decrease Wolverine viability through the actual loss of connective travel, nocturnal, and seasonal foraging habitat, and possible loss of individuals. This is inconsistent with the Forest Plan as amended and NFMA because the project would contribute incrementally to Wolverine populations trend towards listing, 36 C.F.R. § 219.19.

Wolverine are already listed as "Sensitive" in Oregon by the Oregon Department of Fish and Wildlife, however the Forest Service fails to sufficiently address this within the EIS or disclose any ongoing consultation with ODF&W regarding wolverine. These failures are in violation of the requirements of the NEPA, and in contravention to the necessary cooperative interagency efforts needed to begin the recovery of this species and its required habitat.

Northern Goshawk

We have several concerns regarding Northern Goshawk. It is known that Goshawks currently are (and historically have) utilizing the forests of the proposed project and surrounding areas for nesting, fledgling, and foraging – indeed a new nest discovery has cancelled logging plans in one unit. It is also known that Goshawks, similar to many predatory species, rotate their nesting and foraging territories over time, so as to not deplete their prey species populations and thus maintain their viability over the long-term. As such, to ascertain potential Goshawk use, agency surveys must be conducted seasonally each year to determine the rotational patterns of Goshawks for the project and adjacent area forests. Goshawks also have an extensive foraging territory. It is likely that nesting pairs may utilize significant portions of the project area's LOS forest areas. It is also known that burned and/or open-forest edge areas may be utilized as foraging territory by this species. The EIS fails to adequately address impacts to this species such as how logging removal of multi-storied forest canopy cover, and further fragmentation of the area's forests, will affect adult and juvenile Goshawks, or other direct, indirect, or cumulative effects to the species. The EIS fails to adequately address impacts to Goshawk nesting areas, including sufficiently

assessing historic nesting areas, and essential ongoing nest territory rotation, within or adjacent to the proposed logging project.

Several scientific studies exist regarding significantly detrimental logging impacts to Goshawks due to logging within or near Goshawk PFA's, as well as from fragmentation of natural forest habitat. (Quotes from some of these have been provided to the agency previously as part of attached exhibits: Reynolds et al, 1982, 1989, 1991; Moore and Henry, 1983; Fleming, 1987; Hall, 1984; Saunders, 1982; Crocker Bedford et al, 1988, 1990, 1991; Patla, 1991; Hayward and Escano, 1989; Kennedy, 1988; Shuster, 1980; Speiser and Bosakoski, 1987; Woodbridge et al, 1988; Bendire, 1892, Bull, 1988; Hargis et al, 1991; Bryan and Forsman, 1987; Andeson and Shommer; among others). Additionally, some of these studies were conducted for the agency. However the EIS violates the NEPA by failing to adequately and accurately disclose or assess this pertinent information. As such and the agency fails to uphold its responsibility to address these issues thoroughly as required by both the NEPA and the NFMA. The EIS fails to address the cumulative impacts of the proposed project along with past, present, and reasonably foreseeable future actions, in violation of NEPA, 40 C.F.R. § 1508.7.

We are concerned about the affect of the planned transformation of the commercial logging units from LOS mixed-conifer multi-storied forests, to more open single strata LOS forest areas preferred by other raptors such as red-tailed hawks, which could extirpate goshawks from logged unit areas. It is known that suitable goshawk habitat contains a mix of dense multi-storied stands for nesting – such as currently exists in the project area. The project will remove necessary foraging, fledgling, and nesting habitat, which may result in the loss of potential Goshawk nesting habitat, as these features are inextricably linked within the greater Goshawk territory, thus resulting in fewer pairs of nesting birds within the area, or a loss of either or both fledgling juveniles and/or adults to predation or other mortality associated with logging impacts. The failure of the project's action alternatives to protect goshawk habitat would further reduce potential nesting and foraging habitat and thus violate NFMA's requirement to maintain viable populations of these and many other forest canopy-dependent species, 36 C.F.R. § 219.19. It is clear that the agency must prepare a new EIS to deal with this issue legally and adequately.

American (Pine) Marten

There is not sufficient analysis in the EIS of the effects of the proposed project on American marten in the planning area. The forests of the Ochoco, including the project area, have historically provided marten habitat. It is likely that some portions of the project currently provide marten habitat—possibly for denning and foraging, as well as dispersal and travel corridors. Recent scientific research confirms that old forest dependent wildlife species are well adapted to the cyclic changes in the region's fire ecology forests ever changing mosaic patterns. Many old forest wildlife species, it is being discovered, continue to use even severely burned old forest and roadless area habitat – if these are left unlogged. The EIS fails to address this issue, or assess wildlife adaptability in its presumed needs for fuels reduction.

The agency has an obligation under NEPA to assess the direct, indirect, and cumulative impacts to all species that will be affected by the proposed action. 40 C.F.R. §§ 1502.16. The Forest Service also has an obligation to obtain missing information or state why it could not be obtained if that information is necessary to make an informed decision. *Id*. § 1502.22. Finally, the agency has a duty to prepare a new EIS when there are unknown risks to the environment—and its current EIS is deficient in addressing these issues. *Id*. § 1508.27.

In this case, the Forest Service failed to accurately and adequately assess how the proposed timber sale will impact marten. The Ochoco NF clearly is not meeting the requirements of NEPA and NFMA as they apply to pine marten, and is precluded from implementing the E. Maury project as a result.

Neotropical Migrant and Native Birds

Neo-tropical migrant and native forest-dependent birds (as well as numerous other forest species) are in serious decades-long population declines due to the adverse cumulative impacts from over a century of commercial logging in Oregon (see "Avian Population Trends" by Brian Sharp). The EIS for this planned project fails to fully and adequately disclose the current population status and trends of native forest dependent Neotropical migrant and native avian species within the project analysis area and adjacent forest. Compliance with both the NFMA and the MBTA requires that all alternatives presented within the EIS must be capable of protecting forest habitat for these many native forest species, and of reversing any current downward population trends. Such a course of proactive protective action is also required by the ESA and the NEPA, Presidential and USFS directives, and the Migratory Bird Treaty Act, as well as credible conservation science and ethical integrity. However, in violation of these legal and ethical requirements, the Spears EIS presents action alternatives which would degrade habitat and further imperil neotropical and native avian species populations, resulting in both individual mortality to these species as well as irreparable habitat and population level harms.

The proposed timber sale would significantly impact migratory birds in violation of the Migratory Bird Treaty Act, 16 U.S.C. §§ 703—712 (1994). It is well known amongst the conservation-science community that many migratory birds which are currently experiencing severe population decline trends are "strongly associated" with LOS and related forested habitat. The proposed commercial "thinning" logging would likely directly kill nesting and fledgling migratory birds. The proposed logging would significantly reduce existing multi-storied LOS forest-dependent migratory bird habitat, which has already been significantly diminished due to the cumulative impacts of past management throughout much of the Ochoco National Forest, including the project area.

The proposed logging units would irreparably fragment migratory bird habitat. Areas that were not logged would also be negatively impacted by generalist bird species favored by the environmental conditions created in highly fragmented logged forests. Other avian and predator species more adapted to open logging thinned forests also would move into the project area, further adversely impacting multi-storied LOS dependent neotropical and migrant avian species. The impact these abundant and highly competitive bird species would have on sensitive bird species dependent on less fragmented LOS forests should have been adequately disclosed and evaluated in the EIS. The adverse impacts that the proposed logging would have on migratory birds are supported by multiple scientific studies.

Forest fragmentation, including loss of viable nesting habitat within central and eastern Oregon's national forests, is considered to be a primary cause behind declines observed in many forest songbird species. Further loss or fragmentation of habitat could lead to a collapse of regional populations of some forest birds (Robinson *et al.* 1995). As landscapes become increasingly fragmented, regional declines of migrant populations may result (*Id).* In the Pacific Northwest, researchers have found that old growth forests and natural forest processes (including natural fire-recovery) are integral to the survival of migratory birds. The past and continuing logging-oriented management of the forests of Oregon and Washington, which provide nesting and fledgling habitat for numerous migratory birds, has resulted in severe ongoing population declines in forest canopy-dependent migratory and native birds. (*reference: "Avian Population Trends in the Pacific Northwest" by Brian Sharp).* Among the many avian species experiencing population declines due to Forest Service logging projects are: band-tailed pigeon, rufous hummingbird, olive-sided flycatcher, winter wren, song sparrow, golden-crowned kinglet, pine siskin, solitary vireo, willow flycatcher, tree swallow, red-eyed vireo, yellow warbler, yellow-breasted chat, and others as well. This information was not adequately addressed in the EIS despite the obvious direct adverse impacts to many migratory and native bird species from the removal of forest canopy cover and

forest structural continuity which would occur with the implementation of this project. Failure to sufficiently disclose and comprehensively analyze this pertinent, essential, scientific information violates provisions of the NEPA. Implementation of this project would violate both NFMA and the Migratory Bird Treaty Act. As such the LOS and connective corridor commercial logging portions of this project – at a minimum - must either be withdrawn from the selected alternative, or a new SEIS must be prepared which addresses these issues, before the FEIS and ROD may be reissued.

In August 1999, the FWS outlined what it perceived to be the agency's legal obligation in terms of migratory birds and timber harvest. FWS stated that agencies should take "an extremely cautious position with respect to the intentional take of migratory birds by federal agencies." *Letter from Acting Director, United States Fish and Wildlife Service, to Regional Directors, Regions 1–7 and Assistant Director, Refuges and Wildlife (August 17, 1999), 3.* FWS also cautioned that "the Service should not assert in any communication or correspondence that federal agencies are not covered by the prohibitions of the MBTA [Migratory Bird Treaty Act]." *Id.*

In July 2000, the Eighth Circuit Court of Appeals held that federal agencies are required to obtain a take permit from FWS prior to implementing any project that will result in take of migratory birds. *Humane Soc'y of the United States v. Glickman*, 217 F.3d 882 (8th Cir. 2000). Due to this litigation, the FWS is operating under the assumption that the Migratory Bird Treaty Act applies to the Forest Service and its activities. 16 U.S.C. § 703 et seq. The Act states that "it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill . . . any migratory bird." 16 U.S.C. § 703.

In January 2001, President Clinton signed Executive Order 13,186 that outlined the federal government's responsibility to comply with the Migratory Bird Treaty Act. Exec. Order No. 13,186, 66 Fed. Reg. 3,853 (2001). President Bush has not rescinded this Order. Recent legal analysis confirms that the Forest Service must actively prevent the take of migratory birds, or obtain a permit for incidental take of individual species. *Helen M. Kim, Chopping Down the Birds: Logging and the Migratory Bird Treaty Act, 31 Envtl. L. 125 (2001).*

The Forest Service has failed to comply with these legal and scientific obligations. Until the agency can demonstrate that it has complied with the requirements of the Migratory Bird Treaty Act, the ROD and FEIS for this project must be withdrawn and a new SEIS must be prepared.

Further, the E. Maury EIS did not accurately address the direct, indirect and cumulative impacts that the project would have on migratory birds. The USFS has on record a study by Brian Sharp ("Avian Population Trends in the Pacific Northwest" as cited above), which concludes that commercial logging in public forest lands in Oregon plays a significant role in the continuing population declines of several neotropical migrant bird species. The failure to disclose the full conclusions and implications of this study in the EIS is particularly egregious in that the study was done for Region 6 of the Forest Service specifically on Central/Eastern Oregon forests. The lack of an adequate objective scientific assessment of this study fails to meet NEPA's requirement for high quality scientific analysis that would satisfy the "hard look" standard. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989); *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208 (9th Cir. 1998) *cert. denied, Ochoco Lumber Co. v. Blue Mountains Biodiversity Project*, 119 S.Ct. 2337 (1999).

16. The E. Maury project will have adverse harms to aquatic species, aquatic habitat, and water systems

This project will violate provisions of the Clean Water Act. The E. Maury project will further degrade waterways listed by the State of Oregon as water quality limited. Additionally, the FEIS fails to address whether any new surveys on area streams concerning their current water quality conditions and potential for listing as 303(d) have or will be conducted, though it does claim that Shotgun Creek is erroneously listed. Logging actions are planned across 238 acres of RCHA, with an additional 846 acres of non-commercial thinning, in addition to burning under this decision. Under the anti-degradation policy in Section 303(d), water bodies that do not meet water quality standards are designated as "water quality limited." The project area contains two streams that are currently on the State 303(d) list for exceeding summer stream temperature standards. These streams are: Shotgun and Wildcat Creeks. The Final EIS fails to adequately address and disclose the potential cumulative adverse impacts to these streams from combined management actions in the greater project area. Implementation of Alternative 2-modifed would result in likely measurable water quality degradation harms to fish-bearing and/or non-fish bearing perennial streams in the project area over time due to the shade reduction, sedimentation, and cumulative impacts issues. Commercial timber harvest and precommercial thinning activities may or may not reduce shade during peak periods, but overall fail to address the cumulative impacts from shade reduction in non-peak periods, during seasonal changes in solar position, and due to increased peak flows and consequent prolonged low stream flows. There is a potential to increase water temperature and sedimentation in intermittent tributaries and non-fish bearing streams when they are flowing, which may contribute in the long-term to overall cumulative violations of state water quality standards, especially in pool areas downstream of the project, contrary to EIS assumptions.

Additionally logging in riparian areas may adversely impact rainbow trout, redband trout, and possibly brook trout, other aquatic/amphibian species that may be present, and aquatic habitat in general over both the short and long-term. The EIS analysis fails to adequately address these issues.

17. Additional riparian and aquatics issues

The EIS claims that commercial harvest in RHCAs would benefit riparian-associated trees and shrubs such as cottonwood, aspen, alder, and willow by reducing competition for nutrients and growing space. The claim is reflective of actions that adhere to INFISH provisions and scientific recommendations for restoration in RHCAs. However, these claims do not comport with the agency's planned scientifically insupportable commercial logging of trees up to 21 inches dbh in RHCAs. The EIS fails to offer substantiating science to support its planned removal of trees above 12 inches dbh from INFISH buffered riparian areas, and fails to disclose the existence of scientific research recommending against commercial logging within riparian areas. This analysis failure violates the NEPA, and this decision permitting commercial logging in salmonid riparian areas violates the Ochoco LRMP as amended by INFISH, and violates the CWA and ESA.

The integrity of requisite INFISH riparian buffers is unduly compromised and violated by the agency's plans to commercially log within RHCAs. Shade is important to regulate stream temperatures, and buffers are essential to minimize sedimentation. INFISH buffers have been established for a number of environmental concerns and objectives, which the EIS fails to adequately disclose or address. Commercial logging and other disruptive thinning actions within riparian areas disturbs soils, causing sedimentation. Disturbed soils are also susceptible to invasive weeds, and are known to have lower vegetative productivity than unlogged forest soils. Riparian areas support higher levels of native species biodiversity, including botanical, aquatic, terrestrial and avian species. Riparian areas contain essential habitat for many neotropical migrant and native birds of concern. In addition to redband and rainbow trout habitat and historic salmonid habitat, riparian areas support amphibians (have there been recent surveys for Columbia spotted frog and other species?) and other aquatic species. The EIS fails to address likely adverse impacts to these potential listed species of concern. The EIS fails to address the impacts of its

planned riparian area logging, and fails to incorporate the many scientifically based objectives founding and supporting requisite INFISH buffers. The EIS and ROD as such violates the NEPA and must be significantly modified to eliminate commercial logging in INFISH buffered riparian area habitat, or must be withdrawn.

As stream shading is a primary factor affecting stream temperature, it is of key importance to protect vegetation providing critical stream shading. The methodology utilized for ensuring stream shading is not harmed by this project is faulty, failing the requirements of the NEPA, and will likely result in increased harm to area stream temperatures. This methodology fails to account for cumulative and indirect impacts, including impacts from non-peak solar periods, peak flows and low water periods, flows through ephemeral draws with increased solar exposure due to thinning (including summer rain events), climatic changes, and winter period cumulative impacts issues related to forest thinning throughout the watershed and within riparian areas.

Conclusion(s)

Implementation of the East Maury Project's proposed logging activities would degrade forest ecology, wildlife habitat, and impair water quality in the area's watersheds. Proposed new and "temporary" road building, thinning of mature sized trees, impacts to species of concern including (but not limited to) goshawks, flammulated owls, neotropical migrant and native interior forest bird species, lynx, wolverine, marten, and other wildlife species, impacts from ground-based heavy logging machinery, ground and airborne sedimentation into area watersystems, RHCA and aspen area commercial logging, ongoing livestock grazing, exponentially increasing OHV abuse, and cumulative impacts from this project and other management actions, would result in further degradation of the ecological integrity, wildlife habitat, soil hydrology, and aquatic systems in and around the project area.

Similar to the Paulina District's Willow Pine project, and to a lesser degree the Lookout Mountain District's Spears project, it is likely there are ecologically and economically feasible common ground provisions that could be incorporated into the proposed project's revised appeal resolution changes or new SEIS objectives, alternatives, and decision. We look forward to discussing appeal issues about this harmful timber sale project with agency decision-makers and planning staff as soon as possible, including a field trip(s) to the East and West Maury project areas to work towards needed changes and resolution of the E. Maury project appeal issues, which ultimately has the potential to help create a much better, more scientifically sound project capable of the restoration this area's forests need.

As noted in a footnote above, and during DEIS comments, over the past two plus years we have worked with the USFS and BLM to bring mutually agreeable changes to fuels reduction "forest health" style projects, including Lava Cast and Long Prairie Mistletoe Reduction Projects in the Deschutes, BLM's La Pine HFRA, Willow Pine and Spears in the Ochoco, and others wherein the agencies set variable dbh cutting limits, of 16" dbh and 16 to 18" dbh, and other wildlife provisions (leaving 10 to 30% of unit areas untreated, eliminating new &/or temporary roads, etc.) As per these agreed changes, our organizations (depending upon process stage when agreed upon) either did not appeal the projects or withdrew our appeals. Hopefully we can continue this successful pattern of modifying projects to better incorporate ecological scientific common ground and better abide by federal environmental policy legal requirements. We look forward to working with the agency as possible to modify the E. Maury project to better protect ecological, wildlife, and other natural resource, as well as legal, concerns.

Overall the E. Maury actions appear at best to be based upon scientifically controversial assumptions, goals, and management methods. Whether the agency's proposed actions will effectively

'restore and maintain fire dependent ecosystems and maintain the forest in a healthy condition' is likely to depend upon the degree in which these actions embody scientifically supportable ecologically appropriate methods to effectively address naturally occurring forest fuels, fire risks, and naturally inherent insect mortality in forest ecosystems. In its NEPA analysis, the agency failed to disclose, incorporate, and assess the full range of applicable scientific research. NEPA requires that management actions must be supported with analysis disclosures of substantiating science – and that the agency must also disclose and address credible science that contradicts its planning actions, and disclose the existence of scientific controversy. The agency has failed to accurately address and provide the NEPA requisite site-specific conditions, cumulative impacts analysis, and disclosures and assessments of the E. Maury project's impacts upon species of concern in the FEIS. The project must base its planned actions on credible scientific recommendations towards protecting, restoring and maintaining the long-term ecological integrity and functioning of the area's forest ecosystems, ensuring the project meets the biodiversity, habitat, and viability requirements of native species of concern.

Common conservation ground can best be achieved when proposed actions are based upon credible ecologically non-controversial science research restoration recommendations; avoiding actions that could result in significant harms to natural forest ecology and biodiversity. Project actions should not exceed those scientifically necessary and capable of achieving fire risk reduction and ecological purpose and need goals. Removal of mature and old fire resistant trees, unnatural logging removal or excessive manipulation of older established forest overstory, excessive thinning in ponderosa pine and/or mixed conifer forest habitat, illegal and ecologically irresponsible commercial logging within salmonid RHCA areas, and use of heavy logging machinery would adversely impact forest ecology; biodiversity; vegetation; soils; wildlife, avian, salmonid and other aquatic species, botanical & other species of concern populations and habitat; resulting in further degradation of the ecological integrity, wildlife habitat, soil hydrology, waterways, and natural systems in and around the project area.

Similar with other projects in the region, revised project provisions need to include:

A. Providing for the retention of all trees with old and mature characteristics in ponderosa pine and mixed conifer forest areas;
B. Mature, LOS, and interior forest stands should be ecologically maintained allowing natural cyclic processes, conditions, and functioning as possible. In areas where natural patterns of mixed severity and/or cyclic stand replacement fire are not feasible, management actions should be designed to augment, rather than hinder, natural processes, and to provide for the viability and habitat needs of dependent forest species;
C. Protecting soils and native plants by requiring low impact light machinery in all interior forest areas where machinery is employed;
D. Protecting all RHCA's including seasonal localized moist 'riparian' areas, by prohibiting heavy machinery use and commercial felling in these locations;
E. Restricting felling in and adjacent to aspen areas to only younger small diameter trees that have grown in since the advent of effective fire suppression;
F. Seasonal restrictions on project implementation protecting avian species during nesting and fledging periods;
G. Other provisions as ecologically appropriate as noted below.

Project thinning actions in the FEIS and ROD are largely scientifically unsubstantiable, unwarranted, and excessive. At best, limited small diameter thinning actions have the potential to be beneficial or harmful, dependent upon the extent of thinning employed and the location and timing of thinning actions. Such actions work best when they are kept within the parameters of greater scientific consensus than controversy. Care must be taken limiting thinning to ensure sufficient trees and forest

stand structure remain to provide for the diverse habitat needs of dependent wildlife species, and to provide for both localized and landscape scale forest ecological integrity. Management actions that excessively thin forests can be antithetical to project goals of reduced risk of severe fires and enhancing forest ecological resiliency. Excessive logging-thinning actions increase and exacerbate the risk of severe fires, as fire resistant mature and old trees are soon replaced with fire-prone brush and small diameter trees. Soils disturbed and impaired by heavy logging machinery cannot support the healthy subsurface soil microbial communities and hydrological functioning necessary to maintain healthy trees and forests. Existing populations of invasive plants can be further spread, and new introductions of exotic invasive plants may occur as a result of soil disturbing logging-thinning actions.

Limiting thinning to only smaller diameter trees, employing variable diameter thinning limits as appropriate to PAG site-specific conditions, has more scientific and ecological support. For example, limiting felling to trees <12" dbh, or a range of variable diameter limits from 14" to 16" at most, is less scientifically controversial and more ecologically capable of achieving project purpose and need goals.

We look forward to addressing the appeal issues herein and/or reviewing a revised SEIS for this project which adequately addresses and discloses:

- New surveys that accurately disclose adjacent and project area old growth forest and potential unroaded areas size and location;
- Recent surveys for listed species, species of concern, habitat areas for these species, and state listed species in and adjacent to the project area;
- Recent survey information addressing landscape scale and localized wildlife connectivity, including migration, foraging, and dispersal habitat and routes;
- Recent surveys disclosing current soil conditions, including specific locations of erosion and sedimentation into area waterways;
- Management plans to restore area waterways so they no longer qualify as 303(d) listed water quality impaired systems;
- Management plans addressing the recovery of listed and species of concern populations with the project area forests and waterways;
- Recent updated surveys identifying existing invasive plant population and location concerns, and invasive exotic plant introduction and spread issues;
- Recent surveys addressing ecosystem and soil hydrological patterns, seasonal moist riparian areas and flows, and all affected aquatic species;
- Recent surveys addressing excessive road density issues, OHV use and abuse, and sedimentation and other harms resulting from roads, including plans to remove excess roads and bring the area into compliance with Forest Plan road density standards. All new and temporary roads should be dropped from this project;
- Revised surveys addressing actual boundaries of potential, inventoried, and uninventoried roadless areas, and/or areas of significant ecological resource value or concern in or nearby the project area. These should include areas where the removal of excess roads could help create an non-fragmented unroaded area for wildlife habitat use;
- Recent surveys identifying the extent and frequency of OHV use and abuse issues in and adjacent to the project area;
- A revised FEIS/ROD or new SEIS that includes the legally requisite full range of applicable scientific research pertinent to the proposed project, including that which may substantiate proposed actions and that which recommends against such actions or addresses issues of scientific controversy;

- Accurate disclosures of the area's natural fire cycles, patterns, occurrences, and fire ecologically conditions that historically occurred in this area and recent current fire and management history. It is not enough to state that fire has been excluded based upon blanket formulas and often erroneous assumptions, the actual fire history for the project area forests should be identified and disclosed. If this specific information is not available, then the revised FEIS/SEIS must state why this cannot be obtained, as this is critically important to the proposed project;
- Natural cyclic changes in areas with juniper forest extent and components, fire patterns, and species dependent upon juniper/mixed juniper dry uplands habitat;
- The full accurate disclosures – incorporated into the analysis (rather than just a litany list) - regarding cumulative impacts for past, present, and future projects in and adjacent to the proposed project area;
- Other additional pertinent information as environmentally, scientifically, and legally appropriate that may be identified by agency staff and the public.

The revised FEIS/ROD or SEIS must develop a full range of different scientifically and ecologically substantiated action alternatives, including non-commercial restoration alternatives, and alternatives that employ variable dbh limits and PAG objectives as substantiated by credible scientific research and conservation goals. To help identify additional conservation concerns, we herein reference the entirety of the substantial ecological, science, and legal concerns and issues noted in our comments and/or appeals and litigation as applicable on the Spears/Bandit, Willow Pine, Deep, Zane, Black Bear, Fryton, and other Ochoco NF fuels reduction thinning styled projects. In may ways, the FEIS and ROD fails to indicate any real awareness of these many similar conservation issues. It fails to develop any common ground conservation-science based alternatives, offering only commercial logging options or no action – as if all the meetings, field trips, comments, appeals, and litigation on previous Ochoco projects had never occurred. The FEIS is legally deficient, representing an archaic throwback to the era of Bandit I's NEPA illegalities. We had expected, after so many years of ongoing conservation work, and common ground development with the Ochoco staff and decision-makers, a much more legally, ecologically, and scientifically responsible and appropriate FEIS proposal than the unfortunate, illegal, and harmful logging myopia that the East Maury Project as developed and decided represents.

We recommend an appeal resolution meeting and field trip to the East Maury project, to explore next step resolution and project possibilities. We look forward to discussing this appeal and its many significant conservation, scientific, and legal issues with the Ochoco NF Supervisor, Lookout Mountain District Ranger, and E. Maury FEIS planning staff soon.

For our natural 'wild' forests,

Asante Riverwind,
Eastern Oregon Forest Organizer,
Oregon Chapter Sierra Club
P.O. Box 5534
Bend, Oregon 97708
(541) 322-4065
asante.riverwind@sierraclub.org

and for: Karen Coulter, Director,
League Of Wilderness Defenders-Blue Mountains Biodiversity Project
27803 Williams Lane
` Fossil, Oregon 97830
(541) 468-2028 office
(541) 385-9167 voice mail

and for: Tim Lillebo,
Eastern Oregon Wildlands Advocate,
Oregon Wild (formerly Oregon Natural Resources Council)
16 NW Kansas
Bend, Oregon 97701
(541) 382-2616
tl@oregonwild.org

Oregon Chapter Sierra Club
&
League Of Wilderness Defenders – Blue Mountains Biodiversity Project

Appeal of the Ochoco National Forest
Lookout Mountain Ranger District
East Maury Fuels and Vegetation Management Project
FEIS & Record of Decision

Appeal Exhibits

Exhibit A:

- LOWD-BMBP survey forms for units (by maps and unit markings, which vary) Keen 1/253.1, Drake 1/124, 1/202, Keen 2/259.2, Tack 3/200, 3/202, 5, Tack 5/158, 6, Tack 6/112, Keen 9/966, Drake 10/114, 11, Tack 12/253.1, 15, 16 (and adjacent steep unit), 17, Drake 24/93, Drake 26/119, Drake 27/36, 28, 29 (& two associated aspen sites), 33, 36 (S. half), 45.1, 61, 74, 93, 96, 97, 112, 113, 114, 119, 124, 126, 153, 158, 186, 189, 192, 195, 200, 202, 243, Wiley Crk. trib./horse logging, 253.1, 253.2, 259.2, & Southern-most aspen unit.

Exhibit B:

- Compatible CD of survey photos exemplifying project unit area site-specific conditions and issues that correspond with the above unit surveys:

Exhibit C:

CD compilation of applicable scientific research, reports, and judicial caselaw, etc. – Fire & Thinning Science Vol. I plus additional reports and pertinent information:

- **Fire Thinning Science Volume I *Contents*:**

1. Effects of Fire and Post-fire Salvage Logging on Avian Communities in Conifer-dominated Forests of the Western United States (Kotliar, 2002)
2. Fire on the Mountain: Birds and Burns in the Rocky Mountains (Kotliar, 2005).

   The collective influence of fire and human activities on the landscape influences avian community structure and dynamics.
3. The Effects of Postfire Salvage Logging on Cavity-Nesting Birds (Hutto & Gallo, 2006).
4. Appeal from the United States District Court: Appeal the district court's denial of preliminary injunction to halt the implementation of several United States Forest Service post-fire logging sales in the Umatilla National Forest.
5. Fire, Fuels and restoration of ponderosa pine-Douglas fir forests in the Rocky Mountains, USA (Baker et al, 2005).

   A restoration model based on low-severity fire modeling, focusing on thinning and prescribed burning to restore historical forest structure.
6. Be careful what you wish for: the legacy of Smokey Bear (Donovan & Brown, 2007).

   An alternate approach to wildfire management.

7. Postfire management on forested public lands on the western United States (Beschta et al, 2004).
8. Overstory and understory development in thinned and under-planted Oregon Coast Range Douglas fir stands. (Chan, et al, 2006).
9. Postfire logging hinders regeneration and increases fire risk (Donato, et al, 2006)
10. Postfire logging hinders regeneration and increases fire risk (Donato, et al, 2006)
11. Postfire impacts on forests and wildlife (Hutto, 2005)
12. Executive Summary: Interim protection for late successional forests, fisheries and watersheds (1993).
13. Study: Reforestation rich after fires: looking at the aftermath of wildfires in the forests of southwestern Oregon and Northern California (Barnard, 2007).
14. Fire regime considerations: Key issues in fire regime research for fuels management and ecological restoration (Veblen, 2003).
15. Forest Dreams, forest nightmares: An ecological and economic look at the Blue Mountains and the changes that have taken place since settlement (Langdon, 1995).
16. Preemptive and salvage harvesting of New England forests: When doing nothing is a viable alternative, (Foster & Orwig, 2006).
17. Changes in downed woody material and forest structures after prescribed fire in ponderosa pine forests, analyze changes in downed woody material and forest structure (trees and snags) measured within one year after prescribed fire treatments completed in Arizona and New Mexico in order to see effects on wildlife populations and their habitat (Saab).
18. Toward meaningful snag-management guidelines for postfire salvage logging in North American conifer forests. Effects of postfire logging on black-backed woodpecker and cavity nesting birds (Hutto, 2006).
19. Birds in the black: *Through following avian wildlife, a UM scientist has discovered that burned forests play a critical role in the health and diversity of the Western landscape* (Jamison, 2005).
20. Research Article: A landscape model quantifies error in reconstructing fire history from scars. *Errors in reconstruction may lead to a misunderstanding of the role of fire or incorrect restoration prescriptions. Here, a stochastic landscape model is used to quantitatively assess the accuracy of a commonly used statistic* (2005).
21. Logging to control insects: The science and myths behind managing forest insect “pests”. (Black, the Xerces Society for Invertebrate Conservation, Portland, Oregon, 2005).

22. Neo-tropical migrant and native birds: The impacts of timber logging on neo-tropical migrant and native birds.
23. Fire severity in conifer forests of the Sierra Nevada, California (Odion & Hanson, 2006).

    A study of both spatial and temporal patterns of contemporary fires in the Sierra Nevada Mountains, California and how they are linked to species diversity.
24. Fire ecology of Ponderosa Pine and the rebuilding of fire-resilient Ponderosa Pine Ecosystems (Fitzgerald, 2005).
25. Research Proposal: Post fire management of snag forest habitat in the Sierra Nevada, (Hanson, 2006).

    Investigation of the association of three woodpecker species with four habitat strata following fire in the Sierra Nevada, assessment whether one species in particular, the Black-backed Woodpecker, may generally be restricted to forest recently burned at high severity ("snag forest habitat"). Also investigates the factors that best explain post-fire conifer mortality, and thus the creation of snag forest habitat, as well as the extent of natural conifer regeneration in snag forest patches that are left unmanaged following severe fire.
26. Scorched forests best left alone, study finds. Biscuit salvage – Logging after the fire killed seedlings and added tinder, research by an OSU-led team says. (Milstein, 2006, Oregonian).
27. Summary Report – Winter habitat use by Spotted Owls on BLM within the boundaries of the Timbered Rock fire (Andrews & Anthony, OCFWRU, DFW, OSU, 2004).
28. Short-term effects of wildfires on spotted owl survival, site fidelity, mate fidelity, and reproductive success (Bond et al, 2002).
29. Associations between forest fire and Mexican Spotted Owls, (Jennes et al, 2004).
30. Stress (Waring, OSU, 2004)

    A brief analysis of the kinds of tolerance and avoidance mechanisms that trees evolved to withstand specific stresses.
31. Studies to find danger to forests in thinning without burning (Robbins, New York Times, 2006).

    Missoula, Montana – Thinning forests without also burning accumulated brush and deadwood may increase forest fire damage rather than reduce it, researchers at the Forest Service reported in two recent studies.
32. Thinning and nitrogen fertilization in a Grand Fir stand infested with Western Spruce Budworm. Part IV: An ecosystem management perspective (Waring, 1992).

Allowing pine forests to be replaced with fir through fire protection and selective logging has increased the nitrogen demand beyond that readily supplied in the ponderosa pine/true fir type. Fertilizing with one application of nitrogen at the time of an insect outbreak may reduce mortality and associated fire hazard through a period of up to 5 years.

33. United States Court of Appeals – Oregon Natural Resources vs. Timber Products.
34. Assessment of site index and forest growth capacity across the Pacific and Inland Northwest U.S.A. with a MODIS satellite-derived vegetation index (Waring et al, 2006).

    Foresters, scientists, and policy makers would benefit if region-wide maps of potential forest productivity were available at decadal intervals to record changes, seek causes, and plan for the future.
35. The watershed impacts of forest treatments to reduce fuels and modify fire behavior (Rhodes, 2007). (Pacific Rivers Council)

    This report examines the effects on watersheds and aquatic resources from forest fuel reduction treatments aimed at modifying wildland fire behavior on public lands.

- **Additional Appeal "Exhibit C" CD Contents:**
  - Wildfire Charcoal and Soil Processes, Thomas H. DeLuca et al
  - Contributions of Pinus Ponderosa Charcoal to Soil Chemical and Physical Properties, Christopher M. Briggs in Briggs, Breiner, Graham, 9 May 2005.
  - Chemical composition of forest floor and consequences for nutrient availability after wildfire and harvesting in the boreal forest, E. Thiffault[1] , K. D. Hannam[2], S. A. Quideau[2], D. Paré[1], N. Bélanger[3], S.-W. Oh[4] and A. D. Munson[5] , March 2008.
  - Nitrogen mineralization and phenol accumulation along a fire chronosequence in northern Sweden, Zhanna Yermakov[1, 2] and David E. Rothstein[1], May 2006.
  - Changes in understory composition following catastrophic windthrow and salvage logging in a subalpine forest ecosystem, Cristina M. Rumbaitis del Rio, 2006
  - Contributions of Pinus Ponderosa Charcoal to Soil Chemical and Physical Properties, Christopher Briggs, 2005.
  - Biochar: A Soil Amendment that Combats Global Warming and Improves Agricultural Sustainability and Environmental Impacts, recent report compilation of scientific research.
  - Communication on BioChar and its implications for forest and societal management, and role in ongoing climatic change.

- Biogeochemical Consequences of Wind and Salvage Logging Disturbances in a Spruce-Fir Forest Ecosystem, C.M. Rumbaitis-del Rio and C.A. Wessman.