OBJECTOR'S NOTICE OF OBJECTION, STATEMENT OF ISSUES AND LAWS, AND REQUESTED REMEDIES

NOTICE OF OBJECTION

July 21, 2025

Objection Review Officer: Forest Supervisor Eric Watrud
Umatilla National Forest
72510 Coyote Road
Pendleton, Oregon 97801

RE: Blue Mountains Biodiversity Project's objection to the Umatilla National Forest Ellis Integrated Vegetation Project Final Environmental Impact Statement and Draft Record of Decision

Submitted via email to: objections-pnw-umatilla@usda.gov
A physical copy was submitted via USPS certified mail to the address above on 07/21/25

Dear Objection Reviewing Officer,

Blue Mountains Biodiversity Project (BMBP) hereby formally submits the following objections to the Umatilla National Forest's Ellis Integrated Vegetation Project (Ellis) Final Environmental Impact Statement and the Draft Record of Decision. BMBP has secured the right to submit objections and thereby participate in the pre-decisional administrative review process for this project. BMBP has submitted timely written scoping comments regarding this project and extensive comments on the Draft Environmental Impact Statement, including field survey sheets from surveying the Ellis commercial logging sale units and photographs from our surveying the affected area for weeks..

Decision Document
Ellis Integrated Vegetation Project Final Environmental Impact Statement and the Draft Record of Decision

Date Decision published
June 4th, 2025

Responsible Official
Douglas C. McKay, District Ranger, Heppner Ranger District, Umatilla National Forest

Description of the Project
The Wallowa-Whitman National Forest Service has "decided to implement Alternative 2 modified, to include Alternative 1 (No Action) for road management actions: The selected alternative also removes large diameter treatments proposed in Shrub-Steppe

(Juniper) over 50%, limiting treatments to 35% slope. Applicable project design criteria are also included in this decision and were developed to minimize the impact of the proposed activities on specific resources....Alternative 2 was developed to focus treatments to improve forest health and resiliency and improve wildlife habitat. Alternative 2 is the selected alternative which proposes mechanical treatment on up to 53,872 acres and excludes commercial harvest of 21-inch diameter at breast height (dbh) and larger trees to be in compliance with the 1995 Eastside Screens, and the "snag and green tree retention portion" of the 2021 Eastside Screens Amendment Decision Notice.
The selected alternative will apply Alternative 2 proposed treatments, which include up to 273 miles of 500-foot fuel breaks, which includes 7,557 acres of large diameter thinning and 23,519 acres of small diameter thinning. For all large diameter mechanical treatments, no trees greater than or equal to 21-inch dbh will be removed. Fuels treatments will include 87,764 acres of prescribed fire.

This decision includes no road closures as analyzed in Alternative 1 of the FEIS....The Minimum Road Density Analysis completed in 2015 determined the road density within the Ellis Project currently meets or exceeds Forest Plan desired conditions."
(Draft Record of Decision, p. 1)

. Therefore, this objection focuses on the Selected Alternative, as specified in the Draft Record of Decision. The Proposed Alternative 2 modified management actions are summarized in Table 1 as follows:
25,207 acres of 7 to 21 inch Large Diameter Thin (commercial logging)
58,872 acres of 0 to 9 inch Small Diameter Thin (non-commercial thinning)
25,523 acres of Fuel Break Thin: 273 miles of fuel break length and 500 wide fuel break buffer
87,764 acres of Landscape Prescribed Burn
Road management:
0 miles proposed seasonally open and 0 miles of roads proposed to retain for future use (closed)
37 miles of roads to keep seasonally open
304 miles to continue to keep open year-long
246 miles of roads to continue to retain for future use
0 acres of roads removed from the road system (decommissioned)
1.9 miles per square mile of open road density
Connected Actions:
17 miles of temporary road construction
606 miles of haul routes

The Draft Record of Decision also includes further detailed descriptions of the selected Proposed Alternative and comparisons with other alternatives considered which can be found on pages 2-5 of the Draft Record of Decision.

General Location:
The Ellis Integrated Vegetation Project area is "located within the Upper Butter Creek, Upper Willow Creek, Rhea Creek, Lower Camas Creek, and the Potamus Creek-North

Fork John Day River 5th field Hydrologic Unit Codes (HUC). Not treatments were considered on private lands, which overlap by about 4,626 acres within the project boundary. Approximately 110,000 acres were considered for treatment on National Forest System lands. The project area is approximately 15 miles southeast of Heppner and 7 miles west of Ukiah, Oregon in Morrow, Umatilla, and Grant Counties." (Final Environmental Impact Statement, p. 1, last par.)

Appellant's Interests

Blue Mountains Biodiversity Project has a specific interest in this decision, which has been expressed through participation throughout the NEPA process. BMBP supporters visit much of the affected area for hiking; camping; fishing; relaxing; bird, wildlife, and wild flower viewing; photography; hunting; and more. The value of the activities engaged in by BMBP volunteers, supporters, and staff would be damaged by the implementation of this project.

BMBP is a non-profit organization that works to protect Eastern Oregon National Forests and the Southeast Washington part of the Umatilla National Forest. Staff, volunteers, and supporters of BMBP live in various communities surrounding the Umatilla National Forest and use and enjoy the Forest extensively for camping; hiking; drinking water; hunting; fishing; general aesthetic enjoyment; gatherings; viewing flora and fauna; gathering forest products; and other purposes.

Request for meeting

BMBP requests a meeting with the Forest Service to discuss matters in this objection and seek resolution of concerns through negotiation before the Umatilla Forest Service makes a final decision on the Ellis Integrated Vegetation Project (aka Ellis project).

Specific issues addressed in this objection

National Environmental Policy Act (NEPA) violations include: proposing management actions inconsistent with achieving the stated purpose and need for the project; failure to provide an adequate range of alternatives by eliminating some public proposed alternatives that could meet the purpose and need; failure to adequately analyze direct, indirect, and cumulative effects of the project; and failure to disclose scientific controversy.

Violations of the National Forest Management Act (NFMA) and the Umatilla National Forest Plan, including failure to provide for population viability for multiple Management Indicator species and other wildlife species and other violations of the Umatilla Forest Plan.

Potential violations of the Umatilla National Forest Plan include violations of management area guidance and Forest Plan standards, include INFISH/PACFISH requirements; potential violations of Management Areas guidance for Wildlife Corridors; Old Growth Management Areas; Potential Wilderness Areas, and violations of Forest Plan standards for elk and deer winter range; snag density and abundance; road density;

and detrimental impacts to soils. We also object to the commercial logging, road building, or road re-opening in Undeveloped lands.

Endangered Species Act potential violations include contributing to a trend toward federal uplisting for the following species: recovering Sensitive (or Endangered) Gray wolf; Threatened-listed Canada lynx; Threatened Wolverine; potential Sensitive Pacific fisher; Threatened Bull trout and Mid-Columbia Steelhead trout, as well as potential recovery of Threatened Chinook salmon; Sensitive Columbia Spotted frog; potential Sensitive salamander and mollusk species; Sensitive Redband trout; and possible Threatened Whitebark pine and various Sensitive-listed plants known to be or suspected to be within the project area.

Clean Water Act violations include failure to demonstrate that the proposed actions will not further impair or retard water quality recovery for the downstream major creeks, and for streams on the 303 (d) list for water quality impairment (e.g. for stream temperature, excess sediment and turbidity, insufficient aquatic macroinvertebrates or pollution) or with TMDLs and water quality management plans that may be violated.

We also express objection concerns regarding "temporary" road construction and closed road re-opening, excessive landscape scale commercial logging and biomass reduction in roadside fuel breaks and within "Ember Reduction" and "Low Intensity" zones, and contribution to cumulative negative impacts to climate stability.

BMBP objects to the Ellis Project for the following reasons:

I. The Ellis project violates the National Environmental Policy Act

The Ellis project violates the National Environmental Policy Act in the following ways: inconsistency with the stated "purpose and need" of the project; failure to provide an adequate range of alternatives based on some of the proposed public alternatives that could meet the stated Purpose and Need through different management actions; failure to adequately analyze direct, indirect, and cumulative effects of the project; failure to take the requisite "hard look" at project impacts required by NEPA; and failure to disclose scientific controversy.

Inconsistency with the stated purpose and need of the project

The Ellis project is not consistent with all the purpose and need goals as expressed in the Environmental Impact Assessment. The project includes the following statements that constitute the purpose and need for the Ellis project on the Final Environmental Impact Statement pages 2-4. The stated "Desired Outcomes" in Table 1-1 are so specific as to the proposed management actions as to exclude any other alternatives or other specific management actions that could meet the broader purpose and needs, with an emphasis on decreasing tree density through logging or otherwise removing trees for virtually all the purposes and "need for change." I am quoting below the broader purpose and needs that could be met in more ecologically protective ways. See the Final EIS listing of all the specifics management actions preferred by the Forest Service on FEIS pages 8 and 9 in Table 1-3.. This is by definition construing the purpose and need so narrowly as to preclude other options to achieve the broader goals, such as not doing the same or similar

management of timber sales over and over even as the logging, roading, and biomass reduction actually reduces forest resiliency and could lead to more intense fires as the outcome.

"Purpose and Need for Action

The Ellis Project is intended to reduce tree density in overstocked stands [a silvicultural term that has a negative connotation although some forest types are naturally more productive and denser] and improve ecosystem health." (FEIS p. 2) "Ecosystem health" is an ambiguous term that usually doesn't result in greater forest resiliency to disturbances from commercial logging removing forest structure and heavy equipment causing detrimental soil impacts and widespread ground disturbance.
"The desired outcome of the proposed activities is to enhance landscape resiliency by creating and maintaining diverse vegetative conditions at both stand and landscape scales." (FEIS p. 2) Notably, this desired outcome could be achieved through other means than commercial biomass removal and heavy equipment use, such as hand thinning of only small trees up to 9-10" dbh and prescribed burning in dry forest types. The vast majority of high density forest stands in the Ellis project area have only dense trees up to about 9-10 or 12" dbh due to past logging or wildfires.

"The overall objectives for the project include increasing forest health and vigor, enhancing unique plant communities; improving wildlife habitat; maintaining and continuing public and traditional land uses; and protecting values at risk and increasing public and firefighter safety in the event of a wildfire." (FEIS p.2)

There are many alternative and effective ways to meet these overall objectives and broader purpose and needs for change that would be more protective of ecological processes and forest resilience that are expressed in our EIS comments. Our following comments are explicit in how some of the proposed management actions are inconsistent with the stated "Purpose and Need for Action" above. Our comments also show how an overly narrow purpose and need or the associated desired outcomes are used to exclude some of the other public suggested alternatives and public recommendations for types of management and values of non-management: See Table 1-1 on FEIS pages 2-4 for specific, more detailed purposes, identified needs for change, and desired outcomes from the Forest Service staff.

Examples of our comments on the inconsistency of proposed management actions with the stated purpose and need for the Ellis project:
Commercial logging and road re-opening or construction does not "emphasize" or "support" "forest health and resilience" as claimed, instead reducing forest resiliency and increasing wildfire intensity, insect epidemics, and the spread of tree diseases and invasive plants. All of these effects impair forest "health". (BMBP EIS comment, pp. 1-2)

Chapter 1: Purpose and Need:

Contrary to the stated purpose and need, commercial logging would not be reducing "overstocked" stands, as tree density is mostly non-commercial size, and would degrade ecosystem health and resiliency.

NEPA requires detailed analysis of issues within the EIS, not just in the project planning record reports. The forcing of the public to find the relevant analysis in the whole project record elsewhere is a violation of NEPA—especially as not everyone has ready access to the internet, including myself for most of the year, and many others in rural eastern Oregon. Further, the public is expected to find the analysis in the EIS, as required, and does not often have the time to search for the missing information. The public also has no way of knowing what is left out of the EIS analysis and how significant that information might be.

Actually, since the whole Ellis sale area has been logged multiple times, with few exceptions, like the Potamus IRA, there is no "excess" density of trees larger than about 6-10" dbh, with the few exceptions being in over-planted dry Ponderosa pine plantations. Commercial logging is not needed to effectively reduce stand density across the sale area. Re: Figure 1-1 on DEIS p. 1: This 1935 to 2019 photograph comparison could be misleading based on recent wild fire or heavy logging in the area prior to 1935. 1935 does not represent an historic baseline prior to commercial logging in the region. Further, there are natural variations in climatic conditions, including moister conditions since about the 1950's. Note that the trees in the 1935 photograph appear to be mostly young.

The problem with standard purpose and need and overall objective statements for yet another landscape scale, intense management timber sale, is that the Forest Service has failed to evaluate the ecological consequences of these repeated similar timber sales, and is still following outdated Forest Plans and "desired future conditions." The Forest Service is not keeping up with current science or rapidly changing conditions and needs related to extreme climate change effects. If the Forest Service was comprehensively field surveying the effects of past timber sales (as we are), they would see that repeating the same so-called management "prescriptions" will not reduce forest vulnerability to insects, disease, and wildfire (the agency's rubber-stamping rationale), but is increasing the forest's vulnerability to these natural disturbances. Typical timber sales and biomass reduction greatly impair soil productivity, drying out the forest and increasing flammability by reducing mature and large more fire-resistant trees, and stimulating dense re-growth of small, young trees, reducing biodiversity, and increasing insect epidemics by leaving homogenous stands.

Natural disturbances should not be reduced or suppressed, as they are key to maintaining functional ecosystems and biodiversity. Staying within a theoretical Historical Range of Variability (HRV) is a bogus reason to log and road the forest to death.

In response to Table 1-1, Purpose and Needs identified for the Ellis Project area, DEIS p. 2:

All of these purposes can be met just with non-commercial thinning of small trees up to about 9" dbh and by prescribed burning in the drier forest types. Logging and roading increase the introduction and spread of exotic invasive plants. Most logging reduces

wildlife diversity—especially in moister and cold forest types. Cattle over-grazing needs to be stopped in all the riparian areas; this is a big problem throughout the Ellis project area. There is already too much hunting in the Ellis area. The elk population appears to have decreased sharply over the past 30 years in the Ellis area. This was predictable due to the over-hunting of mature and large bull elk for trophies and the skewed ration of mature bulls to elk cows of about 1: 150. Higher elevation forest naturally has more stand replacement fire; this is not "uncharacteristically severe". "Fuel" breaks in ingress and egress routes are already implemented all along the Scenic Byway, road 53. There's been way too much recent logging in this sale area over the last 30 years. We field surveyed most of those sales and were involved in negotiations to scale them down in size and logging intensity.

Some of the "Purpose" statements in Table 1-1 are simply not true, showing the lack of institutional history knowledge on the Districts now. For example, there's way too much hunting-related decline in the elk population over the last 30 years in the Ellis area. There needs to be less hunting, not more visibility of elk for hunters. Elk need more good security cover and less roads. There's recently implemented "fuel" breaks all along the Scenic Byway (FS rd. 53) already and all around the Penland Lake residents and campground. We field surveyed the proposed Penland Lake fuel breaks and negotiated with the Forest Service to increase safety but not at so much expense to Forest values. Timber sale production has not been completely "stagnant or in decline" over the last 30 years, as we've field surveyed and negotiated multiple timber sales within the Ellis area within the last 30 years, as well as adjacent or nearly adjacent timber sales. These include the East End sale, the West end sale, the Penland Lake fuel reduction sale, and a number of others which may only partially overlap the Ellis sale or be adjacent to it, including the Sunflower-Bacon sale, hazard tree logging along rd. 21, and a "Rimrock" timber sale named for a ridgeline.

Any "deviation from the natural of variability for forest density, composition and structure" contributing to "forest health" problems is likely due to all the past logging in this area, as well as severe livestock over-grazing—especially in riparian areas. These "deviations" are due to Forest Service mismanagement that the agency would repeat now through landscape scale and high intensity logging, re-opening of closed roads, building of "temporary" roads, and use of heavy equipment on a landscape scale. The "desired condition" mainly opens up the Forest in a way that dries it out and reduces too much forest cover needed for water retention and wildlife habitat, and also eliminates most mature forest structure—live, snags, and logs. This has the overall effect of creating homogenous conditions in stands, greatly reducing wildlife and plant diversity, and greatly reducing forest carbon storage and sequestration just when it's more critical to retain than ever. All the proposed management actions are seen as needed or based on degraded conditions from past and ongoing similar mismanagement. The forest doesn't need the Forest Service to keep repeating past management impact mistakes.
(BMBP EIS comments, pp. 2, last two par.s through p. 3 to the end of par. 2 on p. 4)

The commercial logging is claimed to "improve culturally significant resources" such as by theoretically improving forest health and vigor and improving wildlife habitat. Commercial logging is also being justified as reducing the "risk" of "undesirable" wildfire, despite growing scientific evidence to the contrary. Actually, many recent

studies have emphasized the positive ecological roles of wild fire, including stand replacement fire. Scientific studies have identified significant ecological process disruption from wild fire suppression, a substantial deficit in wild fire compared to historical conditions, no recent increase in wild fire intensity and size, and have found that mature unlogged forests don't burn as intensely as logged forests. Further, recent studies have found that it is unlikely that fuel reduction would have any effect on future wild fire severity, and that the only effective way to protect houses and other structures is to fire-proof the area immediately around the building (create defensible space) and fire-proof the building itself, such as by installing a metal roof and clearing gutters. Scientists have also identified logging as the second biggest cause of climate change and have found that people just can't stop wild fires in severe weather conditions such as droughts with high air temperatures, low humidity, and high wind speeds. Logging does not produce a net increase in carbon storage even compared to wild fire. To see the details and science citations for these findings visit the John Muir Project website. (BMBP Scoping Comments Summary, last two lines on p. 2 through the first par. of p. 3)

This is why we support No Action over any of the action alternatives—the Ellis area has already been extensively logged to death. All that prior logging evidently did not accomplish all the positive outcomes they promised then and are promising for the Ellis sale, such as wildfire "risk" reduction, increased forest resiliency, and the "accelerated" growth of more large trees due to increased tree vigor due to thinning. There is no credible "need" for the current Ellis timber sale, as none of the purpose and need promised outcomes are ever attained. Instead, those purpose and need statements are just deeply flawed rationales for more logging to benefit the timber industry while significantly degrading or eliminating most other Forest values. This pace, scale, and intensity of logging is not sustainable ecologically, economically, and socially. This unsustainability runs counter to Forest Plan goals and standards and to the National Forest Management Act. (p. 83 of handwritten EIS comments, last half of the first long paragraph)

See also our handwritten EIS comments from last par. of p. 61 through the long first par. on p. 62)

See our additional comments under "Failure to Disclose Scientific Controversy" below regarding the basis for the inconsistency of proposed management actions with the stated purpose and need for the Ellis timber sale "project".

The need for action should be based on current habitat conditions within the project area. We field-surveyed with trained volunteers and documented existing conditions in our survey sheets, incorporating our field survey sheets and photographs of conditions on the ground over weeks as part of our comments and for this objection. However, the Ellis project was put on hold for about five years after we field surveyed the commercial logging sale units, with the DEIS comments written in 2022. Some ecological conditions on the ground have probably changed since the DEIS comment period Please let us know if surveys on the ground in the Ellis project area have been done in 2024 or 2025 to reflect existing conditions. The Forest Service already has our survey sheet copies and the photo displays for sample commercial logging sale units that we prepared for our EIS comments and this objection.

Resolution

BMBP has commented on its objection to the Umatilla National Forest's Ellis project in our EIS and Scoping comments (see quotes and citations above.) More of our associated remedy comments on this objection include:

Our remedy comments use alternative 3 as a starting point for remedies for inconsistency between management actions and the purpose and needs stated in the FEIS, as well as for remedies for many of our other objections:

We appreciate that Alternative 3 focuses management in dry forest types (due to fire suppression effects to more open dry forest stands) and emphasizes preservation of old forest structure by not logging old growth and large trees, and not logging within moist mixed conifer old growth. Moist mixed conifer forest types are naturally more productive, usually from greater water retention at high elevations, on north to northeast slopes, along riparian areas and/or on ash soils. Retention of moisture is critical—especially with record-breaking heat waves and increased drought. Logging and biomass reduction reduce moisture retention.

"Relevant Issues" listed on p. i that are included in our concerns include: Relevant Issues # 1, 2, 4, 5, 6, 7, and 8 (all but #3). The scope and scale of the proposed timber sale should be further reduced from what is proposed for alternative 3. We support more road closures and especially more road decommissioning than that proposed for alternatives 3 and 4.

Some of our key recommendations: Drop all planned commercial logging and mechanical biomass reduction in Old Forest Single Stratum (OFSS), Old Forest Multi-Strata (OFMS), and cold and moist forest types. Retain existing higher tree density for hiding and thermal cover in elk use areas, which includes the north half of the sale area, denser forest cover adjacent to streams and wet meadows, and elk calving areas. Drop all management in the Potamus Inventoried Roadless Area except non-commercial thinning by hand only up to 9" dbh immediately adjacent to the access road (within 50 feet of the road) only if really needed. [already decided—Thank you.] Drop all "temporary" road construction. Drop re-opening of closed roads that were closed for environmental protection reasons, effectively blocked, over-grown, or are redundant or unnecessary. Drop all prescribed burning in moist and cold forest types. Don't commercially log along the Scenic Byway (or within view of the Scenic Byway). [Dropped in the Draft Record of Decision—Thank you.] Restrict biomass ("fuel") reduction and "fuel breaks" to non-commercial thinning by hand only up to 9" dbh and/or prescribed burning along roads or private property, with such "fuel" breaks limited to 50 to 100 feet at the most. Rationales for these recommendations and more appear in our comments on effects analysis.

We prefer "No Action" to any of the action alternatives, although alternative 3 is closest to meeting our concerns. Alternative 3 would still need to be scaled down, including by eliminating commercial logging and any road re-opening or road construction in all undeveloped lands, and by narrowing the width of proposed fuel

breaks or biomass reduction (the "Lower Intensity" zone) to about 50-100 feet in width on either side of the road, depending on the height of trees adjacent to the road that could fall into the road. This biomass reduction or "fuel" breaks should only be used adjacent to the most major access roads, such as rd. 53 (which already has recently established "fuel" breaks), rd. 21, and rd. 2105. Planned logging of suitable habitat for American marten in alt. 3 would need to be dropped, along with most of the planned logging in Pileated woodpecker source habitat. (BMBP DEIS comments, p. 1, first four paragraphs)

(See also our DEIS comment on p. 4, last par.)

We request that, to be consistent with the purpose and need for the project, conditions on the ground, and restoration goals, that the Forest Service:
*The scale and intensity of commercial logging needs to be scaled down and not allowing for clearcutting, virtual clearcutting, or very low basal area retention such as 20-60 square feet per acre.
*All never logged sale units and undeveloped lands should not be commercially logged or be subject to "temporary" road construction or re-opening of closed roads. Undeveloped lands and never logged sale unit areas provide wildlife security habitat and often the highest quality wildlife habitat. Larger undeveloped lands provide suitable and extensive enough foraging and reproductive habitat to support rare and declining wildlife species, such as Threatened Wolverine, Threatened Canada lynx, Sensitive Pacific fisher, Oregon Vulnerable-ranked MIS Pacific marten, recovering Endangered Gray wolf, and far ranging native ungulates, including MIS Rocky Mountain elk, moose, and Big Horn sheep.
*Reduce the scale and intensity of planned logging overall to reduce logging of mature trees (e.g. 15" dbh to 21" dbh) that would otherwise be next in line to become future large trees and restore large and old trees to the landscape, which are more resilient to fire and are needed for many associated wildlife species. Drop any planned large tree felling, girdling, or topping, except for certified hazard trees. Large live trees, snags, and logs sequester the most carbon to reduce extreme climate change effects, such as prolonged droughts and heat waves and more intense and extensive wild fires.
*Reduce the logging impacts to forest resiliency and structure and to maintain heterogeneous conditions and greater biodiversity. Decrease the number of commercial logging sale units by dropping commercial logging in moist mixed conifer, Lodgepole pine forest, and in old growth and Late and Old Structure forest, as well as in undeveloped lands or never logged sale units. See our survey sheets for guidance as to the best wildlife habitat in sale units, according to our characterization of conditions and our recommendations to drop or modify sale units. The adoption of Alternative 3 would scale down the Ellis timber sale by not logging moist mixed conifer and cold high elevation forest and would reduce some of the high intensity logging planned.
*Specifically, drop all acres of patch cuts and all acres of clearcutting or virtual clearcutting such as Seed tree and Shelterwood clearcutting. The higher intensity logging would decimate suitable habitat for: Vulnerable ranked MIS Pacific marten, MIS Rocky Mountain elk, MIS American goshawk, and wildlife security habitat for Endangered Gray wolves, Threatened Wolverine, Threatened Canada lynx, and potential Sensitive Pacific fisher.

*Drop all acres of planned steep slope logging > 30% slope, which retains more wildlife security for elk and predators (e.g. Wolverine, Canada lynx, Pacific fisher, Pacific marten, and recovering Gray wolves.) Steep slope logging also threatens water quality downhill from logging on steep slopes due to sediment channelization that can reach drainage streams. Steep slope logging causes loss of irreplaceable ash soils, which are critical for moisture retention in the context of climate change droughts, heat waves, and more intense wild fires.
*Drop all acres of planned commercial logging in Riparian Habitat Conservation Areas (RHCAs) [apparently dropped in the Draft Record of Decision—Thank you.] to protect water retention, cool water temperatures, no excessive sedimentation of streams, and riparian plant cover instead of ground disturbance and invasive exotic plants to support the habitat requirements for recovery of Threatened Bull trout and Chinook salmon, Threatened Mid-Columbia Steelhead trout, where these fish species had historic habitat. No RHCA logging and heavy equipment use in RHCAs would also benefit the viability of Sensitive Columbia spotted frogs, as well as protect potential Sensitive mollusks and Sensitive riparian plants.
*Restrict conifer thinning to 15" dbh or less in aspen stands and meadows needing restoration, while retaining all conifers to stabilize the banks of streams and provide for shading. Any conifer trees felled should be left on the ground to provide floodplain roughness and as barriers to cattle grazing aspen sprouts.
*Drop all commercial logging in all moist mixed conifer old growth forest (as in alternative 3) and in all logging in Late and Old Structure (LOS) forest except for noncommercial-size thinning up to 9" dbh, allowing for prescribed burning in dry forest types, including LOS.
* Increase basal area retention in remaining sale units and leave more retention patches of diverse tree species and density within sale units for greater variability across the landscape. Drop clearcutting and patch cuts. Don't go below the Lower Management level for dry forest types, and allow basal area retention to go over 80 square feet of basal area as a minimum in dry forest to go up to 100 square feet of basal area in moist mixed conifer and with higher basal area retention where there are large or old trees.
*Drop sale units that are most used by wildlife, including species dependent on large trees and large or abundant snags such as MIS primary cavity excavators and for wildlife needing greater levels of security cover, such as Northern goshawk, Rocky Mt. elk, Mule deer, and Gray wolves.
*Dop all miles of "temporary" road construction. We support road decommissioning for ecologically destructive and redundant or unnecessary roads, as well as roads fragmenting core blocks of elk security habitat. We also support planned culvert replacement and removal.
* We are largely not opposed to the Forest Service reducing small tree density in even-aged Ponderosa pine and Western larch plantations up to 9-15" dbh, including small openings allowing for natural tree species diversity seeding in. (See our survey sheets.)

Failure to provide an adequate range of alternatives in response to public concerns

The Ellis Environmental Impact Statement does have a range of alternatives.

However our EIS comments were clear in recommending more viable action alternatives based on reasonable management changes that would still meet the stated Purpose and Needs for the Ellis project area to further address public concerns. Our EIS comments explain our objection:

Alternatives Considered but Eliminated from Detailed Study:

Since the vast majority of high tree density across the entire Ellis sale area is only small young trees generally only up to 9" dbh, using small diameter thinning and prescribed burning only is actually a reasonable alternative for meeting project objectives and should not have been rejected from detailed study. Due to multiple timber sales across the project area having already significantly removed mature and large tree forest cover, leaving many gaps in overstory canopy and many openings already, just non-commercial thinning and doing prescribed burning in the less productive, more water-stressed dry forest type would be sufficient to achieve the desired outcomes of forest health and vigor, reduction of "undesirable" effects to wildlife, and providing forest products and employment to support local communities. There are still jobs created (which is the main purpose of forest work in this area) through small tree thinning by hand, prescribed burning, riparian restoration work, hazard tree felling along major roads, and road closures and decommissioning. Non-commercial small tree thinning, and burning in the dry forest type areas would greatly reduce the most flammable biomass "fuels" regarding fire, and would relieve inter-tree competition stress for water and nutrients substantially.

Alternative C, "Structure Ignition Zones" actually does effectively address the overall objectives of reducing the risk of "uncharacteristic" severe wildfire effects to values at risk (residential homes in the Ellis project area) and should have been studied in detail. There are current science studies that find that the most effective fire risk reduction for homes and infrastructure is doing biomass "fuel" reduction within 100 feet of the home or other building—not ¼ to 1 ½ miles out from the homes or structures. See our enclosed science articles as part of our comments, including "Everything You Wanted to Know About Wildland Fires in Forests but were Afraid to Ask: Lessons Learned, Ways Forward" by Ph. D. scientists Dominick A. DellaSala, Timothy Ingalsbee, and Chad T. Hanson, March 30, 2018.

Regarding Alternative D: Reduced Livestock Grazing: There seems to be little accountability for the chronic cattle overgrazing to extremely low stubble heights, hedging of riparian hardwoods, erosion of streambeds, alteration of stream channels to greater width vs. depth ratios, and simplification of plant communities, with concurrent livestock-caused increased introduction and dispersal of exotic invasive plants. These severe impacts are killing off the biodiversity, vitality, and sustainability of riparian ecosystems in the Ellis project area. Allotment plans are obviously not stopping violations of grazing standards and are allowing for trends toward "functioning at risk" or non-functioning riparian systems instead of moving toward INFISH/PACFISH Riparian Management Objectives. (BMBP EIS comments, last par. p. 12 through the 2nd par. of p. 13)

While we recognize that livestock allotment renewal processes are separate from timber sale planning, livestock grazing causes significant negative impacts to the forest and riparian ecosystem that must be considered in detail as part of cumulative environmental effects. Arguably, the Forest Service failure to stop extensive and severe negative effects to the riparian ecosystem is partly due to the lack of coordination between livestock management and timber sale project planning to restore riparian ecosystems and to address over-grazing as a cause of dense tree seedling regeneration from little to no competition with grasses and shrubs. See the following NEPA objection regarding inadequate cumulative effects analysis. We do appreciate the Forest Service decision to not commercially log within the RHCAs.

We are also asking the Forest Service to not use heavy equipment within the RHCAs and not fell, girdle, or top large conifers within the RHCAs. We also appreciate alternative 3 for scaling down the commercial logging and switching more commercial sale units to non-commercial thinning and/or using prescribed burning, with prescribed burning only in dry forest types.

Resolution

BMBP has commented on its objection to the Umatilla Forest Service's inadequate range of alternatives in the Ellis Environmental Impact Statement and requested a broader range of alternatives in our comments or incorporation of the above two public recommendations in the offered action alternatives . See our comments quoted and cited above.

To remedy this problem, the Forest Service would either have to reissue a new Environmental Impact Statement offering a full range of alternatives as required by NEPA for public review and comment, with a new objection process based on the EIS or better meet our concerns through our objection negotiations. Our concerns regarding not incorporating detailed consideration of the contribution of more effective and economical fire risk reduction management and the contribution of livestock over-grazing to the existing conditions are expressed under Inconsistency with Purpose and Need above and in our other remedies suggested in each section of our objection. For instance:

*Reduce the overall scale of commercial size logging (of mature trees 15-21" dbh), which alternative 3 would incorporate.
*Modify proposed logging intensity and retain much higher levels of basal area to maintain more forest structure for wildlife and soil nutrient cycling. Drop all logging to the lower management zone and low basal area retention such as virtual clearcutting with low basal areas as extreme as only 10 and 20 square feet of basal area retention (See FEIS p. 16) and leaving only 10-50 square feet of basal area per acre in the stand, as in alternative 2 in cold and cool moist forest areas and patch cuts. Drop such low basal area retention as low as 25 BA, as planned for hot, dry forest sites with Ponderosa pine/Idaho fescue under alternative 2
*Drop such low basal area retention in alternative 3 proposed under "Sanitation" and "Salvage" cuts, and increase planned basal area retention from 30 to 80 BA to at least 60

to 100 BA as a range for sale units, with more basal area to be allowed where large trees are present. (See FEIS p. 21 re: "Dry Forest Mechanical Treatments", 3rd par.)
*Drop all Shelterwood and Seed tree clearcutting proposed under alternative 2. (See FEIS p. 16, par. 3)
*Retain far more mature trees 15 " dbh and greater, regardless of species, to retain and increase needed future large structure, which is at a great deficit in the project area compared to historic conditions.
*Change more sale units to only non-commercial-size thinning instead of commercial logging, or to no thinning, throughout the sale units, especially those sale units with suitable habitat density and canopy closure for Management Indicator species Pileated woodpecker; American marten; elk (and deer) thermal and hiding cover; primary cavity excavators; and Northern goshawk. Alternative 3 would address some of our major concerns for suitable source and foraging habitat for the MIS and wildlife species above, as well as for potential TESC wildlife species such as Endangered Gray wolf, Threatened Canada lynx, and potential Threatened Wolverine and Sensitive Pacific fisher. This would be achieved by alternative 3 dropping all commercial logging in cool moist and cold, high elevation forest types.
*Drop logging of suitable or active Pileated woodpecker and American marten source habitat, which are indicated on our survey sheets by high old growth mixed conifer counts per acre; large live, snag, and log tree structure; fresh and recent Pileated foraging sign; and for marten, abundant down wood, large snags, and/or the presence of large enough root wad burrows for marten with higher canopy closure at =/> 60% canopy closure.
*Drop any sale units or parts of sale units that have never been logged.
*Thank you for dropping commercial-size logging and all heavy equipment use within the RHCA buffers. Thank you for apparently abandoning girdling or felling large trees 21" dbh or greater to allow for future large snag and log recruitment. Woodpeckers are much more likely to use naturally developed snags than artificially made snags. We appreciate respecting the Eastside Screens court decision to reinstate the 21" dbh limit for cutting and killing live trees =/> 21" dbh.
*Drop all "temporary" road construction and greatly reduce the re-opening of currently closed roads. Especially don't reconstruct or re-open roads already grown over or roads that were closed for ecological protection reasons, including roads within riparian buffers or that are hydrologically connected to streams.
*See recommendations on our survey sheets, as well as wildlife species sign mentioned, old growth counts, and forest type, for specific sale units or parts of sale units we want modified or dropped.

Failure to adequately analyze direct, indirect, and cumulative effects

The Ellis Environmental Impact Statement demonstrates failure to adequately analyze environmental effects of the project throughout the document, including omissions of negative effects such as the following addressed in our comments:

Inadequate Direct and Indirect Effects Analysis:

Our following comments explain our concerns regarding inadequate analysis for direct and indirect environmental effects:

Systematically, throughout this DEIS, analysis is grossly inadequate, as it does not disclose the insights of competing credible science that paints a different picture of cause and effect. This includes the negative impacts of proposed extensive logging to very low basal area retention, the negative impacts of logging large trees and mature trees that would grow into large trees that are more fire-resistant, and the problems with contiguous huge blocks of heavy logging (e.g. the combined ERZ and LIZ "fuel" breaks extending up to 1 ½ miles from roads to intersect with other road "fuel" breaks) that would increase wind speeds through the stands and cumulatively dry out the stands by removing shading and down wood, as well as leaving lots of flammable small tree and branch slash. The DEIS also fails to disclose more ecologically sound approaches than the proposed management that better restore, rather than degrade, ecological functioning and habitat for declining wildlife and plant species. (EIS comments, p. 13, last par., apparently not changed in the FEIS)

Re: DEIS p. 50: The heavy bias in favor of logging permeates all aspects of the DEIS. For instance, commercial logging, too many roads, and livestock grazing all tend to create "extensive loss of ecosystem services" attributed only to wildfire. Yet over-management degrades natural amenities that "affect how much people are willing to pay for real estate" and "can reduce property values", though these effects are attributed only to wildfire.

It's notable that forestry is a continually declining income source due to substantial past over-logging and greatly reduced average tree size, as well as timber industry automation and major timber corporations leaving the area for easier pickings in other countries with less environmental regulation. Thus the DEIS combined forestry with the more substantial agriculture sector, plus fishing and hunting (which are often harmed by timber sales and livestock over-grazing removing forage for deer and elk) to make it look like a major sector of employment at a combined 13.9%. However forestry is a much smaller percentage of employment, especially when measured as timber sale revenue-related jobs instead of forestry in general, which could include aquatic restoration, non-commercial small tree thinning, prescribed burning, trail maintenance, etc. This seems purposefully misleading. (See Figure 3-6, DEIS p. 51)

So many Forest values are still being sacrificed for what is now only 2.2% of total employment in "forestry-related sectors" in the broad analysis area of five counties, and only 5% of all timber-related jobs in Oregon. Values being sacrificed to continued over-logging on a completely unsustainable scale, pace, and intensity include biodiversity of wildlife and plant species, water retention, carbon sequestration and storage, and foundational ecological processes. (BMBP EIS comments, 7th and 8th par.s and last par. on p. 14 and 1st par. of p.15) with the FEIS Socioeconomic effects analysis still neglecting to consider the negative economic and social impacts from extensive and intensive commercial logging and ground disturbance, including local recreationists losing a sense of place; loss of visual quality; potential loss of abundant wildlife, including elk; and loss of recreational activity enjoyment such as less mushroom gathering due to less moisture and more ground disturbance and loss of huckleberry

abundance from ground disturbance and loss of overstory and midstory canopy providing cool, moist conditions for huckleberry re-growth.

The lower success rate of hunters in the Ukiah area may be due to substantially lower forest hiding cover compared to the Heppner District area, which should have been analyzed for effects from the Ellis timber sale. (BMBP EIS comment, p. 15)

The Ellis DEIS should have included detailed, in-depth analysis for potential effects to rare, Sensitive-listed wolverine and Sensitive Pacific fisher (both of whom were candidates for federal up-listing), and Threatened-listed Canada lynx.

Even if there is no resident population of Canada lynx on the Umatilla National Forest (which is highly debatable, as there is plenty of suitable habitat and Snowshoe hares on the Umatilla), effects to dispersing lynx (and fishers, and far-roaming wolverine) should still be analyzed. (See DEIS p. 84, last par.) A single, politically-motivated "white paper" is not enough to justify failure to consider potential project effects to a Threatened-listed species (and two Sensitive-listed species) known to have historically occupied the Umatilla National Forest. As far as I know, there has been no on-the-ground long-term scientific study to establish the absence of lynx, Pacific fisher, or wolverine on the Umatilla National Forest.

The following DEIS conclusion that is usually used to support the need for detailed potential effects analysis to federally or state-listed wildlife species that could be using a project/timber sale area, should have been applied to inclusion of analysis for potential effects to Canada lynx, Pacific fisher, and wolverine: "It is also important to note that accurate estimates of wildlife populations relative to the project area are difficult if not unfeasible to obtain. It is unlikely that all activity centers such as dens or nests have been found. Lacking complete information on species distribution and abundance, when this habitat occurs on which a species depends, we generally consider the habitat as potentially occupied." (DEIS p. 84, par. 2) Considering the habitat as potentially occupied is a justifiable precautionary approach to consider potential effects to rare and listed species. (BMBP EIS comments, p. 20, last par. into first par. of p. 21)

Potential effects to dispersing Sensitive Gray wolves are not considered in detailed, in-depth analysis in the Ellis DEIS even though Gray wolf is listed in Table 3-31 on DEIS p. 85. This is a strange omission, as the description heading for Table 3-31 is: "Sensitive vertebrate species listed for the UNF [Umatilla National Forest] that may be impacted by [the] project and required additional analysis." (DEIS p.85, emphasis ours) This Table description should have triggered the required additional effects analysis for Gray wolf, as well as for Sensitive Pacific fisher and Sensitive wolverine, based on the full listing of regional and Umatilla National Forest Sensitive species. Of course the same should have been done for the acknowledged Threatened-listed Canada lynx. Yet the rest of the description for Table 3-31 has this terse shunting off of responsibility through lack of disclosure in the DEIS: "Full list pulled March 2019 (see Wildlife Report for full list of species)." The public should not have to find and read a separate wildlife report to know what the full list of Sensitive wildlife species is for the region and the Forest, and which species were left out of the analysis, as we described above. The analysis discussion of potential effects to Rocky Mountain elk should have also triggered in-depth analysis of effects to Gray wolves, as they are the elk's main natural predator.

....The public should be allowed to decide whether or not proposed actions will affect TESC species, Management Indicator species, and Land Birds of Conservation Concern by knowing which of these could be in the project area and what specific habitat all of these species need. (See DEIS p. 84, par. 4) Wildlife species cannot be excluded from effects analysis in the DEIS because of "project design and design features or other mitigations" (DEIS p. 84, par.4), as these should be disclosed in detailed effects analysis for the wildlife species, so that the public can evaluate whether or not the project design, design features, or other mitigations are sufficient to protect the species' habitat. Even when a wildlife species or its habitat is not considered present in the project area, these species are usually disclosed in at least a table in the EIS to show why that determination was made, including description of the species' suitable habitat.

Threatened Canada lynx, Sensitive Pacific fisher, and Sensitive wolverine should have been analyzed in depth for effects in the DEIS as potentially occurring in the Ellis project area and having at least potential dispersal and foraging habitat in the project area. Pacific fisher and wolverine should have been included in Table 3-31 as Sensitive vertebrate species "that may be impacted by [the] project and required additional analysis." (DEIS p. 85, Table 3-31 description heading) There should have been acknowledgement that these three species have been known to occur on the Umatilla National Forest. The DEIS analysis should have included any reported sightings or other evidence of presence for Canada lynx, Pacific fisher, and wolverine; with description of the species' habitat needs and ranges, and the acreage of suitable habitat a pair of each of these three species would need to have a viable population. Effects to these species' successful dispersal for migration between winter and summer habitat and for genetic diversity or escaping climate change effects rendering existing former habitat unsuitable should have been covered in the DEIS analysis for consideration of effects to the viability of Canada lynx, Pacific fisher, and wolverine in the project area.

Have there been any surveys, camera set sightings, bait station evidence, or reported sightings for Canada lynx, Pacific fisher, or wolverine on the Umatilla National Forest or in or near the Ellis project area in recent years? This lack of disclosure seems like a politically motivated erasure of these species. How is the public supposed to assess the accuracy of effects analysis when it doesn't appear in the DEIS, and relevant wildlife species that could exist in the project area, including Sensitive-listed species, are not even disclosed in the DEIS? This lack of disclosure and detailed effects analysis violates NEPA. (BMBP EIS comments, p. 21, 2nd to last par. and last two sentences of the last par., into the first three paragraphs of p. 22)

The FEIS did increase the analysis for effects to Endangered and Sensitive Gray wolves (see FEIS pp. 90-92). Yet the action alternatives effects analysis fail to disclose the negative effects to Rocky Mountain elk, the wolves' primary prey, from planned high intensity logging on a landscape scale (especially in alternatives 2 and 4) would eliminate the elks' suitable higher density forest, which elk strongly select for their security from hunters and large predators and for thermal cover. Rocky Mountain elk have been increasingly leaving the Ellis area upon the advent of rifle hunting season, using private lands hay for forage and decreasing elk hunting success and increasing conflicts with local ranchers. Yet none of this was addressed. Displacement of elk from the Ellis project area would likely be greater in numbers due to extensive loss of elk preferred

higher density forest and elk security habitat on steep slopes that would be eliminated by extensive, high intensity logging to very low basal area retention. Alternative 3 would cause less habitat loss to elk and Gray wolf by not commercially logging cool moist forest and cold high elevation forest, where forest cover is greater and there is more elk security habitat on steep slopes and in more remote forest with less human disturbance, including all undeveloped lands, and the never logged or still dense mixed conifer forest in sale units. During field surveying the Ellis sale, we saw most elk along road 53, as this provides denser cool moist mixed conifer and nearby high elevation elk security habitat. Elk hunting is probably the biggest recreational attraction in the Ellis sale area and is an important cultural use for indigenous people in that area which is part of their treaty rights. Yet none of these negative effects were analyzed in depth regarding the chain reaction of loss of suitable habitat for elk in turn threatening the viability of Endangered and Sensitive Gray wolves in the Ellis area through loss of sufficient prey.

See the Endangered Species Act section below. Pacific fisher have been documented on the Umatilla National Forest —in the Fox Inventoried Roadless Area, if I remember the IRA name correctly. I have had two positive daylight sightings of Canada lynx just south of the southwest end of the Umatilla and crossing highway 19 to the John Day River, with this lynx (or two) likely using the Ellis area as winter habitat. There was a black wolf daylight sighting by an excited ATV rider who told us about the sighting while we were field surveying the Ellis timber sale and we also found a wolf trap sign, but now the wolves are back in the Ellis area and cannot be written off so easily regarding negative effects since the Gray wolf is now listed as Endangered east of highway 97.

Primary Cavity Excavators:

Forest Service staff seem to have been strangely reluctant to fully disclose their data sources, methodology, or specific numerical estimates regarding effects to wildlife species, contrary to NEPA requirements. Usually in an EIS there would be a table to show known reference conditions for snag densities compared to existing available snag densities by size. Yet for the effects to Primary cavity excavators, even though it's clear they are using this information, they refuse to divulge it in the DEIS. For instance, large snag densities are judged to be "very close to reference conditions" in the Ponderosa pine/Douglas fir habitat type, but neither the reference condition large snag density nor the existing snag density is divulged, so we don't even know if large snags are above or below reference conditions, or by how much. The attitude of the Forest Service seems to be that the public should just blindly trust whatever they say, while the point of NEPA is to disclose sources, methodology, and actual figures pertaining to agency claims, so the public can make their own judgements, based on the science. Knowing the details is essential to informed public comment. (BMBP DEIS comments, p. 26 are still applicable to the FEIS Primary Cavity Excavator section, pp. 104-106.)

Although the FEIS added extra detailed analysis for soil impacts from the Ellis Soils Resource Report, our following critique of inadequate analysis for detrimental soil impacts still applies to the FEIS Soil analysis from page 139 to page 145.

Soils:

Obviously, just trusting the Forest Service to use "the proper application" (which remains undefined) of "mechanical activity, fuels treatments, and Project Design Criteria" has not worked in past timber sales in the Ellis area to keep the impacts "short-lived" and "not decrease soil productivity in the long term" when there are still long-term detrimental soil impacts evident from past timber sales up to decades ago, such as the acknowledged "soil compaction, displacement, erosion, and less woody material than natural conditions within the current project boundary." (DEIS p. 121, 2nd to last par.)....Yet the DEIS does not even disclose the specific "Forest, Regional, and National recommendations" or how they would be met by the Project Design Criteria. The consistency of non-disclosure of critical information to the public for evaluating the severity of potential impacts is glaring.

The DEIS analysis continues this non-disclosure trend by not allowing the public to examine data on "current forest-wide soil quality conditions and trends as the basis for determination" if soil quality objectives, standards and guidelines are met and are in accord with current scientific knowledge." (DEIS p. 121, last par.) There are no science citations, science finding descriptions, or methodologies disclosed regarding how determination of no long-term soil impact being caused was made and how PDCs would keep soil disturbance and overall soil productivity "within levels identified by Forest, Regional, and National recommendations", which are also not disclosed.

All this non-disclosure may also violate Forest Service Manual 2520 Region (R6) Supplement No. 2520.98-1, "which identifies policy 2521.03 which directs forest to assess current forest-wide soil quality conditions and trends by conducting monitoring activities to determine if soil quality objectives, standards, and guidelines are met and are in accord with current scientific knowledge." (DEIS p. 121) This process must have been intended to lead to public disclosure of the consequent findings. (pp. 71-72)

The DEIS needs to demonstrate that resulting conditions will meet Forest Plan standards, which is impossible to do without disclosing known existing conditions in a quantified, sale unit-specific manner and without disclosing the likely percentage per area of detrimental soil impacts that would result from planned ground machinery-based or soil disturbing management actions. (p. 73) (BMBP EIS comments, p. 33, last par. through the third paragraph of p. 34)

The DEIS seems to lack a lot of critical information usually provided in EISes, such as disclosure of Management Areas, MA goals, and how these would be affected by the action alternatives re: wildlife, fish, water quality, etc. (BMBP EIS comment, p. 5) The FEIS did not provide this information as to identification of affected Forest Plan Management Areas and associated MA standards, goals and guidelines, and whether proposed management for these Management Areas would meet Forest Plan requirements for these Management Area standards (which are legally enforceable) and whether proposed management would be congruent with MA Forest Plan goals and guidelines. So the gap in this standard environmental effects analysis for Environmental Impact Statements is repeated in the FEIS.

Another BMBP EIS comment regarding inadequate effects analysis is in the 2nd paragraph of p. 11 of our typed EIS comments. There may be more comments regarding

inadequate environmental effects analysis in our handwritten EIS comments, although many of the handwritten comments are duplicative of the typed EIS comments.

Inadequate Cumulative Effects Analysis:

Regarding Alternative D: Reduced Livestock Grazing: There seems to be little accountability for the chronic cattle overgrazing to extremely low stubble heights, hedging of riparian hardwoods, erosion of streambeds, alteration of stream channels to greater width vs. depth ratios, and simplification of plant communities, with concurrent livestock-caused increased introduction and dispersal of exotic invasive plants. These severe impacts are killing off the biodiversity, vitality, and sustainability of riparian ecosystems in the Ellis project area. Allotment plans are obviously not stopping violations of grazing standards and are allowing for trends toward "functioning at risk" or non-functioning riparian systems instead of moving toward INFISH/PACFISH Riparian Management Objectives.

The Ellis timber sale DEIS must plan to avoid all further timber sale logging and road impacts to stream systems, moist and wet meadows, springs, seeps, fens, and river system tributaries. The Ellis "project" as a whole should be focused on ecologically sound restoration rather than commercial logging, closed road re-opening, "temporary" road building, and any management that further dries out the forest (like extensive "fuel" breaks in cool, moist or cold forest) in order to maximize water retention and riparian ecological vitality in the face of climate change-fueled chronic droughts and heat waves, plus less overall precipitation. Livestock over-grazing effects and extreme climate change effects should have been included in all the cumulative effects analysis. (BMBP EIS comments on p. 13, 2nd and 3rd par.s) The FEIS does not seem to be explicitly analyzing the interactive cumulative effects of livestock grazing, climate change, and logging on the landscape scale of the Ellis timber sale project.

The DEIS acknowledges that "it is important to note that because different vegetation data sets were used to estimate project level and forest wide MIS source habitat, a direct comparison of impacts of the proposed treatments within the project area to forest level impacts of source habitat has limitations and should be used with caution." (DEIS p. 84, 1st par.) There is another reason to be wary of Forest-wide vegetation data sets to determine the viability of a species within a project area regarding the effects of proposed management actions: there is usually no analysis of ongoing and foreseeable future management effects to these species across the whole Forest in the EIS. This tends to downplay negative impacts to the species based on the dilution of effects to the species at the Forest scale. This is the case since the viability of the species is determined at the Forest scale—without consideration of cumulative effects of ongoing management and foreseeable future management impacts to the species at the Forest scale. Thus switching the scale of analysis to determine species viability results in unreliable effects determinations for the viability of the species. (BMBP EIS comments, p. 22, last par. through the first par. of p. 23)

As usual, the Forest Service's viability analysis for Lewis' and White-headed woodpeckers is flawed, as the analysis fails to consider cumulative impacts of many other timber sales, "fuel" breaks, and prescribed burning across the Forest to these species'

habitat—from ongoing implementation of current timber sales, and from timber sales that have not been implemented yet but have decisions allowing their implementation, as well as foreseeable future timber sales and other projects—across the entire Forest.

There is no certainty that 23% of the available source habitat (which actually only pertains to White-headed woodpeckers) would not be negatively affected rather than positively. There is no analysis as to what a rather large loss of source habitat of 23% would mean to the viability of either species in the planning area. Without up to date credible scientific data as to the population status currently of these species on the Forest and in the project area, there is no credible basis for an assurance of continued viability of either Lewis' or White-headed woodpecker in the project area or on the Forest. (BMBP EIS comments, p. 24, 2nd and 3rd par., not changed in the FEIS)

Another BMBP comment on inadequate cumulative effects analysis can be found on page 30, last par. and p. 31, 1st par.) There may be additional comments on inadequate cumulative effects analysis in the handwritten DEIS comments.

For example, BMBP EIS comments regarding inadequate cumulative effects analysis for effects to Pileated woodpeckers can be found on handwritten comments on pages 29, 30, 31, 33,34, and 35. See sample BMBP EIS comments on inadequate cumulative effects analysis for Pileated woodpecker below:

The DEIS analysis for cumulative effects to Pileated woodpecker also fails to consider any other possible cumulative effects to Pileated woodpeckers, including predation from large raptors and owls when their habitat is opened up too much from logging. (BMBP comment from last line of p. 29 into p. 30, 1st par.)

The cumulative effects analysis fails to specify how the cumulative effects would add up and how the combined total of cumulative effects of past, ongoing, and foreseeable future management plus the Ellis project [which] would affect the viability of Pileated woodpecker in the Ellis area and across the Umatilla National Forest. (BMBP handwritten comment, p. 30)

The Effects determination for Pileated woodpecker has the same basic flaws as for other species. The DEIS admits that "All action alternatives will cause significant effects to Pileated woodpecker source habitat within the project area." (BMBP DEIS handwritten comment on p. 31) Tellingly, the FEIS changed the language on FEIS p. 103 to: "All action alternatives would cause measurable effects to pileated woodpecker source habitat within the project area." Thus the meaning was changed from "significant effects" to the more ambiguous weasel word of "measurable" effects, which sounds more benign.

Planning to log 12% of Pileated suitable habitat on the Forest scale is still a probably unprecedented loss of Pileated source habitat for just one timber sale "project." This is a very significant loss of Pileated woodpecker source habitat, considering that virtually every timber sale eliminates suitable Pileated habitat across the Forest, and all of the loss of Pileated habitat (and marten, and Three-toed woodpecker habitat) already and pending to foreseeably happen is not quantified in the analysis at all. Such high losses of declining and Management Indicator species' source habitat is unreasonable and

unacceptable. (BMBP EIS handwritten comment on p. 33, near the bottom of the page)

NEPA requires full public disclosure and in-depth, detailed analysis of cumulative effects of past, current, and foreseeable future management and other impacts (such as climate change, road construction, livestock grazing, and toxic herbicide use) in order to prevent foreseeable heavy losses of species' habitat, biodiversity, and ecological functions. (BMBP handwritten EIS comment, p. 35)

Resolution:

*The Final EIS would have to be revised to correct inadequate cumulative effects analysis based on our above EIS comments.

Alternatively, the Ellis timber sale must be revised significantly to better protect the viability and suitable habitat for Management Indicator wildlife species and TESC wildlife species by:

*dropping all commercial logging and road construction or re-opening in all the never logged undeveloped lands, including the never logged sale units.

*dropping all Shelterwood or Seed tree clearcutting and patch cuts (mini-clearcuts) and very low basal area retention logging in marten and Pileated woodpecker suitable habitat, which would also benefit MIS Primary Cavity Excavators and Rocky Mountain elk;

*dropping all good security habitat for MIS Rocky Mountain elk;

*and dropping all "temporary" roads and most re-opening of closed roads due to the need for disturbance-affected MIS wildlife to have security habitat within the project area, for MIS Rocky Mountain elk, MIS Pacific marten, and TESC predators such as Gray wolves, Wolverine, Pacific fisher, and Canada lynx that are more readily poached from roads and increased ATV access. *All known occupied Pacific marten habitat needs to be dropped from commercial logging and biomass reduction, including loss of abundant and large snags, loss of mature tree canopy closure (which also benefits MIS Pileated woodpecker and American goshawk) and loss of abundant elevated and down wood for marten subnivean winter foraging.

Alternative 3 would protect most Pacific marten, Pileated woodpecker, and Rocky Mountain elk suitable and reproductive habitat by dropping all commercial logging in cool moist forest and cold high elevation forest, which would also benefit Endangered and Sensitive Gray wolves, any Threatened Canada lynx and any Sensitive Pacific fisher or Threatened Wolverine using the project area.

Failure to Disclose Scientific Controversy

The Ellis project violates NEPA by failing to disclose significant scientific controversy over the efficacy and ecological soundness of managing to reduce the severity of wildfire (essentially acting to further suppress wildfire) as a natural disturbance and implementing heavy commercial logging and extensive "fuel" breaks that would eliminate suitable habitat for MIS Rocky Mountain elk and many other wildlife species, including MIS Pacific marten, Pileated woodpecker, and Primary Cavity Excavators under the guise of fire risk reduction This failure to disclose significant scientific controversy leads to

consequent suppression of scientific evidence and perspectives supporting other management, or non-management, as opposed to the Forest Service's proposed action alternatives in the Ellis FEIS.

Examples of our comments regarding the Ellis FEIS failure to disclose scientific controversy include the following:

Fire and Fuels: The DEIS existing condition section on "Fire and Fuels" fails to disclose significant scientific controversy over the use of fire regimes (Powell 2011) and condition class analysis that is considered flawed and misleading. The fire risk characterization (as on DEIS p. 47) emphasizes surface fuel loading and tree crown canopy instead of prioritizing consideration of more significant factors that are driving high intensity and extensive wild fires. These driving factors include low humidity, high ambient air temperatures, and high wind speeds, all of which are exacerbated by climate change. However these fire-driving factors can also result from heavy logging of stands, which dries out micro-climate conditions and increases wind speeds through more open stands. (BMBP EIS comments on p. 13, 2nd to last par.—not addressed in the FEIS)

What is not being mentioned in the DEIS analysis for wildfire is that there are scientists who have found that there is not just a deficit ecologically for low severity fire, but also for all wild fire, including mid- and high severity fire. Many native species of wildlife and plants evolved with fire-created habitat niches from different severity levels of wildfire. These include tree species such as Western larch, Ponderosa pine, and Lodgepole pine, and wildlife species such as Blackbacked woodpecker, Olive-sided flycatcher, and species that depend on fire scars and cavities for dens, such as American marten and Pacific fisher.

The DEIS analysis ignores multiple studies finding that even Ponderosa pine-dominant forests were not just adapted to low severity, but also subject to stand replacement severity fire. (BMBP EIS comments on p. 14, 2nd and 3rd paragraphs)

The Forest Service is over-using (and possibly misinterpreting) a single set of scientists' studies (Hessburg et al. 1994, 1999) to the exclusion of other science findings. There is no concrete evidence from the field that wild fires and periodic insect epidemics are currently causing "uncharacteristic" effects (unless more recently due to human-caused extreme climate change) as historically there have also been large scale stand replacement severity wildfires and periodic insect epidemics as natural disturbances. There is also no wide spread evidence that decades of commercial logging assumed to have beneficial effects "to restore stand resiliency to an extent where natural processes such as wildfire, endemic levels of insects and diseases, may occur without causing uncharacteristic effects." (DEIS p. 58, par. 1 under "Forest Vegetation") In other words, there is no evidence that decades of similar logging to "change stand structure, species composition, and tree density" has had any significant effects overall, throughout the West, to the extent, severity, or incidence of fire, or to insect epidemics or tree diseases—other than to make these natural disturbances more unnatural due to human manipulation of the ecosystem. Actually it is the logging itself that causes uncharacteristic effects, as well as wildfire suppression. Logging can increase the intensity of fire by opening up forest stands, thus increasing wind speeds through the stands. removing the most fire-

resistant mature and large trees, drying out micro-climate conditions through increased sun penetration by removing tree shading and moisture retaining down wood, and leaving highly flammable slash piles, generally left through one to three fire seasons. Logging is also known to spread mistletoe and root disease. Insect epidemics are normal periodic events important for supporting woodpeckers and other birds that are these insects' predators. Logging does not stop insect epidemics. Homogenization of the forest through plantation creation (which changes structure, species composition, and tree density) enables faster spreading, more intense fires to move through stands and insect epidemics to take advantage of single tree species less separated from each other by other tree species, over expansive areas.

The Ellis DEIS does not disclose the scientific controversy over Hessberg's studies and other science findings. If anything, typical logging practices have become more intense in logging effects, more extensive to huge landscape scale timber sales like Ellis, and on a completely unsustainable fast [logging] rotation that has set the stage for severe uncharacteristic cumulative effects with extreme climate change. Hessburg et al. had no way to anticipate both the sharp acceleration of more intense logging from more restrained commercial thinning during the Clinton era with devastating effects on a landscape scale, nor the sharp escalation of extreme climate change in combination with such extreme logging. After all, the Hessburg studies being used date back to 1994 and 1999, ignoring many more recent science studies. (BMBP EIS handwritten comments, pp. 102 through the end of the long first paragraph)

The "historic range of variability" should not legally over-ride accountability in meeting Forest Plan standards, guidelines, and goals. HRV has been mis-used by the Forest Service to rationalize destructive timber sales, with the historic baseline often being from just after a time of early heavy logging instead of pre-European colonization, and/or based on different forest conditions from a site far away that is not actually representative of usually highly variable topographic conditions for the actual Blue Mountains planned timber sale location. (BMBP EIS handwritten comments on p. 104, 2nd par.)

The DEIS ignores current scientific thinking—including that out of the Pacific Northwest Research Station—that management of the Forests should no longer be focused on an assumed static range of HRV [due to rapidly changing climate conditions that will not be comparable to past historic conditions]. (BMBP handwritten EIS comment on p. 110)

Resolution:

Blue Mountains Biodiversity Project has commented on the Forest Service's failure to disclose scientific controversy in the Ellis FEIS. See our comments quoted and cited above.

To resolve this objection, the Forest Service should thoroughly disclose existing scientific controversy over agency assumptions and management plans in a revised FEIS available for public review and comment. The Forest Service needs to use the full spectrum of best available science reflected in the controversy to guide management

plans and to provide for a broader selection of action alternatives and changes in management direction.

Alternatively, alternative 3 could be modified to better meet our concerns by dropping commercial logging of mature trees =/>15" dbh in order to increase the size of mature trees over time to large trees, which are the most fire resistant trees due to higher live crowns (including for firs) and thicker, more fire resistant bark at the base of the large trees. These more fire resistant characteristics include large Douglas fir and Grand fir, based on our field surveying over recent years, with photo documentation of these more fire resistant characteristics from 21" dbh and larger. Mature trees are more fire resistant than smaller trees and given time, allow mature trees to grow into large old trees. Increasing abundance of large trees =/> 21"dbh would be one of the best methods to limit the severity of wildfires to trees. Our recommended limit to logging mature trees should be applied to all the commercial logging planned, including the "fuel" breaks. In most cases the most flammable and dense trees are small—about less than 10-14" dbh—throughout the Ellis timber sale area.

Inaccurate use of the Science

"The effects analysis for Northern three-toed woodpecker, as with the analysis for marten, fails to consider Forest-wide ongoing negative management impacts to Northern three-toed woodpecker, such as timber sales being logged now or decided but not yet logged, as well as foreseeable future impacts, such as planned timber sales. Likewise, the effects analysis is flawed for both species regarding the determination of viability continuing, since there are no disclosed studies [cited in the EIS] that would establish the Northern three-toed woodpecker's long-term population status, reproductive success rate, long-term population trends, and viability threshold [for the Ellis project area or across the Umatilla National Forest]. Without this scientific data, there can be no reasonable assumption of continued species viability in the project area or across the Forest after the Ellis timber sale is logged and other timber sales are logged. The Forest Service cannot continue to base continued species viability determinations on assumed sufficient habitat availability with no scientific studies establishing whether the species is even present in the habitat considered suitable, and long-term population trends, reproductive success rates, and current population status—all of which are necessary to determine species viability threshold and continued or lost viability predicted outcomes. The Forest Service's inadequate process for determining species viability is inaccurate use of the science that is based on inadequate analysis, including an insufficient basis in science. (BMBP handwritten comments, p. 24, most of the page starting with par. 2 with inserted bracket text for clarity)

<u>Resolution</u>

To remedy this inaccurate use of the science for determining the viability of Management Indicator species, as required by the National Forest Management Act, the Forest Service has to take a far more precautionary approach by protecting suitable habitat for Management Indicator species (and TESC wildlife species under the Endangered Species Act) from logging, roading, or other management actions that would

degrade or eliminate habitat suitability for MIS wildlife species until the necessary scientific long-term field studies in the Ellis timber sale area and across the National Forest can establish the current populations of Management Indicator species, their reproductive success rates and their population trends in proposed timber sale areas and across the entire National Forest. For instance, this precautionary approach and use of scientific population trend studies should be used for the already rare Northern Three-toed woodpecker and the state Vulnerable ranked Pacific marten, as well as for declining and Sensitive Primary Cavity Excavators: the Sensitive White-headed woodpecker and the Sensitive Lewis' woodpecker.

Such necessary and credentialed science studies should be started for all Management Indicator species that do not have established population numbers and population trends. Rocky Mountain elk are tracked for population status and population trends by the Oregon Department of Fish and Wildlife and are not ranked as Vulnerable or Sensitive, so elk would be an exception.

II. The Ellis project violates the National Forest Management Act

The Ellis project violates the National Forest Management Act in the following ways: failure to ensure the viability of Management Indicator species and associated wildlife species with similar habitat requirements; potential violation of management guidelines for Wildlife Connectivity Corridors, Old Growth Management Areas, and Potential Wilderness Areas. The Forest Service is in potential violation of Forest Plan standards and guidelines for: Riparian Habitat Conservation Area (RHCA) protection; and for snag density, road density, and down wood requirements and for protection of soils through proposed management actions. The Forest Plan requires adherence to INFISH and PACFISH no logging buffer requirements, including moving toward attainment of Riparian Management Objectives in forest areas, and protection of large live trees 21" dbh and bigger from being killed (including topping and girdling), felled, or removed under the Eastside Screens requirements, except for certified hazard trees.

Failure to ensure the viability of Management Indicator Species (MIS)

Our comments noted many areas of analysis in which the Ellis EIS failed to demonstrate that the viability of Management Indicator (MIS) would be ensured with project implementation. Species of concern for protection of viability included the following Management Indicator species: Pileated woodpecker, Pacific marten, Primary Cavity Excavators, American goshawk; Redband trout; and Rocky Mountain elk.

The Forest Service has legal responsibilities to protect the viability of Management Indicator species, but not to move forest structure toward a theoretical Historic Range of Variability (HRV) through high intensity commercial logging as an over-riding goal. It's not appropriate or legally justifiable to keep reducing Management Indicator species' suitable habitat (e.g. Pacific marten) in timber sale 'project' after timber sale 'project', even after that species is ranked as vulnerable in Oregon by the U.S. Fish and Wildlife

Service. The Pacific marten has suitable habitat acreage that would be reduced the by multiple management actions proposed for the Ellis project. The EIS did not include adequate cumulative effects analysis as to all these reductions of suitable habitat for Management Indicator species across the Forest. It is not justifiable to plan for continued impacts and cumulative potential loss of species viability for a Management Indicator species (e.g. Pileated woodpecker) based on "long-term" theoretical re-growth of suitable habitat eventually, as the species' viability may be lost before the habitat can grow back many decades later—especially given likely planned similar timber sales in the same area in the future, and the 150+ years suitable large and old habitat structure would take to re-develop. The Ellis timber sale is extremely expansive, including the extensive and excessive "fuel" breaks with commercial logging. The scale of this timber sale and associated "fuel" breaks is on an unprecedented scale for the Blue Mountains National Forests and thus could cause significant negative impacts to Management Indicator species' viability across the large project area.

Examples of how our comments express these concerns regarding the failure to ensure the viability of Management Indicator and other species:

Some sample excerpts from our handwritten comments:

American marten:

The DEIS analysis admits that "Action Alternatives 2, 4, and 5 will cause significant negative effects to marten source habitat within the project area." (DEIS p. 89, par. 5) However, contrary to the DEIS focus on "short-term" effects, effects to marten habitat would be very long term, likely taking more than 80 to 100 years to become suitable marten habitat.... (Handwritten BMBP EIS comments, p. 17)

The DEIS admits that Alternative 3 would have much less impact on marten source habitat: "Alternative 3 will have a slight impact on marten habitat, since mechanical treatments are not proposed in old forest structure or cold and moist upland forest types." (DEIS p. 89, par. 5) By contrast, "Alternative 2... would have a 56% (14,021 acres) reduction of source habitat in the project area." (DEIS p.89, par. 3, emphasis ours) This is an enormous loss of marten source (reproductive) habitat in the project area that foreseeably would result in loss of marten viability in the project area, in violation of the National Forest Management Act (NFMA). Notably, even without logging large live trees >/= 21" dbh,... Alternative 2 would also reduce source habitat for marten by 56% or 14,021 acres. This represents a major departure from Forest Service timber sales in the past, as it would wipe out over half of a Management Indicator species' source habitat with one landscape scale timber sale "project" all at once. (p. 18)

Alternative 4 isn't much better, in that it would wipe out 43% of marten source habitat all at once....The cumulative effects analysis should not just be confined to the project area when the species' viability is determined on the Forest scale. Further, the cumulative effects analysis is only three sentences, which do not qualify as the requisite "detailed" and "in-depth" analysis required by the National Environmental Policy Act (NEPA). (See DEIS p. 89, par. 6:) "Ongoing, proposed, and past activities which have cumulative effects include multiple thinning projects." Not only are these "multiple

thinning projects" not described as to acreage, location, forest type, or intensity of effects to marten, but "thinning projects" are not the only management and public actions that affect marten. There is no analysis consideration of past clearcutting (not just "thinning"); high-grading (also not just commercial thinning); forest fragmentation and creation of big openings that marten typically won't use; or fur-trapping. This is not adequate cumulative effects analysis by any stretch of the imagination. Further, the effects description is just stated as: "It is expected for these projects to have the same effects as described for this project." (DEIS p. 89, par.7) It can't be assumed that all the prior "multiple thinning projects" have the same effects as described for this project, as the effects of the Ellis Project are on a much larger landscape scale than past commercial timber sales, and the effects of the Ellis sale would occur at a much larger scale all at once, under one decision. Further, there is the significant difference that marten used to be more abundant historically, and when earlier timber sales took place, whereas now the marten is ranked as Vulnerable and at risk of extirpation and extinction. So the effects of such a large timber sale to the existing marten population would be more acute, and more likely to cause an upward trend in federal listing and potential local extirpation compared to past timber sales longer ago. NEPA was designed to ensure good disclosure, detailed in-depth analysis, and public process to support informed public response. Even if some of the inadequate analysis is corrected for the Final EIS, the damage is done for public disclosure and detailed analysis intended to inform public comments.

The Effects determinations are also based on DEIS analysis. The Effects determination for marten is based on the false assumption that loss of a full 10% of marten source habitat across the entire Forest from the Ellis sale alone (also unprecedented) would not threaten marten viability and would not lead to federal listing, with no substantiation, studies, or other evidence to support this conclusion. This includes no disclosure or analysis regarding ongoing logging and biomass "fuel" reduction on the Forest scale that will result in marten source habitat loss: "Although these effects are significant to source habitat in the project area it is expected that marten populations forest wide will remain viable and actions will not lead to federal listing." (DEIS p. 89, par. 7) Just saying so is not enough. The DEIS fails to disclose the population numbers of American marten on the Umatilla National Forest, their reproductive success rate, their viability threshold, and the percentage of the total marten population that is in the Ellis area. Without this information, population viability cannot be determined or ensured. " (pp. 19-21)

See our additional detailed EIS comments for effects to Pacific marten on handwritten comment pages 13-22.

Pileated woodpecker: Similar to the analysis problems for American marten and the astounding magnitude of planned loss of suitable source habitat for both species:

The assumption of potentially 25-56 breeding pairs of Pileated woodpecker,...indicates that the Ellis area is a stronghold for Pileated woodpecker populations. We are appalled that the proposed Ellis timber sale management actions would log and otherwise degrade such a high proportion of the existing suitable Pileated habitat: 41,402 acres of the 43,578 acres of Pileated source habitat....(p.26 in handwritten EIS comments, on p. 33, 2nd full par. of the typed EIS comments with deletion of comments on alternative 5, which was abandoned in the Draft Record of Decision)

About 95% of the Pileated source habitat would likely no longer be suitable for Pileated woodpeckers under alternative 2...and not much less under alt. 4. Even alternative 3 would remove about 80% of the existing Pileated woodpecker source habitat in the Ellis area....The very high percentage of source habitat removal seems unprecedented within the last 30 years that I have been monitoring timber sales on the Umatilla National Forest. (p. 27 of handwritten comments, on p. 33 typed EIS comments, 3rd full par.)

From our handwritten EIS comments:

Effects to Pileated woodpecker:

The DEIS analysis for effects to Pileated woodpecker is virtually indistinguishable from the analysis for effects to Northern Three-toed woodpecker and even for American [Pacific] marten. It is now obvious that this is a rubber-stamping exercise to approve the effects of the action alternatives. The analysis of effects to Pileated woodpecker includes many of the same omissions of critical information needed to determine species viability, including current population status, long-term population trends, reproductive success rates, and viability thresholds derived from this biological data. (Handwritten EIS comments on p. 25, 1st par.)

We disagree with the DEIS claim that many of the managed acres would not cause major impacts to snags and down wood important to Pileated woodpeckers....Prescribed burning and hazard tree removal usually results in disproportionate loss of soft, more decayed Grand fir logs and snags that Pileated woodpeckers prefer (as well as Black bears). The Forest Service should be fully aware of this and have considered this in the analysis.

We also disagree with the DEIS assertion that: "In the long-term, the treatments will be highly beneficial for the health and resiliency of the landscape and will benefit Pileated woodpeckers." (DEIS p. 91) This is in direct contradiction to the DEIS characterization of the benefits to Pileated woodpecker from the No Action alternative discussed above. The so-called "treatments", a public relations euphemism for commercial logging and other unnatural management associated with timber sales and "fuel" [biomass] reduction, do not result in suitable habitat for Pileated woodpeckers over the long-term. The extensive logging and biomass removal would result in significant loss of snags and logs—both existing and future structure due to widespread removal of mature tree cover. By contrast, Pileated woodpeckers need at least 40% canopy closure for foraging and at least 60% canopy closure for nesting, neither of which is likely to be retained over the vast majority of the commercially logged stands and the "fuel" break areas. It would take at least 80-100+ years for sufficient canopy closure and mature and large trees to grow back....Mostly...widely spaced trees with little biomass on the ground, and reduced in tree species diversity with emphasis on eliminating firs and spruce—especially Grand fir, greatly degrades or eliminates suitable habitat for Pileated woodpecker, American [Pacific] marten, Northern Three-toed woodpecker, and many other species requiring similar habitat to those MIS [Management Indicator species].
(Handwritten EIS comments, last par. of p. 27 and all of p. 28)

The Effects determination for Pileated woodpecker has the same basic flaws at for other species. The DEIS admits that "All action alternatives will cause significant effects to

Pileated woodpecker source habitat within the project area." (Handwritten EIS comment on p. 31, 2nd par.)

These species [Pileated woodpecker and Pacific marten] at risk from standard (and now completely unsustainable) timber sales may be extirpated locally before any theoretical future benefits to the species could be realized, thus contributing to an upward trend in their federal listing and their eventual extinction. (Handwritten EIS comments, in the middle of the page)

There were no apparent changes that rebutted our DEIS comments above for Pileated woodpecker and Pacific marten in the FEIS. The response to comments section of the FEIS did not address our concerns regarding loss of substantial source habitat for Management Indicator species on an expansive landscape scale. The response to comments did not identify individual comments and address them individually or specifically, instead lumping together issues in many comments and broadly summarizing them without addressing the vast majority of our DEIS comments. The FEIS response to comments was grossly inadequate and completely unusual in its format by abandoning addressing specific comment concerns and by not identifying comments from specific commenters. This appears to be a violation of NEPA requirements for an EIS.

"Northern Three-Toed Woodpecker (Picoides tridactylus)
The northern three-toed woodpecker (TTWO) tends to be a rare species, but can occasionally be abundant in Oregon, particularly near beetle outbreaks in the Cascade Mountains (Marshall et al. 2003). Reports from the Blue Mountains of Oregon are sparse. A habitat relationship model developed for the three-toed woodpecker in Oregon indicates that the presence of recently dead trees killed by mountain pine beetle was the best predictor of presence of the woodpecker (Chapman 2011)." (FEIS p. 102, 3rd full par.)

"Alternatives 2 and 4 would cause changes, both adverse (short-term) and beneficial (longer-term) effects, to TTWO source habitat within the project area. It is expected that source habitat suitability would be reduced but, over time, these actions would likely benefit TTWO habitat through the further growth of large trees and overall increased landscape health and resiliency. Alternative 3 would have less adverse effects due to no mechanical treatment in cold and moist forest types outside of the lower intensity zone (LIZ)..." (FEIS p. 102, 5th full par.)

In recent years of field surveying proposed timber sale areas across the Umatilla, Malheur, Ochoco, and Wallowa-Whitman National Forests, we have only seen and documented (with photographs and on survey sheets) two or a few Northern Three-toed woodpeckers in the Umatilla National Forest and possibly some in the Deschutes National Forest. The Northern Three-toed woodpecker is not only rare, but declining.

Our related comments regarding effects to the Northern Three-toed woodpecker in response to the FEIS analysis:

This is a strange and inaccurate assessment, considering that the Northern Three-toed woodpecker is strongly dependent on abundant and recurring snags, primarily from successful
Mountain pine beetle infestations [from the point of view of the woodpeckers]. Again, the assumption that remaining habitat would benefit from logging in the long-term is false. "Overall landscape health and resiliency" in a natural forest involves habitat niche creation for fire-adapted and defoliating insect adapted native species from periodic and recurring wildfires and insect outbreaks. Logging to "salvage" snags and prevent or reduce wildfires and insect infestations tends to create relatively sterile homogenous plantations for the timber industry, not better habitat for the many species that depend on denser forest conditions, abundant snags, and undisturbed post-fire and insect infestation conditions. Clearly, the history of industrial logging in the U.S. has resulted in many wildlife species' declines, and likely increasing local extirpations and eventual species' extinctions. The species declining from logging likely include both American marten and Northern Three-toed woodpecker..." (BMBP handwritten comments, p. 23, middle of the page)

And again, here is the Forest Service fallacy for asserting consequent viability based on the Forest scale without disclosing and considering all the timber sales and other management negatively affecting Management Indicator species across the entire National Forest:
"At a Forest-wide level, Ellis proposed activities would only impact 7% of source habitat across the Forest, and only if the most impactful of the alternatives (Alternative 2) was selected." (FEIS, p. 103, first partial par.)

Our response in our EIS comments:
"The effects analysis for Northern three-toed woodpecker, as with the analysis for marten, fails to consider Forest-wide ongoing negative management impacts to Northern three-toed woodpecker, such as timber sales being logged now or decided but not yet logged, as well as foreseeable future impacts, such as planned timber sales. Likewise, the effects analysis is flawed for both species regarding the determination of viability continuing, since there are no disclosed studies [cited in the EIS] that would establish the Northern three-toed woodpecker's long-term population status, reproductive success rate, long-term population trends, and viability threshold [for the Ellis project area or across the Umatilla National Forest]. Without this scientific data, there can be no reasonable assumption of continued species viability in the project area or across the Forest after the Ellis timber sale is logged and other timber sales are logged. The Forest Service cannot continue to base continued species viability determinations on assumed sufficient habitat availability with no scientific studies establishing whether the species is even present in the habitat considered suitable, and long-term population trends, reproductive success rates, and current population status—all of which are necessary to determine species viability threshold and continued or lost viability predicted outcomes. The Forest Service's inadequate process for determining species viability is inaccurate use of the science that is based on inadequate analysis, including an insufficient basis in science.

(BMBP handwritten comments, p. 24, most of the page starting with par. 2 with inserted bracket text for clarity)

Primary Cavity Excavators:

..Without disclosing that more closed canopy, multilayered stands are beneficial to primary cavity excavators due to more abundant snags of various sizes from inter-tree natural competition for water, soil nutrients, and sunlight, whereas more open, simplified, logged stands are detrimental to primary cavity excavators, since existing snags would be reduced and future snag development would be greatly reduced. It is also too simplistic to assume that No Action (i.e. no artificial management impacts) would result in "species requiring snags in open forests would have less available habitat....." (FEIS p. 105, last sentence under "Alternative 1") How does the Forest Service think these species evolved? They evolved with natural disturbances, including wildfire, droughts, wind-throw, root rot openings, inter-tree competition, etc., not with logging creating openings by removing trees. (BMBP handwritten EIS comments, p. 38) The FEIS admits that "those [Primary Cavity Excavators] desiring large snags in more dense stands would benefit." (FEIS p. 105, last sentence under "Alternative 1") Primary Cavity Excavators would definitely benefit from more large snags in more dense stands under No Action, as PCEs that need large snags include MIS Pileated woodpecker, Lewis' woodpecker, Northern Flicker, White-headed woodpecker, and Williamson's Sapsucker, with both Lewis' woodpecker and White-headed woodpecker in decline and Sensitive listed and apparent declines in Northern Flicker.

The FEIS reiterates from the DEIS that "Across all proposed action alternatives, the treatments are aimed to thin stands and accelerate the development of large trees in the project area and should, over the long term, lead to large diameter snags and down logs." (FEIS p. 105, last par.) Our related EIS comment: [These would be] "...very theoretical long-term benefits after removing an enormous quantity of trees on a landscape scale that could otherwise eventually become snags and down logs. By the time saplings regrowing have had time to become mature and large trees to theoretically replace the mature and large structure removed [including large snags deemed to be hazard trees and mature trees logged that could not become large snags], the damage is done. All the species dependent on abundant down wood and/or snags will have suffered their fates of reduced populations, upward listing under the Endangered Species Act, and/or local extirpation, which cumulatively leads to species extinctions." (BMBP handwritten EIS comments, p. 39)

The FEIS admits that there will be an unquantified number of snags lost to Ellis action alternatives as "some snags may be targeted for thinning in this project to reduce fuels, as well as snags that are a hazard to operations" and "there are certain site-specific forest health treatment where some snags and dying trees may be removed, and removal of snags that pose a hazard during operations may occur. Thus, there may be a slight decline in snags in some areas in the short term. In the long term, since thinning treatments may move trees into larger size classes, it is expected that green tree replacement (future large snags) would increase." (FEIS p. 105 last par. through the first

par. of p. 106) Note the weasel words such as "some", "certain site-specific", and a "slight" decline, as well as "may" move trees into larger size classes (or not) and it is "expected" that future large snags would increase—without any quantification of existing snags lost through all this management proposed that would eliminate snags. This analysis does not guarantee that Forest Plan standards for snag size, snag abundance, or snag density would be met. A better way to retain snags is not to fell or log them and to retain more mature trees to become snags, including large snags.

One of our related comments: The Umatilla Forest Plan is very outdated, including its snag retention guidelines. The [FEIS] admits "there may be a slight decline in snags in some areas in the short term." (FEIS p. 106, 1st par, our underlining of weasel words to escape quantification) The loss of snags would be long term, not "short" term—decades, not less than 5 years. These disingenuous DEIS arguments are not supported by science studies, and are kept afloat by not quantifying most outcomes, instead using weasel words like "slight" and "some" to make the negative impacts sound negligible. (BMBP handwritten EIS comments, p. 38 last par. through the 1st par. of p. 39)

Rocky Mountain Elk and road density:

[T]he road management for elk security blocks should not work against itself by re-opening closed roads that are not maintained for seasonal or year round use and by constructing "temporary" roads—either new construction or on "existing disturbance" which may include "temporary" roads built for a previous timber sale that were never decommissioned as promised. This makes "temporary" roads de facto system roads. Re-opening closed roads and constructing or re-using "temporary" roads increases human disturbance to elk, which is already excessive in this area. Planned contiguous blocks of commercial logging and biomass "fuel" reduction could force elk off the National Forest lands in this area completely, causing even greater economic loss to local ranchers and frustrated hunters and wildlife viewing recreationists. This negative effect to elk, ranchers, and recreationists would be especially pronounced under action alternatives 2 [and] 4....We are opposed to re-opening closed roads that: were closed for ecological protection reasons, including elk security, detrimental fine sediment loading to streams due to erosion and hydrological connection, and reduction of road density to meet Forest Plan standards [and the lower road density of less than 1.0 mile per square mile to support Gray wolves.] We are also opposed to re-opening of closed roads that are overgrown, effectively blocked, redundant, or unnecessary. We are strongly opposed to any construction of "temporary" roads, which increase access for ATVs, livestock, illegal firewood cutting, fur trapping, and introduction and dispersal of invasive plants. (BMBP handwritten EIS comments, pp. 40-41)

The planned landscape scale logging and biomass/"fuel" breaks would greatly reduce elk security....While we were field surveying the Ellis timber sale during bow hunting season, we found it very hard to avoid bow hunters, who were virtually everywhere.... (BMBP handwritten comments, p. 41, middle of page)

The Forest Service should not be "storing" roads for future use, but closing and fully decommissioning hem for recovery of habitat and long-term wildlife security, not re-opening them for future timber sales endlessly. The Forest Service needs to be putting the needs of wildlife, ecological functioning, and long-term ecologically sound restoration first, not a pipe dream of endless unsustainable timber sales—especially now with extreme climate change threatening life on the planet...,It's critical to maximize natural carbon sinks—in this case, mature forest cover and soils—by protecting and increasing forest cover and water retention—not removing it. (BMBP handwritten EIS comments, p. 43, last par.)

[T]he [FEIS] analysis admits that the reduction of forest cover under all the action alternatives would persist over the next 40-50 years, with "many" of the acres affected only recovering to marginal cover within 20 years. The lack of quantification for how many acres would only recover to marginal cover is glaring. Marginal cover is far less protective for increasing summer heat relief and shelter from severe storms, which now occur more often under global warming effects for elk and for many other wildlife species. Reduction of much of the forest managed to only marginal cover for 20 years could drive remaining elk off the Forest completely, or cause population decline. Reduction of forest cover for 40-50 years (and likely much longer—at least 80-100 years for mature and large tree cover) could cause species extirpations or upward listing trends for many forest cover-dependent species at such a large landscape scale, including [Pacific] marten, Pileated woodpecker, Northern Three-toed woodpecker, Northern goshawk, Cooper's hawk, and Northern Pygmy owl, as well as many Neotropical migratory songbirds....(BMBP handwritten EIS comments, lower half of p. 47) See FEIS p. 109 under "Action Alternatives".

The FEIS acknowledges that elk "are primarily grazers but also require dense forested stands for hiding cover. These stands are used for escaping predators, including humans, and during periods of high disturbance, including hunting seasons."
(FEIS p. 105, first par. after "Rocky Mountain Elk")

The FEIS also flags some warning signs for existing conditions for elk and for the future effects to elk from the action alternatives: "Yet, currently elk security as defined by Hillis (1991) is below the recommended 30% for 7 out of the 14 subwatersheds that occur in the project area. Overall, existing elk security is only 11.6% for the project area....During hunting seasons, elk may continue to leave National Forest lands to nearby private property and may continue to cause damage to agricultural lands." (FEIS, p. 107 under "Alternative 1)

"Alternatives 2 through 4 will improve elk security, although not to the recommended 30%." (FEIS p. 107, last par.)

"Three out of the seven HEI analysis areas currently do not meet HEI standards [as a Forest Plan requirement]. It appears this is mostly due to road densities...." (FEIS p. 108, last par.)

"All [action] alternatives would decrease the amount of cover and increase the amount of forage. The reduction in cover still meets forest standards (except for area 1) and would persist over the next 40 to 50 years, [but not to provide satisfactory cover for thermal

cover, which is critical due to prolonged heat waves and more severe winter storms under extreme climate change] but many of these acres would recover to marginal cover within the next 20 years. (FEIS p. 109, under Action Alternatives)
So critical thermal cover would be greatly reduced for 40 to 50 years! This could significantly reduce elk in the Ellis project area for decades.

See also our handwritten EIS comments regarding effects to Pileated woodpeckers under NEPA—Inadequate Cumulative Effects analysis in this objection, as well as in our additional handwritten EIS comments regarding effects to Pileated woodpecker (p. 25-33), Northern Three-toed woodpecker [now named Three-toed woodpecker] (pp. 22-24), Pacific marten (pp. 13-22), Primary Cavity Excavators (pp. 35-39), and Rocky Mountain elk (pp. 40-51)—all Management Indicator species.

Resolution

BMBP has commented on its objection to the Forest Service's failure to demonstrate that they would provide for viability of Management Indicator and other species in the Ellis project. See our comment citations and sample quotes in the above paragraphs.

*Drop all commercial logging, biomass reduction including snags and logs, and prescribed burning in marten source habitat and suitable or occupied habitat. This would be mostly within the cool moist and cold high elevation forest but there may also be drier mixed conifer at mid-elevation that could be suitable for marten.

Our comments above support our objection for better protection of viability for Pileated woodpecker, a Management Indicator species, by retaining more suitable Pileated woodpecker habitat. See our proposed resolution remedies below:

*Protect all suitable, source, and occupied Pileated woodpecker habitat by not logging it or removing biomass, including snags and logs. The Pileated woodpecker represents the habitat needs for the many wildlife species dependent on old growth habitat with large snags and logs, and high canopy closure, which include other Primary Cavity Excavators and MIS Pacific marten.

Re: Pileated woodpecker and marten viability:
*Drop commercial logging and prescribed burning in all sale units that incorporate suitable or active habitat for Pileated woodpeckers and Pacific marten, which would be cooler, moister mixed conifer old growth or LOS habitat with 40-60% canopy closure or more, and for marten, abundant down and elevated logs for winter foraging, as well as large snags for both species.
*See our survey sheets for guidance re: fresh Pileated foraging and/or Pileated nest or roost holes in snags and abundant down and elevated logs and large snags for marten. There is also Pileated woodpecker nesting in old growth Ponderosa pine habitat, generally in proximity to old growth Grand fir foraging habitat in riparian corridors.

Our remedies for Primary Cavity Excavators overlap with our objection resolution remedies for Pileated woodpeckers, which are listed above. Additionally:

*More snags and down wood need to be retained for Primary Cavity Excavators. Drop all the best PCE foraging habitat from commercial logging and biomass reduction. Leave far more forest unlogged, for there are far more snags and logs in never logged habitat. Reduce road density so as to retain more snags and logs, since large live trees and snags are felled as hazard trees along road ways and within commercial logging sale units.

*Drop all commercial logging and roading in undeveloped lands, including the never logged commercial sale units. See our survey sheets for commercial sale units that have never been logged in order to drop the commercial logging and road work in those sale units. Never logged forest usually has much more abundant and large snags than logged forest. Never logged forest usually has a higher abundance of snags and more large snags for wildlife due to past and ongoing logging of mature and large trees, preventing mature trees from becoming large and depleting the already low levels of large trees, including large live trees, large snags, and large logs into the future.

*Re: Primary Cavity Excavating woodpecker viability: Protect large snags and groups of snags and significantly reduce snag loss by reducing mature tree logging, especially in the 15-21" dbh range and by dropping "temporary" road construction and closed road reconstruction to reduce loss of snags through hazard tree felling.

* No commercial-size logging in suitable primary goshawk habitat and PFAs, suitable marten habitat, suitable and active Pileated woodpecker habitat, with no overstory canopy reduction in these areas;
* No log and snag reduction in suitable and active American marten and Pileated woodpecker habitat;
* Drop all commercial-size logging in wildlife connectivity corridors;
* No prescribed burning of suitable habitat for Pileated woodpecker and American marten as the Pileated woodpecker depends on soft snags and logs for foraging that readily burn and the marten require abundant down and elevated logs and large snags with Pileated woodpecker nest holes for denning.
* Drop all commercial logging, noncommercial thinning, prescribed burning and road construction or closed road re-opening within any undeveloped lands.
*Drop planned "temporary" roads as these often remain on the landscape and increase access for illegal firewood (often large snag) cutting and fur trappers and for disturbance to nesting goshawks, and reduce re-opening of closed roads for the same reasons.

Re: deer and elk:
* Retain more overall tree density and deer and elk cover—especially by dropping sale units in cool moist and cold dry habitat and in microhabitat patches where greater density would naturally occur, such as at higher elevations, within RHCAs, on North to Northeast aspect slopes or in hollows, and in wildlife connectivity corridors.
*Road density should be reduced to less than the Forest Plan standard and objectives for elk and Gray wolves—i.e. equal to or less than .9 mile/square mile for security habitat for both elk and wolves.
Re: Redband trout and Columbia Spotted frog and any Threatened Mid-Columbia Steelhead trout and/or Bull trout.: See recommended remedies below, under Forest Plan

violations—INFISH and PACFISH violations, below. Paula Hood is submitting most of our objections on RHCA issues and under the Clean Water Act.

. Please see our survey sheet priority drop sale units for these Management Indicator species, plus any additional known suitable habitat for these species in commercial logging sale units.

Other Forest Plan violations

Additional Forest Plan violations in Ellis project include potential violations of Forest Plan standards by further setting back attainment of INFISH/PACFISH Riparian Management Objectives; not adequately protecting the integrity of Wildlife Connectivity corridors, Old Growth Management Areas, and Potential Wilderness Areas. We also object to potentially exceeding Forest Plan limits to detrimental impacts to soils, exceeding road density and snag density Forest Plan standards, and logging and roading in any undeveloped lands of any size.

Potential PACFISH and INFISH Violations and Clean Water Act Violations

Our comments on potential Forest Plan violations regarding failure to demonstrate adherence to PACFISH and INFISH no activity logging buffers and Riparian Management Objectives clearly state our concerns and were largely addressed in the Draft Record of Decision. We greatly appreciate the decision not to damage riparian values by not authorizing commercial logging and heavy equipment use in the RHCAs. We also appreciate the decision to not use mechanical equipment to thin conifers in aspen stands and meadows. See Table 2, p. 4 of the Draft Record of Decision.

The decision not to violate RHCA "no logging" buffers and to not commercially log RHCAs and not to use mechanical equipment in aspen stands and meadows is an ecologically sound decision that reflects the already severely degraded riparian conditions in the Ellis project area watersheds and streams due to past logging in RHCAs, heavy equipment use in RHCAs, and intensive livestock grazing in the RHCAs over many decades.

Here are some quotations from the Hydrology and Aquatic Species section of the FEIS on pages 63-66 that support our concerns regarding widespread riparian ecosystem damage and which support the Draft Record of Decision's conclusion that there should be no more riparian degradation from commercial logging in RHCAs and heavy equipment use in RHCAS in the Ellis project area

*"From the 1999 evaluation, the increases in drainage length for the North Fork John Day/Matlock and Fivemile watersheds resulted in 'Functioning at Risk' ratings...."
*"Watershed functioning using current data was "Functioning at Risk" for the Potamus Creek-North Fork John Day River and Lower Camas Creek watersheds. The Potamus Creek-North Fork John Day River watershed was rated as 'Functioning at Risk' for sediment/turbidity.'

*"Many streams in the project area experience high summer water temperatures. Only one of the stream sites monitored in the Potamus Creek or the Fivemile Creek Watersheds is properly functioning for stream temperature."
*"The Matlock Creek-Stony Creek, Ellis Creek-Potamus Creek, Potamus Creek, Mallory Creek, and Ditch Creek subwatersheds were described as exceeding water temperature standards (U.S. Department of Agriculture 2004)."
*"The most recent information from the Oregon Department of Environmental Quality indicates several subwatersheds and streams in the project area as being impaired or not meeting established water temperature standards."
*"Watershed functioning, using most recent data for the Water Temperature Indicator, resulted in a 'Not Properly Functioning' call for both the Potamus Creek-North Fork John Day River and Lower Camas watersheds."
* "Timber harvest has occurred within RHCAs in the Potamus Creek watershed, the majority prior to 1996 (U.S. Department of Agriculture 2004)." "Percentages of estimated timber in RHCAs harvested by subwatershed" were as high as "52% (Matlock Creek-Stony Creek)", "44% (Ellis Creek-Potamus Creek)" and "48% (Ditch Creek)"....Historical timber harvest in RHCAs has resulted in increased soil erosion and sedimentation in streams, reduced recruitment of large wood affecting pool formation and cover, and reduced shade, affecting water temperature."
*"Watershed functioning using most recent data for the Substrate/Embeddedness Indicator suggested the Potamus Creek-North Fork John Day River and Lower Camas Creek watersheds as 'Functioning at Risk.' The data above and field observations indicate that fine sediments continue to be a problem in many streams in the project area."
*"Watershed functioning for road densities and location for all the Mallory/Ditch, Potamus Creek, North Fork John Day/Matlock, and Fivemile watersheds in the 1999 evaluation were 'Not Properly Functioning'."
*"Some major roads within the Potamus-North Fork John Day River watershed are essentially streamside for much of their length."

See our remaining relevant BMBP comments quoted and cited below: See also Paula Hood's objections regarding any PACFISH and INFISH violations and Clean Water Act violations.

...There are naturally some conifers in these areas. Leaving the largest conifers in an aspen stand can triple the wildlife diversity in the stand. There should be no ground-based equipment used within any RHCA, with no exceptions. 150 feet out from all sides of the aspen stand for logging most conifers is arbitrary and excessive compared to other aspen restoration plans used by the Forest Service. On the Deschutes National Forest, soil is tested to determine the historical extent of the aspen stand to determine the appropriate footprint for restoration. This is a scientific way to restore historic aspen stands, which leave a foot print of deep, dark, loamy soil from up to a thousand years or more of deciduous leaf fall. On the Malheur National Forest, site-specific characteristics are taken into consideration, as aspen are most affected by loss or access to sun. Therefore, further conifer removals boundaries are extended to the south, with a much shorter distance (if at all) to the north, and less to the east and west unless that is the

riparian drainage orientation—but these two directions would still have less conifer removal than to the south. 150 feet of conifer removal on all sides [is excessive and unnecessary]. (BMBP EIS comments, p. 7, last par. through the 1st par. of p. 8)

Riparian restoration work shouldn't be tied to timber sales such that more logging damage is used to pay for more restoration. Instead, the Forest Service could use funding under the most recent ARBO decision and from Biden's new influx of funding [if it is still available] to get the rest of the roads within RHCAs fully decommissioned and overall road density brought down to 1.5 miles per square mile or less. So the Forest Service should be planning to fully decommission all existing roads within RHCAs and reduce overall road density to 1.5 miles per square mile or less under all action alternatives.

Any major streamside roads that are heavily used by the public should not have commercial logging next to the road or within the RHCA buffers and should incorporate natural swales on the downhill side of the road to capture sediment. Existing stream crossings should be considered for riparian restoration based on the current best available science, with no new stream crossings used. Some of these roads adjacent to creeks include 5316 (Thompson Creek), 2104-150 (Graves Creek), and 2104 along Ditch Creek. There should be buffers left between these roads and the adjacent creeks, not barren fuel breaks. Where these are mid-slope roads (e.g. 53, 5320 and 2105), there should be effective natural swales on each side of the road to capture sediment, and no barren or near barren slopes created by fuel breaks or other logging on both sides of the road. (BMBP EIS comments, p. 18, last two full par.s)

Several subwatersheds and streams in the project area being impaired or not meeting established water temperature standards is cause for alarm, and should be enough for the Forest Service to re-focus their attention and funding on saving the integrity of these subwatersheds and streams through ecologically sound aquatic restoration, in order to maintain viable fish runs of Threatened Mid-Columbia River Steelhead trout and Sensitive Redband trout, and aquatic and riparian habitat for many other species, including Sensitive Columbia spotted frog, possible salamander species and Sensitive Pacific lamprey, and potential Sensitive freshwater mussels such as Western ridged mussel. (BMBP EIS comments, p.17, second half of first par.)

Resolution

BMBP has commented on the Ellis project's potential violations of INFISH and PACFISH Riparian Management Objectives and RHCA no logging buffers and on Clean Water Act violations.. See our comments cited and quoted above. We greatly appreciate the changes made in the Draft Record of Decision not to commercially log or use heavy equipment in the RHCAs, including in aspen stands and meadows. See also additional BMBP EIS comments on potential INFISH and PACFISH violations of the Forest Plan Eastside Screens and violations of the Clean Water Act on typed BMBP EIS comments on pages: 6,7,8,9,10,11, 17, and 18. See also Paula Hood's comments and objections regarding PACFISH an INFISH potential violations and Clean Water Act violations.

To resolve this objection, the Forest Service needs to:
* Drop all planned commercial logging within the RHCAs. (BMBP remedy comment, p. 20) Thank you for dropping commercial logging within the RHCAs.
*Drop all commercial logging, biomass reduction "fuel" breaks, heavy equipment use, and mechanical thinning, and/or any re-opening of closed roads within or adjacent to RHCAS in general and in particular within or adjacent to RHCAs that provide suitable or actively occupied Sensitive Columbia spotted frog habitat, as well as within or adjacent to RHCAs with suitable or occupied habitat for Threatened Bull trout, Threatened Mid-Columbia Steelhead trout, Sensitive Redband trout, and/or potential recovery of Chinook salmon.

*Drop all "fuel" reduction in RHCAs. RHCAs in general are used as wildlife connectivity corridors, access to water, and hiding cover.

*Drop all non-commercial thinning in RHCA Categories 1, 2, and 3, or only where small conifers up to 9" dbh are directly competing with riparian hardwoods, where riparian hardwoods would be expected to thrive, such as in low elevation meadows, not topography confined channels at high elevations with topographic shading.

*Don't remove any felled trees from within RHCAs, with preferable lopping and scattering, left whole, or masticated, not pile burned or limbed.

*Don't allow ignition for prescribed burning within RHCAS.

Re: Aspen and Meadow Enhancement:

Drop planned "fuel treatment" within aspen stands, as aspen stands are often in wet meadows or along streams that benefit from down wood (in RHCAs) and down wood helps keep cattle out of an expanding perimeter of aspen sprouts needed for regeneration and viability of the clone. Prioritize fencing out cattle in larger perimeters than core live aspen stands. The size of the exclosure should be based on the historic extent of the aspen stand, based on soil type and on the aspects facing out from the aspen stand. The aspen are most likely to regenerate along a drainage or surrounding a water source like a spring, not out 150 feet on each side, as is planned for conifer removal. The furthest perimeter out from the aspen stand should be only a maximum of 100 feet unless there are multiple historic aspen clones along a drainage, in which case the conifer thinning should extend in the directions of the drainage to cover the historic area of the aspen stands. There should be no large conifers felled in or removed from aspen stands.

All water sources except livestock troughs that are away from a spring or stream should be fenced off to cattle. Spring and stream water retention and sustainability based on INFISH and PACFISH Riparian Management Objectives need to be prioritized over cattle, who are systematically destroying the riparian areas—especially streams and springs—throughout the Ellis project area.
(BMBP typed EIS remedy comments, p.8, last par. through p. 9, 2nd par.)

*The Forest Service should allow some of the mature trees to grow bigger, as they would then maximize wildlife value and carbon sequestration and storage potentially over centuries, then let them become snags and logs naturally over time, continuing long-term

carbon storage and wildlife habitat structure benefits. In our experience, created snags are not used much by woodpeckers or other cavity excavators.

*Limit any conifer thinning in aspen stands and meadows only up to 15" dbh, so as to increase development of large and old trees, which are more fire resistant and provide needed wildlife structure for Primary Cavity Excavators, hawks, and eagles. There should be no removal of thinned trees in order to increase flood plain roughness and contribute logs and debris jams to any streams.

*There should only be conifer reduction for meadow enhancement up to 9"-12" dbh, as there need to be replacements for legacy old growth trees in meadows.

*The current degradation of RHCAs was caused by similar management now proposed for the Ellis sale, including logging adjacent to RHCAs, logging on steep slopes adjacent to RHCAs, potentially re-opening closed roads within RHCAs, and continued livestock grazing damage to streams and riparian conditions. Thus it doesn't make sense to repeat these past management mistakes. We want all of the damaging management in our comments above to be dropped from the Ellis RHCAs, including logging adjacent to RHCAS—especially on steep slopes, heavy equipment use, biomass reduction, felling too many mature trees in the aspen stands and meadows, and any re-opening of closed roads in the RHCAs.

*Retain all conifers providing streambank stability and primary shading in all RHCAs, including aspen stands and meadows.
*Drop all re-opening of closed roads and construction of 'temporary' roads within, or adjacent to, RHCAs.
*Drop any planned heavy logging equipment in stream drainage crossings.

Forest Plan Management Area Guidance Violations

Re: Violation of Wildlife Connectivity Corridor Management Goals

We are strongly opposed to commercial logging and excessive "non-commercial" size thinning in wildlife connectivity corridors. We want the Forest Service to drop all commercial logging and limit non-commercial thinning in connectivity corridors, as it defeats the purpose of leaving denser areas to allow for movement of old growth-associated wildlife species, as well as native ungulates using these areas as security cover, and to provide greater habitat security in these areas compared to intensively managed stands outside these corridors.

We did not find any section addressing wildlife connectivity corridors, which is unusual, especially for an EIS. There was no disclosure that we could find regarding the location and size of wildlife connectivity corridors, whether they connected Late and Old Structure forest as intended, and no information as to which management actions would occur within wildlife connectivity corridors and over how many acres. We are opposed to "fuel" breaks in Wildlife Connectivity corridors unless they are confined to non-commercial thinning, prescribed burning in dry forest types, and/or pruning of lower branches near major access roads or private property. We are opposed to biomass

reduction such as shrub reduction and removal of large down wood, as well as to any commercial logging in wildlife connectivity corridors

Our comments regarding potential violations of wildlife connectivity corridor management intent and goals can be found below.

Dispersing wildlife need suitable habitat and wildlife connectivity corridors in which to disperse, as well as potential suitable habitat to occupy, which is now more important than ever under the effects of extreme climate change rendering lower elevation habitat and habitat further south unsuitable due to droughts, increasingly high temperatures, and potentially more intense wildfires. (BMBP EIS comments, p. 21, 2nd par.)

If the sale does go forward we request that the Forest Service scale it down very significantly; focus on ecologically sound restoration rather than timber extraction; not ... log Late and Old Structure forest; not log DOGs, ROGS, PWFAs, and wildlife connectivity corridors; adhere to INFISH/PACFISH RHCA buffers; not engage in clearcutting or virtual clearcutting (very low basal areas); avoid logging and road construction or other management in Inventoried Roadless areas and undeveloped lands; avoid logging steep slopes; avoid new road construction and re-opening of grown-over or ecologically damaging closed roads; not remove snags or down wood; and work to retain most mature trees, all large and old trees, most forest cover, wildlife connectivity, and water retention capacity to support forest resiliency to climate change effects. (BMBP Scoping comments, p. 5, last full par., with underlining emphasis for wildlife connectivity corridors)

Resolution:

BMBP has commented on the potential Forest Plan violation of not following management area intent and goals regarding Wildlife Connectivity Corridors. See our comments cited and quoted above.

Potential resolution remedies:

*Drop all "fuel" breaks planned for within or adjacent to RHCAs, Wildlife Connectivity corridors, MA-15 designated old growth, and elk security corridors. Such continuous "fuel" breaks would often violate Forest Plan standards, goals, and guidelines for Management Areas.

*Drop all acres of "fuel" breaks in the wildlife connectivity corridors. Biomass reduction and non-commercial thinning for a "fuel" break completely negates the purpose of connectivity corridors for wildlife migration and dispersal for genetic viability. These "fuel" breaks would put many wildlife species at risk of increased predation, heat waves, poaching, and energy expenditure to escape increased human disturbance. Species affected would include: elk; deer; marten; wolves; possible lynx; potential Pacific fisher; wolverine; and many others, including migrating spotted Columbia frogs.

*Drop the acres of commercial logging and the acres of "fuel treatments" within the wildlife connectivity corridors, as these would remove structural complexity, denser

forest cover, hiding cover from predators, and ground level shrubs and down wood for prey species

*Drop all planned commercial logging and limit non-commercial thinning to only the densest areas (that appear due to wildfire suppression) in mapped or identified wildlife Connectivity Corridors.

Potential violations of Forest Plan standards, guidelines, and goals for Old Growth Management Areas

Our comments express our objection concerns:

We are opposed to:

*any logging in late and old forest structure, including designated Dedicated Old Growth Areas and Replacement Old Growth Areas (BMBP Scoping comment in list on p. 3)

Since Old Forest Single-Stratum (OFSS) is deficient within the project area and Old Forest Multi-Strata (OFMS) is within the Forest Service determined Historical Range of Variability (HRV), there should be no logging of OFMS or OFSS, and no logging of large trees. Such logging would be contrary to Forest Plan goals and objectives to retain and increase large tree structure and old growth forest, not log and remove it. Converting OFMS to OFSS still removes future large tree structure and degrades the quality of the old growth habitat overall. Non-commercial thinning up to only 9" dbh by hand would remove most of the density in the dry forest types, which are the forest types more likely to have had Old Forest Single-Stratum structure historically. We are not opposed to some limited non-commercial thinning up to 9" dbh by hand in the dry forest Old Forest Multi Strata, that would largely convert those stands to Old Forest Single-Stratum structure. There should still be retention of hiding cover patches in those stands.

The Umatilla National Forest was not even meeting the 5% of the District requirement for old forest in 1992, when I did the old growth inventory for the Heppner District on a cost share contract between the Forest Service and the Audubon Society. 5% of the Forest being in old growth condition is nowhere near the historic abundance of old growth forest and large tree structure that existed prior to extensive heavy logging on the Umatilla and other Blue Mountains National Forests. (BMBP EIS comments, p. 11, 4th and 5th full par.s)

Further, retention and increase of large tree structure [by allowing more mature trees to grow into large trees by not logging them] is essential for forests to function as major carbon sinks to reduce and slow extreme climate change effects, which threaten to exacerbate the Sixth Mass Extinction (caused by humans), potentially resulting in 10-50% of all species by the end of the century, which means key elements of the inter-connected web of life on this planet being lost, such as pollinators who make crop growing possible. This means that the human populations on Earth would be greatly reduced if not lost altogether, due also to other climate change effects, including droughts, famines, extreme heat waves, more severe storms and floods, sea level rise, increased fire intensity, increased epidemics, and greatly increased human conflicts over

scarce resources....Maintaining and increasing mature, large, and old growth forest cover is necessary world-wide to counter and reduce climate change, as well as bringing back ocean vitality and maintaining soil carbon sequestration." (BMBP EIS handwritten comments, p. 10)

Resolution:

Our comments above have expressed our objection concerns in detail. An additional comment regarding logging in old growth forest is on the BMBP typed p. 5, 1st par. We greatly appreciate the Forest Service dropping proposed large tree logging and felling in the Ellis timber sale.

*Drop all "fuel" breaks planned for within or adjacent to RHCAs, Wildlife Connectivity corridors, MA-15 designated old growth, and elk security corridors or any other special status habitat and sites.

*Minimize felling large and old trees as hazard trees by scaling down the commercial timber sale and not constructing "temporary" roads and not re-opening closed roads.

* We are strongly opposed to violations of the Forest Plan standards for designated old growth stands--C1-Dedicated Old Growth. Drop all overlap of fuel breaks with commercial logging proposed with C1 Dedicated Old Growth stands, which are not supposed to be commercially logged under the Forest Plan, also with the Forest Plan goal to retain old growth forest structure.

*Drop any acres of "fuel treatments" proposed in C1-Dedicated Old Growth preservation areas. Biomass reduction such as felling of large snags or shredding or reducing old growth large logs would be contrary to the Forest Plan standards, goals, guidelines, and intent to protect and retain large and old growth forest structure, including increasing large trees and old growth forest over time.

*Drop any "temporary" road construction or re-opening of closed roads within C1 Dedicated Old Growth Management Areas.

*The C1 Old Growth Management Areas are not supposed to be logged, so all commercial logging, road work, and heavy machinery use beyond "minimal use" should be dropped, such as with commercial logging or extensive use of heavy equipment for biomass reduction "fuel" breaks.

Road Density Concerns regarding miles of "temporary" road construction and re-opening of unquantified miles of currently closed roads potentially violating road density standards

See also the Rocky Mountain Elk section and the Gray Wolf section under the Endangered Species Act above for relevant comments and also comments regarding roads under Detrimental Soil Impacts, below.

Our comments regarding impacts to wildlife species sensitive to disturbance explain our position See also our comments regarding deer and elk security concerns.

We support road density reduction to 1.5 miles per square mile, or ideally to less than 1 mile per square mile to support Gray wolf recovery. Rocky Mountain elk need sufficient hiding and thermal cover, not just road closures. (BMBP EIS comments, p. 5, 5th full par.)

The 13 miles of road decommissioning should be retained to benefit fish habitat and water quality under all action alternatives, including alt. 4 and alt. 3. This seems like blatant blackmail targeted at environmental advocates. We support retaining small road segments for access to established dispersed camping sites along major roads—especially rd. 53. However road closures and decommissioning should be prioritized for all roads within RHCAs, on steep slopes, in good elk security habitat, and for redundant roads, eroding roads, and ecologically damaging roads in general. Road closures and decommissioning should not be tied to commercial logging revenue. There are other funds available for aquatic restoration and possibly for elk security and other road decommissioning through restoration ear-marked federal funds and potential public-private partnerships with interested groups such as the Rocky Mountain Elk Foundation. (BMBP EIS comments, p. 5, 3rd par.)

Regarding road management, there should be no use of existing closed or decommissioned roadbeds as "temporary" roads and definitely no building of new "temporary" roads. There are far too many road miles in the project area already. So-called "temporary" roads are usually not fully decommissioned and are used again in the next timber sale as proposed in the Ellis DEIS as "temporary roads on existing roadbeds", making them de facto system roads. "Temporary" roads impair riparian functioning, fragment wildlife habitat, and allow access to livestock, ATVs, illegal firewood cutting, fur trapping, and introduction and dispersal of exotic invasive plants, which leads to more poisoning of soils, water, and native plants by toxic herbicide use. (BMBP EIS comments, p. 9, 4th full par.)

The DEIS [and apparently not in the FEIS Transportation section on pp. 55-56 and not in the Draft Record of Decision Table 3, on p. 4] in this section fails to disclose the planned miles of re-opening of closed roads. We are opposed to re-opening closed roads that were closed due to ecological damage, the need for greater wildlife security, or the need to reduce road density. We are opposed to re-opening closed roads that are causing ecological damage, reducing wildlife security, or are overgrown or redundant. There should be more road mileage fully decommissioned and far fewer closed roads re-opened. (BMBP EIS comments, p. 9, 5th full par.)

Temporary" roads and re-opening of currently closed roads also have very long-term loss of soil productivity, up to 70 years or more, and also can channel excess sediment into stream systems to the detriment of aquatic species, especially fish species. "Temporary" roads increase: human disturbance, illegal firewood cutting, non-system ATV routes, access for fur trapping, access for livestock and increased introduction and dispersal of invasive exotic plants. In our experience, "temporary" roads are hardly ever fully decommissioned and are often re-used as "existing disturbance". Thus they become de facto system roads, increasing road density and associated road impacts.

Resolution

BMBP has commented on our concerns re: 'temporary' road construction and the unquantified re-opening of miles of currently closed roads. See our comments cited and quoted above. Many of our suggested resolution remedies are already requested under the heading of other issues, such as under the Endangered Species Act section—re: Gray wolf, under potential Clean Water Act violations, and under NFMA—MIS viability for Rocky Mountain elk as well as under Forest Plan standards for detrimental soil impacts.

Resolution remedies regarding road density in our comments:

Close more roads and decommission more roads under alternative 3. There is often restoration funding separate from timber sale revenue that could be used to increase road closures and decommissioning of ecologically damaging roads. (BMBP EIS comments, p. 10, 2nd par.)

203 of 251 inventoried campsites being within 300 feet of an open road demonstrates that it's not necessary to keep so much mileage of roads open (See DEIS p. 55, 2nd par. and the same miles of open roads in Table 3 in the Draft Record of Decision on p. 4), as in alternative 3 and alternative 2, with 280.5 miles open year-long under alt. 3 and 214 miles open year-long under alt. 2. Thus it is also not necessary to implement such high mileage of roadside "fuel" breaks and so much hazard tree felling, which depletes snags for wildlife. (BMBP EIS comments, p. 16, 3rd par.)

Temporary Road Construction:

*Drop all miles of "temporary" road construction planned up to 17 miles, as with alternative 3 which has dropped all "temporary" road construction, which we support.

*Drop all re-opening of "existing disturbance" or closed roads.

*We support decommissioning of the 13.6 miles of road decommissioning under alternative 2, as a modification of alternative 3.

*Reduce road density for Threatened-listed wildlife species, Management Indicator species, and other species viability by not constructing any "temporary" roads (which tend to be re-used or continuously used by the public), not re-opening closed roads, and decommissioning all roads that are: overgrown; redundant; unnecessary; ecologically damaging; hydrologically connected; within RHCAs; little used; and/or fragmenting wildlife connectivity corridors, in large blocks of core wildlife security habitat, or in any undeveloped lands or never logged forest.

*Drop the re-opening of closed roads that were closed for ecological protection reasons, such as hydrological connections, soil erosion, and wildlife disturbance, as well as closed roads that have already grown over, or would require reconstruction.
*Drop re-opening of closed roads and 'temporary' road-building in, or adjacent to RHCAs.
*Drop all 'temporary' road construction.

*Decommission fully all roads within RHCAs except for major roads not causing ecological damage.
*Reduce overall road density to less than Forest Plan standards, based on best available science for recovery for Endangered Gray wolves.

Potential Violation of Snag Density Requirements: See also the snag related comments and snag density remedies in the Primary Cavity Excavator Section above.

Our comments explain our objection regarding potential violation of Forest Plan snag density standards and guidelines, based on the extensive high intensity logging proposed. Our comments highlight our concerns over the elimination of future large snags by logging large hazard trees and by logging too many existing mature trees, reducing future mature and large snag recruitment into the future.

We are concerned that the current deficit in abundant and large snags due primarily to past and ongoing extensive logging of mature trees is being perpetuated, including high intensity logging with very low basal area retention. The proposed alternative would cumulatively reduce existing and future snags significantly, potentially violating the Forest Plan snag density and size requirements.

Resolution:

BMBP has commented on our objection regarding snag density in the Primary Cavity Excavator and MIS Pileated woodpecker sections of the Forest Plan Management Indicator species viability section above. The Ellis timber sale proposed actions could lead to a significant reduction in existing and future snag density and abundance in potential violation of Forest Plan standards.

*Prioritize providing high quality abundant habitat for the Oregon Vulnerable ranked Pacific marten as a Management Indicator species, as well as for MIS Pileated woodpecker and MIS Primary Cavity Excavators. Drop all commercial logging and biomass reduction, as well as prescribed burning in suitable Pacific marten and Pileated woodpecker habitat. See our survey sheets and sample photos, including descriptions of photos that can indicate suitable Pacific marten, Pileated woodpecker, and Primary Cavity Excavator habitat. Our survey sheets have information as to habitat parameters, such as old growth counts, abundance of logs and snags, high canopy closure, and tree species composition, as well as evidence of historic mixed conifer and plant community indicators. Forest Service data sources from the field should also be helpful for identifying good marten habitat, along with photos of marten taken by trail cameras or from bait station photos.

*Drop all never logged forest and old growth or LOS forest from commercial logging and biomass reduction for retaining large live trees, abundant large snags and abundant down wood to support viable populations of American goshawks, their prey, and many other wildlife species, such as Management Indicator species, including Pileated woodpecker, Pacific marten, and Primary Cavity Excavators, as well as Sensitive Pacific fisher.

*Protect all suitable Pileated woodpecker habitat by not logging it or removing biomass, including snags and logs. The Pileated woodpecker represents the habitat needs for the many wildlife species dependent on old growth habitat with large snags and logs, and high canopy closure, which include other Primary Cavity Excavators and MIS Pacific marten.

*More snags and down wood need to be retained for Primary Cavity Excavators. Drop all the best PCE foraging habitat from commercial logging and biomass reduction. Leave far more forest unlogged, for there are far more snags and logs in never logged habitat. Reduce road density so as to retain more snags and logs, since large live trees and snags are felled as hazard trees along road ways and within commercial logging sale units.

*Drop all commercial logging and roading in undeveloped lands. See our survey sheets for commercial sale units that have never been logged in order to drop the commercial logging and road work in those sale units. Never logged forest usually has much more abundant and large snags than logged forest. Never logged forest usually has a higher abundance of snags and more large snags for wildlife due to past and ongoing logging of mature and large trees, preventing mature trees from becoming large and depleting the already low levels of large trees, including large live trees, large snags, and large logs into the future.

*Re: Primary Cavity Excavating woodpecker viability: Protect large snags and groups of snags and significantly reduce snag loss by reducing mature tree logging, especially in the 15-21" dbh range and by dropping "temporary" road construction and closed road reconstruction to reduce loss of snags through hazard tree felling.

*Increase the lowest basal area in the variable density retention range to be at least 80 square feet of basal area in dry Ponderosa pine forest and at least 100 square feet of basal area in the mixed conifer stands, with higher average basal areas to allow for more natural rates of mortality over time to create snags and down wood into the future.
*Reduce the scale of commercial logging and snag reduction overall by dropping best wildlife habitat sale units based on our survey sheets, including moister mixed conifer habitat suitable for Pileated woodpecker and American marten, and stands with abundant snags currently suitable for Primary Cavity Excavating woodpeckers. Small diameter non-commercial thinning up to 9" dbh could usually still be done in these stands without harming the woodpecker species.
*Reduce planned re-opening of closed roads as suggested above under Road Density to reduce the amount of hazard tree felling involved and prevent future increased illegal snag felling for firewood.
*Drop the construction of 'temporary' roads, as these provide access for illegal snag felling for firewood as well as increasing timber sale-associated hazard tree snag felling.
*Buffer and protect existing large snags and pockets of abundant snags from logging.

Potential Violation of Forest Plan Soil Protection Standards

Our comments explain our objections regarding potential violations of the detrimental soil impact standard:

Soils:

Obviously, just trusting the Forest Service to use "the proper application" (which remains undefined) of "mechanical activity, fuels treatments, and Project Design Criteria" has not worked in past timber sales in the Ellis area to keep the impacts "short-lived" and "not decrease soil productivity in the long term" when there are still long-term detrimental soil impacts evident from past timber sales up to decades ago, such as the acknowledged "soil compaction, displacement, erosion, and less woody material than natural conditions within the current project boundary." (FEIS p. 139, 2nd to last par.)....Yet the FEIS does not even disclose the specific "Forest, Regional, and National recommendations" or how they would be met by the Project Design Criteria. The consistency of non-disclosure of critical information to the public for evaluating the severity of potential impacts is glaring. (BMBP EIS comments on p. 33, last par. with using the wording in the FEIS, which is almost identical with the DEIS)

The FEIS analysis continues this non-disclosure trend by not allowing the public to examine data on "current forest-wide soil quality conditions and trends by conducting monitoring activities to determine if soil quality objectives, standards and guidelines are met and are in accord with current scientific knowledge." (FEIS p. 139, last par. as was on DEIS p. 121, last par. with only minor changes as quoted from the FEIS) There are no science citations, science finding descriptions, or methodologies disclosed regarding how determination of no long-term soil impact being caused was made and how PDCs would keep soil disturbance and overall soil productivity "within levels identified by Forest, Regional, and National recommendations of less than 20% detrimental conditions or 80% productive soil" in the previous paragraph, which recommendation sources are also not disclosed. (BMBP EIS comments, p. 34, first par.)

All this non-disclosure may also violate Forest Service Manual 2520 Region (R6) Supplement No. 2520.98-1, "which identifies policy 2521.03 which directs forest to assess current forest-wide soil quality conditions and trends by conducting monitoring activities to determine if soil quality objectives, standards, and guidelines are met and are in accord with current scientific knowledge." (FEIS p. 139) This process must have been intended to lead to public disclosure of the consequent findings. (BMBP EIS comments, p. 34, par.2)

The FEIS needs to demonstrate that resulting conditions will meet Forest Plan standards, which is impossible to do without disclosing known existing conditions in a quantified, sale unit-specific manner and without disclosing the likely percentage per area of detrimental soil impacts that would result from planned ground machinery-based or soil disturbing management actions. (BMBP EIS comments, p. 34, par. 3)

The scale of proposed commercial logging and other mechanical thinning is shocking: "Alternative 3 proposes 42% and Alternative 4 proposes 50% of the total project area for mechanical thinning compared to Alternatives 2... which proposes 77% of the total project area." (DEIS p. 124, and now on FEIS p. 142, last par.) (BMBP EIS comments originally handwritten on pp. 79-80 and quoted in typed comments on p. 34, 3rd to last par.)

The DEIS cumulative effects analysis for soils admits the contribution of commercial logging to perpetuating long-term soil damage. The startling admission that now commercial logging is being repeated on such an unsustainable rotation of only 10 to 15 years, which does not allow for any significant forest recovery in the interim between timber sales appears on DEIS p. 126, par. 2., not found yet in the FEIS. (p. 82 of BMBP handwritten comments, typed on EIS comments p. 34, 2nd to last par.)

The cumulative effects analysis for soils fails to consider in depth how soil impacts affect plant biodiversity; soil carbon storage; wildlife habitat such as deer and elk forage; but also micro-habitat for riparian species such as aquatic macroinvertebrates that are essential fish prey, and micro-habitat conditions for a wide variety of insects and their predators, such as Neotropical migratory songbirds, and for pollinating insects; and recreational uses such as fishing; hunting; Nature study; Nature photography; camping; and hiking, as well as mushroom and medicinal plant foraging. This is inadequate cumulative effects analysis as it fails to consider effects to all the other Forest values dependent on fertile soil and stable slopes. For instance, logging on steep slopes can cause soil displacement, erosion, and excess fine sediment transport into streams, negatively affecting water quality and fish. Yet none of these cumulative effects are considered in the analysis. (BMBP EIS comments, p. 34, last par. typed from handwritten comments, pp. 83-84)

Resolution

BMBP has commented on the potential for detrimental soil impacts on a large scale and with high logging intensity that may violate the Forest Plan detrimental soil impact standard, with comments quoted and cited above. The following BMBP recommendations incorporate suggested remedies to avoid widespread detrimental soil impacts, including irreplaceable ash soil displacement and failure of shallow soils to regenerate after logging or other heavy equipment use:

*Drop all steep slope logging, including tethered logging, which is 12,868 acres with "mechanical thinning" on steep slopes in alternative 3, an appalling 25,290 acres of steep slope logging with alternative 2, and 18,486 acres of steep slope logging with alternative 4, with all these acres of steep slope logging in any of the three alternatives unprecedented in the excessive acreage and devastating affects from just one timber sale. (See Table 3-45 on FEIS p. 142)

*Drop all acres of "Very Shallow, Steep Slopes" soils from heavy equipment use, including commercial logging also in biomass reduction "fuel" breaks: over 735 acres in alternative 3, 478 acres in alternative 4, and a whopping 1,011 acres in alternative 2, with "Very Shallow" slopes apparently not on steep slopes at a devastating 2,517 acres in alternative 2, 1,909 acres in alternative 3, and 1,119 acres in alternative 4 (See FEIS table 3-45 on p. 142)—when there should be no logging on very shallow soils at all! Logging on shallow soils with heavy logging equipment could cause failure for these Sensitive soils to regenerate plants, or if on landslide prone slopes, such logging on steep slopes could cause landslides and mass soil movements, which may not recover for up to thousands of years, based on other Forest Service scientists' findings.

*Drop all acres of ash soils from heavy equipment use from logging or biomass "fuel" reduction, as well as road construction, since other Forest Service soil scientists on the Umatilla National Forest have started to call ash soil displacement irreplaceable since it took Mount Mazama having a volcanic eruption about 7,000 years ago to distribute this highly productive and water retentive top soil across the Northwest, including eastern Oregon. So it could take another several thousand years before the ash soil layer is replenished—in geologic time. Ash soils potentially displaced from logging and heavy equipment use would affect 23,033 acres from alternative 3, 28,986 acres from alternative 4, and an unbelievably extreme 43,652 acres of ash soils affected from alternative 2. And this amount of ash soil displacement and irreparable loss is not even counting the "Very Gravelly Ashy Soil". (See Table 3-45, FEIS p. 142)

Further soil impact resolution remedies:
*Drop sale units which are acknowledged to have already high degrees of detrimental soil impacts or sensitive soils likely to lead to violation of Forest Plan standards for soil protection with proposed management.
*Drop logging of any slopes greater than 35% to reduce potential erosion, prevent loss of soil integrity, and increase potential sedimentation of creeks, if adjacent or above a drainage on steep slopes.
*Drop any sale units or parts of sale units unlikely to meet Forest Plan standards for detrimental soil standards without further mitigation, as mitigation is unlikely to be 100% effective.

Undeveloped Lands and Potential Wilderness Areas

Blue Mountains Biodiversity Project has long-standing concerns over the logging and roading of undeveloped lands, which are some of the last strongholds for wildlife and unimpeded natural ecological processes to occur outside of Inventoried Roadless Areas and Wilderness Areas.

Never logged forest areas are very valuable as scientific evidence of reference conditions by which to determine adaptive management and to support far ranging wildlife species that depend on extensive suitable habitat within which they evolved and adapted. The far ranging predators and migrating native ungulates such as elk, moose, and Bighorn sheep, mostly avoid human disturbance and follow seasonal migrations for forage and reproductive security.

Our comments explain and support our objection:

Drop <u>all</u> commercial logging in undeveloped lands or other never logged areas and lightly logged areas with little or no evidence of logging. We are strongly opposed to logging or roading in any undeveloped lands. (BMBP EIS comments, p. 12, 4th par.)

We strongly support <u>no</u> management being planned for management areas to support non-motorized recreation (Management Area A-1) as well as for all undeveloped lands, the Potamus Inventoried Roadless Area, and other never logged lands (see our survey sheets for other never logged areas.) (BMBP EIS comments, p. 15, 4th par.)

Undeveloped Lands:

We are opposed to all commercial logging and road building in undeveloped or never logged lands (which may not all have been identified by the Forest Service.) Where these occur in <100 acre patches, these could be retention areas for wildlife that are not logged or roaded. Bigger areas should also be dropped from all management except prescribed burning only where they exist in dry forest types. There are few undeveloped lands left on National Forests outside of Wilderness Areas and Inventoried Roadless Areas. See our more detailed comments on effects to undeveloped lands in our handwritten comments on notebook pages 93-96. (BMBP EIS comments, p. 18, last par. through the first par. of p. 19)

There should be no commercial logging in the Potamus Inventoried Roadless Area or in any other never logged area (see our survey sheets) under alternative 3 or any other action alternative. Logging in the IRA would be contrary to the Roadless Area Rule. We also oppose non-commercial thinning in the IRA as unnecessary over-management. IRAs and never logged areas are the best natural habitat for wildlife and maintain reference conditions for study and by which to judge the effects of management elsewhere in similar ecological settings. (BMBP EIS comments, p. 10, 4th par.) We appreciate dropping of planned commercial logging in the Potamus Canyon Inventoried Roadless Area in the Draft Record of Decision.

There is no evident need to do "fuel" reduction or logging along the canyon rim surrounding Potamus Point—not based on the DEIS description, nor on the existing condition of the area experienced on the ground, which I witnessed. Leave the whole Potamus IRA and canyon rim alone except for careful prescribed burning. It is a very open area with good road access for egress from a wild fire. (BMBP EIS comments, p. 16, 2nd par.)

See also more detailed comments on undeveloped lands on pp. 93-96.

Resolution:

Our comments support the need to leave undeveloped lands and Potential Wilderness Areas protected as unmanaged to support Threatened and Sensitive wildlife species that are known or likely to be in the project area—including Threatened Canada lynx, Threatened wolverines and a local Gray wolf pack-- especially when there is less human disturbance in the project area in the winter or migrating in the summer to the lower elevations of the project area. See our proposed objection resolution remedies for undeveloped lands and Potential Wilderness Areas below:

* For the protection of Wolverine, Gray wolf, and potential Canada lynx and Pacific fisher, there should be no more road access through "temporary" road construction and re-opening closed roads, also for retaining and increasing elk security habitat. Late and Old Structure or old growth should be dropped from logging, along with biomass "fuel" reduction in potential habitat for Wolverine, Pacific fisher, and American marten, which would also benefit many other wildlife species, such as Primary Cavity Excavators. The biggest blocks of forest with little human disturbance are usually found in undeveloped lands, Inventoried Roadless Areas, Potential Wilderness Areas, and Wilderness Areas,

which can't alone support these far ranging wildlife species without protecting unmanaged undeveloped lands.

*Drop all logging in moist mixed conifer forest and cold forest habitat in undeveloped lands which could be suitable for any of these Threatened-listed species, as well as the local Endangered and Sensitive wolf pack members and any additional Sensitive Gray wolves, which could be up-listed to Threatened if numbers of Gray wolves decline due to poaching, poisoning, roadkill, and killing by ranchers and by the Oregon Department of Fish and Wildlife.

*Drop all logging in remote areas with little access by roads and where there is planned closure of access spur roads.

These suggested additional conservation measures to keep undeveloped lands unmanaged and as a natural ecosytem would also benefit many other wildlife species, including Management Indicator species (MIS) Pacific marten, Pileated woodpecker, and Rocky Mountain elk, as well as Endangered Gray wolves and any Threatened Canada lynx Sensitive Pacific fisher in the area.

Further partial resolution remedies and requests re: undeveloped lands and Potential Wilderness Areas:

*Please clearly identify the location and size of any undeveloped lands identified by the Forest Service so that we can evaluate which areas are artifacts of the GIS system not recording early past logging, and which have likely never been roaded or logged.
* Drop any logging and "temporary" roads or re-opening closed roads in undeveloped lands. We are strongly opposed to any logging or other development in such rare relatively pristine areas, which serve as scientific reference conditions, undisturbed wildlife habitat, fish strongholds, and primitive recreation areas
* We are opposed to converting unmanaged lands to managed lands wherever they exist., including never logged sale units planned for commercial logging or road work.

III. The Ellis Project Would Violate the Endangered Species Act

We are very concerned that the Forest Service is not adhering to the intent and management guidance of the Endangered Species Act, based on the lack of analysis for each Threatened, Endangered, Sensitive and any Candidate (TESC) wildlife species. See the NEPA section under Inadequate Effects Analysis for Direct, Indirect, and Cumulative effects above, which focuses on inadequate effects analysis for TESC wildlife species and effects to their suitable habitat—in both the original EIS and the final EIS. We are concerned regarding Forest Service disregard for the need to maintain sufficient suitable habitat and conditions to prevent a trend toward federal uplisting for Sensitive-listed Gray wolf; Threatened Wolverine; potential Sensitive Pacific fisher and Threatened Canada lynx; any Threatened Bull trout and Mid-Columbia Steelhead trout; Sensitive-listed Columbia Spotted frog and Sensitive Redband trout; and Sensitive-listed plant species. All of these species have known active or potential suitable habitat in the Ellis project area that is potentially threatened by proposed management actions on a landscape scale.

Our comments explain our concerns regarding violation of the Endangered Species Act through planned management degradation or elimination of suitable and core habitat setting back species recovery, threatening loss of population viability, or otherwise contributing to a federal uplisting trend for the species:

Several subwatersheds and streams in the project area being impaired or not meeting established water temperature standards is cause for alarm, and should be enough for the Forest Service to re-focus their attention and funding on saving the integrity of these subwatersheds and streams through ecologically sound aquatic restoration, in order to maintain viable fish runs of Threatened Mid-Columbia River Steelhead trout and Sensitive Redband trout, and aquatic and riparian habitat for many other species, including Sensitive Columbia spotted frog, possible salamander species and Sensitive Pacific lamprey, and potential Sensitive freshwater mussels such as Western ridged mussel. (BMBP EIS comments, p. 17, 1st par., 2nd part)

Such widespread heavy logging, road work, and direct impacts within RHCAs can be foreseeably expected to increase excess sedimentation of streams, destabilize stream banks, increase surface run-off, remove a lot of plant cover that would otherwise filter run-off, destabilize slopes that are logged, and displace ash soils off logged slopes, potentially into streams below, as well as potentially further increase water temperatures. All harmful to the Threatened and Sensitive fish species, any resident freshwater mussels, and possibly Columbia spotted frog. Such widespread biomass removal and burning as planned under these action alternatives could also have a net effect of reducing moisture otherwise retained by tree shading and down wood. (BMBP EIS comments, p. 17, 2nd par., last three sentences)

The following is an unsubstantiated DEIS claim: "This section analyzes and discloses the effects of proposed activities on all federally threatened, endangered, and proposed (T &E), Forest Service Region 6 sensitive terrestrial wildlife species, and management indicator species (MIS) that are known to occur, have the potential to occur, or have suitable habitat within the project area." (DEIS p. 83, last par.) This claim is not true, in that the DEIS wildlife section does not analyze and disclose the effects of the proposed activities on <u>all</u> federally Threatened-listed and Sensitive species "that are known to occur, have the potential to occur, or have suitable habitat within the project area." There is no analysis of potential effects to Threatened Canada lynx and no disclosure or analysis of effects to Sensitive Pacific fisher and Sensitive wolverine. Pacific fisher and wolverine are not even listed in Table 3-31 (DEIS p. 85) for consideration for effects.

As of January 2021, the Threatened-listed Canada lynx is still listed as a Threatened species on the Umatilla National Forest (see DEIS p. 84, last par.), was historically known to occur on the Umatilla National Forest, still has potential to occur on the Umatilla, and has suitable habitat in the Ellis project area, with high elevation cool moist mixed conifer forest and Lodgepole pine with relatively continuous blocks of cover for winter habitat. There are also Snowshoe hares, their main prey, in the Ellis area (we have seen the Snowshoe hares there), and I have had two positive spring and summer daylight sightings of Canada lynx just south of the southwest end of the Heppner District and crossing highway 19 by the John Day River within the last decade, with the highway 19

sighting only a year or two ago. Canada lynx apparently disperse to lower elevation habitat in warmer weather after significant snow melt, and return to higher elevation forest with high snowpack in the winter to avoid competition for prey with coyotes and bobcats. Their prey is not limited to Snowshoe hares.

It only requires one of these requirements for occurrence or suitable habitat to be met for the DEIS claim to be false or misleading. An ex-employee of the Fish and Wildlife Service verified to me that the sudden changes from mapped "Lynx Analysis Units" in the 1990's in the Ochoco and Umatilla National Forests (which the DEIS does not disclose) were based on purely political decisions, not on the science. Three Blue Mountains Biodiversity Project also positively identified a Canada lynx in higher elevation Lodgepole pine/moist mixed conifer forest habitat on the Ochoco National Forest in the early 2000's. in the vicinity of the Black Bear timber sale.

The Ellis DEIS analysis also does not disclose potential occurrence and effects to Sensitive Pacific fisher, even though Pacific fisher historically occurred in most forest across the state, and was identified in analysis by the Umatilla National Forest staff as still potentially existing in the Fox Roadless Area around 1995. There may be some suitable Pacific fisher habitat in the Ellis project area—especially in the old growth moist mixed conifer In the north half of the sale area. I have also had a night sighting (in my truck's headlights' range) of a likely Pacific fisher in the Heppner District of the Umatilla National Forest by highway 207, another night sighting of what looked like a Pacific fisher crossing Highway 20 in the Metolius area of the Deschutes National Forest between the Camp Sherman turn off and Suttle Lake, and a daylight positive sighting with a volunteer of a Pacific fisher in appropriate old growth mixed conifer habitat at high elevation (about 6,000 feet) in the Wolf timber sale area on the Ochoco National Forest while field surveying. Both of us saw the Pacific fisher in the Ochoco sighting. The Deschutes Forest Service staff have also documented the known existence of Pacific fisher through trail camera photographs in various timber sale NEPA analysis, in recent years (over the last two decades) for the Newberry Crater area and the southern Deschutes, including near a big marsh in the Crescent District. In other words, Pacific fisher are apparently dispersing from recovery populations in the Cascades and southwest Oregon, or else have always maintained at least low populations in eastern Oregon that were undetected. Thus there is reason to believe that the Pacific fisher could be using Ellis sale area habitat.

Environmental Impact Statements throughout the Blue Mountain National Forests and the Deschutes National Forest have included analysis for potential effects to California wolverine (or Gulo Gulo) as a standard component of their analysis over the last three decades. Asante Riverwind and I saw definite wolverine tracks in snow in the Emigrant District of the Malheur and Asante also had a rare daylight sighting of a wolverine in the southern Malheur National Forest. The Malheur Forest staff have recognized the potential for wolverine on the Malheur. The Umatilla National Forest has more potential source habitat for wolverine than the other Blue Mountains National Forests due to the Umatilla's inclusion of the most high elevation Wilderness Areas, along with the Wallowa-Whitman National Forest having substantial Wilderness Area proximity. Wolverine roam over a territory of thousands of acres for foraging, since they are scavengers. This means that they could be found in many different forest habitats with a

range of elevations outside of their winter denning period, including the Ellis project area. There is historic evidence of wolverine in Blue Mountains National Forests, including a dead wolverine found near the Strawberry Mountain Wilderness Area on the Malheur National Forest in the late 1990's and a stuffed wolverine in Fossil, Oregon's small museum.

The Ellis DEIS should have included detailed, in-depth analysis for potential effects to rare, Sensitive-listed wolverine and Sensitive Pacific fisher (both of whom were candidates for federal up-listing), and Threatened-listed Canada lynx.

Even if there is no resident population of Canada lynx on the Umatilla National Forest (which is highly debatable, as there is plenty of suitable habitat and Snowshoe hares on the Umatilla), effects to dispersing lynx (and fishers, and far-roaming wolverine) should still be analyzed. (See DEIS p. 84, last par.) A single, politically-motivated "white paper" is not enough to justify failure to consider potential project effects to a Threatened-listed species (and two Sensitive-listed species) known to have historically occupied the Umatilla National Forest. As far as I know, there has been no on-the-ground long-term scientific study to establish the absence of lynx, Pacific fisher, or wolverine on the Umatilla National Forest.

The following DEIS conclusion that is usually used to support the need for detailed potential effects analysis to federally or state-listed wildlife species that could be using a project/timber sale area, should have been applied to inclusion of analysis for potential effects to Canada lynx, Pacific fisher, and wolverine: "It is also important to note that accurate estimates of wildlife populations relative to the project area are difficult if not unfeasible to obtain. It is unlikely that all activity centers such as dens or nests have been found. Lacking complete information on species distribution and abundance, when this habitat occurs on which a species depends, we generally consider the habitat as potentially occupied." (DEIS p. 84, par. 2) Considering the habitat as potentially occupied is a justifiable precautionary approach to consider potential effects to rare and listed species. This is also the usual approach used by the Forest Service for both wildlife species and plant species effects analysis when there is no certainty that the wildlife species or plant species is not present in the planning area.

There is no evidence presented in the DEIS to substantiate the claim that there is a lack of suitable habitat within the project area for Canada lynx (and of course the same applies to Pacific fisher and wolverine, who were not even disclosed or considered in the analysis.) Notably, the "U.S. Fish and Wildlife Service concluded that lynx may occur on the forest as dispersers that have never maintained resident populations (USFWS 2003)." (DEIS p. 84, last par.) Dispersing wildlife need suitable habitat and wildlife connectivity corridors in which to disperse, as well as potential suitable habitat to occupy, which is now more important than ever under the effects of extreme climate change rendering lower elevation habitat and habitat further south unsuitable due to droughts, increasingly high temperatures, and potentially more intense wildfires.

Potential effects to dispersing Sensitive Gray wolves are not considered in detailed, in-depth analysis in the Ellis DEIS even though Gray wolf is listed in Table 3-31 on DEIS p. 85. This is a strange omission, as the description heading for Table 3-31 is: "Sensitive vertebrate species listed for the UNF [Umatilla National Forest] that may be impacted by

[the] project and required additional analysis." (DEIS p.85, emphasis ours) This Table description should have triggered the required additional effects analysis for Gray wolf, as well as for Sensitive Pacific fisher and Sensitive wolverine, based on the full listing of regional and Umatilla National Forest Sensitive species. Of course the same should have been done for the acknowledged Threatened-listed Canada lynx. Yet the rest of the description for Table 3-31 has this terse shunting off of responsibility through lack of disclosure in the DEIS: "Full list pulled March 2019 (see Wildlife Report for full list of species)." The public should not have to find and read a separate wildlife report to know what the full list of Sensitive wildlife species is for the region and the Forest, and which species were left out of the analysis, as we described above. The analysis discussion of potential effects to Rocky Mountain elk should have also triggered in-depth analysis of effects to Gray wolves, as they are the elk's main natural predator.

There should be disclosure in the DEIS for the public of the full list of TESC (Threatened, Endangered, Sensitive, and Candidate-listed) species, Management Indicator species, and Land Birds of Conservation Concern, which is standard for an EIS throughout the region. This information should not be hidden away in a separate wildlife report. The public should be allowed to decide whether or not proposed actions will affect TESC species, Management Indicator species, and Land Birds of Conservation Concern by knowing which of these could be in the project area and what specific habitat all of these species need. (See DEIS p. 84, par. 4) Wildlife species cannot be excluded from effects analysis in the DEIS because of "project design and design features or other mitigations" (DEIS p. 84, par.4), as these should be disclosed in detailed effects analysis for the wildlife species, so that the public can evaluate whether or not the project design, design features, or other mitigations are sufficient to protect the species' habitat. Even when a wildlife species or its habitat is not considered present in the project area, these species are usually disclosed in at least a table in the EIS to show why that determination was made, including description of the species' suitable habitat. (BMBP EIS comments, from the first par. of p. 19 under "Wildlife" through the 1st par. of p. 22)

Lewis' and White-Headed Woodpecker:

The DEIS admits that the effects analysis for Lewis' and White-headed woodpeckers have been lumped together despite the habitat differences for the two species: "Both species occupy similar habitat [,] therefore their analysis has been lumped together." (DEIS p. 85, last par.) Actually, Lewis' and White-headed woodpeckers have distinct habitat niches that don't always overlap.

Lumping the analysis of White-headed woodpecker and Lewis' woodpecker together is inaccurate and not sufficient. This is especially the case when the analysis then fails to evaluate and disclose specific effects to Lewis' woodpeckers, who have some different habitat needs, such as post-stand replacement fire-burned forest that burned a decade or more ago, and riparian forest with large Cottonwoods habitat that is not documented as White-headed woodpecker suitable habitat. The DEIS states that the two species will be analyzed together and then immediately makes a U turn by saying: "However, the focus is on White-headed woodpecker." (DEIS p. 85) This tosses out specific consideration of the status of the Lewis' woodpecker and their habitat needs. This also results in over-stating the amount of habitat available for Lewis' woodpeckers, by basing the analysis on

4,628 acres of source habitat for White-headed woodpecker, which is likely to be more broadly distributed than the less available for specific habitat needs of the Lewis' woodpecker. Neither of these woodpecker species just needs "open dry habitat" , a gross over-simplification of their habitat requirements.

The two species' differing habitat needs and relative rarity are not considered. The DEIS fails to recognize that if "No Action" leads to more high severity fire, as posited, the Lewis' woodpecker would benefit over time while the White-headed woodpecker might not. Generally enough snags remain standing from a stand replacement fire to meet the Lewis' woodpeckers nesting and perching requirements, whereas White-headed woodpeckers depend on live old growth Ponderosa pines for eating the seeds and gleans insects from smaller live Ponderosa pines. The analysis fails to consider the differences in prey for the two species, as the Lewis' woodpecker depends on flying insects, and the White-headed woodpecker depends on insects on or in standing tree bark, as well as old growth Ponderosa pine seeds. So it's not true that all action alternatives would benefit both species as claimed. The Lewis' woodpecker loses suitable habitat if there is not enough stand replacement severity wild fire (i.e. if the action alternatives or just wildfire suppression reduce the incidence and extent of high severity fire.) The White-headed woodpecker would lose more suitable habitat under alternative 5 if there is logging of large Ponderosa pines, and also through hazard tree removal under all the action alternatives, as well as through heavy logging of mature Ponderosa pines, as this would reduce the number of future large, old Ponderosa pines. While both species are declining, they are not necessarily declining due to the loss of the same kind of habitat, so the different action alternatives have different effects on the two woodpecker species. The Lewis' woodpecker could be more harmed by riparian area logging than the White-headed woodpecker, through loss of large Cottonwood trees or loss of moisture retention in riparian areas.

The analysis for White-headed and Lewis' woodpecker fails to analyze any of the many negative effects of the action alternatives to either species. Negative effects which are not discussed for the two species include loss of large trees—live under alternative 5 and action alternative hazard tree logging, as well as future large structure through heavy, extensive commercial logging planned under alternative 2, 4, and 5, and to a lesser degree, alternative 3. All of the action alternatives would greatly reduce the abundance of mature trees up to 21"dbh that could otherwise grow into large trees, and cause loss of live, snag, and log large tree structure through associated hazard tree removal. The excessive fuel breaks planned (the Ember Reduction and Low Intensity Zones) and prescribed burning would remove many snags, most down wood, and numerous live trees on a landscape scale. None of those effects from the action alternatives would mimic the natural disturbances with which these woodpecker species evolved, as huge amounts of biomass would be removed, not just re-distributed as snags, logs, remaining live tree patches, and ash, over a short time period (within a decade) on a landscape scale of tens of thousands of acres.

As usual, the Forest Service's viability analysis for Lewis' and White-headed woodpeckers is flawed, as the analysis fails to consider cumulative impacts of many other timber sales, "fuel" breaks, and prescribed burning across the Forest to these species' habitat—from ongoing implementation of current timber sales, and from timber sales that

have not been implemented yet but have decisions allowing their implementation, as well as foreseeable future timber sales and other projects—across the entire Forest.

There is no certainty that 23% of the available source habitat (which actually only pertains to White-headed woodpeckers) would not be negatively affected rather than positively. There is no analysis as to what a rather large loss of source habitat of 23% would mean to the viability of either species in the planning area. Without up to date credible scientific data as to the population status currently of these species on the Forest and in the project area, there is no credible basis for an assurance of continued viability of either Lewis' or White-headed woodpecker in the project area or on the Forest.

Scientific data used to determine species' population viability should include reproductive success rates, population trends, current population status, and scientifically determined viability thresholds for all Management Indicator species and TESC species, based on peer-reviewed field studies.

Table 3-33 is confusing. Does the "No/Yes" under "Documented Habitat/Present?" mean that there is no documented habitat but the species is present? This doesn't make much sense.

Johnson's Hairstreak (Butterfly):

Regarding Johnson's Hairstreak butterfly, the analysis for effects from alternative 1 and 2 contradict each other, saying under alternative 1 that "the benefits of increased flowering plants will be negated with the loss of its needed mistletoe" while alternative 2 analysis claims without justification that "The offset between reduced mistletoe but increased adult nectaring food sources should balance out most disturbances that could arise for the Johnson's Hairstreak during the Ellis Project...." (DEIS p. 87, 2nd to last and last par.s) The "disturbances that could arise for the Johnson's Hairstreak during the Ellis Project" implementation and its aftermath would include the targeted removal of trees with the specific plant associated with this Sensitive imperiled species for larval survival food and substrate, but this isn't mentioned.

This is incredibly sloppy and inadequate analysis for wildlife species. For instance, there is no disclosure that Johnson's Hairstreak butterfly is incredibly difficult to detect in surveys. Then the DEIS analysis concludes without substantiation that while "individuals may be affected by proposed project activities", these are "not likely to lead to a trend toward federal loss of viability, especially since there are no known documented sightings in the Ellis Project" even though this is an imperiled species already.

Then, after that, the analysis repeats the contradictory claim: "Though the dwarf mistletoe reduction may have negative effects to Johnson's Hairstreak, the potential increase in nectaring plants will have beneficial effects which should balance overall effects." (DEIS p. 88) Apparently there is no editing oversight for unsubstantiated or contradictory claims—as long as they support the timber sale going forward as planned. (BMBP EIS comments, p. 23, 2nd par. through par. 1 of p. 25)

Additional comments on our Endangered Species Act objection can be found on p. 22, the 2nd through fourth par.s)

Resolution:

Blue Mountains Biodiversity Project has commented extensively on the many TESC wildlife species that are or could be using the Ellis project area and how proposed management actions would threaten their viability in the project area and could contribute to federal uplisting of some of these TESC wildlife species. Some of our comments suggested partial resolution remedies for better protecting the viability of TESC wildlife species in the Ellis project area and for the Umatilla National Forest and eastern Oregon: See some of our Management Indicator species resolution remedy comments and our Undeveloped lands resolution remedy comments that overlap with resolution remedies that also protect suitable habitat for TESC wildlife species.

Our additional conservation measures recommended to help protect these Threatened species include:

*Drop all logging and road work or "fuel" reduction in never logged forest, which is included in proposed commercial logging sale units. See our field survey sheets for where "never logged" may be checked and described as having no sign of commercial logging, such as no stumps away from roadside hazard tree felling and no evident skid trails or obvious plantations. Check also Forest Service information as to what areas have not been logged.

*Drop all high and moderate intensity logging, still allowing for much reduced single tree selection thinning with higher canopy cover and basal area retention at a minimum of 80-100 square feet of basal area, with allowing basal area retention to exceed 100 square feet of basal area per acre where there are large trees. Any low intensity logging should be focusing on the understory, not the midstory or overstory.

*Drop all construction of "temporary" roads and re-opening of closed roads.

*Drop all commercial logging, road construction and re-opening in RHCAs and drop all "fuel" reduction in RHCAs. This could benefit Sensitive Columbia spotted frog, Sensitive Redband trout, and any Threatened Bull trout, Threatened Mid-Columbia Steelhead trout, and reintroduced of recovering Chinook salmon, as well as aquatic macro-invertebrates for the TESC fish species and Sensitive mollusks.

*Drop all commercial size logging in Wildlife Connectivity Corridors. RHCAs in general are used by wildlife as wildlife connectivity corridors, access to water, and hiding cover.

*Drop all logging in undeveloped lands, moist mixed conifer forest and cold forest habitat which could be suitable for any of the potential Threatened-listed species such as Threatened wolverine and Threatened Canada lynx,, as well as for the local wolf pack and any Sensitive Gray wolves dispersing from other packs to the Ellis project area, which could be up-listed to Threatened if numbers of Gray wolves decline due to poaching, poisoning, roadkill, and killing by ranchers and the Oregon Department of Fish and Wildlife. Protection of undeveloped lands and Potential Wilderness Areas are critical for TESC wildlife species security habitat. Many of the TESC wildlife species are wide-ranging and thus need more expansive suitable habitat beyond already logged forest with

high road densities, including Endangered and Sensitive Gray wolves, Threatened Wolverine, Vulnerable-ranked Pacific marten, and Threatened Canada lynx, who use more extended habitat in the summer beyond the high elevation forest with deep snow packs in the winter. A pair of wolverines use a home range of up to 150 square miles, and Pacific marten require thousands of acres for home ranges. Gray wolves disperse all the way from Idaho to California to establish new packs and for genetic diversity.

*Drop prescribed burning in cool moist mixed conifer forest and cold dry forest sale units, due to potential drying out of water retention for far ranging wildlife species and wildlife species migrating from hotter, drier, lower elevation habitat to more suitable high elevation, cooler and moister suitable habitat due to unprecedented heat waves, prolonged droughts, and more extensive wildfires in lower, drier elevation habitat due to extreme climate change.

*Drop all logging in remote areas with little access by roads and where there is planned closure of access spur roads.

Additional partial resolutions are by species below:

Re: Sensitive Redband trout and Columbia Spotted frog and Sensitive riparian plant species:
*Drop all heavy equipment use and related commercial-size logging in potential Columbia Spotted frog habitat and Redband trout habitat stream reaches and within RHCAs in general except for aspen stand restoration-related conifer thinning up to 15" dbh or less, as long as trees contributing to bank stability and primary stream shading are retained. Thinned conifers should be only felled and left on site to provide more roughness to the flood plain for more water retention and riparian plant restoration. Buffer and protect any Sensitive plants found in riparian areas through current or pre-implementation surveys.

Re: Gray wolf:
*Retain more good security cover (hiding and thermal) for elk and deer where there is high use by elk and deer, and through dropping sale units suitable in habitat for other density-related species, such as Northern goshawk, Pacific marten, and Pileated woodpecker.
*Drop construction of 'temporary' roads and greatly reduce the proposed re-opening of closed roads to protect Gray wolf security during dispersal as much as possible.
*Drop logging and roading in any identified undeveloped lands.

Re: Pacific fisher:
*Drop all commercial logging of LOS stands with suitable habitat for Pacific fisher, such as old growth moister mixed conifer.
*Retain more mature and large Grand fir and Douglas fir wherever it would naturally occur (e.g. in moist mixed conifer, in riparian zones, on North to Northeast facing slopes, and in high elevation mixed conifer) so that more mature and large Grand fir and Douglas fir will survive to become suitable hollow denning trees.
*Drop all known or identified suitable Pacific fisher habitat.

IV. The Ellis Project Would Violate the Clean Water Act

Examples of our comments regarding water quality and potential violations of the Clean Water Act:

Hydrology and Aquatic Species:

Why is there no data available for the Potamus Creek and Mallory/Ditch watersheds, and only a 1999 "evaluation" for the North Fork John Day/Matlock and Fivemile watersheds? This seems like dereliction on the part of the Forest Service, especially when the evaluation found that the North Fork John Day/Matlock and Five Mile watersheds were "Functioning at Risk" and there was no follow-up restoration and continued monitoring on the ground. What will the Forest Service do to restore conditions in the Potamus Creek-North Fork John Day watershed to move it away from "Functioning at Risk" for sediment and turbidity and for the Lower Camas Creek watershed "Functioning at Risk" based on current data? Why did the DEIS analysis state that the Lower Camas Creek watershed was "Functioning at Risk" based on current data, only to say two sentences later that: "Data were not available for evaluating the Lower Camas Creek watershed"? (See DEIS p. 56, par. 2.) If the latter statement is correct, why is there no data available for evaluating the Lower Camas Creek watershed?

Why has nothing been done by the Forest Service to restore the Potamus Creek-North Fork John Day and Lower Camas Creek watersheds from "Not Properly Functioning" for water temperature, based on the most recent data? If anything has been done to restore proper riparian functioning of these watersheds, I assume that would have been reported in the DEIS analysis. (See DEIS p. 57, 2nd full par.)

We are concerned that: "Data from the last 10-15 years of the PIBO monitoring program suggest that higher than desired levels of fine sediments in pool tailouts (<6 mm) occurred in streams of the Blue Mountains ecoregion and specifically on the Umatilla National Forest (Archer and Groce 2020; Archer and Ojala 2017). Having high fines in this habitat type leads directly to issues with spawning and emergent salmonids, as these are the specific locations where many species of fish prefer to spawn. Many streams in the project area experience high summer water temperatures. Only one of the stream sites monitored in the Potamus Creek or the Fivemile Watersheds are properly functioning for stream temperature. The Smith Ditch site did barely meet the upper temperature threshold for properly functioning in 1997....This is the only site sampled in either the Potamus or Fivemile watersheds that met standards. This pattern is also evident for sites in the PIBO program. The Matlock Creek-Stony Creek, Ellis Creek-Potamus Creek, Potamus Creek, Mallory Creek, and Ditch Creek subwatersheds were described as exceeding water temperature standards (U.S. Department of Agriculture 2004)." (DEIS p. 56, last two par.s)

We are also concerned that: "The most recent information from the Oregon Department of Environmental Quality indicates several subwatersheds and streams in the project area as being impaired, or not meeting established water temperature standards." (DEIS p. 57, 1st full par.) "Watershed functioning, using most recent data for the Water Temperature Indicator, resulted in a "Not Properly Functioning" call for both the

Potamus Creek-North Fork John Day River and Lower Camas Creek watersheds." (DEIS, p. 57, 2nd full par.) Several subwatersheds and streams in the project area being impaired or not meeting established water temperature standards is cause for alarm, and should be enough for the Forest Service to re-focus their attention and funding on saving the integrity of these subwatersheds and streams through ecologically sound aquatic restoration, in order to maintain viable fish runs of Threatened Mid-Columbia River Steelhead trout and Sensitive Redband trout, and aquatic and riparian habitat for many other species, including Sensitive Columbia spotted frog, possible salamander species and Sensitive Pacific lamprey, and potential Sensitive freshwater mussels such as Western ridged mussel.

Instead, the Forest Service is planning a massive, landscape scale timber sale with heavy, intensive logging, road construction, re-opening of closed roads, and use of heavy ground-based machinery with the Riparian Habitat Conservation Areas under alternatives 2, 4, and 5. Such widespread heavy logging, road work, and direct impacts within RHCAs can be foreseeably expected to increase excess sedimentation of streams, destabilize stream banks, increase surface run-off, remove a lot of plant cover that would otherwise filter run-off, destabilize slopes that are logged, and displace ash soils off logged slopes, potentially into streams below, as well as potentially further increase water temperatures. All harmful to the Threatened and Sensitive fish species, any resident freshwater mussels, and possibly Columbia spotted frog. Such widespread biomass removal and burning as planned under these action alternatives could also have a net effect of reducing moisture otherwise retained by tree shading and down wood.

As the DEIS analysis acknowledges, most of the existing impairment of watersheds and streams in the Ellis project area is likely a consequence of numerous previous timber sales in the area:

"Timber harvest has occurred within RHCAs in the Potamus Creek watershed, the majority prior to 1996 (U.S. Department of Agriculture 2004). Percentages of estimated timber in RHCAs harvested by subwatershed were 4 (Deerhorn Creek-North Fork John Day River), 52 (Matlock Creek-Stony Creek), 44 (Ellis Creek-Potamus Creek), 23 (Potamus Creek), 17 (Mallory Creek), and 48 (Ditch Creek)....Historic timber harvest in RHCAs has resulted in increased soil erosion and sedimentation in streams, reduced recruitment of large wood affecting pool formation and cover, and reduced shade, affecting water temperature." (DEIS p. 57, 3rd full par.) Regarding stream shading, the DEIS acknowledges that: "Many values were less than 20% and likely reflected the timber harvest in RHCAs that occurred prior to the stream surveys." (DEIS p. 57, 4th full par.)

(BMBP EIS comments on last three paragraphs of p. 16 and the first four par.s on p. 17)

Resolution

Blue Mountains Biodiversity Project has commented on potential Clean Water Act violations. See also Paula Hood's Clean Water Act objections and potential remedies. See the NFMA RHCA section for appropriate remedies to prevent water quality impairment, as well as the remedies below:

*Drop all planned commercial size logging and heavy equipment use in the RHCAs. Aspen stand restoration and meadow restoration should only-allow conifer thinning up to 15" dbh or just by non-commercial thinning up to 10" dbh, with the conifers thinned left in the RHCAs for floodplain roughness, with both meadow restoration and aspen stands also leaving any felled conifers. Both aspen stands and meadow restoration should retain all live conifers and existing snags contributing to stream bank stability or primary shading of any stream in both aspen stands and meadows.
*Drop all re-opening of closed roads and construction of 'temporary' roads within, or adjacent to, RHCAs.
*Drop any planned logging equipment stream crossings.
*Drop all steep slope logging on >30% slope, as steep slope logging displaces soil—especially ash soils—as skid trails and logging roads funnel excess sediment downhill into streams in drainages below or just due to erosion from logging on steep slopes where logging occurred, with detrimental impacts to downstream fish species and other aquatic species.
*Drop all of the high intensity logging planned, including seed tree or shelterwood clearcutting and patch cuts, and any other logging to basal area retention less than 80 square feet of basal area for dry forest types and no basal area retention less than 100 square feet of basal area for moist mixed conifer forest, in order to retain forest canopy cooling and moisture, and to reduce ground disturbance that releases sediment to be channelized into streams in overland flows.

Our Objection Regarding the Excessive and Largely Ineffective Roadside "Fuel" Breaks and Ember Reduction and Low-Intensity Zones

It's unclear even in the FEIS how the "Ember Reduction" and "Low Intensity" Zones overlap the roadside "fuel" breaks and the planned commercial logging sale units along roads or are additive, based on these different management category headings. Mileage distances from the Wildland-Urban Interface may not always be based on distance from roads, but instead out from private property boundaries.

We are strongly concerned by the ecological devastation that would result from commercial logging to very low basal area retention and biomass reduction, including extensive ground disturbance and removal of plant cover in roadside "fuel" breaks and that would extend out to one and a half miles from human infrastructure and private inholdings in the "ember reduction zone and extending a quarter of a mile radius from human infrastructure and private inholdings in the "low intensity zone". These "fuel" breaks that are actually the stark elimination of wildlife habitat and natural forest "proposed along 273 miles (up to 28,829 acres) of ingress/egress roads and trails, buffered in depth varying from 300 to 500 feet along both sides of identified routes." (FEIS p. 17, last par.) Given the cumulative landscape scale of the "fuel" breaks, these would be the equivalent of a large timber sale alone or an unprecedented timber sale size, yet it is being passed off as fire risk reduction by destroying the forest under the guise of saving it. Wildfires play critical roles (such as perpetuation of wildlife habitat niches which support biodiversity) that support the natural forest ecosystem processes in the Blue Mountains Forests, whereas high intensity commercial logging with very low live

tree retention and reduction of snags, logs, and plant biodiversity has completely unnatural effects and has resulted in severe long-term degradation from past timber sales. The Ellis project forest would no longer be recognizable, eliminating recreational values, indigenous peoples' cultural uses and treaty rights, and a sense of place.

Our comments support our objection:

In addition to the 56,960 acres of theoretical fire "risk" reduction in the so-called "ember reduction zone" of the Ellis area [it's not clear if this is still the acreage in the ERZ, as I couldn't find it in the FEIS] the Forest Service has also delineated an 8,960 acre "low intensity zone" within a quarter mile of structures for lower limb pruning on trees in addition to the heavy logging planned. Commercial logging would additionally occur on up to [28,829 acres proposed along 273 miles(in the FEIS, p.17)] of road and trail corridors 300 to 500 feet from either side of the roads or trails, along with small diameter thinning, burning, and pruning. This is planned even though fuel breaks have already been created on either side of Forest Service road 53, the Scenic Byway. Roadside hazard trees would be logged for commercial value or felled and left in riparian areas.

<u>We are opposed to:</u>

*such an enormous timber sale
*such heavy logging down to very low basal areas
*any clearcutting
*any logging or roading in roadless and undeveloped lands
*such intensive management of nearly the entire project area
...
*such big fuel breaks along roads and trails
(BMBP Scoping Comment Summary, p. 3, 2nd & 3rd par., with brackets around corrected figures based on the FEIS p.17, last par.)

Planned 300 foot roadside "fuel" reduction should not include commercial logging (>9" dbh) or hazard tree removal or felling beyond the roadside hazard tree height that could actually fall well within the road—more like a 50-100 foot width in from the road. A 300 foot hazard tree zone is not consistent with guidance from the Forest Service's "Danger Tree" identification manual.

We are opposed to logging in cold and cool moist mixed conifer forest. "Low Intensity" zones log all the way down to only 10 to 20 square feet of basal area retention. (BMBP EIS comments, last par. p.9, first par. of p. 10)

Changes to alternative 3 should include a much narrower "Low Intensity" zone, no commercial logging in designated wildlife corridors (not clarified in this section of the DEIS and not addressed in a section on effects to wildlife corridors, as is standard in regional EISes), and more road decommissioning and road closures for elk security and for fewer impacts from roads, such as sedimentation of streams. There should be a broader, higher basal area retention range for commercial logging in dry forest types of at

least 40 square feet of basal area to 100 sq. ft. of ba+ to allow for old growth stands and greater development of large trees, snags, and logs. (BMBP EIS comments, p.9, 7th par.)

We are strongly opposed to alternative 4 (and 2...) logging in OFMS to convert these stands to OFSS and to emphasize logging in the excessively large and contiguous "Ember Reduction Zone" (ERZ)—primarily in moist mixed conifer forest. The ERZ and Low Intensity Zone roadside fuel breaks would destroy an astoundingly huge block of forest. (BMBP EIS comments p. 10, 5th par.)

17,449 acres of roadside logging (which actually would extend up to a mile and a half from the road, intersecting with other "fuel" breaks to form huge contiguous blocks) is the equivalent of a large entire timber sale elsewhere. This seems like a scam to increase commercial logging that is not backed by the majority of the science. Closing and decommissioning more roads (and not re-opening closed roads and building new roads) would prevent the expense of endlessly maintaining fuel breaks along190 miles of roads and trails.

Alternative 2 would log up to 20" dbh in the ERZ, meaning that Alt. 4 would not just be focusing on "small diameter thinning", which is usually only up to 9" dbh....There is a trend throughout most of the DEIS to characterize what would actually be virtual clearcutting over a huge area under alt.s 2, [and] 4..., as "commercial thinning", "thinning from below". This is very deceptive and misleading analysis. (BMBP EIS comments, p.10 last par. through par. 2 of p. 11)

The planned fuel breaks, which constitute most of the planned logging due to their absurdly excessive scale, are described as resulting in "very open stands", not just thinning out the understory. Thus stand structure will not through logging "shift the size distribution to larger and older trees" as most of the mature tree overstory would be removed—especially in alternatives 2 [and] 4..., leaving far fewer mature trees to grow into large and old trees. This is especially true since the Forest Service could come back to log again within 20-30 years, again removing mature trees. (BMBP EIS handwritten comments, p. 104, last par.) Notably large and old trees are the most fire-resistant size class of trees across tree species, including Douglas fir and Grand fir.

We are strongly opposed to the planned 500 foot "fuel" break on each side of FS rd. 53, the Scenic Byway. First, there is already a recently implemented fuel break that is still effective. A lot of the retained trees in that ugly fuel break died from apparent over-exposure to prescribed fire....There is no need or justifiable purpose for expanding this fuel break for 500 feet on each side, which is much further than a burning tree would be able to fall into this already broad, paved road, which is a fuel break in itself, and wide enough to be effective for relatively safe egress with the existing fuel break. Most of the dispersed campsites off rd. 53 are well within ¼ mile from road 53. A 500 foot, 300 foot, or 200 foot, or 150 foot fuel break along the Scenic Byway would destroy the scenic appearance even further...wrecking the scenic quality of the Byway. (BMBP handwritten EIS comments on p. 60, first par.)

...Such excessive logging plans add insult to existing injuries by making a mockery of Forest Plan guidance to preserve multiple forest values, including recreation and scenic quality. Design criteria would not mask the evidence of extensive logging—especially as

many recreationists don't just drive past this area, but use it for camping, hunting, and berry or mushroom foraging, as well as other recreational uses....There is nothing wrong or unnatural about 54.9% of the length of the Scenic Byway having dense forest. The areas of greatest density are at higher elevation in cool moist or cold mixed forest types due to higher snowpack retention than the rest of the lower part. These areas are naturally more productive and denser due to higher elevation precipitation and snow pack and higher water retention on typically ash soils. We got pretty wet at times in that area from rains in September....Open stands from logging would be in stark contrast to naturally denser, moister forest in that area, destroying the sense of place for the many local recreationists who use that area, including myself. Evident recent stumps, skid trails, and slash piles, as well as residual tree marking, would destroy the naturalness of the setting and views for virtually all recreationists....we disagree that these stands would have a natural appearance within 3-10 years, as dramatic logging transformations to far more open stands have a very unnatural appearance for decades, as we observed in previously heavily logged and opened stands along rd. 53 that were choked with small, dense trees, lacking most large tree overstory, and still showing obvious signs of logging...and greatly altered tree species composition and tree size, having reverted to mostly dense, small, highly flammable lodgepole pine in the moist mixed conifer forest. Opening up the moist mixed conifer forest as much as planned would also make the stands much more flammable within that 3-10 year time frame and thereafter, completely defeating the purpose of the fuel break....there is no reason to expect different results in the same forest type and area, where we witnessed dense young lodgepole pine regrowth in area that used to be more fire-resistant mature and large mixed conifer...." (BMBP EIS handwritten comments, p. 61 through most of p. 62)

Resolution

BMBP has extensively commented on this objection to the Forest Service's plans for expansive, landscape scale roadside fuel breaks and commercial logging and biomass reduction across the "ember reduction zones" and "low intensity zones" that extend up to 1 ½ miles out from human infrastructure. See our quoted and cited comments above.

Remedies:

*Start with alternative 3 dropping all commercial logging and ground disturbance from heavy equipment in the Low Intensity zone and the Ember Reduction zone and narrowing the roadside fuel breaks to only the height of roadside trees that could fall into the roads based on site specific tree heights, also without commercial size logging.

*Instead, use non-commercial thinning up to 9-12" dbh and masticate or lop and scatter the small trees to retain soil moisture and down wood.

*Prune lower branches of larger conifers adjacent to the roads, with a limit of branch pruning up to 8 feet high.

*Avoid pile burning as much as possible. Don't use grapple piling.

* Use prescribed burning in dry forest types only.

*Don't thin remaining trees at wide spacing such as 20 feet apart. Allow small trees to have variable density and to provide roadside hiding cover.

*Keep in mind that mature and large trees are the most fire-resistant and retain these size classes in the fuel breaks.

*Roadside fuel breaks ,Low Intensity zones, and Ember Reduction zones that should not extend out from human infrastructure or a road for more than150 feet. Use a shaded fuel break model that leaves mature and large trees and have a feathered effect of more open right next to roads and retaining greater density as the space is closer to the rest of the forest.

*Keep in mind that fuel breaks are only effective at all for about 5 to 20 years at most. It's highly unlikely that the Forest Service will have the funding and staff to keep coming back to maintain these fuel breaks every 5-20 years.

Inadequate Analysis and Mitigation Regarding Effects to Climate Change

Once again, the Forest Service fails to accept responsibility for their increasing contributions to climate change through the increasing scale and pace of incremental deforestation and associated carbon storage reduction through repeated timber sales at an accelerated pace and scale, and with higher intensity logging. This characterizes the Ellis timber sale. See our related comments below:

We appreciate and support the scaling down of the planned commercial logging between the scoping period and the DEIS release. We think that alternative 3 is the most protective of the action alternatives for wildlife, soils, biodiversity of plants, carbon storage and sequestration to reduce or slow climate change effects, and recreational and cultural use values, and that alternative 3 could be a <u>starting</u> point for negotiations with the Forest Service. That said, we believe that all mature and old growth forest cover should be protected from logging for carbon storage and sequestration to reduce extreme climate change effects from global warming which threaten to end the viability of our planet by accelerating species' extinctions and ecological collapse. Human civilization is not likely to survive global warming of 2 to 4 degrees Celsius, which is the current range of temperature rise without drastic reductions immediately in Greenhouse gases and preservation of natural carbon sinks, including forests and soils. (BMBP EIS comments, p. 2, 3rd full par.)

Scientists have also identified logging as the second biggest cause of climate change and have found that people just can't stop wild fires in severe weather conditions such as droughts with high air temperatures, low humidity, and high wind speeds. Logging does not produce a net increase in carbon storage even compared to wild fire. To see the details and science citations for these findings visit the John Muir Project website. (BMBP Scoping Comments Summary, p. 3, first paragraph, last 3 sentences)

Additional key issues for in-depth analysis include the contribution of this heavy logging timber sale to climate change effects, and the cumulative effects of this sale and others to the abundance and availability of current and future mature and large tree structure for

wildlife, fish, carbon sequestration, soil nutrient cycling, snag and log habitat, and recreational values. (BMBP Scoping Comments Summary, p. 4, 1st par., last sentence)

If the sale does go forward we request that the Forest Service scale it down very significantly; focus on ecologically sound restoration rather than timber extraction; not...to log Late and Old Structure forest; not log... ROGS, PWFAs, and wildlife connectivity corridors; adhere to INFISH/PACFISH RHCA buffers; not engage in clearcutting or virtual clearcutting (very low basal areas); avoid logging and road construction or other management in Inventoried Roadless areas and undeveloped lands; avoid logging steep slopes; avoid new road construction and re-opening of grown-over or ecologically damaging closed roads...and work to retain most mature trees, all large and old trees, most forest cover, wildlife connectivity, and water retention capacity to support forest resiliency to climate change effects.
(BMBP Scoping Comments Summary, p. 5, last par. with deleted parts that the Forest Service has already rectified)

Resolution

BMBP has often commented regarding Forest Service failure to acknowledge and mitigate their contributions to catastrophic climate change through their increased intensity and scale of commercial logging to unsustainable levels in multiple large timber sales, including the Ellis project.

To resolve this problem, the Forest Service needs to make the following modifications to the Ellis timber sale, as suggested in other proposed resolution remedies above.

* Significantly decrease the geographic scale of the Ellis project commercial logging of mature trees by dropping logging in undeveloped lands, on steep slopes, in old growth forest, and in suitable habitat for Management Indicator species and TESC wildlife species.
* Significantly decrease the intensity of planned commercial logging by leaving higher minimum and average basal area per acre. Drop all planned "Irregular shelterwood" clearcutting and patch cuts.
* Retain all large tree structure, including snags, down wood, and large live conifer trees in all forest stands (equal to or greater than 21" dbh) to retain the most significant existing carbon storage and increase the biodiversity of the forest, including in the aspen stands. Thank you for dropping large tree logging in the Draft Record of Decision.
* Retain more mature trees to sequester carbon and become large trees by dropping the best wildlife habitat from logging as per our survey sheet recommendations and dropping logging in other critical forest areas, including old growth, RHCAs, undeveloped lands, and suitable habitat for declining MIS and TESC species.
*Retain more soil sequestration of carbon by dropping logging in sensitive soil areas and in sale units that would exceed Forest Plan detrimental soil impact standards, as specified above.
*Leave more down wood and narrow down "fuel" breaks substantially to contribute more nutrients and carbon to the soils and to support small mammals and birds dependent on ground level habitat.

Aquatics-Focused Comments & Objection

Resolutions:

- Drop all logging, including NCT logging, in RHCAs with mixed-conifer forests (especially moist mixed-confer forests, mature and old forests, and undeveloped forests);
- Buffer clumps of snags and areas of important downed wood habitats in RHCAs;
- Drop all logging above streams that support MCR steelhead, including upslope logging and NCT logging within RHCAs;
- Drop all logging on steep slopes; drop tether-assist, suspension, and partial suspension logging

Overview of concerns:

We are deeply concerned about the logging, road building, and prescribed fire in ecologically inappropriate situations proposed in the Ellis FEIS. The Forest Service should drop all logging within mixed-conifer areas outside of even-aged, homogenous, and young plantations. We appreciate that the Forest service has limited logging within RHCAs to small diameter hand thinning in the Ellis FEIS. We are still concerned about the widespread nature of NCT logging and burning within RHCAs. Particularly within creeks that support mixed-conifer forests within RHCA buffers, such logging and burning should be dropped or significantly scaled back. We remain concerned about logging in moist mixed-conifer forests; in Late Old Structure Forests; on steep slopes and sensitive soils; in and near meadow complexes; in core or source habitat areas for American marten and Pileated woodpeckers; in important habitat for Northern Goshawk and Great grey owls; and in important hiding or thermal cover for deer and elk. Prescribed fire should not occur in areas such as very moist forests, source habitat for marten and Pileated woodpeckers, important habitat for species such as Northern goshawk; areas with concentrations of legacy snags and downed wood; and other areas providing high-quality wildlife habitat that may be at risk of destruction or degradation.

The Ellis project area provides unique and important habitat for species such as Northern goshawks, Great grey owls, Flammulated owls, Black-backed woodpeckers, Three-toed woodpeckers, Williamson's sapsucker, primary cavity excavators, osprey, mountain lions, black bear, elk, deer, American marten, bats, Johnson's hairstreak butterfly, gray wolves, and numerous other species, including Survey and Manage species. Many of the species within the Ellis project area rely on the complex canopy structure, denser forests with more closed canopies, mature and old multi-story structure provided within these forests. Many areas in and nearby the project area have experienced fire over the past several decades. The relatively intact mature and old mixed-conifer forests within the Ellis area are providing some of the best remaining habitat of this kind for species in this area, particularly within RHCAs. The FEIS did not adequately consider or disclose the loss and degradation of habitat due to proposed activities, particularly in the context of other projects and recent wildfires. In addition, the effects analyses failed to adequately consider issues such as the importance of climate and fire refugia, and ensuring adequate terrestrial

and aquatic connectivity and core habitats as strategies to help species survive and adapt to climate change.

Riparian corridors provide particularly important habitat that is used at disproportionately high rates by many species of wildlife. The negative ecological impacts associated with logging in mature and old mixed-conifer forests, and multi-story and complex habitat are particularly concerning in relation to riparian forests and the streams they protect. Streams and riparian forests are impacted by what occurs in the uplands as well as within riparian corridors, and can be affected by actions in neighboring creeks and waterbodies. We are concerned about the effects to streams and riparian corridors from upland logging and roading, in addition to being concerned about NCT logging and burning within RHCAs.

The FEIS has not adequately analyzed direct, indirect, and cumulative effects on aquatics-related issues such as altered hydrology; soil disturbance and compaction; negative effects to groundwater storage and flows; peak and base flows; stream temperatures; excess fine sediment in streams; and stream morphology. These inadequate analyses led to unsubstantiated conclusions within the FEIS, such as the FEIS's determinations that there would be activities in the Ellis project are not likely to reduce MCR steelhead viability or adversely affect their critical habitat.

What is the sum total of suitable and occupied habitat affected by all projects across the Umatilla NF for the past 10 years for species such as American marten, in combination with the Ellis project? In addition, the FS failed to adequately examine the *quality* of available habitat and the potential cumulative effects to the *quality* of the habitat. For example, how much high-quality and source habitat for marten is available in the project area, and how much of that habitat will be affected by proposed logging, burning, and roading activities? To what degree will it be degraded, and for how long? What is the total amount of high-quality and source habitat for marten that will be cumulatively impacted by this and other projects across the forest? Do marten have enough habitat with adequate downed wood to meet their needs? What percentage would still be appropriate for denning and source habitat? All of these questions should also be answered at scales relevant to the life histories of species—for example what percentage of Northern goshawk habitat would be affected by this project in combination with other projects and recent fires at the watershed scale? We have similar concerns for other terrestrial and avian species, as well as for aquatic species such as MCR steelhead and Redband trout regarding the FS's inadequate cumulative impacts analyses and the agency's failure to appropriately choose scales of analyses, failure to include fundamental information about other projects in looking at cumulative effects, and failure to provide rationales for their choices and determinations.

BMBP field surveyed the Ellis project, and we noted in our surveys that some forests have already open canopies; other areas have been left as fire refugia. Any areas that have experienced wildfire should be dropped, as logging in post-fire forests is overwhelmingly ecologically damaging. Forests unaffected by recent wildfires are providing important habitat for species that rely on those more complex and dense forest canopies, and mature and old multi-story forests. How do past wildfires overlap with current timber sale units?

Recent wildfires have created a heterogenous diversity of habitats on the landscape that should be protected and left alone.

Peer-reviewed evidence suggests that managed stands have fewer snags than unmanaged stands (Cline 1997) and that prescribed fire can cause lasting, long-term negative reductions in snags, logs, and dead wood habitats (Arkle and Pilliod, 2010; Pilliod et al. 2006). The August 2017 "Science Findings" from the PNW Research Station discussed the importance of snags and wildfire, and found that many more snags are needed than current regulations or standards provide for. Riparian forests are disproportionately used by wildlife and birds, and so these findings are particularly relevant to RHCAs. The Science Findings note: *"Currently, the best solution we can recommend is to provide large numbers of snags for the birds, which can be difficult without fire," According to the researchers' calculations, if one of every 20 snags (approximately 4 percent) has suitable wood, and there are five to seven species of woodpeckers nesting in a given patch, approximately 100 snags may be needed each year for nesting sites alone. This does not account for other nuances, like the fact that most species are territorial and will not tolerate close neighbors while nesting, or the fact that species like the black-backed woodpecker need more foraging options. Overall, more snags are needed than other studies have previously recommended. Based on their results, Lorenz and her colleagues see the critical role that mixed-severity fires play in providing enough snags for cavity-dependent species. Low-severity prescribed fires often do not kill trees and create snags for the birds. "I think humans find low-severity fires a more palatable idea. Unfortunately or fortunately, these birds are all attracted to high-severity burns," Lorenz says. "The devastating fires that we sometimes have in the West almost always attract these species of birds in relatively large numbers."*

The combined effects of logging and prescribed fire can be severe for sapling recruitment. In addition, logging down to very low basal areas, followed by prescribed burning, may end up with severely open canopies-- especially if burns run larger or hotter than intended. Apparently it is not uncommon for prescribed burns to go ~20% over target. Opening up forest canopies to a low basal area can cause forests to be substantially drier and hotter, and cause habitat loss for species that rely on multi-layered and dense canopies. Shrubs may extensively colonize such open areas, making it difficult for forests to recover from logging. Also missing from the FS's cumulative effects analyses are the past and possibly ongoing/future effects from fire lines, backburns, and other fire suppression efforts. We are also extremely concerned about the potential severe impacts associated with logging within fire lines and ember reduction zones, and the lack of adequate analyses surrounding these activities.

We are extremely concerned about the effects to streams, water quality, and aquatic species, including ESA-listed fish, as a result of the logging, burning, and roading activities proposed in the Ellis sale. Upland and riparian NCT logging and burning, and associated road-related activities, can alter watershed hydrology and stream morphology, increase rates of erosion, and increase stream temperatures and fine sediment inputs, and are associated with a myriad of other negative effects on aquatic habitats and biota. Soils that are compacted due to logging and use of heavy machinery can take many decades to recover, also potentially affecting aquatic and groundwater resources.

Logging-associated alterations to parameters such as peak flows and sediment loading can result in changes to stream morphology. Such changes may, in turn, negatively impact stream temperatures. For example, logging has been associated with alterations in the magnitude and timing of peak flows. Hydrograph alterations such as changes to peak flows can result in scour of streambeds; changes to depth or width of streams; too much or too little fine sediment deposition in streams (depending on flashiness, topography, and other parameters); downcutting; erosion within streambeds and banks; and other changes to stream morphology. Such issues may then result in stream conditions such as unnaturally wide or shallow streams after flooding outside of historic norms, changes to pool frequency or depth, and decreased baseflows. These conditions can, in turn, result in increased stream temperatures. Other changes to watershed hydrology that have been associated with logging and road-related activities include alterations in evapotranspiration, baseflows, and snowpack and accumulation.

Roads can also have severe and widespread negative effects on watershed hydrology, especially when road densities are high, and may further exacerbate many of the negative effects associated with logging. Roads are associated with increased rates of erosion, and increased fine sediments in streams. Roads can act as artificial extension of stream networks, causing rainwater to be channeled into streams at warmer temperatures and greater speed than compared to historic norms– without the benefit of filtering the water through multilayered canopies, soils, or groundwater. Such dynamics can cause significant increases in the magnitude and timing of peak flows, and may result in warmer and more sediment-laden streams. Again, alterations to watershed hydrology and other dynamics can– through a series of impacts to sediment inputs, stream hydrology, and groundwater interactions, and other complex dynamics– have negative effects on stream temperatures and other RMOs, such as pool frequency and depth. Large wood is often below RMO standards in streams in the Umatilla NF and other National Forests in Eastern Oregon. Logging, both in uplands and streamside areas, can result in the loss of large wood, recruitment of large wood, and loss of small/medium sized wood that can positively influence stream habitats and morphology. Protecting recruitment of future downed wood for streams is essential for current and future retention of water on the landscape; floodplain connectivity; protecting groundwater and hyporheic flows; attaining RMOs and water quality standards (including temperature); and providing key fish habitat.

Depending on topography, slope aspect, groundwater dynamics, system flashiness, and other dynamics, stream temperatures can be affected by removing trees outside of a narrow designated 'shade zone'. As discussed above, stream temperature is influenced by a number of complex and interconnected dynamics and processes. Logging and related activities can disrupt and negatively influence these dynamics and processes in numerous ways.

The ostensible beneficial effects that the USFS claims will be seen in the long term as a result of logging are highly speculative. The USFS can offer no proof that logging will have beneficial long-term effects for species such as the ones we've expressed concerns about (see above). The USFS has no monitoring data or scientific studies showing that logging will produce long-term beneficial outcomes for these species, especially for aquatic ESA-listed species or their habitats. The USFS also has not shown that logging

within RHCAs, even limited logging, will comply with CWA standards for temperature and sediment, or that logging will not retard the attainment of stream temperature and embeddedness RMOs. There is, on the other hand, well-documented evidence that logging, roads, and continued livestock grazing cause increases in stream temperatures and fine sediments, especially when these impacts are allowed to cumulatively impact watersheds. There is also evidence that even short-term negative impacts can cause long-term negative effects on at-risk listed aquatic species (Rieman et al. 2001).

We request that the USFS share any monitoring data that provides evidence that logging improves population trends for ESA-listed aquatic species, does not retard attainment of RMOs, is consistently in compliance with CWA standards, and has long-term beneficial impacts for these species. Does the USFS have a clear adaptive management framework to ensure that management actions do not have short or long-term negative impacts? If so, please share with BMBP any monitoring and adaptive management framework plans relating to these issues. The USFS consistently ignores, downplays, and neglects these serious issues for ESA-listed aquatic species and their biological requirements in favor of managing for speculative HRV-related terrestrial vegetation composition outcomes.

In addition, many of the negative impacts discussed here that are associated with logging and roads can be severely exacerbated by livestock grazing, especially along streams and other riparian areas. Furthermore, heavy upland logging as well as logging within RHCAs makes streamside areas more inviting to livestock and more open for increased cattle use, and may therefore lead to increased cattle damage and compaction of stream habitats.

Please see the more detailed comments below for additional citations.

National Environmental Policy Act (NEPA):

How many acres are proposed for noncommercial logging and burning within RHCAs? In wet meadows? As far as we can tell, this information is not included in the FEIS or the hydrology report. Please correct us if this assertion is incorrect, and we've simply missed this information within the NEPA documents.

It is also extremely concerning that the Forest Service is publishing their draft and final decisions for the Ellis sale before consultation with regulatory agencies such as NMFS have been completed. Shouldn't consultation with the regulatory agency be key for informing project planning and decisions, rather than simply added to the project record after the fact? Also, if the Ellis sale changes based on NMFS consultation, shouldn't the public have an opportunity to comment on any changes. Similarly, if NMFS consultation raises concerns regarding imperiled species such as MCR steelhead, shouldn't the public be aware of such information when commenting on proposed logging, roading, and burning in the FEIS?

The lack of key information in the Ellis FEIS makes it difficult for the public to engage in the NEPA comment process in a meaningful and well-informed manner. The FEIS (pg. 132) states: *"A formal consultation Biological Assessment for MCR steelhead and their*

critical habitat is currently underway and will be available in the project record post-process, when a biological opinion is returned. Additional effects and details may be found there."

The stream temperature data included in the Aquatics Specialist Report appears to have very limited, inadequate, and out of date baseline data. Almost all data provided for public review were collected before 2010, any many of those data are from the 1990s. The Report notes that *"The most recent information from the Oregon Department of Environmental Quality indicates several subwatersheds and streams in the project area as being impaired, or not meeting established water temperature standards"* However, the Aquatics Report does not include specific and relevant data such as 7-day-max averages. It also suggests that the ODEQ data is not relevant for the project area. Our understanding is that ODEQ received a huge amount of data from the Forest Service during the 2018 call for data, and that the FS provided data for many streams-- including those in the project area. So, are there recent data for the streams within the project area? If not, then the baseline data for streams is wholly inadequate. If there are more recent data for streams within the project area, either from the FS or from some other source that ODEQ has, why has the agency not obtained it and incorporated those data in planning, and in NEPA documents?

The Aquatics Report appears to suggest that the ODEQ's 303d list, as shown on their website with the most recent data, hasn't yet been approved by the EPA. The USFS Aquatics Report states: "To be designated Category 5, dat shows that a designated use is not supported, or a water quality standard is not attained and a TMDL (Total Maximum Daily Loads) is needed. ***Category 5 waters or areas constitute the 303(d) list that the U.S. Environmental Protection Agency will approve or disapprove under the Clean Water Act. Information in Table 15 and Table 16 were from the Proposed Integrated 2018/2020 Report submitted by the Oregon Department of Environmental Quality to the U.S. Environmental Protection Agency.***"

However, the EPA has indeed approved the current 303d list: *"The 2022 Integrated Report was approved by the U.S. Environmental Protection Agency on Sep. 1, 2022 and is now current and in effect. The federal Clean Water Act requires Oregon to report on the quality of its surface waters every two years. Although not a written report, the Integrated Report is a reporting of the status of water quality in Oregon and a list of waters considered to be impaired. See the Water Quality Assessment page for more information."* (ODEQ website at: https://www.oregon.gov/deq/wq/pages/epaapprovedir.aspx).

The Aquatics Report also seems to either omit stream temperature data, or provide contradictory data regarding stream temperatures. For example, for the upper reaches of Willow Creek, the Aquatics Report states: *"Water temperature data available for several sites within the watershed suggests the upper reaches of Herren Creek, Shaw Creek,* ***and the upper reach of Willow Creek have temperatures that meet the PACFISH RMOs (Table 28). PIBO site water temperature data for 2004, 2009, and 2014 in Shaw Creek showed average maximum 7-day temperatures as 62, 64, and 57 degrees Fahrenheit, respectively.***"

However, table 28 displays road-related impacts such as stream crossings per square mile. It does not display stream temperatures. Table 29 does display stream temperatures for the upper reaches of Willow and Shaw Creeks. However, most recent data from Willow Creek includes 76 degrees Fahrenheit, which is violation of stream temperature standards. Further, the text notes stream temperature data for Shaw Creek from 2004, 2009, and 2014. Only 1995 and 2004 years are included in Table 29 for stream temperatures in Shaw Creek (Aquatics Report pages 41-42):

Table 29. Existing conditions for water temperature in the Upper Willow Creek Watershed/Headwaters Willow Creek Subwatershed in the project area (from stream habitat surveys)

Stream	Site Number	Year	Temperature (Degrees Fahrenheit)
Willow Creek	6975	1993	62
Willow Creek	1938	2000	76
Willow Creek	1939	2000	67
Herren Creek	7344	2001	64
Shaw Creek	7029	1995	59
Shaw Creek	6720	2004	63

The FEIS has omitted key baseline data for aquatic-related resources, such as stream temperature data, stream shade data, embeddedness, pool frequency and depth, large wood, and other quantitative measures of RMOs and water quality standards. This essential information, which is commonly provided during public comment periods on timber sale EAs and EISs, does not seem to be present in either the FEIS or the supporting reports on the project webpage. In recent years, Blue Mountains Biodiversity Project has found numerous issues with inconsistent, inaccurate, and incomplete data related to the water quality data provided by the Forest Service in timber sale NEPA documents. There have also been issues with the FS's failure to share their data with regulatory agencies such as ODEQ. Please see our addendum discussing stream temperature data in the Camp Lick and Ragged Ruby sales on the Malheur National Forest, as well as information we've included on FS data transparency with ODEQ. Accurate and transparent baseline data is fundamental for being able to plan appropriate management and restoration efforts. Such data are essential for ensuring that any changes to water quality from activities such as logging can be monitored, and for understanding local as well as landscape-scale needs for ESA-listed and imperiled aquatic species. Without such data, the public cannot submit informed comments, and the Forest Service cannot take a hard look at the potential environmental impacts of this project.

The Ellis FEIS did not incorporate best available science, scientific controversy, or a range of best science in its analyses., The Ellis FEIS inappropriately and consistently downplayed the risks to wildlife habitat, streams, water quality and climate change due to proposed logging, burning, and roading. Scientific controversy regarding the effectiveness of logging/thinning in the backcountry, particularly that of mature trees and wet forests, as a response to largely weather and climate-driven wildfire was similarly omitted. *See*

(DellaSala Congressional Testimony, March, 2022; Law et al. 2021; Law et al. 2018; Law Congressional Testimony, April 2021)

The Ellis FEIS does not adequately analyze the direct, indirect, and cumulative effects of proposed activities on streams, water quality, and aquatic species. For example, the Ellis FEIS did not adequately consider effects to quality of habitat for terrestrial and aquatic species or cumulative impacts from logging, roading, grazing, and climate change. We are also concerned about inappropriate scales of analyses for effects determinations (such as determining impacts at the Forest scale without including other impacts across the Forest beyond the Ellis project); lack of adequate explanation for selection of scales of analyses; inconsistency with selection of scales; and other related issues. Please see below for further discussion throughout our comments regarding direct, indirect, and cumulative effects.

Logging and other activities proposed in the Ellis project is likely to result in degradation of water quality and stream habitats, and retard attainment of RMOs. Forest Plan standards/RMOs for parameters such as temperature, sediment/embeddedness, pool depth and frequency, and large wood are crucial for protecting stream habitats and aquatic organisms. Forest Plan standards for road density levels and soils are also key for protecting aquatic values. Proposed actions in the Ellis FEIS will violate Forest Plan standards/RMOs and the Clean Water Act.

The FEIS did not accurately describe the baseline conditions and cumulative impact

The Draft EIS does not accurately or adequately describe the environmental baseline within the project area; nor does it adequately consider cumulative impacts. In particular, the Draft EIS does not contain any detailed information on the extent of land use and anthropogenic disturbance in areas that could be impacted by fuels reduction treatments. Without such critical information, the FS cannot fulfill its mandate under NEPA to fully disclose the likely direct, indirect, and cumulative environmental impacts from the proposed action. Put simply, the FS has not taken the "hard look" that NEPA requires. The FS should remedy this deficiency by including in the final PEIS a complete discussion of the environmental baseline, as well as "quantified or detailed" information on cumulative impacts throughout the project area. See *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 993 (9th Cir. 2004).

The FS must establish and discuss the environmental baseline in all NEPA documents. "The establishment of a 'baseline' is not an independent legal requirement, but rather, a practical requirement in environmental analysis often employed to identify the environmental consequences of a proposed agency action." *Oregon Natural Desert Ass'n v. Jewell*, 840 F.3d 562, 568 (9th Cir. 2016) (holding that the BLM violated NEPA by failing to establish baseline presence or absence of sage grouse in area affected by proposed wind energy development). "It is against baseline information that environmental impacts are measured and evaluated; therefore it is critical that the baseline be accurate and complete." *Landwatch v. Connaughton*, 905 F. Supp. 2d 1192, 1197 (D. Or. 2012). *See also Northern Plains Resource Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1083–85 (9th Cir. 2011) (finding that agency violated NEPA requirement that it "provide the data on which it bases its environmental analysis," and that it failed to gather sufficient baseline

data to allow it to take a hard look at environmental impact of proposed railroad construction); *Conservation Northwest v. Rey*, 2009 WL 4897727, at *9 & n.12 (W.D. Wash. 2009) (noting that "[a]llowing an agency to ignore a change by deciding that it is of little consequence is a slippery slope to eroding the meaningfulness of a baseline").

The FS cannot use mitigation measures as a proxy for baseline data. As courts have explained, this approach precludes careful consideration of a proposal's impacts before an agency commits to it. In addition, it deprives the public of the opportunity to play a role in the decision-making process because the data collected after project approval are not available for public comment. *Northern Plains Resource Council*, 668 F.3d at 1085. *See also Gifford Pinchot Task Force v. Perez*, 2014 WL 3019165, *33, 38–39 (D. Or. 2014); *Idaho Conservation League v. U.S. Forest Serv.*, 2016 WL 3814021, *10-12 (D. Idaho 2016).

The FS must also include a robust discussion of cumulative impacts. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. An adequate cumulative effects analysis requires some "quantified or detailed" *information. Klamath-Siskiyou Wildlands Ctr.*, 387 F.3d at 993. *Cf. Sierra Club v. Bosworth*, 510 F.3d 1016, 1028-30 (9th Cir. 2007) (requiring consideration of cumulative impacts for activities covered by categorical exclusion for fuel reduction activities); *Soda Mountain Wilderness Council v. Norton*, 424 F. Supp. 2d 1241, 1266-67 (E.D. Cal. 2006) (finding one-page cumulative impact analysis inadequate). Generalized, conclusory statements about the insignificance of cumulative effects or how they will be effectively mitigated will not suffice. *Te-Moak Tribe of Western Shoshone of Nevada v. U.S. Dept. of Interior*, 608 F.3d 592, 606 (9th Cir. 2010) (failure to include quantified or detailed information on cumulative effects of past, present, and reasonably foreseeable mining activities). *See also Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 971-74 (9th Cir. 2006) (holding cumulative impact analysis for gold mining operations inadequate because it consisted of "vague and conclusory statements, without any supporting data" and lacked any explanation for why other mining projects were not explicitly discussed).

Agencies not only have an obligation to discuss the cumulative impacts of related projects; they also have an "affirmative duty to locate, describe, and consider other projects that could have cumulative impacts when combined with the project under consideration." *Edwardsen v. United States Dep't of the Interior*, 268 F.3d 781, 786 (9th Cir. 2001); *Kettle Range Conservation Group v. United States Forest Serv.*, 148 F. Supp. 2d 1107, 1129 (E.D. Wash. 2001). In assessing cumulative impacts, "the [EIS] must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment." *Lands Council v. Powell*, 395 F.3d 1019, 1028 (9th Cir. 2005). *See also Western Watersheds Project v. Kraayenbrink*, 620 F.3d 1187, 1207 (9th Cir. 2010) (failure to address combined effects of various reductions in opportunities for public participation in process of issuing grazing allotments); *League of Wilderness Defenders-Blue Mountains Biodiversity Project v. United States Forest Serv.*, 549 F.3d 1211, 1218–19 (9th Cir. 2008) (identification of one past timber sale and general statement that other timber sale had occurred insufficient); *Oregon Natural Res. Council Fund v. Goodman*, 505 F.3d 884, 892-93 (9th Cir. 2007); *Oregon Natural Res. Council Fund v. Brong*, 492 F.3d 1120, 1133 (9th

Cir. 2007). The FEIS does not adequately analyze the environmental baseline or cumulative effects because it lacks detailed information about past, present, and ongoing impacts within the project area.

The FEIS should have acknowledged the extent of Emergency Stabilization and Rehabilitation (ESR) treatments across the project area and consider the degree to which such treatments have been successful. BAER/ESR treatments use many of the same methods—and have many of the same objectives—as the treatments that would be authorized under the FS's planned logging. As such, a thorough analysis of BAER/ESR treatments throughout the project area is a critical step in understanding the likely impacts of the FS's current proposal. As Arkle et al. (2014) explain, successful restoration requires "understanding the characteristics of high-quality habitat and knowing whether we are capable of restoring those characteristics within degraded areas" (*Id.*)

In addition, the FEIS does not consider potentially significant cumulative impacts from ongoing land-use planning processes. Resources and activities that could be affected by the cumulative impacts of forest plan revisions and fuels reduction treatments include tribal and cultural resources, vegetation, fish and wildlife, rare plants; water quantity and quality, livestock grazing, recreation, travel and transportation, mining, special designations such as IRAs and wilderness study areas (WSAs) and visual resources.

Water quality and stream habitats

Temperature

Stream shade is an inadequate and inappropriate surrogate for stream temperature. Stream shade may fail to correlate closely to stream temperature, and so fails to establish baseline existing conditions or to predict potential effects from either upland or streamside logging. Of course, in the Ellis FEIS, it is impossible for the public to gauge the degree of alignment between shade and stream temperature in the Ellis project, because the Forest Service has not provided complete or recent baseline data for these parameters. The Ellis FEIS lacks adequate baseline and fails to provide a quantitative analysis of key parameters such as data for stream temperature and fine sediments, or other RMOs.

The FS downplays or outright dismisses the possibility that proposed logging and roading may have long-term measurable impacts to stream temperatures. The Hydrology Specialist Report from May 2025 states *"The project area proposes no thinning within 75 feet of perennial streams, or 50 feet of intermittent streams (the inner portions of RHCAs). Proposed thinning follows project PDC limited activity buffers by removing trees less than nine inches in diameter at breast height (DBH), and likely shorter than 50 feet. There would be zero acres of thinning within the shade distance of streams in these areas. Thus, this measure would not likely have a measurable effect on the stream temperature indicator for the project area."*

However, upslope logging and even limited logging in upstream catchments, headwater streams, and intermittent streams have been shown to have effects on downstream

temperatures (please see discussion below, with citations). For example, Pollock et al. 2009 found that stream temperature was more closely associated with degree of logging within catchments than with streamside vegetation (Pollock et al. 2012). Guenther et al. 2012 found increases in stream temperature in relation to selective logging. The Guenther study found increases in bed temperatures and in-stream daily maximum temperatures in relation to 50% removal of basal area in both upland and riparian areas. Increases in daily maximum temperatures varied within the harvest area from 1.6 to 3 degrees Celsius.

Widespread and heavy logging in upland forests and NCT logging in riparian forests in the Ellis project is likely to exacerbate already warm temperatures within and downstream of the project area. Stream temperatures within the project area already violate RMOs and state standards, and exceed temperatures considered limiting or lethal for ESA-listed species such as MCR steelhead.

Stream temperature data is available through NorWest Stream Temperature Regional Database (Rocky Mountain Research Station, USDA and FS: https://www.fs.fed.us/rm/boise/AWAE/projects/NorWeST/StreamTemperatureDataSummaries.shtml#MidColumbia). Stream temperature data for creeks such as Ditch, Potamus, and Mallory Creeks included weekly maximum temperatures well above RMOs and state temperature standards. Ditch Creek is Designated Critical Habitat for MCR steelhead, and still supports occupied habitat. In the most recent 2004 data available for Ditch Creek on the NorWest website, weekly maximums reached up to 26.1 degrees Celsius– well above the 18 degree state standard based on fish and aquatic life. Mallory Creek data from 2008 includes weekly max temperatures of 23.5 degrees Celsius. Potamus Creek data includes weekly max temperatures of 31.12 and 30.31 degrees Celsius in 2005 and 2006, respectively. Mallory and Potamus Creeks are also Designated Critical Habitat for MCR steelhead, and provide occupied habitat. Other streams within the project area seem to have similar issues with excessively warm water temperature, and include additional miles of Designated Critical Habitat for MCR steelhead. Ditch, Mallory, and Potamus and Ellis/Potamus subwatersheds have the majority of occupied MCR steelhead habitat.

Given the high stream temperatures and, in some cases, high road densities within these subwatersheds, what are the population trends for MCR steelhead and Redband trout in these and other streams within the project area? What about in the surrounding larger watersheds? What monitoring or analyses has the FS done to ensure that logging is not increasing, or further increasing, stream temperatures? Threatened fish stocks across the region are struggling due to high stream temperatures, and likely high levels of increased fine sediments. Stream temperature increases, especially in areas that are already in violation of state and Forest Plan stream temperature standards, are especially dangerous to ESA-listed Threatened MCR steelhead populations. Even localized increases at the subwatershed or reach scale can jeopardize already ESA-listed fish—especially if the problem is repeated in multiple stream reaches across the landscape.

The lack of current survey data, or any survey data for some of the streams, is troubling to say the least. As discussed throughout these comments, the lack of baseline information raises questions regarding the FS's ability to assess current conditions or to implement any sort of adaptive management framework. The Ellis FEIS notes that

"Stream habitat and fish surveys are incomplete, as not all streams and sections within streams have been inventoried. Stream habitat and fish survey data are dated, with all but two being completed prior to 1998, and most being completed in 1990 to 1996. Potamus Creek was surveyed in 2004 and Pole Creek (tributary to Potamus Creek) was surveyed in 2017. A single stream survey was available for the Rhea Creek watershed. No stream habitat data were available for the Upper Butter Creek watershed (Johnson Creek-Butter Creek, East Fork Butter Creek subwatersheds). Field trip observations to several streams in the Upper Butter Creek watershed in 2019 and 2020 were also used to evaluate habitat conditions." The Ellis DEIS, which provides information still relevant here, also notes (pg. 139) that "*[s]tream habitat and fish survey data are dated, with all but two being completed prior to 1998, and most from being completed in 1990-1996. Potamus Creek was surveyed in 2004 and Pole Creek (tributary to Potamus Creek) was surveyed in 2017. A single stream survey was available for the Rhea Creek watershed. No stream habitat data were available for the Upper Butter Creek watershed (Johnson Creek-Butter Creek, East Fork Butter Creek subwatersheds). Field trip observations to several streams in the Upper Butter Creek watershed in 2019 and 2020 were also used to evaluate habitat conditions."*

While the FEIS lacks basic quantitative data for water quality parameters such as temperature, the FEIS does disclose that *"[w]atershed functioning, using most recent data for the Water Temperature Indicator, resulted in a "Not Properly Functioning" call for both the Potamus Creek-North Fork John Day River and Lower Camas Creek watersheds"* (FEIS pg. 65). While the FEIS and specialists reports lack adequate baseline water quality and habitat data, it is nevertheless clear that stream temperatures are too high. The FEIS also acknowledges (pg. 65) that *Not Properly Functioning" is the most appropriate rating for the Potamus Creek-North Fork John Day River and the Lower Camas Creek watersheds"-- due in part to past logging in RHCAs: [t]imber harvest in RHCAs and stream shading were used to characterize RHCAs for the 1999 evaluation. Using these indicators, watershed functioning was rated as "Not Properly Functioning" for the Mallory/Ditch, North Fork John Day/Matlock, and Fivemile watersheds and "Functioning at Risk" for the Potamus Creek watershed in the 1999 evaluation."*

The FEIS further discusses past logging within RHCAs in the project area. Note also that the FS acknowledges that long-term effects associated with logging that took place primarily before 1996, including ongoing issues with increased soil erosion and sedimentation in streams, reduced recruitment of large wood, pool formation, reduced shade, and water temperature: "[t]*imber harvest has occurred within RHCAs in the Potamus Creek watershed, the majority prior to 1996 (U. S. Department of Agriculture 2004). Percentages of estimated timber in RHCAs harvested by subwatershed were 4 (Deerhorn Creek-North Fork John Day River), 52 (Matlock Creek-Stony Creek), 44 (Ellis Creek-Potamus Creek), 23 (Potamus Creek), 17 (Mallory Creek), and 48 (Ditch Creek). Percentages of estimated timber in RHCAs harvested for Wrightman Creek-North Fork John Day River and Cabin Creek-North Fork John Day River were 0. Historic timber harvest in RHCAs has resulted in increased soil erosion and sedimentation in streams, reduced recruitment of large wood affecting pool formation and cover, and reduced shade, affecting water temperature."*

The most common water quality impairment in National Forest System lands is stream temperature. Elevated stream temperatures are known to negatively impact fish stocks on National Forest lands in Eastern Oregon, including anadromous fish, and listed and at-risk fish such as Mid-Columbia River steelhead (MCR steelhead). Water quality standards for temperature, sediment, and other water quality parameters are not being met on hundreds of miles of streams on National Forest lands. TMDLs and WQRPs have not been developed in a timely fashion for many 303(d) listed basins. BMPs have not been adequately re-evaluated or adjusted to assure compliance with water quality parameters such as temperature. WQRPs plans and TMDLs often do not adequately deal with forest management activities, and monitoring is not always followed through on and lacks public transparency.

More than 1,240 stream miles on National Forest lands in the Blue Mountains are listed as not meeting water quality criteria. The most common water quality impairment on National Forest lands is stream temperature (USFS 2014). This baseline figure, which is from the Draft Blue Mountains Forest Plan Revision, is almost certainly an underestimate-- the large volume of recent data submissions in 2019 from the Forest Service to ODEQ reflect even more widespread problems with stream temperature violations across the landscape. The recent data submission was the first effort by the Forest Service to share a substantial portion of their data with ODEQ in over a decade.

Logging in upland areas will increase surface runoff and overland flow, which delivers warmer water (and excess sediments) into streams quickly and can affect peak flows and increase stream temperatures. In addition, increased surface runoff and faster delivery of water into streams also means that less water becomes groundwater. This decreases groundwater storage, groundwater flows, and hyporheic flows (Coutant 1999; Croke & Hairsine 2006; Jones & Grant 2006). Logging, including upland logging, can cause decreases in summer baseflows in the long-term. Decreased canopy cover due to logging can cause more snow to accumulate in these more open areas, which alters the timing and magnitude of runoff from snow melt. This can also cause changes to peak flows (Harr & Coffin 1992). Should this sale be implemented, it would create more open canopies across the landscape, which will then increase solar radiation inputs in watersheds, and as a result may increase the amount of early snow melt. This, in turn, may further alter peak flows and groundwater recharge and the hyporheic cold water delivery downstream, including to perennial streams (Caissie 2006). Logging alters microclimates, creating hotter, drier, and windier conditions that stretch beyond forests directly affected and into adjacent forests, sometimes for distances of hundreds of feet. Such microclimate edge effects could extend into the entirety of riparian buffers, especially in smaller headwater streams (Chen et al. 1995; Brosofske et al. 1997; Chen et al. 1992).

Headwater streams and non-fish bearing streams are particularly at risk and need more, not less, protection than they currently have. In order to protect downstream fish bearing reaches, headwater streams need at least as much protection as larger downstream reaches (Rhodes et al. 1994; Erman et al. 1996; Espinosa et al. 1997). Negative impacts to upstream reaches, such as higher temperatures, increased sediment loading, down-cutting, and altered hydrographs also negatively affect downstream reaches. In the Ellis project area,

this is particularly relevant to the many headwater streams and draws present throughout the project.

Protecting groundwater storage, groundwater flows, and hyporheic flows associated with intermittent streams is crucial for protecting temperatures in larger downstream perennial streams. Cold water inputs from intermittent streams to downstream reaches are essential providing cold water refugia for special-status and imperiled aquatic organisms, including ESA- listed fish (Caissie 2006; Ebersole et al. 2015; Grant & Swanson 1990; Groom et al. 2011 (a); Groom et al. 2011 (b); Jones & Grant 1996; Pollock et al. 2009). Patches of cold water refugia are crucial for fish. Shallow groundwater patterns can be important for influencing stream temperatures (Poole et al. 2008), and so are likely vulnerable to upslope logging (Caissie 2006). In research in eastern Oregon, Ebersole 2015 found that dry streams supplied cold water to downstream reaches at confluence sites. Such cold water refugia habitats are important for fish, which were observed at these locations.

Logging within RHCAs or forest wetlands can magnify water quality and hydrology impacts from upland logging (Hicks et al. 1991; Moore & Wondzell 2005). Janisch et al. (2011 and 2012) and Buttle et al. (2009) found that wetlands associated with headwater and low order streams are more common and influential on stream hydrology and water quality than previously realized. Many of the wetlands associated with first order streams are small and fall below the size requirements for protection in relation to timber sales (Janisch et al. 2011; Janisch et al. 2012; Buttle et al. 2009). (Janisch et al. 2012) found streams in headwater catchments with wetlands had larger and more consistent increases in temperature in relation to adjacent logging than did the catchments that did not contain wetlands (Janisch et al. 2012). The authors found that streams with wetlands present in their catchments tended to have streams with finer sediments in their substrates.

Even limited logging within RHCAs may compromise the ability of the riparian buffer to protect streams or ameliorate the negative impacts from upland logging, including increased stream temperatures and the delivery of sediment and nutrients into waterways. Logging adjacent to streams will substantially worsen these ecologically damaging dynamics. Small streams are particularly vulnerable to temperature, even with limited selective logging. There is evidence to suggest that wider buffer widths may be necessary to protect stream temperatures, particularly in intermittent and headwater streams, and particularly when logging within 100' of streams. Parameters that influence stream temperatures include, stream shade, overland flow, groundwater and hyporheic flows, and groundwater storage. Alteration of these parameters can increase stream temperatures, especially in small streams. Logging alters these parameters, and degrades the ability of these parameters to support cold water, and is likely to increase stream temperatures. (Caissie 2006; Davies & Nelson 1994; DeWalle 2010; Kiffney et al. 2003; Groom et al. 2011 (a); Groom et al. 2011 (b); Jones et al. 2006; Sweeney & Newbold 2014; Pollock et al. 2009; Wigington et al. 2006; Poole et al., 2008; Ebersole et al. 2015; Poole & Berman 2001; Newcombe & Jensen 1996).

The Ellis FEIS lacks transparency regarding proposed logging and burning activities within RHCAs. While the FEIS suggests that there will only be a small number of acres of thinning within RHCAs, what that acreage actually is does not appear to have been

disclosed. Nor does the silvicultural prescription appear to be present. PACFISH/INFISH buffers should be adhered to. Landscape level widespread logging, even NCT logging, can create much more open stands and shift tree species composition, creating significant and long-term changes to habitats and hydrology. How much NCT thinning is planned within the RHCAs? Will there be removal of any wood for commercial sale, occur within PACFISH/INFISH RHCA buffers– i.e., the 300' buffer along each side of perennial fish-bearing streams; 150' buffer along each side of perennial fish-bearing non-anadromous streams; 100' buffer along each side of perennial non-fish bearing streams; and 50' along each side of intermittent streams? What is the acreage and the silvicultural prescriptions for the noncommercial thinning proposed within PACFISH/INFISH buffers?

Stream temperatures, other RMOs and water quality parameters, stream habitat conditions, and watershed hydrology dynamics may be affected by logging outside of a narrow 50' or 75' corridor along streams. The FS's assumptions that there will be no effects to stream temperature, stream flow characteristics, or bank stability simply because little or no logging activities will take place within this very narrow "PDC limited activity" buffer is not supported by science (see discussion throughout these comments).

For example, the Draft Blue Mountains Forest Plan Revision (USFS, vol. 2 pg. 52) states that: *"[r]esearch has shown that effective vegetated filter strips need to be at least 200 to 300 feet wide to effectively capture sediment mobilized by overland flow from outside the riparian management area"*. The Draft Forest Plan Revision for the Blue Mountains (USFS, vol. 2 pg. 48) also states: "Timber harvest can influence aquatic ecological condition via such activities as removal of trees in the riparian zone, removal of upslope trees, and associated understory or slash burning (Hicks et al. 1991). These activities can affect wood recruitment, stream temperatures, erosion potential, stream flow regime, and nutrient runoff, among others (Hicks et al. 1991). Effects of harvest are likely to be different at different scales. Hemstad and Newman (2006) found few effects of harvest at the site or reach scale, but found that harvest five to eight years earlier resulted in losses of habitat quality and species diversity at the scale of a stream segment (larger than a reach) or at the subwatershed level. Those losses were revealed in terms of increases in bank instability and fine sediment throughout the watershed and increased water temperatures and sediment problems throughout the channel segment. The cumulative effects of widespread harvest within a single drainage in a short period of time resulted in deterioration of the aquatic and riparian habitats, but evidence of effects lagged harvest by several years and different evidences of deterioration showed up at different spatial scales within the watershed".

It is not clear if the FEIS and Hydrology Report assumptions that these narrower buffers are sufficient are based, at least in part, on accepting a lower threshold of protection for riparian functions? Perhaps protection of, for example, 50-75% of riparian functions is considered sufficient? If so, what are the biological justifications and quantified analyses supporting lower thresholds for protection? Said another way– if 25-50% of riparian functions are negatively affected as a result of narrower buffers, what analysis has the FS done to determine that these negative impacts won't have significant effects to stream habitats and aquatic species? Especially given the large scale of planned logging in the Ellis project?

Should the Ellis sale be implemented, logging is likely to alter baseline conditions in stream temperatures, including diurnal temperature patterns, and to result in loss of shade and increase in fine sediment in streams. Road-related activities associated with logging can negatively affect both stream temperatures and stream temperature variability, and pose risks to the long-term viability of MCR steelhead and other imperiled aquatic species.

In addition, the FEIS did not adequately account for the effects of climate change in relation to cumulative impacts to stream temperatures, or to watershed hydrology, stream flows, or fine sediment.

Sediment and embeddedness:

The Hydrology Report from May 2025 notes that ECA values changed due to changes in proposed logging within RHCAs. In the Hydrology Report from May 2025, *"ECA values range from 0.8 percent to 21.9 percent throughout the project area (Table 13a). Five out of fourteen subwatersheds exceed the threshold of 15% as shown in Table 13b."* The subwatersheds that exceed the 15% ECA threshold include Ditch (19.4%), Mallory (21.2%), and Matlock (17%), Upper Five Mile (19.6), and Ellis Creek-Potamus Creek (21.9%).

The Hydrology Report further discloses the thresholds associated with ECA values, and notes that risk to HUC6 watersheds as: Low risk = Less than 15%; Moderate risk = 15 to 30%; and High risk = Greater than 30%. The Hydrology Report then goes to great lengths to downplay these well-established risk thresholds, including by noting the variability of hydrologic responses in watersheds—which, if anything, should be more reason for a precautionary approach to logging, roading, and burning as the research often includes results that suggest much higher stream sediment and temperature increases, for example, than what is used as statistically significant or average values. The FS also cites the higher ECA thresholds used in Canada, without apparent regard to CWA or RMO standards developed on federal lands in the US or in the state of Oregon.

Despite the FS's own modeling results that show over ⅓ of subwatersheds exceeding the 15% threshold, the FS downplays effects as only "short-term", and describes the proposed action as having *"no measurable effect"* (Hydrology Report pg. 33). The Hydrology Report also notes (pg. 33) that the *"[t]]here would be effects to stream flow, water yield, sedimentation, and snow accumulation but with remaining vegetation on the forest floor and the use of PDCs and BMPs, would be short-term and have no measurable effect".*

It's important to note that the 5 out of 14 subwatersheds projected to exceed the 15% threshold as a result of the Ellis project comprise over half of the acres within the analysis area– 60,274 out of 114,876 acres or 53% of the analysis area. (Based on Table 5 in the Hydrology Report). Over 60,000 acres would suffer from alteration of peak flow beyond the 15% ECA threshold as a result of the FS's planned logging in the Ellis project. The FS has not provided any sound rationale for how or why they conclude that these effects would not be measurable. The FS's own modeling suggests it would be measurable. They have also not provided any sound rationale for concluding that these effects would only be short term.

The FS (and the models the agency used) do not seem to take into account the long-term effects that may be associated with negative impacts to watershed hydrology and peakflows. These can include changes to stream morphology, ongoing erosion, destabilization of streambeds and stream banks, channelization, alteration of groundwater or hyporheic flows, etc. Such issues can in turn result in further alterations to watershed hydrology and stream morphology, and continue to have ongoing, chronic, and long-term negative effects to streamflows, hydrology, water quality parameters, and stream habitats.

That the worst effects on peak flows would be concentrated in occupied and Designated Critical Habitat for MCR steelhead was not adequately analyzed in the FEIS. Several of the subwatersheds that would exceed the 15% threshold as a result of the Ellis project are also those that support occupied MCR steelhead occupied habitat and are Designated Critical Habitat for MCR steelhead. Examples of subwatersheds with projected ECA values above the 15% threshold include Ditch Creek (19.4%); Ellis Creek-Potamus Creek (21.9%); and Mallory Creek (21.2%). Potamus Creek subwatershed, which also supports MCR steelhead occupied habitat and Designated critical habitat, would be just under the 15% threshold (14.5%) as a result of the FS's planned logging. **These subwatersheds (Ditch, Ellis-Potamus, Mallory, and Potamus) support 52.5 miles out of the 52.7 miles of occupied MCR steelhead habitat within the project area. These subwatersheds also represent approximately 60% of Designated Critical Habitat for MCR steelhead within the project area (51.1 miles out of 85.7 miles of Designated Critical Habitat).**

The FS has not provided a sound rationale to support their assertion that these large-scale and intense impacts–which are concentrated in occupied and Designated Critical Habitat for MCR steelhead– would not have long-term detrimental effects on populations, viability, or habitat. Stream habitats within Designated Critical Habitat for MCR steelhead would be harmed as a result of the Ellis project. The population trends and viability of already struggling MCR steelhead populations are likely to be negatively impacted and jeopardized.

While BMPs and PDCs may help mitigate some of the risks to aquatic resources, the FS has not provided a quantification or sound rationale for its assumptions. What evidence does the FS have that even if BMPs mitigate a majority of potential water quality impacts– what about percent of ineffectiveness of these mitigations? Given the large scale and the intensity of the Ellis project, there is no reason to believe that the resulting effects would not have significant, long-term, and detrimental impacts to water quality, aquatic habitats, and imperiled and ESA-listed aquatic species. In addition, BMPs and PDCs are largely subjective, lack enforcement teeth, include language such as "when convenient" or "when practical", and are not monitored in any sort of enforceable or statistically robust fashion. The agency should not rest its determinations of little or no effects, or "no measurable effects" on these subjective and largely unenforceable BMPs and PDCs.

The FEIS failed to conduct an adequate analysis of sediment-related impacts due to the Ellis project. The FEIS also failed to include key quantitative data, such as current or recent embeddedness data and other water quality and RMO parameters. The FS's conclusions that impacts will not cause long-term adverse impacts or be meaningfully measurable at larger scales are not unsupported, arbitrary, and capricious. They also don't seem to be

supported by the FS's own statements and findings. Further, the enormous scale of the project, which includes logging on steep slopes, ashy soils, skyline logging, potential large tree logging, adverse changes to watershed hydrology and peak flows, and other risky and intensive logging across thousands of acres, is highly likely to cause direct, indirect, and cumulative adverse effects to stream sediment and embeddedness. It's also important to note that localized effects can cumulatively add up to larger-scale subwatershed and watershed effects, and even regional effects– particularly given a project of such enormous size and intensity as the Ellis project.

The Aquatics BE (pg. 26) acknowledges that subwatersheds within the project area are already impaired in relation to embeddedness: *"[w]atershed functioning using most recent data for the Substrate/Embeddedness Indicator suggested the Potamus Creek-North Fork John Day River and Lower Camas Creek watersheds as "Functioning at Risk". The data above and field observations indicate that fine sediments continue to be a problem in many streams in the Project area."* Unfortunately, the USFS does not seem to have any current or recent data for sediment or embeddedness. Without adequate baseline data, the FS and the public are therefore unable to have an understanding of the extent or degree of impairment in streams across the project area.

The Aquatics Report (pg. 56) also acknowledges that the Ellis project *"would likely increase the percent embeddedness and lead to less interstitial spaces for aquatic macroinvertebrates, fry, and over-winter juvenile refugia. Higher embeddedness also would have detrimental impacts on freshwater mussels such as the Region 6 Sensitive Species western ridged mussel. It is unknown whether the western ridged mussel is within the project areas."* The Aquatics Report (pg. 55) also notes that activities in the Ellis project would be prolonged over a period of years and that *"This project would increase sediment during implementation, as modelled and presented in the Hydrology Report for this project. This sediment would be contributed over the entire period of time the project is being implemented."*

The Aquatics Report also states (pg. 55) that: *"Fine sediments would be produced over a term of 10 years (the expected time for commercial implementation to occur) within approximately114,00 project acres. Additionally, sediment is expected due to log hauling off-Forest on native surfaced county roads that cross steelhead occupied waters and/or their designated critical habitat. It is also likely that fines would continue to be produced after commercial sales have occurred and been implemented, which is assumed to be another 10 years. The increase in sediment delivery would result in increased levels for two related measures, percent fines and embeddedness. While tons of sediment delivered is related to percent fines and embeddedness, the relationship is not necessarily direct or linear. Therefore, the magnitude of the changes in these measures cannot be predicted with confidence."*

Additionally, the Aquatics Report notes (pg. 51) that *"[a]ll ground-disturbing activities will have some short-term (up to 5 years) and long-term (5 or more years) effects. Fine sediments mobilized by these activities would likely occur during the relatively long periods of time when work is occurring and for a period of a few years after the work has*

concluded. The amount of time over which these sediments would be mobilized into area streams is somewhat dependent on weather conditions, which would directly impact the magnitude of the effects. For example, a rain-on-snow event would create much higher sediment loading than a more typical snow melt scenario. Long-term sediment inputs would be expected to dissipate over years post-project, as the area disturbed revegetates and the amount of bare soil decreases."

Yet, the FEIS somehow concludes (pg. 134) that *"[t]he number of fine sediments produced by project activities would likely have short-term impacts to area streams, although the activities would be prolonged over a period of years"*. On what basis is the FEIS concluding that embeddedness issues, once created, will resolve themselves in the short-term—especially as they simultaneously acknowledge that activities would be prolonged over a period of years? As discussed earlier, alterations to watershed hydrology and stream morphology can cause cascading and long-term effects that will not simply stabilize in the short-term. The FEIS seems to contradict itself in stating that higher fine sediment levels would occur, along with associated impacts such as higher embeddedness, over a period of years over the implementation of this project—yet still only have short-term impacts. Project implementation may continue for almost a decade (or even longer in some cases), and hydrology and morphology-related impacts will continue for, at the very least, several years beyond that. Sediment-related impacts are likely to continue on the landscape for many years, likely decades. The FEIS also acknowledges that stream morphology and habitats, and water quality parameters such as temperature and sediment, can be affected for many years, even decades, after logging. The Aquatics Report (pg. 23) notes that *"[h]istoric timber harvest in RHCAs has resulted in increased soil erosion and sedimentation in streams, reduced recruitment of large wood affecting pool formation and cover, and reduced shade, affecting water temperature."*

The GRAIP lite model is designed to model road-related sediment inputs into streams. Such modeling is informative and helpful, but limited. For example, the GRAIP lite model does not take into account ongoing, chronic, or cascading impacts due to alterations in hydrology or stream morphology. Such issues may present as, for example, a stream crossing with accelerated erosion and sediment due to increased haul. Such erosion can (and often does) cause the stream channel to such as increases of pooling just upstream of the stream crossing, drops and downcutting downstream of the crossing, and erosion in the streambank both upstream and downstream of the crossing. This streambank destabilization, in turn, causes the streambank immediately upslope or downslope to erode and destabilize. The streambank destabilization and resulting erosion (and sediment release) can move up or downstream for long distances, and cause significant and chronic releases of sediment. Similar cascading issues can result from increase in landslides or slumping in other locations, road-related failures, and other erosion caused by changes to hydrology, stream morphology, or damage to soils from logging and roads. Such issues are not isolated or rare on the landscape– they are common issues discussed in scientific literature and that we see frequently in our on-the-ground surveys. The persistence of such issues, even decades after logging, is well-documented. The GRAIP model does not take these or similar issues into account. Hence, the "0%" change from existing conditions after

project completion that is shown in table 17 of the hydrology report is misleading and fails to account for significant and common adverse impacts related to sediment.

Table 10 in the Hydrology Report from May 2025 shows large increases in sediment per year will be in subwatersheds that support occupied MCR steelhead habitat and/or are Designated Critical Habitat for MCR steelhead. These include Ditch Creek, Mallory Creek, Potamus Creek, and Ellis Creek-Potamus Creek. These subwatersheds will receive between 6.25 to 23 additional tons of sediment per year over approximately 10 years. The Hydrology Report notes that these values are considered "chronic". The table also shows that the Wrightman Canyon-North Fork John Day will receive an additional 59.4 tons of sediment per year, and the Cabin Creek-North Fork John Day will receive an additional 32.75 tons per year. These subwatersheds are also important for downstream Bull trout. Again, the FS has offered inadequate analysis of the intensity and inherently long-term, chronic, and severe nature of the adverse impacts to sediment/embeddedness and related issues in the Ellis project. The FS's conclusions that these impacts will be short-term and not cause long-term impacts to streams and aquatic species is unsubstantiated and unsupported.

From the Hydrology Report from May 2025: "During the proposed actions from all unpaved roads marked as haul routes within the 17 subwatersheds, GRAIP Lite modeled 263 tons per year of sediment delivery. This is roughly double what would be expected over one year under existing conditions." This is huge amount of additional sediment, will certainly retard attainment of RMOs—particularly in streams that are already suffering from excess sediment, high stream temperatures, and/or are otherwise not meeting other RMO or CWA standards.

Also from the Hydrology Report from May 2025:

Table 10. GRAIP Lite sediment delivery results at 17 subwatershed outlets for Alternative 2 before, during, and after proposed treatments. Units are standard short tons, so one ton equals 2,000 pounds.

Subwatershed Name	Contributing Watershed Area (acres)	Existing Condition Specific Sediment Value (tons per year)	During Treatment			After Treatment		
			Specific Sediment Value (tons per year)	Change from Existing (tons per year)	% Change from Existing	Specific Sediment Value (tons per year)	Change from Existing (tons per year)	% Change from Existing
Cabin Creek-North Fork John Day River	1,222,897	27.3	60.0	32.75	120	27.3	0	0
Deerhorn Creek-North Fork John Day River	575,016	2.57	2.57	0	0	2.57	0	0
Ditch Creek	17,043	3.65	13.5	9.89	271	3.65	0	0
East Fork Butter Creek	36,803	1.31	2.46	1.15	88	1.31	0	0
Ellis Creek-Potamus Creek	15,314	3.76	12.0	8.27	220	3.62	-0.14	-4
Headwaters Willow Creek	21,983	7.65	13.9	6.28	82	7.65	0	0
Jericho Creek-North Fork John Day River	594,282	2.65	2.65	0	0	2.65	0	0
Johnson Creek-Butter Creek	34,333	2.30	11.2	8.89	387	2.30	0	0
Lower Fivemile	32,110	4.73	15.6	10.9	230	4.44	-0.29	-6
Mallory Creek	20,007	6.88	13.1	6.25	91	6.79	-0.09	-1
Matlock Creek-Stony Creek	22,230	2.68	8.04	5.36	200	2.58	-0.10	-4
Potamus Creek	31,122	9.59	23.1	13.5	141	9.45	-0.14	-1
Thorn Creek-Rhea Creek	41,249	7.36	7.36	0	0	7.36	0	0
Upper Fivemile Creek	20,748	3.89	12.0	8.15	210	3.89	0	0
Wilkins Creek-Camas Creek	184,015	0.82	0.82	0	0	0.82	0	0
Wilson Creek-Rhea Creek	19,266	5.07	5.16	0.09	2	5.07	0	0
Wrightman Canyon-North Fork John Day	699,998	25.0	59.4	34.4	138	25.0	0	0

Large wood in streams

We are very concerned that logging in uplands and in RHCAs will negatively impact the availability of future large wood recruitment for wood in streams. Large wood recruitment and delivery to streams is a crucial cornerstone of ecological integrity for streams, essential for the viability of many native and imperiled aquatic species, and a driving force of recovery for stream morphology. Hyporheic flows and groundwater storage and movement depend in part on large wood and future large wood recruitment, and are important for maintaining cold water in perennial streams. Groundwater movement and storage is interconnected with a number of complex watershed processes and forest components.

Trees that are currently not meeting size requirements for LWD will grow to be important for wood recruitment in the future. In addition, even though snags are not targeted for felling, many snags are lost due to "hazard" tree designation, road and haul corridors, heavy equipment use during logging implementation, etc. This presents a potentially unacceptable ecological loss.

It is important to highlight that small intermittent streams, as well as perennial streams, would also be negatively affected by the loss of available wood, and that those effects are felt downstream. Loss of available wood, including large wood recruitment, in small intermittent streams will negatively impact downstream reaches. This, in turn, will negatively impact instream habitats and water quality for aquatic species including imperiled salmon and trout. Loss of commercial-sized trees in intermittent streams in small

catchments will result in less LWD wood in perennial streams, and thus result in fewer large pools and habitat complexity. Woody debris is very important for protecting underground water storage and movement of small intermittent streams. Small streams are crucial to maintaining cold water for downstream perennial waterways, and to creating and ensuring cold water refugia for fish (Benda et al. 2005; Caissie 2006; Kaufmann & Faustin 2011).

Logging will have negative effects on streams and water quality. Aquatic ecosystems include complex and interdependent interactions. The loss of available trees to become woody debris for streams negatively affects stream morphology, including pools. The reduction of smaller wood for streams, as well as future recruitment for these components and LWD, has already occurred through repeated past logging.

Clean Water Act (CWA)

Streams in the project area are not meeting water quality standards for temperature, including streams with occupied and Designated Critical Habitat for MCR steelhead. Given the lack of current or recent quantitative data for water quality parameters provided by the Ellis FEIS and supporting documents, it is difficult to ascertain the categories and degree of water quality impairments, or how widespread these issues are, within the project area. However, some stream temperature data can be found through the NorWest and ODEQ websites. Impaired water quality, usually in relation to stream temperature standards, appears to be present in at least the following creeks: Mallory, Ditch, Fivemile, Upper Fivemile, Taylor, Willow, Johnson, Butter, Potamus, Ellis-Potamus, and Staler Creeks, and the North Fork of the John Day River. Given the widespread water quality impaired streams within the project area, the FS has a responsibility to ensure that stream temperatures and sediments do not have any increases as a result of proposed actions, such as logging, burning, or roading within the Ellis project.

Furthermore, the TMDL for the John Day Basin is scheduled to be revised by ODEQ in 2026. It is concerning that the FS would proceed with such large-scale intensive logging and roading in the Ellis project before TMDL development and needed revision of restoration plans are put into place.

The FS also has a history of not sharing their stream temperature data with regulatory agencies such as Oregon Department of Environmental Quality (ODEQ). After over a decade of not sharing most of their data with ODEQ, the FS finally submitted large amounts of temperature data during the ODEQ call for data in 2018, largely due to public pressure from BMBP. Has the FS shared all stream temperature and sediment data the agency has collected from streams within the Ellis project with ODEQ?

Does the FS have a permit for nonpoint source pollution released from logging and road-related impacts in this and other timber sales? Are timber sale proposals tiered to a programmatic consultation, permit, or MOU between the FS and ODEQ? BMBP requests copies of any relevant permits, consultations, MOUs, or other relevant documents that pertain for planned nonpoint source pollution releases within the Ellis FEIS. These include

increases in temperature and sediment, as it is not clear that such increases (even those acknowledged by the FS) will not further violate CWA regulations and standards.

The FS relies inappropriately on BMPs and PDCs to avoid their responsibility to adequately consider and avoid impacts to water quality and stream habitats. Based on repeated conversations with FS staff over the years, it is our understanding that BMP implementation effectiveness is only monitored on a handful of sites per year, and that of those only one or two sites may be timber sales. In addition, these BMP monitoring checks seem to be highly subjective, and include almost entirely qualitative assessments. Please clarify if this is incorrect, and please provide data from the FS's BMP implementation field monitoring surveys on the Umatilla NF. Even if BMP's are *generally* effective, several questions and issues arise. For example, if BMPs are ~80% effective, then what of the other 20%? Depending on the scale of impacts and the quality of habitat being impacted, 20% is a potentially very substantial percentage for failure to protect water quality and stream habitats. Further, BMPs and PDCs contain overwhelmingly subjective and non-enforceable language.

Roads

Road densities within the Ellis project are well above standards in several watersheds and subwatersheds within the project area. For example, the Ellis FEIS (pg. 65) noted that: *"Overall road densities for the Potamus Creek-North Fork John Day River were 3.0 and 4.0 mi/mi2, respectively."* The FEIS acknowledges that road densities within the subwatersheds ranged up to 4.7 mile/square mile.

The FEIS admits (pg. 65) that *"[w]atershed functioning for road density and location for all the Mallory/Ditch, Potamus Creek, North Fork John Day/Matlock, and Fivemile watershed in the 1999 evaluation were "Not Properly Functioning"* The DEIS also explained that *"to meet the "Properly Functioning" category, overall road density needed to be <2mi/mi2 with no roads in RHCAs. Similarly, to meet the "Functioning At Risk" category, overall road density needed to be 2-3 mi/mi2with 0.1-1.0 mi/mi2. Using the most recent data, both the Potamus Creek-North Fork John Day River and Lower Camas Creek watersheds were "Not Properly Functioning"."* This information, which remains relevant, seems to have been excluded from the FEIS.

Additionally problematic is that many of these are within RHCAs and hydrologically connected. The DEIS also notes that closed roads are not necessarily hydrologically stable. The DEIS admitted that *"some major roads within the Potamus Creek-North Fork John Day River watershed are essentially streamside for much of their length. Examples of these stream-adjacent roads include FSR 5316 (Thompson Creek), FSR 2104-150 (Graves Creek), and FSR 2104 along Ditch Creek (U. S. Department of Agriculture 20014). Some midslope roads include FS roads 5300, 5320, and 2105. Of the total of 580.7 miles of roads, 241.4 or about 42% are ML1. ML1 roads are closed to vehicular traffic, with exceptions for administrative uses. However, these ML1 roads are not necessarily hydrologically stable."* Again, this relevant information seems to have been excluded from the FEIS.

Further, the FS's focus on open road densities leads to inadequate consideration of road-related impacts to wildlife, water quality, and stream habitats. How will stream crossings for haul routes, as well as re-opening/repair of permanent roads (closed or not)? Would these overlap with RHCAs? With other hydrologically connected roads? We are also very concerned about any proposed road building or re-opening in undeveloped lands, steep slopes, sensitive soils, and in other situations that may cause impacts to impact water quality and stream habitats.

We are supportive of efforts to address the ubiquitously high road densities across the Umatilla NF and other National Forests. Bloated roads networks on National Forests, including the Umatilla NF and in the project area, are one of—if not *the*-- primary threats to water quality and imperiled fish. Unfortunately, even though the Forest Service has had decades to address the excessively high road densities in this area, the agency simply has not prioritized road density reductions.

Despite having had decades to comply with Forest Plan standards, the Forest Service does not appear to be prioritizing decreasing road densities to levels suggested in their own Plans and regulations, or to meeting thresholds that are safe for water quality, imperiled fish, or sensitive aquatic organisms. We are very concerned that the agency has continued, for decades, to de-prioritize addressing the bloated road network in this and other areas, particularly given that roads are one of the primary drivers of water quality impairment (if not *the* primary driver).

It is unclear in discussion in the FEIS if proposed road closures will be implemented. Is the FS still planning these closures? Has funding has already been secured for road closures, decommissioning, and "temporary" road rehabilitation work proposed as part of the Ellis project? If funding is not secured, or if the certainty or timeline for these activities is uncertain, then these road closures and decommissioning should not be treated as a certainty in the effects analyses. In addition, the effects analyses do not take into account possible ongoing, long-term effects to the project area and aquatic resources due to roads and road-related activities in the Ellis project.

The road-related construction, rebuilding, and maintenance activities proposed in the Ellis project pose a direct threat to the water quality and stream habitats of the creeks in the project area. Road construction (including "temporary" road construction) and road maintenance activities are well-documented to be likely to generate excess fine sediments that may reach creeks, and so pose risks to water quality (Cederholm et al. 1980; Tague and Band 2001). The negative impacts of road-related activities proposed under the Ellis project are inappropriately downplayed and ignored by the FEIS. We are very concerned about the large scale and intensity of these road-related impacts to the landscape. We are also concerned about risks to headwater and intermittent streams, springs, steep slopes, water storage areas, and watershed hydrology and dynamics.

It is also important to note that stream channels which are dry for part of the year, including those that may not be running when roads are built across or along their channels, are still

very much at risk of altered hydrology and increased fine sediments once they are transporting and holding water during wetter months (Gomi 2005). In addition, groundwater dynamics can be negatively affected by road-related activities and logging.

Roughly 1 miles of proposed "temporary" roads in alts 2 and 5. "Temporary" roads are not temporary. The compaction, disturbance, displacement, erosion, disruption to hydrology, and other similar effects associated with roads (including "temporary" roads) are present for years if not decades to come (Trombulak 2000). Decommissioned roads (including "temporary" roads) contain disturbed soils and are present on the landscape for decades--and are reused and reopened by the agency with the claim that building new roads would not increase disturbance on these old road beds. It should be recognized that once a road is created, the negative effects of the road are long-term. The FS continues to use the existence of these old road beds (including decommissioned roads) and their ongoing disturbance on the landscape as a rationale to claim that there will be little to no 'new' disturbance if they rebuild/reconstruct roads on top of them.

The FEIS suggests that "temporary" roads, permanent roads, and other haul routes have similar effects, and use this assertion to downplay the effects of proposed "temporary" roads in the Ellis project. However, construction, re-construction, or repair of roads have been implicated in some of the largest sources of fine sediment release into streams. Further, paved or heavily rocked road surfaces the are more likely to be found on permanent roads do not tend to release as much sediment as native road surfaces.

Another issue with constructing "temporary" roads, conducting extensive road maintenance, and creating skid trails, cable corridors, and haul routes is the potentially massive amount of felling and logging of large trees as "danger" trees, and for construction of these road and haul related corridors. The Ellis FEIS proposes skyline logging, which can result in extensive cutting of trees, including large and old trees. What is the FS's estimate of number of large trees cut due to designation as "hazards" or felled along roads (including roads that are not major routes, closed or overgrown roads, or temporary roads)?

The DEIS (pg. 14): states that *"[d]anger trees would be cut alongside haul roads.....If they are outside of RHCA buffers, not required to be retained for other resource needs, and are of commercial value, they could be removed with the timber sale if existing large wood levels in the area meet standards."* The DEIS (pg. 16) also notes that *"[d]anger trees up to 300 feet from either side of the proposed roads may also be removed."* In the FEIS response to comments (pg. 235) the USFS sidesteps this concern and simply says the definition of hazard tree has been updated. Its seems that the DEIS description still applies within the FEIS.Our concerns and questions remain, and the FS has failed to answer them.

Felling of trees up to 300 feet of either side of proposed roads may result in excessive and widespread logging of large trees. At the very least, all large trees felled as danger trees or because of haul routes or road placement should be left to benefit wildlife and soils. Allowing large trees to be sold in these circumstances incentivizes cutting them, and inappropriately sidesteps environmental analyses and public transparency. We have similar concerns about logging within fuel breaks and ember reduction zones. Will fuel breaks be treated similarly to roads or haul routes, and result in the felling of large trees that are in

the way or are up to 300' on either side of the fuel break? Will similar issues occur within ember reduction zones?

BMBP's recent post-logging field surveys in Forests in Eastern Oregon, such as the Malheur NF, suggest that the felling of large and old trees in relation to hazard trees and clearing road beds, skid trails, haul corridors, etc. can be very extensive. The pictures below are of recent felling of large and mature or old Ponderosa pine trees, most of which were felled as "hazard" trees or for road, haul, skid trails, or cable corridors in the Big Mosquito and Camp Lick timber sales. Dozens of large mature and old Ponderosa pines were felled in the Big Mosquito sale. Logging in the Camp Lick sale has only just begun, and already BMBP found legacy Ponderosa pines felled as part of either "hazard" tree felling or "temporary" road and other road-related work. Many of the trees depicted in the pictures below were sold at the mill. NEPA analyses for the Ellis sale, and for all timber sales on the Eastside, should include an estimate and cap of how many large trees and legacy snags may be felled, and the effect of losing those trees for wildlife, water quality, and stream habitats.

We are concerned about the lack of estimate for the number of large trees that would be logged, felled as "hazards", or cut down in relation to roads or haul or transport corridors; the lack of a cap on the number of large trees proposed for logging; and the inadequate effects analyses related to these issues. The Ellis FEIS states that if "danger" trees along roads are cut down outside of RHCA buffers, they are "not required to be retained for other resource needs, and are of commercial value, they could be removed with the timber sale if existing large wood levels in the area meet standard". The Forest Service should provide an estimate of how many large diameter (over 20" dbh) "danger" trees they expect to cut down as part of logging implementation for the Ellis sale. In addition, all large trees should be left on site rather than sold at the mill. Allowing large "danger" trees to be sold at the mill presents a huge and unaccounted for loss of wildlife habitat. It also negatively affects soils and water quality to remove these key components for building soils and supporting clean water. Allowing these trees to be sold at the mill also incentivizes building roads, skid trails, haul routes, etc. next to big trees in order to log them.

Big Mosquito sale (Malheur NF)

Big Mosquito sale (Malheur NF)


Camp Lick sale in 2021 (Malheur NF)

We are very concerned about the widespread loss of snags through logging implementation. Legacy snags and snag habitats such as the 'stove pipe' snags (large hollow snags) that are the preferred habitat for Great grey owls, should be buffered. Clumps of snags and areas of important downed wood habitat should also be buffered.

The FEIS (pg. 136) states: *"[a] return to a more natural vegetation community on decommissioned road prisms near streams would likely produce a more natural large wood recruitment regime in the long term."* It also then follows that other roads (open roads, reopened roads, etc) have a negative effect on vegetation communities, including large trees and large wood recruitment? Was this included in part of the analysis of indirect, long-term effects from road-related activities?

Will the Forest Service commit to buffering large and old trees and legacy snags so that they are not felled as 'hazard' trees or for skid, haul, and road routes within the Ellis project? What is the cap on the number of large and old trees felled as 'hazards' or for skid or transport-related corridors? What is the Forest Service's estimate of the number of large trees (over 21" dbh) that will be cut down and sold for this project under 'hazard' designations or because of road/haul route/cable corridors, etc.? Large trees provide crucial habitat for many species within the Ellis project area. Effects analyses regarding related logging and large tree felling should be included in the Ellis NEPA analyses. The FS should drop all logging on steep slopes; drop tether-assist, suspension, and partial suspension logging. The FS should also buffer all legacy snags, clumps of snags, and clumps of downed wood providing habitat for species such as marten.

ESA-listed species

MCR steelhead are present in the project area, and several streams within the project are Designated Critical Habitat for MCR steelhead. Bull trout are present just downstream of the project area, in the North Fork of the John Day River. Does any documentation of bull trout in the project area exist? Like steelhead, Bull trout have the ability to move into the area where natural or manmade barriers are not present.

It is extremely concerning that the Forest Service is publishing their draft and final decisions for the Ellis sale before consultation with regulatory agencies such as NMFS have been completed. Shouldn't consultation with the regulatory agency be key for informing project planning and decisions, rather than simply added to the project record after the fact? Also, if planned logging, roading, or burning in the Ellis sale changes based on NMFS consultation, the public should have an opportunity to review and comment on any changes. Similarly, if NMFS consultation raises concerns regarding imperiled species such as MCR steelhead, the public should be aware of such information when commenting on proposed logging, roading, and burning in the FEIS.

The Aquatics Report admits that the Ellis project "May Affect, Likely to Adversely Affect MCR steelhead. May Affect, Likely to Adversely Affect Designated Critical Habitat." Yet, the FS somehow concludes that *"none of the proposed action alternatives would impact the viability of the populations (of sensitive species or management indicator species) at the forest level, nor contribute to a trend for ESA listing of any species."* Given the enormous size of the project and the scale of proposed logging, roading, and burning, and extensive evidence that such activities harm imperiled and sensitive fish, the Forest Service's determination is unfounded, arbitrary, and capricious. The FS has provided no reasonable or compelling rationale for their determinations. The FEIS's analyses for direct, indirect, and cumulative effects to species, including MCR steelhead, are inadequate. The FS has failed to provide key quantitative data, has not adequately considered impacts to the quality of suitable habitat, and has not adequately explained or selected scales of analyses.

There is overwhelming evidence based on peer-reviewed science, some of which is discussed in these comments, that logging, roading, and other activities proposed in the project harm water quality and imperiled aquatic species– particularly at the scale and intensity which the Ellis project is proposing. The determination that proposed actions within Ellis would not reduce viability at the project scale are unsubstantiated. It's also important to note that cumulative impacts analyses should look beyond the project scale, and that impacts at the Forest scale should include cumulative impacts from other projects and conditions throughout the Forest.

The FS has failed to take a hard look at the effects to key aquatic issues, such as water quality parameters and stream habitats. For example, the majority of creeks that are Critical Designated Habitat for MCR steelhead and/or have occupied habitat have excessively high stream temperatures well above RMOs and state temperature standards, some of which exceed limiting or lethal temperatures for ESA-listed fish. Additionally, the worst effects on peak flows and embeddedness projected to occur in the FS's own analyses will largely

be concentrated in occupied and Designated Critical Habitat for MCR steelhead. Many of these subwatersheds already have excessively high road densities, and several key steelhead streams have many miles of hydrologically connected roads and/or roads within RHCAs. Nevertheless, these already-struggling and heavily impacted subwatersheds are slated for extensive logging, roading, and haul routes– despite their current impaired and "not functioning" conditions. The FS did not adequately consider these data or cumulative impacts in their analyses. The FS also did not disclose recent or current baseline data for water quality parameters such as temperature and embeddedness/sediment in the FEIS analyses. For more detail on these and related issues, please see our discussion earlier in these comments. Discussion of population trends and viability for MCR steelhead and other imperiled and special status aquatic species in the FEIS were severely inadequate. Similarly, no consideration seems to be given to the importance or protection of important spawning and rearing habitat for MCR steelhead or Redband trout.

For Redband trout, the Aquatics Report (pg. 65) admits that actions in the Ellis project "May Impact Individuals and Individual Habitat" for this sensitive-listed species. Yet somehow the FEIS also suggests that *"habitat conditions from project activities are not expected to affect the viability of the population of any FS Management Indicator Species or Sensitive Species at the Forest-level or contribute towards a trend for federal listing under ESA. This rationale is based on the use of MCR as a surrogate species for effects and the effects analysis for MCR steelhead and its designated critical habitat. At the project-level, individual viability may be adversely impacted during and after project implementation and up to five years after. This is due to sediment delivery into streams."*

Again, given the enormous size of the project and the scale of proposed logging, roading, and burning, and extensive evidence that such activities harm imperiled and sensitive fish, the Forest Service's assertions that habitat conditions are not expected to affect the viability of the population" is arbitrary and capricious. The FS has provided no reasonable or compelling rationale for their determination. The FEIS's analyses for direct, indirect, and cumulative effects to species, including Redband trout, is inadequate. There is a dearth of quantitative data, consideration of impacts to the quality of suitable habitat, and issues with scales of analyses.

In order to ensure that imperiled and special-status aquatic species recover, the most effective strategies would be to reduce road densities to safe levels through decommissioning and removal, and to remove artificial fish passage barriers such as failed culverts. Ensuring clean, cold water should also be a priority. The Ellis project will unfortunately increase or exacerbate issues with stream temperatures, fine sediments, peak flows, channel morphology, stream habitats, and key components of water quality and fish habitat. Degrading or further degrading stream habitats, including Designated Critical Habitat, will cause downward population trends for species such as MCR steelhead, and jeopardize the viability of their populations.

We have similar concerns for other aquatic species within the project area such as Western ridged mussel, Pacific lamprey, Shortface lanx, Columbia Oregonian, and other native riparian and aquatic species. The Ellis FEIS fails to adequately analyze or avoid direct,

indirect, and cumulative impacts to aquatic and riparian species, and inappropriately dismisses potential impacts despite clear evidence of likely adverse impacts.

The Aquatics Report (pg. 51) acknowledges that *"[s]ome of the activities in the proposed action alternatives involve some ground disturbance that will result in fine sediments above natural (background) levels reaching stream. Increased sediments in stream channels will result in negatively impacting aquatic species and their associated habitats."* At-risk aquatic species such as threatened steelhead are already suffering from small and fragmented populations. Creating additional negative impacts across the landscape as a result of increased logging, roading, and other activites is extremely risky at best. Small and isolated populations make for fragile populations (that are subject to declines due to localized events, genetic drift, and other factors).

Reiman et al. (2001) noted that: "*...vulnerable aquatic species could be impacted in the short term in ways from which they could not easily recover...*" even in cases where the management actions resulted in long-term benefits in later years. The negative effects on water quality parameters and stream habitats such as stream temperature, peak flows, and fine sediment from logging in the Ellis project would put imperiled aquatic species at risk. Negative impacts from the Ellis sale would also exacerbate already degraded water quality and stream habitats across Eastside Forests, and would jeopardize the long-term viability of ESA-listed and imperiled aquatic species.

Protecting clean, cold waters within the Ellis project area is especially important in light of water quality impairments throughout the project and in downstream waters. For example, the North Fork of the John Day, which supports Bull trout, is just downstream of the project area, and has high stream temperatures and impaired water quality. The NFJD is vulnerable to warmer flows from upstream areas, such as those from streams within the Ellis project area. It is also important to reiterate, as discussed in more detail above in these comments, that intermittent and headwater streams can and do influence stream temperatures in downstream perennial streams. The FEIS does not adequately consider or protect the influence on headwater and intermittent streams on downstream waters, and inappropriately discounts the potential influence of actions within the Ellis project on the North Fork of the John Day River.

In order to provide for the recovery of ESA-listed species such as MCR steelhead and other imperiled aquatic species such as Bull trout, it is imperative that they are able to recolonize past occupied habitat. Ensuring that habitat remains suitable for the recovering species is important for ongoing and future recovery efforts, including potential reintroduction efforts. It is also important that upstream temperatures and conditions support downstream temperatures and conditions.

Existing road density in numerous subwatersheds within the Ellis project area are well above the 2-miles/square mile threshold for watersheds to be considered "properly functioning" (NOAA 1996). Subwatershed considered "not properly functioning" include those that support occupied and Designated Critical Habitat for MCR steelhead. Note: properly functioning: 2 miles/sq mile; at risk 2-3 mi/sq mi; not properly functioning >3mi/sq mi. (NOAA 1996).

The FEIS's effects determination fails to adequately consider the effects from road-related activities (both ongoing and after project completion); the high likelihood that logging and roading would increase stream temperatures and fine sediments, and alter watershed hydrology and stream morphology. The project area currently has road densities at levels that are recognized as threats to water quality, fish, and watershed health (Carnefix and Frissell 2009; Cederholm et al. 1980; Frissell and Carnefix 2007; NOAA 1996; Ripley et al. 2005; USFS 2018).

The bloated road networks on National Forests lands, including the Umatilla NF, threaten the long-term viability of imperiled and ESA-listed fish such as MCR steelhead and Bull trout, and other imperiled or sensitive aquatic species. The Forest Service notes (USFS 2015) that "*[t]he most important road related environmental issue is the effects of roads on aquatic resources in general, and specifically Threatened, Endangered and Sensitive aquatic species (bull trout, mid-Columbia steelhead, and Columbia spotted frog).*" High road densities have been correlated with low population levels and declines in bull trout and other aquatic species that rely on clean, cold waters (USFWS 2010a). Of particular concern are roads that interact with stream channels. Such roads are likely to have disproportionately negative effects on water quality and sensitive fish (USFS 2018). Sedimentation from roads is known to be one of the largest contributors for degradation to water quality as well as a source of degradation to fish habitat and spawning areas. Roads in disrepair create safety issues and conflicts with protection for natural resources, especially for those such as water quality, aquatic species, and functioning wetland processes. The ongoing violations of road density standards within the Ellis project area, and the pervasive state of disrepair of many roads, are harmful to aquatic habitats as well as to terrestrial and avian species that are sensitive to forest fragmentation and road-related disturbances.

Carnefix and Frissell (2009) discussed impacts from roads, and show that significant negative impacts to sensitive aquatic species are present at road densities greater than one mile per square mile: *"Multiple, convergent lines of empirical evidence summarized herein support two robust conclusions: 1) no truly "safe" threshold for road density exists, but rather negative impacts begin to accrue and be expressed with incursion of the very first road segment; and 2) highly significant impacts (e.g., threats of extirpation of sensitive species) are already apparent at road densities on the order of 0.6 km per square km (1 mile per square mile) or less. Therefore, restoration strategies prioritized to reduce road densities in areas of high aquatic resource value from low-to-moderately-low levels to zero-to-low densities (e.g., 1 mile per square mile, lower if attainable) are likely to be most efficient and effective in terms of both economic cost and ecological benefit. By strong inference from these empirical studies of systems and species sensitive to humans' environmental impact, with limited exceptions, investments that only reduce high road density to moderate road density are unlikely to produce any but small incremental improvements in abundance, and will not result in robust populations of sensitive species."*

Fish stocks are stronger and better distributed in areas of little or no management and low road densities, even in fire suppressed areas, and even if severe fires occur. Numerous studies and reports show that many benefits are gained by leaving forests unroaded, and to

their own ecological processes (including processes involving fire, insects, and disease). (Bader 2000; Bradley et al. 2002; DellaSala et al. 2011; Frissell and Carnefix 2007; Reiman and Clayton 1997, Reiman et al. 2000, Thurow et al. 2001; Public Lands Initiative/Trout Unlimited 2004; Western Native Trout Campaign 2001).

The Federal Registrar, Department of the Interior Fish and Wildlife Service 50 CFR part 17 (2010) Final Rule for Revised Designation of Critical Habitat for Bull Trout states: *"Sedimentation negatively affects bull trout embryo survival and juvenile bull trout rearing densities (Shepard et al. 1984, p. 6; Pratt 1992, p. 6). "An assessment of the interior Columbia Basin ecosystem revealed that increasing road densities were associated with declines in four nonanadromous salmonid species (bull trout, Yellowstone cutthroat trout (Oncorhyncus clarkii bouvieri), westslope cutthroat trout (O. c. lewisi), and redband trout (O. mykiss spp.)) within the Columbia River basin, likely through a variety of factors associated with roads. Bull trout were less likely to use highly roaded basins for spawning and rearing and, if present in such areas, were likely to be at lower population levels (Quigley and Arbelbide 1997, p. 1183). These activities can directly and immediately threaten the integrity of the essential physical or biological features..."* (USFWS 2010).

The NOAA 5-Year Review of Snake River Salmonids notes the synergistic negative effects of both logging and roads occurring in watersheds: *"Information from the [PACFISH Biological Opinion Monitoring Program] PIBO monitoring program indicates that unmanaged or reference reaches (streams in watersheds with little or no impact from road building grazing, timber harvest, and mining) on Federal lands in the Interior Columbia basin (including the Snake River basin) are in better condition than managed streams (Al-Chockhachy et al. 2010b). In particular, managed watersheds with high road densities or livestock grazing tend to have stream reaches with worse habitat conditions than streams in reference watersheds."*

The ecological risks of wildfire are overstated in the FEIS, with little to no recognition that these forests evolved with mixed severity wildfire (including high severity fire) and rely on wildfire for many ecosystem processes. For example, native trout and salmonids also evolved with wildfire and other disturbances in the PNW and-- provided their populations are not too fragmented and impacted by logging and roads-- recover fairly quickly from wildfire. For example, the USFS proposed Forest Plan Revision (2014) vol 2. pg 60 noted: **"***Redband trout and bull trout have been shown to recolonize severely burned drainages within two years, provided the drainages were physically accessible (i.e., no culvert barriers, and provided that other fish in unburned areas were close enough to discover and move back into the recently burned habitat."* Logging and roads pose greater threats to forests, aquatic habitats, and imperiled fish than wildfire.

Wildfire, HRV, and Bark beetles

Please see the scientific studies we submitted via mail with our comments regarding forest structure, wildfire, HRV, and bark beetles. We are concerned that fire scar analyses may overestimate the frequency of low-intensity fire regimes across broad landscapes. In addition, Grand and Douglas fir trees should not be targeted for removal in mixed-conifer stands that are historically fir dominant or co-dominant such as north/northeast facing

slopes, on ash soils, in steep draws or very moist riparian areas, in mid-to-high elevation areas, where there are abundant old growth fir trees or stumps, etc. The FS is myopically focusing on tree species composition and density, and on logging, rather than on wildlife, water quality, or ecological integrity.

Juniper Treatments and Fire Fuels Reduction

The real fuel hazard in our opinion is invasive cheatgrass, not Western juniper. Cheatgrass has converted native vegetation to fire-prone grasslands, bitterbrush and destroying sagebrush communities. An analysis should be done to see whether the cost of logging treatments is greater than wildfire suppression efforts in the Umatilla National Forest. Are these logging treatments successful in juniper habitats? Our observations of similar habitats in Oregon with juniper indicate such treatments are not reducing the number or extent of wildfires in plant communities with stand-replacing fire regimes.

New roads should be limited in order to prevent invasive species entry into the area, and reduce fragmentation of habitats.

Restoring ecosystem processes such as sustainable fire return intervals that create a mosaic of habitat patches in Western juniper communities would be an appropriate goal. But much more study is needed to decipher these historic fire return intervals. Widely varied fire frequencies related to big sagebrush sub-species have been found. Wyoming big sagebrush (Artemisia tridentata ssp. wyomingensis) communities, for example, may have fire return intervals of 80-200+ years. A wider range of information on fire return intervals in sagebrush communities should be collected to identify the complexity of intricately interspersed sagebrush vegetation communities. Under-estimates of historical arid land fire intervals have been used in recent years to justify large-scale vegetation manipulation, and promote the claim that "recovery" would be rapid.

Livestock Grazing and Juniper Removal

As Miller et al. (2005) summarize, "Introduction of livestock in the 1860's and the large increase of animals from the 1870's through the early 1900's coincide with the initial expansion of western juniper woodlands. Season-long grazing by the large numbers of domestic livestock during this period is believed to have reduced fine fuel loads . . . . [T]he lack of fire and decreased competition from herbaceous species probably contributed to an increase in shrub density and cover, thus providing a greater number of safe sites for western juniper establishment."

Livestock grazing has also been cited as a vector to cheatgrass increase, as grazing breaks up biological soil crust with trampling, reduces the cover of native grasses, and even spreads cheatgrass seeds in the fur of cattle. All treated areas should be rested from livestock grazing for a minimum of 10 years in order to actually allow native grasses and sagebrush to increase.

In their study on restoring sagebrush steppe ecosystems, (Reisner et al 2013) described how "bunchgrass community structure, abundance and composition, along with [Biological Soil Crust] BSC cover, play important roles in controlling B. tectorum

dominance. Evidence suggests abundant bunchgrasses limit invasions by limiting the size and connectivity of gaps between vegetation, and BSCs appear to limit invasions within gaps. Results also suggest that cattle grazing reduces invasion resistance by decreasing bunchgrass abundance, shifting bunchgrass composition, and thereby increasing connectivity of gaps between perennial plants while trampling further reduces resistance by reducing BSC."

Reducing the cumulative impacts of livestock grazing can greatly aid the reduction of invasive cheatgrass spread.

In addition, no seeding of Eurasian forage grasses, such as crested wheatgrass (Agropyron cristatum) or smooth brome (Bromus inermis), should take place in the treatment areas. This is not restoration. Prior seedings should be mapped out to analyze whether treatments will cause disturbance that can spread these exotics.

Old Growth Western junipers

Old growth Western junipers with one or more of these features (rounded or asymmetrical tops that may be sparse and contain dead limbs; deeply furrowed, fibrous bark on the trunk that is reddish in color in living trees and gray in dead trees; large dead or live branches near the base of the tree, and multiple main trunks), should be flagged by knowledgeable Forest personnel and careful instructions made to logging contractors to not cut these trees. Inspections should be carried out to maintain these trees and stands.

If the Forest decides to log this area, we recommend that clumps of junipers of different age classes are left for bird and wildlife habitat values.

In stands where more than 75% of trees exhibit old growth characteristics, no juniper will be cut. Increasing livestock forage in these stands is not acceptable.

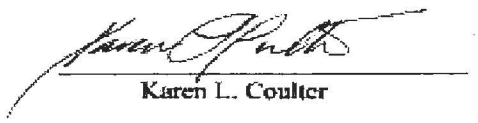
Old growth junipers should not be "limbed" where lower branches are cut off to allow cattle access to bunchgrasses. If the goal is sage grouse restoration, these seed sources for increasing native grasses should be retained and protected.

Would chainsaw treatments yield wood products for commercial use? Would any of the woody material be used for biomass energy production? If so, the Forest Service should study the cumulative impacts of that use in its EIS.

Conclusion

Thank you for your consideration of these objections. We look forward to meeting with you to work on a resolution to our concerns. Many other remedies for resolution were suggested throughout our comments. Please keep me advised of any developments with the Ellis project—by voicemail and/or mail, as I don't have regular or easy internet access from April through October.

Sincerely,



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Citations for BMBP's objections to Ellis FEIS Aquatics focus

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