July 23, 2025

KEVIN KNAUTH
District Ranger
Bonners Ferry Ranger District
6286 Main Street
Bonners Ferry, ID 83805

Dear Ranger Knauth:

Thank you for the opportunity to comment on the EA for the Katkee Fuels project.

1. Public Notice Requirements

The Forest Service Handbook (FSH 1509.12 - 36 CFR 215 Appeals Handbook, Chapter Zero Code) requires publication of a legal notice for each 30-day public comment period on projects documented in an EA. Similarly, the IIJA (Section 40807(c)(2)) requires public notice for actions requiring an EA or EIS.

The Katkee Fuels EA does not demonstrate that such a notice was published. Please publish a legal notice announcing a 30-day comment period for this EA and ensure an accurate copy of the EA is posted to the project website.

2. Table of Contents Accuracy

The Table of Contents lists the EA as having at least 110 pages, with the first section beginning on page 35. None of the listed page numbers align with the actual document pages. Please reissue the EA with an accurate Table of Contents and initiate a new comment period. Failure to do so violates NEPA, NFMA, the Forest Plan, and the APA.

3. **Grizzly Bear Access Amendment Compliance**

The Katkee Fuels Project is within the Boulder Creek BMU. The EA does not demonstrate compliance with the Access Amendment Record of Decision baseline standards for both open and total roads, including temporary roads. Furthermore, it does not account for illegal roads in road density calculations, violating NFMA, HFRA, NEPA, and the APA.

Please demonstrate compliance with:

- Access Amendment standards for road density
- Counting of unauthorized roads as required by All. for the Wild Rockies v. Savage and Bradford (9th Cir.)

Page 5 of the Forest Plan states:

Grizzly Bear Access Amendment
The Access Amendment set standards for motor vehicle use (excluding over-snow vehicle use) within the Cabinet-Yaak and Selkirk Recovery Zones bear management units (BMUs) along with administrative use

levels and timelines. The Access Amendment also set standards for linear miles of open and total road for areas outside the recovery zones that are experiencing recurring use by grizzly bears (i.e., Bears Outside of Recovery Zones or BORZ (page 5 of the ROD for the Access Amendment)). This decision is retained in this Forest Plan through standard FW-STD-WL-02. The use of the term "standards" in the Access Amendment is consistent with the definition of "standard" found on page 10 of this Forest Plan.

The Katkee Fuels project is in the Boulder Creek BMU. The EA does not demonstrate that the Katkee Fuels project complies with the Record of Decision baseline for both open roads and total roads, as required by the Access Amendment Record of Decision requirements for temporary roads. The EA also does not demonstrate that it is counting illegal roads in road density calculations, in violation of NFMA, HFRA, NEPA, and the APA.

"NEPA's purpose is twofold: (1) to ensure that agencies carefully consider information about significant environmental impacts and (2) to guarantee relevant information is available to the public." N.Plains Res.Council, Inc. v. Surface Transp.Bd., 668 F.3d 1067,1072 (9th Cir.2011). "Agencies shall ensure the professional integrity, including scientific integrity, of the discussions and analyses in environmental documents. Agencies shall make use of reliable resources. . . . They

shall identify any methodologies used and shall make explicit reference to the scientific and other sources relied upon for conclusions in the statement." 40 C.F.R. §1502.23.

"Through the NEPA process, a federal agency must take a 'hard look' at the potential environmental consequences of the proposed action." Oregon Nat. Res. Council v. U.S. BLM, Case 2:21-cv-00244-REP Document 45-1 Filed 03/14/24 Page 10 of 27 470 F.3d 818, 820 (9th Cir. 2006) (citation and internal punctuation omitted). In order "[t]o take the required 'hard look' at a proposed project's effects, an agency may not rely on incorrect assumptions or data . . . . the data the Forest Service provides to the public to substantiate its analysis and conclusions must also be accurate." WildEarth Guardians v. Montana Snowmobile Ass'n, 790 F.3d 920, 926 (9th Cir. 2015).
In turn, NFMA requires that each National Forest develop a "Land and ResourceManagement Plan," i.e. a forest plan. 16 U.S.C. §1604(a). All site-specific projects must be consistent with the governing forest plan. 16 U.S.C. §1604(i). Thus, Forest Plan provisions are legally binding and the "Forest Service's failure to comply with the provisions of a Forest Plan is a violation of NFMA." Native Ecosystems Council v. U.S. Forest Service, 418 F.3d 953, 961 (9th Cir. 2005).

Roads have been identified as the most significant management impact on grizzly bears based on a recent literature review of research on road impacts on grizzly bears (Proctor et al. 2020). This review was consistent with the research on the grizzly bear in the Greater Yellowstone Ecosystem where roads were the single best predictor of grizzly bear mortality (Schwartz et al. 2010). In addition, the displacement and habituation impacts of active motorized routes depends to some extent on the amount of hiding cover adjacent to roads (Please find "Defining landscape suitable for restoration of grizzly bears Ursus arctos in Idaho," attached.

Please also find Proctor 2017, 2018, and 2020 attached.

Also, this potential expansion habitat for grizzly bears will be permanently degraded by the vast expanse of roads, including those that exist, along with the opening of 65 miles of stored roads (that have had almost no maintenance in the last 10 years, and are likely growing in with vegetation), along with 30 miles of additional permanent roads. Even after these roads are closed and stored after the 15 year project is completed, 15 years is a long time, in regards to the average life span of a grizzly bear, to have new motorized routes on the landscape. In addition, even after some of these roads are closed in the phased-in project time-line, these roads will still be available to elk hunters. Hunting on closed roads and trails is a noted hazard to grizzly bears (Schwartz et al. 2010). So the agency is creating huge increases in both the displacement and mortality risks to grizzly bears, which will not promote the

conservation of this threatened species through increased use of suitable habitat.

Selkirk Ecosystem (SE)

This ecosystem encompasses approximately 2,200 square miles, of forested and mountainous habitat in northwestern Idaho and northeastern Washington and adjacent land in British Columbia. The SE is the smallest recovery area and is not large enough on its own to fully recover grizzly bears without connectivity with the Canadian population further north as well as with grizzly bear populations to the east in the United States.

Currently, there are approximately 30-50 grizzly bears in the SE, about the same as when this population was listed in 1975. None of the 1993 recovery plan criteria (population size, distribution of females with cubs, mortality) have been met. Human-caused mortality has increased in the SE, particularly during the last decade. There has been less of an effort to estimate size of the grizzly bear population in the SE compared to any other occupied ecosystems of the lower 48 states. Although the Service claims that the population is increasing slightly, the trend analysis is inconclusive.

As with the CYE population, the ecosystem's small size, fragmented habitat, high levels of mortality, and lack of secure core habitat are major problems for grizzly bears. The genetic and demographic isolation of the U.S. grizzly

bear population in the southern Selkirks from the Canadian population in the central Selkirks poses a serious threat to the long-term persistence of this population. The transnational movement of grizzly bears within the SE is impeded, if not prevented, by Highway 3. Movement of grizzly bears between the SE and the CYE is additionally blocked by Highway 95. To the west, movement of bears is also inhibited by the extensive agricultural lands in eastern Washington.

Emergency Declaration Justification

The EA references a 10-15 year project timeframe under an "emergency" designation. Please explain why an emergency is justified despite this extended timeline, as required under NEPA.

On April 3, 2025, Secretary of Agriculture Brooke Rollins signed Secretarial Memo 1078-006 titled -Increasing Timber Production and Designating an Emergency Situation on National Forest System Lands.

The Secretarial memo contains an Emergency Action Determination (EAD) under the Infrastructure Investment and Jobs Act (IIJA), Section 40807.

Furthermore, the Emergency used by the Forest Service in this case states: "All projects and activities carried out under this section shall be consistent with the land and

resource management plan established under section 1604 of this title for the unit of the National Forest System containing the projects and activities." 16 U.S.C. §6591b (e). Thus, a Forest Plan violation in this case not only violates NFMA, but it also renders unlawful the use of a Emergency Action Determination (EAD) under the Infrastructure Investment and Jobs Act (IIJA), Section 40807.

Considering the project is an "emergency", the 10 to 15 year time frame for project completion is based on producing logs for timber industry and is not responsive to the unnecessary need to reduce "fuels".

Due to the size of the project, phased activities such as storing some roads to construct other temporary ones, and the need for the right environmental conditions to be met for prescribed burning, we anticipate it could take 10-15 years to complete all of the work. SN p 16.

The EA does not adequately explain why an emergency is justified for this project. Please explain why the emergency is justified. Do not do so is a violation of NEPA. The EA also does not demonstrate that the project complies with the Forest Plan. One of the requirements for declaring an Emergency is the Forest Plan and all other laws must be followed.

5. Grizzly Bear Security Areas and Disturbance Impacts

Given the helicopter logging proposed for 1,137 acres:

- Map and tabulate current security areas for grizzly bears within the project area (minimum 2,500 acres and 0.5 miles from disturbance).
- Identify security area locations and acreage per treatment year.
- Assess whether security will fall below recommended levels.
- Map all work crew staging areas and helicopter drop zones with estimated durations.
- Identify cumulative helicopter and ground disturbances for each treatment unit and analyze impacts on grizzly bear and wolverine security.
- Provide maps showing core grizzly habitat within the project area.

Helicopter logging can negatively affect grizzly bears and other wildlife. The available scientific literature suggests that high frequency helicopter use, particularly at low altitudes, in habitat occupied by grizzly bears can negatively affect the bears . . . These effects may include disturbance resulting in behavioral changes, such as fleeing from the disturbance; physiological changes, such as increased heart rate; displacement to lower quality habitat; and increased energetic demands." (Summerfield et al 2006). Please find attached, Summerfield et al 2006. Their

paper titled, “Guide to Effects Analysis of Helicopter Use in Grizzly Bear Habitat,” is a guide to effects analysis of helicopter use in grizzly bear habitat which outlines how to assess the potential impacts of helicopter operations on grizzly bear behavior, habitat use, and overall population health. The EA dismisses the effects of helicopter logging on grizzly bear in violation of the ESA, NEPA, NFMA, the Forest Plan and the APA.

The relevant Forest Plan provision in this case is the “Access Amendment,” which is a legally binding Forest Plan Amendment that applies to three National Forests and includes standards intended to conserve and recover the small, struggling Selkirk and Cabinet-Yaak grizzly populations. Currently, the Selkirk grizzly population numbers only 50 bears; the population is failing three out of four recovery targets; and the average mortality is the highest it has been since 2007.

The Access Amendment addresses the “most imminent threat” to grizzly habitat: roads. The Access Amendment limits roads in habitat for the Selkirk and Cabinet-Yaak grizzly bear populations in northwestern Montana and northern Idaho by applying mandatory road restrictions to National Forest lands within both the bears’ official “Recovery Zones,” as well as to occupied habitat outside these areas, which are referred to as “Bears Outside Recovery Zones” or “BORZ” areas.

The Katkee Fuels Project is located adjacent to the Selkirk Grizzly Recovery Zone, and within the Priest "Bears Outside Recovery Zone" or "BORZ" area. AR:027313. In "BORZ" areas, the Access Amendment prohibits any permanent road increases above the Access Amendment Record of Decision baselines, and it limits temporary road increases with certain expressly-delineated conditions. The Access Amendment Record of Decision baseline for total roads in the Priest BORZ is 316.4 miles, and the Access Amendment Record of Decision baseline for open roads in the Priest BORZ is 314.4 miles.

Additionally, the Access Amendment only permits a temporary increase in open roads (1) "immediately following completion of all mechanized harvest and post-harvest slash activities requiring use of the road," (2) in the year that work is finished, and (3) for the time period June 16 - August 31. Moreover, the Access Amendment only permits a temporary increase in total roads if the roads are both (1) "effectively gated" and (2) "restricted with a CFR closure clarifying they are not open for public use."

The Access Amendment recognizes only three types of roads: "open," "gated," and "barriered."

"[T]otal motorized routes" are "gated roads, open roads and open motorized trails.". Only "barriered" routes may be

excluded from the calculation of “total” routes, and the Access Amendment defines a barriered road as a road that “must be closed with a berm, guardrail or other measure that effectively prevents motorized access, and put in a condition such that a need for motorized access for maintenance is not anticipated for at least 10 years.” The Access Amendment further clarifies that a barrier is “not a gate[.]” Accordingly, if a route is closed only with a gate, it still must be included in
the total road calculation.

The Ninth Circuit has issued binding precedent regarding the Access Amendment: All. for the Wild Rockies v. Savage, 897 F.3d 1025, 1036 (9th Cir. 2018) and All. for the Wild Rockies v. Bradford, 856 F.3d 1238, 1243 (9th Cir. 2017). First, in Bradford, the Ninth Circuit held that "any closure that fails to effectively prevent motorized access also fails to comply with Standard II(B) of the Access Amendments." 856 F.3d at 1243. Second, in Savage, the court held that if "undetermined," i.e. unauthorized, roads were "not included in the Access Amendments baseline
calculation, [their] incorporation will result in a net increase of road mileage." 897 F.3d at 1036.
Thus, binding Ninth Circuit authority finds that both illegal roads and roads with ineffective barriers must be counted in total road calculations, which then must be compared to the Access Amendment baseline.

How many road closure violations have occurred in the Bonner Ferry Ranger District in the last 5 years?

When was the last time that the surveyed all of the road closures and gates to see if they were effective?

How many of the ineffective closures has the Forest Service repaired and how long did it take to repair them after the ineffective barrier or gate was discovered?

Page 45 of the EA states:

Helicopter yarding has the potential to disturb grizzly bears more than ground-based systems, since the source of disturbance is louder, farther off the ground (allowing the sound to carry farther), and not confined to the unit itself. Potential impacts to grizzly bear from helicopter harvest could range from behavioral changes (such as displacement to areas away from the disturbance) to physiological changes, (increased heart rates and stress) (LARKIN; PATER; TAZIK, 1996; REYNOLDS; REYNOLDS;
The proposed action calls for 1137 acres of logging by helicopter.

The disruptions of grizzly bear security within the project area with helicopter logging 1137 acres of forests is not habitat improvement for the grizzly bear and will violate

the access amendment as this activity disruptions the key function of this landscape as a connectivity corridor for grizzly bears bear populations by displacing bears.

6. Wildlife Species and Habitat Impact Analysis

The EA or preferably an EIS must analyze cumulative impacts on:

- Grizzly bears, lynx, lynx critical habitat
- Wolverines, whitebark pine, monarch butterflies
- Goshawks, bull trout, and all native fish and wildlife in the Bonners FerryRanger District

Please map and tabulate the acres of and project area percentage of all current security areas for the grizzly in this Cabinet-Bitterroot Connectivity Area, based on a minimum size of 2500 acres and 0.5 miles of disturbance activities.

Please define the location and acreage of grizzly bear security areas in the project area per year of treatments, and define if project levels of security in this important connectivity area will fall below recommended levels to promote grizzly bear use and thus significantly change existing conditions of nonmanagement.

Please identify all locations where work crews will be stationed in the project area for 2-3 week -periods, as per grizzly bear security.

Please identify the total expected cumulative helicopter and ground disturbances, including both motorized and non-motorized activity, that will occur for each proposed treatment units and how this will impact grizzly bear and wolverine security.

Please identify all locations on a map in the project area, including estimated time periods, where work crews will be dropped off and stationed for 2-3 weeks at a time for pre-project treatments, and where roads and trails will be used for extension of motorized activity.

Please show where the core grizzly habitat is with a map.

Please better analyze the cumulative impacts of this project on grizzly bears, lynx, lynx critical habitat, whitebark pine, wolverine, monarch butterflies, goshawks, and all native fish and wildlife in the Bonners Ferry Ranger District.

Following the list of necessary elements, Alliance has also included a general narrative discussion on possible impacts of the Project, with accompanying citations to the relevant scientific literature.
Please also:

- Include a no-commercial-logging alternative

- Disclose compliance with Forest Plan standards for hiding cover, thermal cover, open road density, and elk security
- Address elk displacement to private lands during hunting seasons due to inadequate security on public lands

NECESSARY ELEMENTS FOR PROJECT EIS or an EA if you choose to write an EA.

We still believe that you should write an EIS for this project but if you refuse to, please include the following:

A. Disclose all IPNF Plan requirements for logging/burning projects and explain how the Project complies with them;
B. Disclose the acreages of past, current, and reasonably foreseeable logging, grazing, and road-building activities within the Project area;

C. Solicit and disclose comments from the Idaho Department of Fish and Game regarding the impact of the Project on wildlife habitat;

D. Solicit and disclose comments from the Idaho Department of Environmental Quality regarding the impact of the Project on water quality;

E. Disclose the biological assessment for the candidate, threatened, or endangered species with potential and/or actual habitat in the Project area;

F. Disclose the biological evaluation for the sensitive and management indicator species with potential and/or actual habitat in the Project area;

G. Disclose the snag densities in the Project area, and the method used to determine those densities;

H. Disclose the current, during-project, and post-project road densities in the Project area; and disclose the number of road closure violations in the Bonners Ferry Ranger District during the last 5 years.

I. Disclose the IPNF's record of compliance with state best management practices regarding stream sedimentation from ground-disturbing management activities;

J. Disclose the IPNF's record of compliance with its monitoring requirements as set forth in its Forest Plan;

K. Disclose the IPNF's record of compliance with the additional monitoring requirements set forth in previous DN/FONSIs and RODs on the IPNF;

L. Disclose the results of the field surveys for threatened, endangered, sensitive, and rare plants in each of the proposed units;

M. Disclose the level of current noxious weed infestations in the Project area and the cause of those infestations;

N. Disclose the impact of the Project on noxious weed infestations and native plant communities;

O. Disclose the amount of detrimental soil disturbance that currently exists in each proposed unit from previous logging and grazing activities;

P. Disclose the expected amount of detrimental soil disturbance in each unit after ground disturbance and prior to any proposed mitigation/remediation;

Q. Disclose the expected amount of detrimental soil disturbance in each unit after proposed mitigation/ remediation;

R. Disclose the analytical data that supports proposed soil mitigation/remediation measures;

S. Disclose the timeline for implementation;

T. Disclose the funding source for non-commercial activities proposed;

U. Disclose the current level of old growth forest in each third order drainage in the Project area;

V. Disclose the method used to quantify old growth forest acreages and its rate of error based upon field review of its predictions;

W. Disclose the historic levels of mature and old growth forest in the Project area;

X. Disclose the level of mature and old growth forest necessary to sustain viable populations of dependent wildlife species in the area;

Y. Disclose the amount of mature and old growth forest that will remain after implementation;

Z. Disclose the amount of current habitat for old growth and mature forest dependent species in the Project area;

AA. Disclose the amount of habitat for old growth and mature forest dependent species that will remain after Project implementation;

BB. Disclose the method used to model old growth and mature forest dependent wildlife habitat acreages and its rate of error based upon field review of its predictions;

CC. Disclose the amount of big game (moose and elk) hiding cover, winter range, and security currently available in the area;

DD. Disclose the amount of big game (moose and elk) hiding cover, winter range, and security during Project implementation;

EE. Disclose the amount of big game (moose and elk) hiding cover, winter range, and security after implementation;

FF. Disclose the method used to determine big game hiding cover, winter range, and security, and its rate of error as determined by field review;

GG. Disclose and address the concerns expressed by the ID Team in the draft Five-Year Review of the Forest Plan regarding
the failure to monitor population trends of MIS, the inadequacy of the Forest Plan old growth standard, and the failure to compile data to establish a reliable inventory of sensitive species on the Forest;

HH. Disclose the actions being taken to reduce fuels on private lands adjacent to the Project area and how those activities/or lack thereof will impact the efficacy of the activities proposed for this Project;

II.Disclose the efficacy of the proposed activities at reducing wildfire risk and severity in the Project area in
the future, including a two-year, five-year, ten-year, and 20-year projection;

JJ. Disclose when and how the IPNF made the decision to suppress natural wildfire in the Project area and replace natural fire with logging and prescribed burning;

KK. Disclose the cumulative impacts on the Forest-wide level of the IPNF's policy decision to replace natural fire with logging and prescribed burning;

LL. Disclose how Project complies with the Idaho Roadless Rule;

MM. Disclose the impact of climate change on the efficacy of the proposed treatments;

NN. Disclose the impact of the proposed project on the carbon storage potential of the area;
OO. Disclose the baseline condition, and expected sedimentation during and after activities, for all streams in the area;

PP. Disclose maps of the area that show the following elements:

1.Past, current, and reasonably foreseeable logging units in the Project area;

2.Past, current, and reasonably foreseeable grazing allotments in the Project area;

3.Density of human residences within 1.5 miles from the Project unit boundaries;

4.Hiding cover in the Project area according to the Forest Plan definition;

5.Old growth forest in the Project area;

6.Big game security areas;

7.Moose winter range;

Significant impacts to the Katka IRA
The proposed action purposely obfuscates the extensive logging and burning proposed in the
IRA. There are over
1228 acres to be impacted by logging in the IRA. Some of the helicopter units extend 0.8
miles into the IRA. The incursion into the IRA was not mentioned in the Scoping Notice.

SOIL PRODUCTIVITY The IPNF (FNF) adopted the Region 1 Soil Quality Standards, FSM 2500-99-1 (SQS), to assure compliance with the Forest Plan and NFMA. The SQS limit the areal extent of detrimental soil disturbance within logging units to no more than 15%. Soil Quality Standards "provide benchmark values that indicate when changes in soil properties and soil conditions would result in significant change or impairment of soil quality based on

available research and Regional experience" (Forest Service Manual 2500, Region 1 Supplement 2500-99-1, Chapter 2550 – Soil Management, Section 2554.1).

The intent of the Regional Soil Quality Standards is that the FS must, in each case, consider the cumulative effects of both past and proposed soil disturbances to assure the desired soil conditions are met. This includes impacts from activities that include logging, firewood gathering, livestock grazing, and motorized recreation impacts.

Please disclose percent detrimental disturbance estimates provided by watershed. What is the relevance of the areal extent of management-induced soil damage over such a geographic area?

Alexander and Poff (1985) reviewed literature and found that the amount of soil damage varies even with the same logging system, depending on many factors. For example, as much as 10% to 40% of a logged area can be disturbed by skyline logging. They state: There are many more data on ground disturbance in logging, but these are enough to indicate the wide diversity of results obtained with different equipment operators, and logging techniques in timber stands of different composition in different types of terrain with different soils. Added to all these variables are different methods of investigating and reporting disturbance.

The Sheep Creek Salvage FEIS (USDA Forest Service, 2005a) states at p. 173: Noxious weed presence may lead to physical and biological changes in soil. Organic matter distribution and nutrient flux may change dramatically with noxious weed invasion. Spotted knapweed (Centaurea biebersteinii D.C.) impacts phosphorus levels at sites (LeJeune and Seastedt, 2001) and can
hinder growth of other species with allelopathic mechanism.

Specific to spotted knapweed, these traits can ultimately limit native species' ability to compete and can have direct impacts on species diversity (Tyser and Key 1988, Ridenour and Callaway 2001). Please disclose how the productivity of the land and soils been affected in the project area and forest wide due to noxious weed infestations, and how that situation is expected to change in the coming years and decades.

From Grier et al., (1989): The potential productivity of a site can be raised or lowered by management activities causing a permanent or long-term increase or decrease in the availability of nutrients essential for plant growth. (P. 27.) ...Any time organic matter is removed from a site, a net loss of nutrients from that site also occurs. In timber harvesting or thinning, nutrient losses tend to be proportional to the volume removed. (P. 27.) ...Slash burning is a common site preparation method that can affect soil chemical properties tremendously. A great deal of controversy is often associated with using fire because of

the wide variety of effects, some of which are definitely detrimental to site quality and some of which are beneficial. (P. 30.)

7. Cultural Resource Compliance

Consultation with the Idaho SHPO must be completed before project approval, as required by the NHPA Section 106 process. Please provide:

- Confirmation of SHPO consultation and protection measures incorporated
- All cultural resource NHPA Section 106 review documents for public review

REVIEW AND PROTECT CULTURAL AND HISTORICAL RESOURCES
Consultation with the State Historic Preservation Office (SHPO) must be completed prior to a decision being signed.

Any required protection measures provided from SHPO will be incorporated into the final decision.

Crucial to the preservation of the historical and cultural foundations of the nation, Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, 36 C.F.R. Part 800 (PDF) (revised August 5, 2004) re- quire Federal agencies to consider the effects of

projects they carry out, approve, or fund on historic properties. Additionally, Federal agencies must provide the Advisory Council on Historic Preservation (ACHP) opportunity to comment on such projects prior to the agency's final decision.

A Federal project that requires review under Section 106 is defined as an "undertaking." An undertaking means a project, activity or program funded in whole or in part under the direct orindirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval.

Section 110 of the NHPA
Added to the NHPA in 1992, Section 110 requires Federal agencies to emphasize the preservation and enhancement of cultural resources. Section 110 directs agencies to initiate measures necessary to direct their policies, plans, and programs in such a way that federally-owned sites, structures, and objects of historical architectural or archaeological significance are preserved, restored, and maintained for the inspiration and benefit of the public. The agencies are also encouraged to institute (in consultation with the ACHP) procedures to assure Federal plans and programs contribute to the preservation and enhancement of non-Federally owned sites, structures, and objects of historical, architectural, and archaeological significance. Has the ID SHPO received this survey? The

cultural surveys need to be done before the NEPA and NHPA process can be completed, which has not occurred.

The project must be approved by the SHPO and the public needs to given a chance to comment on
this.
1. Preparation of an EA or EIS should be integrated with the NHPA Section 106 review. If the EA or EIS do not reference the NHPA Section 106 review or include a cultural resource NHPA Section 106 report, it could be grounds for an objection.
2. A NHPA Section 106 Review is usually required for every project, program, or activity on federal lands prior to approval of the action - see 36 CFR 800.2(a) and 36 CFR 800.1(c). The NHPA Section 106 review is required in addition to requirements under NEPA.

3. Comments and objections can be submitted for inadequate compliance for both NEPA and NHPA, as they are separate regulations but are both regulatory requirements for federal agencies.

4. If the NEPA administrative record does not include the NHPA Section 106 review document, you can request the document as part of your comments. If the document is not provided, you can then object that the document has not been provided for public review as required - see 36 CFR 800.2(d)

5. Agencies often claim they cannot disclose information about cultural resources because of confidentiality concerns. This is partially true, but agencies can only withhold information "when disclosure may cause a significant invasion of privacy; risk harm to the historic property; or impede the use of a traditional religious site by practitioners." 36 CFR 800.11(c). So for example, agencies can withhold cultural site location maps, but they can- not withhold documentation about the quantity and type of cultural resources affected by a project or documentation about how the resources may be impacted. If agencies continue to withhold information that does not risk harm to the historic property, you can object on the failure to disclose information as required.

For specific regulatory requirements, see below.

6. The NHPA Cultural Resource review process requires agen- cies to prepare documents as part of the NHPA Section 106 process, and most of the documents must be shared with the public 36 CFR 800.2(d)

7. Generally, if cultural resources are present in the project area, the agency must prepare a document with the following components and must "provide information on the finding to the public on request, consistent with the confidentiality provisions" per regulations at 36 CFR 800.5(d) .
Required documents are listed at 36 CFR 800.11(e)

1. A description of the undertaking, specifying the Federal involvement, and its area of potential effects, including photographs, maps, and drawings, as necessary

2. A description of the steps taken to identify historic properties

3. A description of the affected historic properties, including information on the characteristics that qualify them for the National Register
4. A description of the undertaking's effects on historic properties

5. An explanation of why the criteria of adverse effect were found applicable or inapplicable, including any conditions or future actions to avoid, minimize or mitigate adverse effects; and

6. Copies or summaries of any views provided by consulting parties and the public.

7. If any of the components listed above are not included during scoping or comment periods, the reviewers can request the information. If the information is not provided when the EA or EIS are released, you can object because the agency did not comply with the regulations – either because they did not pre- pare the documents or because they did not disclose the documents to the public.

8. Be aware that the NHPA regulations frequently use the term "historic property", which means “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places.” 36 CFR 800.16(I).

Did the Forest Service conduct NEPA analysis (i.e. an EA or EIS) for the Fire Plan the Forest is using for this project? If you don’t the project will be in violation of NEPA, NFMA, and the APA.
Please provide a map showing the WUI and the locations of all homes in comparison to the project area.

Please explain why the area qualifies as Wildland Urban Inter-face (WUI) and if complies with the legal definition of a WUI in the Healthy Forest Act.

Since the Forest Service did not conduct NEPA for the Fire Plan, please disclose the cumulative effects of Forest-wide implementation of the Fire Plan in the project EIS, or EA if you refuse to write an EIS, to avoid illegally tiering to a non- NEPA document. Specifically analyze the decision to prioritize mechanical, human-designed, somewhat arbitrary treatments as a replacement for naturally-occurring fire.

Did the Forest Service conduct ESA consultation for the Fire Plan?

Will the Forest Service be considering amending the IPNF Forest Plan to include binding legal standards for noxious weeds?

How effective have BMPs been at stopping (i.e. preventing) new weed infestations from starting during logging and related road operations?

Is it true that new roads are the number one cause of new noxious weed infestations?

Why isn't the Forest Service considering a Forest Plan amend-
ment in this Project to amend the Forest Plan to include binding legal standards that address noxious weeds?

Is it true that noxious weeds are one of the top threats to bio-diversity on our National Forests?

How can the Forest Service be complying with NFMA's requirement to maintain biodiversity if it has no legal standards that address noxious weeds?

Will this Project address all Project area BMP needs, i.e. will the BMP road maintenance backlog and needs from this Project all be met by this Project?

The EA was not clear if any MIS were found. What MIS did you find, how many and how did you look for these MIS?

How will the large clearcuts, new roads, and other logging decreased elk security and thermal cover affect wolverines?

Please formally consult with the US FWS on the impact of this project on wolverines. Wolverines need secure habitat in big game winter range.

Please formally consult with the US FWS on the impact of this project on Whitebark pine.

Which wildlife species and ecosystem processes, if any, does the fire-proofing in the proposed project benefit? Which species and processes do fire-proofing harm? What is your definition of healthier?

What is your definition of resilient?

How will building 25 miles of new roads and clearcutting openings greater than 40 acres in size reduce sediment in streams?

Page 11 of the EA states:

Due to the extent of declining forest health and existing fire hazard in the Project Area, there are 22 openings greater than 40 acres proposed. Acres proposed to be treated have been reduced from 3,360 to 2,290 acres.

What evidence do you have that this logging will make the forest healthier for fish and wildlife? What about the role of mixed severity and high severity fire – what are the benefits of those natural processes?

How have those processes (mixed and high severity fire) created the ecosystems we have today?
Over how many millennia have mixed and high severity fire have been occurring with- out human intervention?

What beneficial ecological roles do beetles play? You didn't answer this in violation of NEPA, NFMA and the APA.

Can the forest survive without beetles?

Will all WQLS streams in the project area have completed TMDLs before a decision is signed?

Will this project leave enough snags to follow the Forest Plan requirements and the requirements of sensitive old growth
species such as flammulated owls and goshawks?

Will this Project exacerbate existing noxious weed infestations and start new infestations?

Climate Change and Carbon Storage

Please:

- Analyze how proposed treatments impact carbon storage and climate change mitigation
- Compare unlogged old-growth forests' carbon storage to that of logged forests and removed wood products
- Assess cumulative carbon losses from National Forest logging and consistency with research recommending forest protection to avoid emissions (e.g. Krankina & Harmon 2006)

Visual Quality Standards

List applicable visual quality standards for each unit and disclose compliance status.

Endangered Species Act

Please disclose whether you have conducted surveys in the Project area for this Project for whitebark pine, Monarch butterflies, wolverines, grizzly bears, pine martins, northern goshawk bull trout, bull trout critical habitat, lynx critical habitat, and lynx, as required by the Forest Plan.

Has the IPNF removed any lynx analysis units without going through NEPA and taking public comment?

Please disclose the last time the Project area was surveyed for whitebark pine, Monarch butterflies, grizzly bears, wolverines, pine martins, northern goshawk, and lynx.

Please disclose how often the Project area has been surveyed for whitebark pine, wolverines, Monarch butterflies, grizzly bears, pine martins, northern goshawks, and lynx.

Would the habitat be better for whitebark pine, Monarch butterflies, grizzly bears, wolverines, pine martins, northern 25goshawks, bull trout, bull trout critical habitat, Lynx critical habitat, and lynx if roads were removed in the Project area?

Please provide us with the full BA for the whitebark pine, Monarch butterflies, bull tout, bull trout critical habitat, grizzly bears, wolverines, pine martins, northern goshawks, lynx critical habitat, and lynx.

Please formally consult with the U.S. Fish and Wildlife Service on the impact of the project on bull trout, bull trout critical habitat, whitebark pine, Monarch butterflies, grizzly bears, wolverines, pine martins, northern goshawks, lynx critical habitat, andlynx.

The Forest Plan and the Katkee project weakens grizzly bear habitat protections by allowing new roadbuilding throughout the IPNF, without meaningful and permanent reclamation of other roads elsewhere in the Forest to compensate for the new road construction. This new management direction is a significant departure from former Forest Plan Amendment 19, which required the Forest Service to reclaim roads according

26to stringent requirements such that a reclaimed road would “no longer function as a road or trail.”

The New roadbuilding in the Katkee project without meaningful reclamation to ensure no net increase in the road system presents a significant threat to grizzly bears, because motor vehicle users and other recreationists can trespass on the supposedly “impassable” roads and thus encroach on grizzly bear habitat. Further, even unused roads cause detrimental impacts to grizzly bear survival and reproduction, because grizzly bears are displaced from roaded habitat, regardless of whether the roads receive public or administrative use.

The vast majority of the project area is in lynx critical habitat.

Noxious Weeds Management

Given the severe threat noxious weeds pose to biodiversity:

- Disclose how the project will prevent new infestations
- Explain why Forest Plan amendments have not included binding standards for noxious weed management
- Assess cumulative impacts of noxious weeds forest-wide due to management activities

Native plants are the foundation upon which the ecosystems of the Forest are built, providing forage and shelter for all native wildlife, bird and insect species, supporting the natural processes of the landscape, and providing the context within which the public find recreational and spiritual opportunities. All these uses or values of land are hindered or lost by con- version of native vegetation to invasive and noxious plants. The ecological threats posed by noxious weed infestations are so great that a former chief of the Forest Service called the invasion of noxious weeds "devastating" and a "biological disaster." Despite implementation of Forest Service "best management practices" (BMPs), noxious weed infestation on the Forest is getting worse and noxious weeds will likely overtake native plant populations if introduced into areas that are not yet infested. The Forest Ser- vice has recognized that the effects of noxious weed invasions may be irreversible. Even if weeds are eliminated with herbicide treatment, they may be replaced by other weeds, not by native plant species.

Invasive plant species, also called noxious weeds, are one of the greatest modern threats to biodiversity on earth. Noxious weeds cause harm because they displace native plants, resulting in a loss of diversity and a change in the structure of a plant commnity. By re- moving native vegetative cover, invasive plants like knapweed may increase sediment yield and surface runoff in an

ecosystem. As well knapweed may alter organic matter distribution and nutrient through a greater ability to uptake phosphorus over some native species in grasslands. Weed colonization can alter fire behavior by increasing flammability: for example, cheatgrass, a widespread noxious weed on the Forest, cures early and leads to more frequent burning. Weed colonization can also deplete soil nutrients and change the physical structure of soils.

The Forest Service's own management activities are largely responsible for noxious weed infestations; in particular, logging, prescribed burns, and road construction and use create a risk of weed infestations. The introduction of logging equipment into the Forest creates and exacerbates noxious weed infestations.

The removal of trees through logging can also facilitate the establishment of noxious weed infestations be- cause of soil disturbance and the reduction of canopy closure In general, noxious weeds occur in old clearcuts and forest openings, but are rare in mature and old growth forests. Roads are often the first place new invader weeds are introduced. Vehicle traffic and soil disturbances from road construction and maintenance create ideal establishment conditions for weeds. Roads also provide obvious dispersal corridors. Roadsides throughout the project area are infested with noxious weeds. Once established along roadsides, invasive plants will likely spread into adjacent grass- lands and forest openings.

What surveys have been conducted to determine presence and abundance of whitebark pine re-generation? If whitebark pine seedlings and saplings are present, what measures will be taken to protect them? Please include an alternative that excludes burning in the presence of whitebark pine regeneration. Will restoration efforts include planting whitebark 9pine? Will planted seedling be of rust-resistant stock? Is rust resistant stock available? Would enough seedlings be planted to replace whitebark pine lost to fire activities? Have white pine blister rust surveys been accompli- shed? What is the severity of white pine blister rust in proposed action areas?

Idaho is currently experiencing a mountain pine beetle epidemic. Mountain pine beetle prefer large, older whitebark pine, which are the major cone producers. In some areas the few remaining whitebark that show the potential for blister rust resistance are being attacked and killed by mountain pine beetles, thus accelerating the loss of key mature cone- bearing trees.

Whitebark pine seedlings and saplings are very likely present in the subalpine forests proposed for burning and logging. In the absence of fire, this naturally occurring white- bark pine regeneration would continue to function as an important part of the subalpine ecosystem. Since 2005, rust resistant seed sources have been identified in the Northern Rockies (Mahalovich et al 2006). Due to the severity of blister rust infection within the region, natural whitebark pine regeneration in the project area is

prospective rust resistant stock.

Although prescribed burning can be useful to reduce areas of high-density subalpine fir and spruce and can create favorable ecological conditions for whitebark pine regeneration and growth, in the absence of sufficient seed source for natural regeneration maintaining the viability and function of whitebark pine would not be achieved through burning.

Does the IPNF. have any forest plan biological assessment, biological opinion, incidental take statement, and management direction amendment for whitebark pine?

Planting of rust-resistant seedlings would likely not be sufficient to replace whitebark pine lost to fire activities.

What surveys have been conducted to determine presence and abundance of whitebark pine regeneration? If whitebark pine seedlings and saplings are present, what measures will be taken to protect them? Please include an alternative that excludes burning in the presence of whitebark pine regeneration. Will restoration efforts include planting whitebark pine? Will planted seedling be of rust-resistant stock? Is rust resistant stock available? Would enough seedlings be planted to replace whitebark pine lost to fire activities? Have white pine
blister rust surveys been accomplished? What is the severity of white pine blister rust in proposed action areas?

For whitebark pine, spring or fall burning may kill seedlings susceptible to fire. For mature whitebark pine trees, the bark is relatively thin compared to other species such as ponderosa pine and susceptible to scorching from fire. Fires that approach the tree trunks may scorch the bark, diminishing the bark's protective properties from other stressors. Depending on the fireline intensity and residence time of lethal temperatures, the heat from the fire may also penetrate the bark, killing the underlying cambium layer. Harm to the bark and cambium may reduce individual treevigor and also increase susceptibility to infections such as white pine blister rust or infestations by the mountain pine beetle.Whitebark pine seed banks and fine roots may also be impacted should fire move through an area when fuels and soil moisture is conducive to longer residence time of lethal temperatures. Seeds are buried by Clark's nutcrackers generally within one inch of the soil surface and may be susceptible to longer residence time of lethal temperatures. Fine roots located near the soil surface serve as the primary water absorbing roots for trees and may be harmed or killed with longer residence times of lethal temperatures when soil moisture is low which would lead to an increase in the penetration depth of lethal temperatures. In general, the proposed prescription would attempt to achieve allow severity surface fire in which shrubs, needle cast and upper duff layers would be consumed. In some instances, including dense stands in which commercial or non-commercial thinning is not feasible, higher severity fire effects may be preferred toachieve the desired condition for those forested stands.In

the long term, broadcast burning in the vicinity of living whitebark pine stands may improve the habitat suitability for seed caching by Clark's nutcracker; seed germination; and whitebark pine seedling establishment. Clark's nutcrackers prefer to cache seeds in recently burned areas as fire removes understory plants and creates soils surfaces that are easier to penetrate for seed caching. In addition, in the long term, broadcast burning may reduce the vigor of other species that would compete with whitebark pine seedlings for sunlight, soil water, and nutrients."
Whitebark pine are now a threatened species and the project is in violation of the ESA.

The Project proposes tree cutting and burning across thousands of acres where whitebark pine may be present.
Regardless of whether individual activities are intended to impact whitebark pine, whitebark pine may be affected by damage from equipment and equipment trails, cutting, soil compaction and disturbance, mortality from prescribed burning, scorching from jackpot burning, trampling of seedlings and saplings, and removal of necessary microclimates and nursery trees needed for sapling survival. Additionally, hundreds of acres of whitebark pine habitat manipulation are proposed for the Project, including intentionally cutting and burning Whitebark pine trees. No discussion on the success rate of natural regeneration under these conditions is provided. No discussion of the success rate of planting seedlings

in clearcuts is provided.
The Forest Service admits that whitebark pine is known to be present in the area and that the Project "may impact individuals. . . ." The Forest Service further admits: "some adverse impacts are possible." The Forest Service further admits that "implementation of the project may cause incidental loss of whitebark pine seedlings and saplings . . . ."

Crucially, the Forest Service does not disclose or address the results of its only long-term study on the effects of tree cutting and burning on whitebark pine. This study, named "Restoring Whitebark Pine Ecosystems," included prescribed fire, thinning, selection cuttings, and fuel enhancement cuttings on multiple different sites. The results were that "[a]s with all the other study results, there was very little whitebark pine regeneration ob- served on these plots." See U.S. Forest Service, General Technical Report RMRS-GTR-232 (January 2010). More specifically: "the whitebark pine regeneration that was expected to result from this [seed] caching [in new openings] has not yet materialized. Nearly all sites contain very few or no whitebark pine seedlings." Thus, even ten years after cutting and burning, regeneration was "marginal." Moreover, as the Forest Service notes on its website: "All burn treatments resulted in high mortality in both whitebark pine and subalpine fir (over 40%)." Accordingly, the only proven method of restoration of whitebark pine is planting: "Manual planting

of whitebark pine seedlings is required to adequately restore these sites."

Please formally consult with he FWS on the impact of this project on lynx, lynx critical habitat, whitebark pine, monarch butterflies, bull trout, bull trout critical habitat, and grizzly
bears.

Please disclose if the project is meeting:
5(1) Forest Plan Standard - Hiding Cover,
(2) Forest Plan Standard - Thermal Cover,
(3) Forest Plan Standard - Open Road
Density & Hiding Cover,
(4) Habitat Effectiveness,
(5) Hillis Elk Security at Elk Herd Unit level (i.e., including all lands), and
(6) Hillis-derived Elk Security at Elk Analysis Unit level (i.e., lands within National Forest boundary).

Please disclose or address the displacement of elk from public land to private land during hunting season due to inadequate security habitat on National Forests.
ID Game and Fish recommends that land managers provide enough secure habitat during fall to meet annual bull survival objectives while maintaining general bull harvest opportunity. . . .

In contrast, the number of elk that spend the majority of the year on some nearby private lands has increased dramatically between 1986 and 2013.

Will the Katkee project log aspen stands? If so, will the project also provide protection for aspen stands from livestock browsing.

Fire and Logging Justification

Recent research (e.g. Baker et al. 2023; Hanson & DellaSala) challenges agency claims that logging reduces wildfire risks. Please:

- Address these findings in your analysis
- Disclose evidence that proposed logging will create healthier forests or reduce wildfire severity
- Analyze the role and ecological benefits of mixed and high severity fires and beetle infestations

The agency is violating the NEPA by promoting fuel reduction projects as protection of the public from fire, when this is actually a very unlikely event; the probability of a given fuel break to actually have a fire in it before the fuels reduction benefits are lost with conifer regeneration are extremely remote; forest drying and increased wind speeds in thinned forests may increase, not reduce, the risk of fire.

The agency is violating the NEPA by providing false reasons for logging to the public by claiming that insects and disease in forest stands are detrimental to the forest by reducing stand vigor (health) and increasing fire risk. There is no current sciencethat demonstrates that insects and disease are bad for wildlife, including dwarf mistletoe, or that these increase the risk of fire once red needles have fallen.

The agency is violating the NEPA by claiming that logging is needed to create a diversity of stand structures and age classes; this is just agency rhetoric to conceal the real purpose of logging to the public.
The scoping notice stated:
The purpose and need for this project were determined afte comparing the existing condition with the
48***desired conditions of the area in order to best address the wild-fire crisis This was based on observed existing conditions, as well as other supporting information, such as the annual insect and disease aerial detection surveys, national insect and disease risk maps, and the community wildfire protection plan. In meeting the purpose and need of the proposed action, management actions will address the wildfire crisis by reducing the overloaded fuels and restore natural disturbance patterns.***

Please see Baker et al. 2023 which we attached to our scoping comments. This land-

mark study found a pattern of "Falsification of the Scientific Record" in government-funded wildfire studies. This unprecedented study was published in the peer-reviewed journal Fire, exposing a broad pattern of scientific misrepresentations and omissions that have caused a "falsification of the scientific record" in recent forest and wildfire studies funded or authored by the U.S. Forest Service with regard to dry forests of the western U.S. Forest Service related articles have presented a falsified narrative that historical forests had low tree densities and were dominated by low-severity fires, using this narrative to advocate for its current forest management and wildfire policies.

However, the new study comprehensively documents that a vast body of scientific evidence in peer-reviewed studies that have directly refuted and discredited this narrative were either misrepresented or omitted by agency publications. The corrected scientific record, based on all of the evidence, shows that historical forests were highly variable in tree density, and included “open" forests as well as many dense forests. Further, historical wildfire severity was mixed and naturally included a substantial component of high-severity fire, which creates essential snag forest habitat for diverse native wildlife species, rivaling old- growth forests.

These findings have profound implications for climate mitigation and community safety, as current forest policies that are driven by the distorted narrative result in forest management policies that reduce forest carbon and increase

carbon emissions, while diverting scarce federal resources from proven community wildfire safety measures like home hardening, defensible space pruning, and evacuation assistance.

"Forest policy must be informed by sound science but, unfortunately, the public has been receiving a biased and inaccurate presentation of the facts about forest density and wildfires from government agencies," said Dr. William Baker in their press release announcing the publication of their paper.

"The forest management policies being driven by this falsified scientific narrative are often making wildfires spread faster and more intensely toward communities, rather than helping communities become fire-safe," said Dr. Chad Hanson, research ecologist with the John Muir Project in the same press release. “We need thinning of small trees adjacent to homes, not backcountry management.”

"The falsified narrative from government studies is leading to inappropriate forest policies that promote removal of mature, fire-resistant trees in older forests, which causes increased carbon emissions and in the long-run contributes to more fires”, said, Dr. Dominick A. DellaSala, Chief Scientist, Wild Heritage, a Project of Earth Island Institute concluded in the press release.

Please see the column below by Dr. Chad Hanson.

https://thehill.com/blogs/congress-blog/energy-environment/590415-logging-makes-forests-and-homes-more-vulnerable-to

Logging makes forests and homes more vulnerable to wildfires

The West has seen some really big forest fires recently, particularly in California's Sierra Nevada and the Cascade Mountains of Oregon. Naturally, everyone is concerned and elected officials are eager to be seen as advancing solutions. The U.S. Senate is negotiating over the Build Back Better bill, which currently contains nearly $20 billion in logging subsidies for "hazardous fuel reduction" in forests. This term contains no clear definition but is typically employed as a euphemism for "thinning", which usually includes commercial logging of mature and old-growth trees on public lands. It often includes clearcut logging that harms forests and streams and intensifies wildfires.

Logging interests stand poised to profit, as they tell the public and Congress that our forests are overgrown from years of neglect. Chainsaws and bulldozers are their remedy. Among these interests are agencies like the U.S. Forest Service that financially benefits from selling public timber to private logging companies.

In this fraught context, filled with a swirling admixture of panic, confusion, and opportunism, the truth and

scientific evidence are all too often casualties. This, unfortunately, can lead to regressive policies that will only exacerbate the climate crisis and increase threats to communities from wildfire. We can no longer afford either outcome.

Many of the nation's top climate scientists and ecologists recently urged Congress to remove the logging subsidies from the Build Back Better bill. Scientists noted that logging now emits about as much carbon dioxide each year as does burning coal. They also noted that logging conducted under the guise of "forest thinning" does not stop large wildfires that are driven mainly by extreme fire-weather caused primarily by climate change. In fact, it can often make fires burn faster and more intensely toward vulnerable homes. Unprepared towns like Paradise and Grizzly Flats, Calif., unfortunately burned to the ground as fires raced through heavily logged surroundings.

Nature prepares older forests and large trees for wildfires. As trees age, they develop thick impenetrable bark and drop their lower limbs, making it difficult for fire to climb into the tree crowns. Older, dense forests used by the imperiled spotted owl burn in mixed intensities that is good for the owl and hundreds of species that depend on these forests for survival. Our national parks and wilderness areas also burn in lower fire intensities compared to heavily logged areas.

Occasionally even some of the largest trees will succumb to a severe fire but their progeny are born again to rapidly colonize the largest and most severe burn patches. Dozens of cavity-nesting birds and small mammals make their homes in the fire-killed trees. Soon after fire in these forests, nature regenerates, reminiscent of the mythical phoenix, aided by scores of pollinating insects and seed carrying birds and mammals.

Wildfires are highly variable, often depending on what a gust of wind does at a given moment, and even the biggest fires are primarily comprised of lightly and moderately-burned areas where most mature trees survive. By chance, in any large fire there will always be some areas that were thinned by loggers that burned less intense compared to unthinned areas. Before the smoke fully clears, logging interests find those locations and take journalists and politicians to promote their agenda. What they fail to disclose are the many examples where managed forests burned hotter while older, unmanaged forests did the opposite.

This sort of self-serving show boating occurred after the 2020 Creek Fire in the Sierra National Forest in California, as news stories echoed the logging industry's "overgrown forests" narrative based on a single low-intensity burn area. When all of the data across the entire fire were analyzed, it turned out that logged forests, including commercial "thinning" areas, actually burned the most intensely.

In Oregon, The Nature Conservancy has been conducting intensive commercial thinning on its Sycan Marsh Preserve. Based on satellite imagery, the northern portion of the 414,000-acre Bootleg Fire of 2021 swept through these lands. Within days, TNC began promoting its logging program, focusing on a single location around Coyote Creek, where a "thinned" unit burned lightly. They failed to mention that nearly all of the dense, unmanaged forests burned lightly too in that area. Well-intentioned environmental reporters were misled by a carefully picked example.

Billions of dollars are being wasted to further this false logging industry narrative—funds that instead should be used to prepare communities for more climate-driven wildfires. Congress can instead redirect much needed support to damaged communities so they can build back better and adopt proven fire safety measures that harden homes and clear flammable vegetation nearest structures.

The path forward is simple, with two proven remedies that work. Protect forests from logging so they can absorb more carbon dioxide from the atmosphere and moderate fire behavior, and adapt communities to the new climate-driven wildfire era.

Chad Hanson, Ph.D., is a research ecologist with the John Muir Project and is the author of the 2021 book, "Smokescreen: Debunking Wildfire Myths to Save Our Forests and Our Climate." Dominick DellaSala, Ph.D., is

chief scientist with Wild Heritage and the author of Conservation Science and Advocacy for a Planet in Peril: Speaking Truth to Power.

Please see the article below about Logging and wildfire by Dr. Chad Hanson.

October 5, 2022

"***Fuel Reduction" Logging Increases Wildfire Intensity***

A large and growing body of scientific evidence and opinion concludes that commercial thinning and post-fire logging/clearcutting makes wildfires spread faster and/or burn more severely, and this puts nearby communities at greater risk.

Morris, W.G. (U.S. Forest Service). 1940. Fire weather on clearcut, partly cut, and virgin timber areas at Westfir, Oregon. Timberman 42: 20-28.

"***This study is concerned with one of these factors - the fire-weather conditions near ground level - on a single operation during the first summer following logging. These conditions were found to be more severe in the clear-cut area than in either the heavy or light partial cutting areas and more severe in the latter areas than in virgin timber."***

Countryman, C.M. (U.S. Forest Service). 1956. Old-growth conversion also converts fire climate. Fire Control Notes 17: 15-19.

"***Although the general relations between weather factors, fuel moisture, and fire behavior are fairly well known, the importance of these changes following conversion and their combined effect on fire behavior and control is not generally recognized. The term 'fireclimate,' as used here, designates the environmental conditions of weather and fuel moisture that affect fire behavior. It does not consider fuel created by slash because regardless of what forest managers do with slash, they still have to deal with the new fireclimate. In fact, the changes in wind, temperature, humidity, air structure, and fuel***

moisture may result in greater changes in fire behavior and size of control job than does the addition of more fuel in the form of slash."

"***Conversion which opens up the canopy by removal of trees permits freer air movement and more sunlight to reach the ground. The increased solar radiation in turn results in higher s, lower humidity, and lower fuel moisture. The magnitude of these changes can be illustrated by comparing the fireclimate in the open with that in a dense stand."***

"***A mature, closed stand has a fireclimate strikingly different from that in the open. Here nearly all of the***

solar radiation is intercepted by the crowns. Some is reflected back to space and the rest is converted to heat and distributed in depth through the crowns. Air within the stand is warmed by contact with the crowns, and the ground fuels are in turn warmed only by contact with the air. The temperature of fuels on the ground thus usually approximates air temperature within the stand."

"*Temperature profiles in a dense, mixed conifer stand illustrate this process (fig. 2). By 8 o'clock in the morning, air within the crowns had warmed to 68° F. Air temperature near the ground was only 50°. By 10 o'clock temperatures within the crowns had reached 82° and, although the heat had penetrated to lower levels, air near the surface at 77° was still cooler than at any other level. At 2:00 p.m., air temperature within the stand had become virtually uniform at 87°. In the open less than one-half mile away, however, the temperature at the surface of pine litter reached 153° at 2:00 p.m."*

"*Because of the lower temperature and higher humidity, fuels within the closed stand are more moist than those in the open under ordinary weather conditions. Typically, when moisture content is 3 percent in the open, 8 percent can be expected in the stand."*

"*Moisture and temperature differences between open and closed stands have a great effect on both the inception and the behavior of fire. For example, fine fuel at 8-percent moisture content will require nearly one-third*

more heat for ignition than will the same fuel at 3-percent moisture content. Thus, firebrands that do not contain enough heat to start a fire in a closed stand may readily start one in the open."

"*When a standard fire weather station in the open indicates a temperature of 85° F., fuel moisture of 4 percent, and a wind velocity of 15 m.p.h.--not unusual burning conditions in the West--a fire starting on a moderate slope will spread 4.5 times as fast in the open as in a closed stand. The size of the suppression job, however, increases even more drastically."*

"*Greater rate of spread and intensity of burning require control lines farther from the actual fire, increasing the length of fireline. Line width also must be increased to contain the hotter fire. Less production per man and delays in getting additional crews complicate the control problem on a fast-moving fire. It has been estimated that the size of the suppression job increases nearly as the square of the rate of forward spread. Thus, fire in the open will require 20 times more suppression effort. In other words, for each man*

required to control a surface fire in a mature stand burning under these conditions, 20 men will be required if the area is clear cut."

"Methods other than clear cutting, of course, may bring a less drastic change in fireclimate. Nevertheless, the change resulting from partial cutting can have important effects on fire. The moderating effect that a dense stand has on the fireclimate usually results in slow-burning fires. Ordinarily, in dense timber only a few days a year have the extreme burning conditions under which surface fires produce heat rapidly enough to carry the fire into the crowns. Partial cutting can increase the severity of the fireclimate enough to materially increase the number of days when disastrous crown fires can occur."

SNEP (co-authored by U.S. Forest Service). 1996. Sierra Nevada Ecosystem Project, Final Report to Congress: Status of the Sierra Nevada. Vol. I: Assessment summaries and management strategies. Davis, CA: University of California, Davis, Center for Water and Wildland Resources.

"Timber harvest, through its effects on forest structure, local microclimate, and fuel accumulation, has increased fire severity more than any other recent human activity."

"[I]n areas where the larger trees (greater than 12 inches in diameter breast height) have been removed, stand-replacing fires are more likely to occur."

Beschta, R.L.; Frissell, C.A.; Gresswell, R.; Hauer, R.; Karr, J.R.; Minshall, G.W.; Perry, D.A.; Rhodes, J.J.

1995. Wildfire and salvage logging. Eugene, OR: Pacific Rivers Council.

"*We also need to accept that in many drier forest types throughout the region, forest management may have set the stage for fires larger and more intense than have occurred in at least the last few hundred years."*

"*With respect to the need for management treatments after fires, there is generally no need for urgency, nor is there a universal, ecologically-based need to act at all. By acting quickly, we run the risk of creating new problems before we solve the old ones."*

"*[S]ome argue that salvage logging is needed because of the perceived increased likelihood that an area may reburn. It is the fine fuels that carry fire, not the large dead woody material. We are aware of no evidence supporting the contention that leaving large dead woody material significantly increases the probability of reburn."*

Chen, J., et al. (co-authored by U.S. Forest Service). 1999. Microclimate in forest ecosystem and landscape ecology: Variations in local climate can be used to monitor and compare the effects of different management regimes. BioScience 49: 288–297.

When moving from open forest areas, resulting from logging, and into dense forests with high canopy cover, "there is generally a decrease in daytime summer temperatures but an increase in humidity..."

The authors reported a 5° C difference in ambient air temperature between a closed- canopy mature forest and a forest with partial cutting, like a commercial thinning unit (Fig. 4b), and noted that such differences are even greater than the increases in temperature predicted due to anthropogenic climate change.

Dombeck, M. (U.S. Forest Service Chief). 2001. How Can We Reduce the Fire Danger in the Interior West. Fire Management Today 61: 5-13.

"Some argue that more commercial timber harvest is needed to remove small-diameter trees and brush that are fueling our worst wildlands fires in the interior West. However, small-diameter trees and brush typically have little or no commercial value. To offset losses from their removal, a commercial operator would have to remove large, merchantable trees in the overstory. Overstory removal lets more light reach the forest floor, promoting vigorous forest regeneration. Where the overstory has been entirely removed, regeneration produces thickets of 2,000 to 10,000 small trees per acre, precisely the small-diameter materials that are causing our worst fire problems. In fact, many large fires in 2000 burned in previously logged areas laced with roads. It seems

unlikely that commercial timber harvest can solve our forest health problems."

Morrison, P.H. and K.J. Harma. 2002. Analysis of Land Ownership and Prior Land Management Activities Within the Rodeo & Chediski Fires, Arizona. Pacific Biodiversity Institute, Winthrop, WA. 13 pp.

Previous logging was associated with higher fire severity.

Donato DC, Fontaine JB, Campbell JL, Robinson WD, Kauffman JB, Law BE. 2006. Science 311: 352.

"*In terms of short-term fire risk, a reburn in [postfire] logged stands would likely exhibit elevated rates of fire spread, fireline intensity, and soil heating impacts...Postfire logging alone was notably incongruent with fuel reduction goals."*

Hanson, C.T., Odion, D.C. 2006. Fire Severity in mechanically thinned versus unthinned forests

of the Sierra Nevada, California. In: Proceedings of the 3rd International Fire Ecology and Management Congress, November 13-17, 2006, San Diego, CA.

"*In all seven sites, combined mortality [thinning and fire] was higher in thinned than in unthinned units. In six of seven sites, fire-induced mortality was higher in thinned than in*

unthinned units...Mechanical thinning increased fire severity on the sites currently available for study on national forests of the Sierra Nevada."

Platt, R.V., et al. 2006. Are wildfire mitigation and restoration of historic forest structure compatible? A spatial modeling assessment. Annals of the Assoc. Amer. Geographers 96: 455- 470.

"***Compared with the original conditions, a closed canopy would result in a 10 percent reduction in the area of high or extreme fireline intensity. In contrast, an open canopy [from thinning] has the opposite effect, increasing the area exposed to high or extreme fireline intensity by 36 percent. Though it may appear counterintuitive, when all else is equal open canopies lead to reduced fuel moisture and increased midflame windspeed, which increase potential fireline intensity."***

Thompson, J.R., Spies, T.A., Ganio, L.M. (co-authored by U.S. Forest Service). 2007. Reburn severity in managed and unmanaged vegetation in a large wildfire. Proceedings of the National Academy of Sciences of the United States of America 104: 10743–10748.

"***Areas that were salvage-logged and planted after the initial fire burned more severely than comparable unmanaged areas."***

Cruz, M.G, and M.E. Alexander. 2010. Assessing crown fire potential in coniferous forests of western North America: A critique of current approaches and recent simulation studies. Int. J. Wildl. Fire. 19: 377–398.

The fire models used by the U.S. Forest Service falsely predict effective reduction in crown fire potential from thinning:

"***Simulation studies that use certain fire modelling systems (i.e. NEXUS, FlamMap, FARSITE, FFE-FVS (Fire and Fuels Extension to the Forest Vegetation Simulator), Fuel Management Analyst (FMAPlus), BehavePlus) based on separate implementations or direct integration of Rothermel's surface and crown rate of fire spread models with Van Wagner's crown fire transition and propagation models are shown to have a significant underprediction bias when used in assessing potential crown fire behaviour in conifer forests of western North America. The principal sources of this underprediction bias are shown to include: (i) incompatible model linkages; (ii) use of surface and crown fire rate of spread models that have an inherent underprediction bias; and (iii) reduction in crown fire rate of spread based on the use of unsubstantiated crown fraction burned functions. The use of uncalibrated custom fuel models to represent surface fuelbeds is a fourth potential source of bias.***"

Thompson, J., and T.A. Spies (co-authored by U.S. Forest Service). 2010. Exploring Patterns of Burn Severity in the Biscuit Fire in Southwestern Oregon. Fire Science Brief 88: 1-6.

"*Areas that burned with high severity...in a previous wildfire (in 1987, 15 years prior) were more likely to burn with high severity again in the 2002 Biscuit Fire. Areas that were salvage-logged and planted following the 1987 fire burned with somewhat higher fire severity than equivalent areas that had not been logged and planted."*

Graham, R., et al. (U.S. Forest Service). 2012. Fourmile Canyon Fire Findings. Gen. Tech. Rep. RMRS-GTR-289. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 110 p.

Thinned forests "*were burned more severely than neighboring areas where the fuels were not treated", and 162 homes were destroyed by the Fourmile Canyon Fire (see Figs. 45 and 46).*

DellaSala et al. (2013) (letter from over 200 scientists):

"*Numerous studies also document the cumulative impacts of post-fire logging on natural ecosystems, including...accumulation of logging slash that can add to future fire risks..."*

DellaSala et al. (2015) (letter from over 200 scientists):

"Post-fire logging has been shown to eliminate habitat for many bird species that depend on snags, compact soils, remove biological legacies (snags and downed logs) that are essential in supporting new forest growth, and spread invasive species that outcompete native vegetation and, in some cases, increase the flammability of the new forest. While it is often claimed that such logging is needed to restore conifer growth and lower fuel hazards after a fire, many studies have shown that logging tractors often kill most conifer seedlings and other important re-establishing vegetation and actually increases flammable logging slash left on site. Increased chronic sedimentation to streams due to the extensive road network and runoff from logging on steep slopes degrades aquatic organisms and water quality."

North, M.P., S.L. Stephens, B.M. Collins, J.K. Agee, G. Aplet, J.F. Franklin, and P.Z. Fule (co- authored by U.S. Forest Service). 2015. Reform forest fire management. Science 349: 1280- 1281.

"...fire is usually more efficient, cost-effective, and ecologically beneficial than mechanical treatments."

Bradley, C.M. C.T. Hanson, and D.A. DellaSala. 2016. Does increased forest protection correspond to higher fire severity in frequent-fire forests of the western USA? Ecosphere 7: article e01492.

In the largest study on this subject ever conducted in western North American, the authors found that the more trees that are removed from forests through logging, the higher the fire severity overall:

"***We investigated the relationship between protected status and fire severity using the Random Forests algorithm applied to 1500 fires affecting 9.5 million hectares between 1984 and 2014 in pine (Pinus ponderosa, Pinus jeffreyi) and mixed-conifer forests of western United States, accounting for key topographic and climate variables. We found forests with higher levels of protection [from logging] had lower severity values even though they are generally identified as having the highest overall levels of biomass and fuel loading."***

Lesmeister, D.B., et al. (co-authored by U.S. Forest Service). 2019. Mixed-severity wildfire and habitat of an old-forest obligate. Ecosphere10: Article e02696.

Denser, older forests with high canopy cover had lower fire severity.

Dunn, C.J., et al. 2020. How does tree regeneration respond to mixed-severity fire in the western Oregon Cascades, USA? Ecosphere 11: Article e03003.

Forests that burned at high-severity had lower, not higher, overall pre-fire tree densities.

Meigs, G.W., et al. (co-authored by U.S. Forest Service). 2020. Influence of topography and fuels on fire refugia probability under varying fire weather in forests of the US Pacific Northwest. Canadian Journal of Forest Research 50: 636-647.

Forests with higher pre-fire biomass are more likely to experience low-severity fire.

Moomaw et al. (2020) (letter from over 200 scientists:

https://johnmuirproject.org/2020/05/breaking-news-over-200-top-u-s-climate-and-forest- scientists-urge-congress-protect-forests-to-mitigate-climate-crisis/):

"*Troublingly, to make thinning operations economically attractive to logging companies, commercial logging of larger, more fire-resistant trees often occurs across large areas. Importantly, mechanical thinning results in a substantial net loss of forest carbon storage, and a net increase in carbon emissions that can substantially exceed those of wildfire emissions (Hudiburg et al. 2013, Campbell et al. 2012). Reduced forest protections and increased logging tend to make wildland fires burn more intensely (Bradley et al. 2016). This can also occur with commercial thinning, where mature trees are removed (Cruz et al. 2008, Cruz et al. 2014). As an example, logging in U.S. forests emits 10 times more carbon than fire and native insects combined (Harris et al. 2016). And, unlike logging, fire cycles nutrients and helps increase new forest growth."*

Moomaw et al. (2021) (letter from over 200 scientists: https://bit.ly/3BFtIAg):

"[C]ommercial logging conducted under the guise of "thinning" and "fuel reduction" typically removes mature, fire-resistant trees that are needed for forest resilience. We have watched as one large wildfire after another has swept through tens of thousands of acres where commercial thinning had previously occurred due to extreme fire weather driven by climate change. Removing trees can alter a forest's microclimate, and can often increase fire intensity. In contrast, forests protected from logging, and those with high carbon biomass and carbon storage, more often burn at equal or lower intensities when fires do occur."

Lesmeister, D.B., et al. (co-authored by U.S. Forest Service). 2021. Northern spotted owl nesting forests as fire refugia: a 30-year synthesis of large wildfires. Fire Ecology 17: Article 32.

More open forests with lower biomass had higher fire severity, because the type of open, lower-biomass forests resulting from thinning and other logging activities have "hotter, drier, and windier microclimates, and those conditions decrease dramatically over relatively short distances into the interior of older forests with multi-layer canopies and high tree density..."

Stephens, S.L., et al. (co-authored by U.S. Forest Service). 2021. Forest Restoration and Fuels Reduction: Convergent or Divergent? BioScience 71: 85-101.

While the authors continued to promote commercial thinning, they acknowledged that commercial thinning causes wildfires to move faster and become larger more quickly:

"***Interestingly, surface fire rate of spread increased after restoration and fuel treatments [commercial thinning] relative to the untreated stand. This increased fire rate of spread following both treatment types is due to a combination of higher mid-flame wind speeds and a greater proportion of grass fuels, which result from reductions to canopy cover."***

Hanson, C.T. 2021. Is "Fuel Reduction" Justified as Fire Management in Spotted Owl Habitat? Birds 2: 395-403.

"***Within the forest types inhabited by California Spotted Owls, high-severity fire occurrence was not higher overall in unmanaged forests and was not associated with the density of pre-fire snags from recent drought in the Creek Fire, contrary to expectations under the fuel reduction hypothesis. Moreover, fuel-reduction logging in California Spotted Owl habitats was associated with higher fire severity in most cases. The highest levels of high-severity fire were in the categories with commercial***

logging (post-fire logging, private commercial timberlands, and commercial thinning), while the three categories with lower levels of high-severity fire were in forests with no recent forest management or wildfire, less intensive noncommercial management, and unmanaged forests with re-burning of mixed-severity wildfire, respectively."

Hanson, C.T. 2022. Cumulative severity of thinned and unthinned forests in a large California wildfire. Land 11: Article 373.

"***Using published data regarding the percent basal area mortality for each commercial thinning unit that burned in the Antelope fire, combined with percent basal area mortality due to the fire itself from post-fire satellite imagery, it was found that commercial thinning was associated with significantly higher overall tree mortality levels (cumulative severity)."***

Baker, B.C., and C.T. Hanson. 2022. Cumulative tree mortality from commercial thinning and a large wildfire in the Sierra Nevada, California. Land 11: Article 995.

"***Similar to the findings of Hanson (2022) in the Antelope Fire of 2021 in northern California, in our investigation of the Caldor Fire of 2021 we found significantly higher cumulative severity in forests with commercial thinning than in unthinned forests, indicating that commercial thinning killed significantly more trees than it prevented from being killed in the Caldor Fire...Despite controversy***

regarding thinning, there is a body of scientific literature that suggests commercial thinning should be scaled up across western US forest landscapes as a wildfire management strategy. This raises an important question: what accounts for the discrepancy on this issue in the scientific literature? We believe several factors are likely to largely explain this discrepancy. First and foremost, because most previous research has not accounted for tree mortality from thinning itself, prior to the wildfire-related mortality, such research has underreported tree mortality in commercial thinning areas relative to unthinned forests. Second, some prior studies have not controlled for vegetation type, which can lead to a mismatch when comparing severity in thinned areas to the rest of the fire area given that thinning necessarily occurs in conifer forests but unthinned areas can include large expanses of non-conifer vegetation types that burn almost exclusively at high severity, such as grasslands and chaparral. Third, some research reporting effectiveness of commercial thinning in terms of reducing fire severity has been based on the subjective location of comparison sample points between thinned and adjacent unthinned forests. Fourth, reported results have often been based on theoretical models, which subsequent research has found to overestimate the effectiveness of thinning. Last, several case studies draw conclusions

about the effectiveness of thinning as a wildfire management strategy when the results of those studies do

not support such a conclusion, as reviewed in DellaSala et al. (2022)." (internal citations omitted)

Prichard, S.J., et al. (co-authored by U.S. Forest Service). 2021. Adapting western US forests to wild-fires and climate change: 10 key questions. Ecological Applications 31: Article e02433.

In a study primarily authored by U.S. Forest Service scientists, and scientists funded by the Forest Service, the authors state that "There is little doubt that fuel reduction treatments can be effective at reducing fire severity..." yet these authors repeatedly contradict their own proposition, acknowledging that thinning can cause "higher surface fuel loads," which "can contribute to high-intensity surface fires and elevated levels of associated tree mortality," and mastication of such surface fuels "can cause deep soil heating" and "elevated fire intensities." The authors also acknowledge that thinning "can lead to increased surface wind speed and fuel heating, which allows for increased rates of fire spread in thinned forests," and even the combination of thinning and prescribed fire "may increase the risk of fire by increasing sunlight exposure to the forest floor, drying vegetation, promoting understory growth, and increasing wind speeds."

Despite these admissions, contradicting their promotion of thinning, the authors cite to several U.S. Forest Service-funded studies for the proposition that thinning

can effectively reduce fire severity, but a subsequent analysis of those same studies found that the results of these articles do not support that conclusion, and often contradict it, as detailed in Section 5.2 of DellaSala et al. (2022) (see below).

DellaSala, D.A., B.C. Baker, C.T. Hanson, L. Ruediger, and W.L. Baker. 2022. Have western USA fire suppression and megafire active management approaches become a contemporary Sisyphus? Biological Conservation 268: Article 109499.

With regard to a previous U.S. Forest Service study claiming that commercial thinning effectively reduced fire severity in the large Wallow fire of 2011 in Arizona, DellaSala et al. (2022, Section 5.1) conducted a detailed accuracy check and found that the previous analysis had dramatically underreported high-severity fire in commercial thinning units, and forests with commercial thinning in fact had higher fire severity, overall.

DellaSala et al. (2022, Section 5.2) also reviewed several U.S. Forest Service studies relied upon by Prichard et al. (2021) for the claim that commercial thinning is an effective fire management approach and found that the actual results of these cited studies did not support that conclusion.

Bartowitz, K.J., et al. 2022. Forest Carbon Emission Sources Are Not Equal: Putting Fire, Harvest, and Fossil

Fuel Emissions in Context. Front. For. Glob. Change 5: Article 867112.

The authors found that logging conducted as commercial thinning, which involves removal of some mature trees, substantially increases carbon emissions relative to wildfire alone, and commercial thinning "causes a higher rate of tree mortality than wildfire."

Evers, C., et al. 2022. Extreme Winds Alter Influence of Fuels and Topography on Megafire Burn Severity in Seasonal Temperate Rainforests under Record Fuel Aridity. Fire 5: Article 41.

The authors found that dense, mature/old forests with high biomass and canopy cover tended to have lower fire severity, while more open forests with lower canopy cover and less biomass burned more severely.

USFS (U.S. Forest Service) (2022). Gallinas-Las Dispensas Prescribed Fire Declared Wildfire Review. U.S. Forest Service, Office of the Chief, Washington, D.C.

"A thinning project in the burn area opened the canopy in some areas, allowing more sunlight which led to lower fuel moistures. Heavy ground fuels resulting from the construction of fireline for the burn project added to the fuel loading. This contributed to higher fire intensities, torching, spotting, and higher resistance-to-control."

The only effective way to protect homes from fire is home-hardening and defensible space pruning within 100 to 200 feet of homes or less.

Cohen, J.D. (U.S. Forest Service). 2000. Preventing disaster: home ignitability in the wildland- urban interface. Journal of Forestry 98: 15-21.

The only relevant zone to protect homes from wildland fire is within approximately 135 feet or less from each home—not out in wildland forests.

Gibbons P, van Bommel L, Gill MA, Cary GJ, Driscoll DA, Bradstock RA, Knight E, Moritz MA, Stephens SL, Lindenmayer DB (2012) Land management practices associated with house loss in wildfires. PLoS ONE 7: Article e29212.

Defensible space pruning within less than 130 feet from homes was effective at protecting homes from wildfires, while vegetation management in remote wildlands was not. A modest additional benefit for home safety was provided by prescribed burning less than 500 meters (less than 1641 feet) from homes.

Syphard, A.D., T.J. Brennan, and J.E. Keeley. 2014. The role of defensible space for residential structure protection during wildfires. Intl. J. Wildland Fire 23: 1165-1175.

Vegetation management and removal beyond approximately 100 feet from homes provides no additional benefit in terms of protecting homes from wildfires.

Tree removal is not necessary prior to conducting prescribed fire as an additional community safety buffer.

Decades of scientific studies have proven that, even in the densest forests that have not experienced fire in many decades, prescribed fire can be applied without prior tree removal, as demonstrated in the following studies:

Knapp EE, Keeley JE, Ballenger EA, Brennan TJ. 2005. Fuel reduction and coarse woody debris dynamics with early season and late season prescribed fire in a Sierra Nevada mixed conifer forest. Forest Ecology and Management 208: 383–397.

Knapp, E.E., and Keeley, J.E. 2006. Heterogeneity in fire severity within early season and late season prescribed burns in a mixed-conifer forest. Int. J. Wildland Fire 15: 37–45.

Knapp, E.E., Schwilk, D.W., Kane, J.M., Keeley, J.E., 2007. Role of burning on initial understory vegetation response to prescribed fire in a mixed conifer forest. Canadian Journal of Forest Research 37: 11–22.

van Mantgem, P.J., A.C. Caprio, N.L. Stephenson, and A.J. Das. 2016. Does prescribed fire promote resistance to

drought in low elevation forests of the Sierra Nevada, California, USA? Fire Ecology 12: 13-25.

van Mantgem, P.J., N.L. Stephenson, J.J. Battles, E.K. Knapp, and J.E. Keeley. 2011. Long-term effects of prescribed fire on mixed conifer forest structure in the Sierra Nevada, California. Forest Ecology and Management 261: 989−994.

The project is therefor in violation of NEPA, NFMA and the APA .
The agency is violating the NEPA by using vague, unmeasureable terms to rationalize the proposed logging to the public. How can the public measure "resiliency?" What are the specific criteria used to define resiliency, and what are the ratings for each proposed logging unit before and after treatment? How is the risk of fire as affected by the project being measured so that the public can understand whether or not this will be effective?

How is forest health to be measured so that the public can seethat this is a valid management strategy? What specifically constitutes a diversity of age classes, how is this to be measured, and how are proposed changes measured as per diversity? How are diversity measures related to wildlife (why is diversity need-

ed for what species)? If the reasons for logging cannot be clearly identified and measured for the public, the agency is not meeting the NEPA requirements for transparency.

The agency will violate the Forest Plan by logging riparian areas; almost all wildlife species will be harmed by this treatment.

The agency will violate the NFMA by failing to ensure that old growth forests are well-distributed across the landscape.

Please include an easily understandable accounting of all costs for the various types of treatments, including burning. For commercial logging, fuels reduction, and prescribed burning, we would like to know what the estimated cost is "per acre" for that particular treatment. We would also like to know the costs for construction of new temporary roads, reconstruction of existing roads, and road obliteration and/or decommissioning per mile of road.

THE AGENCIES MUST REINITIATE CONSULTATION ON THE NORTHERN ROCKIES LYNX MANAGEMENT DIRECTION.

The Northern Rockies Lynx Management Direction is inadequate to ensure conservation and recovery of lynx. The lynx amendment fail to use the best available science on necessary lynx habitat elements, including but not limited to, failing to include standards that protect key winter habitat.

The Endangered Species Act requires the FS to insure that the Katkee project is not likely to result in the destruction or adverse modification of critical habitat. 16 U.S.C. §1536(a) (2). Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features to an extent
that appreciably reduces the conservation value of critical habitat for lynx. 74 Fed. Reg. 8644. The Northern Rockies Lynx Management Direction (NRLMD) as applied in the project violates the ESA by failing to use the best available science to insure no adverse modification of critical habitat. The NRLMD carves out exemptions from Veg Standards S1, S2, S5, and S6. In particular, fuel treatment projects may occur in the WUI even though they will not meet standards Veg S1, S2, S5, or S6, provided they do not occur on more than 6% of lynx habitat on each Nation- al Forest. Allowing the agency to destroy or adversely modify any lynx critical habitat has the potential to appreciably reduce the conservation value of such habitat. The agency cannot simply set a cap at 6% forest-wide without looking at the individual characteristics of each LAU to determine whether the project has the potential to appreciably reduce the conservation value. The ESA requires the use of the best available science at the site-specific level. It does not allow the agencies to make a gross determination that allowing lynx critical habitat to be destroyed forest-wide while not appreciably reduce the conservation value.
The FS violated NEPA by applying the above-mentioned exception without analyzing the impacts to lynx in the individual LAUs. The Project violates the NFMA by failing

to insure the viability of lynx. The FS has not shown that lynx will be well distributed in the planning area. The FS has not addressed how the project's adverse modification of denning and foraging habitat will impact distribution. This is important because the agency readily admits that the LAUs already contain a "relatively large percentage of unsuitable habitat."

Has the Idaho Panhandle National Forest removed or altered any lynx analysis units (LAUs) in the Bonners Ferry Ranger District?

The national forests subject to this new direction will provide habitat to maintain a viable population of lynx in the northern Rockies by maintaining the current distribution of occupied lynx habitat, and maintaining or enhancing the quality of that habitat.

The FS cannot insure species viability here without addressing the impacts to the already low amount of suitable habitat. By cutting in denning and foraging habitat, the agency will not be "maintaining or enhancing the quality of the habitat."

This project is in Canada lynx habitat. In order to meet the requirements of the FS/USFWS Conservation Agreement, the FS agreed to insure that all project activities are consistent with the Lynx Conservation Assessment and Strategy (LCAS) and the requirements of protecting lynx critical habitat. The FS did not do so with its project

analysis. This project will adversely affect lynx critical habitat in violation of the Endangered Species Act.

The BA/BE needs to be rewritten to reflect this information to determine if this project will adversely modify proposed critical habitat for lynx and if so conference with USFWS.

The Programmatic Lynx BA's "likely to adversely affect" conclusion was based upon the following rationale. Plans within the Northern Rockies:
• Generally direct an aggressive fire suppression strategy withindevelopmental land allocations. ...this strategy may be contributing to a risk of adversely affecting the lynx by limiting the availability of foraging habitat within these areas.

• Allow levels of human access via forest roads that may present a risk of incidental trapping or shooting of lynx or access by other competing carnivores. The risk of road-related adverse effects is primarily a winter season issue.
• Are weak in providing guidance for new or existing recreation developments. There- fore, these activities may contribute to a risk of adverse effects to lynx.
• Allow both mechanized and non-mechanized recreation that may contribute to a risk of adverse effects to lynx. The potential effects occur by allowing compacted snow trails and plowed roads which may facilitate the movements of lynx competitors and predators.
• Provide weak direction for maintaining habitat connectivity
within naturally or artificially fragmented landscapes. Plans

within all geographic areas lack direction for coordinating construction of highways and other movement barriers with other responsible agencies. These factors may be contributing to a risk of adverse effects to lynx.

• Fail to provide direction for monitoring of lynx, snowshoe hares, and their habitats. While failure to monitor does not directly result in adverse effects, it makes the detection and assessment of adverse effects from other management activities difficult or impossible to attain.

• Forest management has resulted in a reduction of the area in which natural ecological processes were historically allowed to operate, thereby increasing the area potentially affected by known risk factors to lynx. The Plans have continued this trend.

The Plans have also continued the process of fragmenting habitat and reducing its quality and quantity. Consequently, plans may risk adversely affect- ing lynx by potentially contributing to a reduction in the geographic range of the species.

• The BA team recommends amending or revising the Plans to incorporate conservation measures that would reduce or eliminate the identified adverse effects to lynx. The programmatic conservation measures listed in the Canada Lynx Con- servationAssessment and Strategy (LCAS) should be considered in this regard, once finalized. (Programmatic Lynx BA, at 4.)

The Programmatic Lynx BA notes that the LCAS identifies the following risk fators to lynx in this geographic area:

- Timber harvest and pre-commercial thinning that reduce denning or foraging habitat or converts habitat to less desirable tree species
- Fire exclusion that changes the vegetation mosaic maintained by natural disturbance processes
- Grazing by domestic livestock that reduces forage for lynx prey How many road closure violations have been found in the Bonners Ferry Ranger District in the last 5 years?

It is fair to assume that there are many more violations that regularly occur and are not witnessed and reported. It is also fair to assume that you have made no effort to request this available information from your own law enforcement officers, much less incorporate it into your analysis. Considering your own admissions that road density is the primary factor that degrades elk and grizzly habitat, this is a material and significant omission from your analysis– all of your ORD and HE calculations are wrong without this information.

The veracity of the FS's inventory of system and nonsystem ("undetermined" or "unauthorized") roads is at issue here also.

This is partly because the FS basically turns a blind eye to the situation with insufficient commitment to monitoring,

and also because violations are not always remedied in a timely manner.

The Katkee project would violate the Forest Plan/Access standards, a violation of NFMA because of road closure violations.

Please disclose how many years the existing core ares have provided the habitat benefits assumed under the Forest Plan. As pointed out, some has been lost (due to “private infrastructure development”) and we’re not told of other likely and forseeable reductions.

Please take a hard look as road closure violations. Additionally, your emphasis on elk populations across entire hunting districts is disingenuous and has little relevance to whether you are meeting your Forest Plan obligations to maintain sufficient elk habitat onNational Forest lands. As you note, the Forest Plan estimated that 70% of elk were taken on National Forest lands in 1986. What percent-age of elk are currently taken on National Forest lands?

Have you asked Idaho Fish and Game for this information? Any honest biologist would admit that high elk population numbers do not indicate that you are appropriately managing National Forest elk habitat; to the contrary, high elk numbers indicate that you are so poorly managing elk habitat on National Forest lands that elk are being displaced to private lands where hunting is limited or prohibited.

Your own Forest Service guidance document, Christensen et al 1993 states: “Reducing habitat effectiveness should never be considered as a means of controlling elk populations.”

What is the existing condition of linear motorized route density on National Forest System lands in the action area and what would it increase to during implementation.
Do your open road density calculations include the “non-system” i.e. illegal roads in the Project area?

Do your open road density calculations include all of the recurring illegal road use documented in your own law enforcement incident reports?
Has the IPNF closed or obliterated all roads that were promised to be closed or obliterated in the your Travel Plans in the Bonners Ferry Ranger District? Or, are you still waiting for funds to close or obliterate those roads? This distinction matters because you cannot honestly claim that you are meeting road density standards promised by the Travel Plan if you have not yet completed the road closures/obliterations promised by the Travel Plan. Furthermore, as noted above, you have a major problem with recurring, chronic violations of the road closures created by the Travel Plan, which means that your assumptions in the Travel Plan that all closures would be effective has proven false. For this reason, you cannot tier to the analysis in the Travel Plan because it is invalid. You must either complete new NEPA analysis for the Travel Plan on this issue or provide that new analysis in the

NEPA analysis for this Project. Either way, you must update your open road density calculations to include all roads receiving illegal use.

Christensen et al (1993) states: “Any motorized vehicle use on roads will reduce habitat effectiveness. Recognize and deal with all forms of motorized vehicles and all uses, including administrative use.” Please disclose this to the public and stop representing that roads closed to thepublic should not be included in habitat effectiveness calculations. The facts that (a) you are constructing or reconstructing over 40 miles of road for this project,
(b) you have problems with recurring illegal use, and (c) you already admit that you found another 25 miles of illegal roads in the project area that you have not committed to obliterating, means that your conclusion that this Project will have no effect on open road density or habitat effectiveness is implausible tothe point of being disingenuous. You cannot exclude these roads
simply because you say they are closed to the public. Every road receiving motorized use must be included in the HE calculation.

You must consider all of this road use in order to take a hard look that is fully and fairly informed regarding habitat effectiveness. In the very least you must add in all “non-system” roads, i.e. illegal roads, as well as recurring illegal road use (violations)in your ORD calculations. Also, as a side note, your calculations in Christensen et al 1993 finds: “Areas where habitat effectivenessis retained at lower than

50 percent must be recognized as mak- ing only minor contributions to elk management goals. If habitat effectiveness is notimportant, don't fake it. Just admit up front that elk are not a consideration."
Will the project comply with Forest Plan Management Area Goal of: "Maintain or enhance existing elk habitat by maximizing habitat effectiveness as a primary management objective.Emphasis will also be directed toward management of indigenous wildlife species. Commodity resource management will be practiced where it is compatible with these wildlife management objectives."

Also – MA C Standard: "Habitat effectiveness will be positively managed through road management and other necessary controls on resource activities." Also " –Elk habitat effectiveness will be maintained." Please demonstrate that the project will comply with all of these provisions for all of the above-stated reasons.

Do the action alternatives comply with PACFISH-INFISH? Are you meeting the INFISH Riparian Management Objectives for temperature, pool frequency, and sediment? The best available science shows that roads are detrimental to aquatic habitat and logging in riparian areas is not restoration.
Fish evolved with fire, they did not evolve with roads and logging.
The EA did not fully and completely analyze the impacts to bull trout and their habitat and westslope cutthroat trout habitat.

What is the standard for sediment in the Forest Plan? Sediment is one of the key factors impacting water quality and fish habitat. [See USFWS 2010]

The Forest Plan and the Katkee project weakens bull trout habitat protections by allowing new roadbuilding throughout the IPNF without meaningful reclamation of existing roads to compensate for the new road construction. New roadbuilding proposed in the Katkee project without meaningful reclamation to ensure no net increase in the road system threatens stream sedimentation that will degrade bulltrout habitat. Surface runoff on roads, including roads unused by motorized vehicles, threatens to cause sediment discharge to nearby waterbodies, including bull trout streams. Culverts inevitably clog and fail, causing the affected stream to run over the roadbed with associated erosion and sedimentation. Such sedimentation threatens to degrade stream conditions and harm bull trout, which require very cold and clean water to survive and re-produce.

Connectivity for wildlife is fragmented in the project area and this project will exacerbate that situation with oversized clearcuts and more roads. This is already impacting small mammals that are prey for larger animals and birds yet there is no analysis of how this impacts wildlife foraging.

The Forest Service is violating the National Environmental Policy Act (NEPA), the National Forest Management Act (NFMA), the Neotropical Migratory Bird Act (NMBA), and the Administrative Procedures Act (APA) in the regards to disclosing impacts of a large suite of forest birds to the public, a failure to take a "hard look" at direct, indirect and cumulative impacts of the logging and fuels management on forest birds, a failure to maintain a diversity of wildlife in the project area, and a failure to integrate bird conservation principles, measures and practices into the proposed project, and a failure to avoid "taking" of neotropical migratory birds.

A. There are at least 38 species of western forest birds likely present in the Katkee Project area where no analysis was completed even though these species will have essential habitat removed across vast expanses of the project area.

As noted in the agency response to comments at 24, there was no analysis or disclosures specific to neotropical and non-migratory songbirds. At a minimum, the agency therefore has no basis for concluding that the project will not have any significant impacts, including on forest birds. The following suites of forest birds will have roughly 20,000 acres of habitat removed and/or degraded with the project. This includes 13,217 acres of logging, and 6,469 acres of fuels treatments, including burning out the understory of forests, with some crowning of these fires expected. There has also been 5,181 acres of past logging

in the project area (Wildlife Report at 18), as well as an undisclosed loss of snags in roadside salvage activities.

The Migratory Bird Treaty Act makes the taking, killing or possessing of migratory birds unlawful. No surveys for forest birds have been done for the project. Logging on 13,217 acres has a significant potential to destroy nests of forest birds, especially birds that are nesting late in the season, including due to re-nesting. This will result in "taking" of neotropical migratory birds. The level of loss of cavity-nesting birds from roadside salvage is also unknown due to a lack of surveys; no surveys for this salvage were identified in the EA or Wildlife Report.

Executive Order 13186 of 2001 directed Federal agencies to evaluate the effects of Federal actions on migratory birds with an emphasis on species of concern. Subsequently, a Memorandum of Understanding (MOU) developed between the Forest Service and the U.S. Fish and Wildlife Service (2008) directed the Forest Service to evaluate the effects of agency actions on migratory birds within the NEPA analysis process, focusing first on species of management concern along with their priority habitat and key risk factors.

The Katkee project EA did not fully evaluated project forest bird species. This analysis resulted in an agency failure to evaluate project impacts on a large suite of other vulnerable forest birds species, including those associated with (a) old growth forest at some phase of their life cycle, (b) associated with snags for nesting and/or foraging sites,

(c) associated with dense relatively undisturbed forests, and (d) dependent upon conifer seeds for forage. These species include at least 40 species that likely occur on the Idaho Panhandle Forests.

a. Bird Species Associated with Old growth Forests

The Flathead National Forest provided a list of forest wildlife that are associated with old growth forests at some phase of their life cycle. These include the following 18 forest bird species that likely occur on the Idaho Panhandle Forest:

1. Black-backed Woodpecker
2. Boreal Owl
3. Brown Creeper
4. Flammulated Owl
5. Golden-crowned Kinglet
6. Hairy Woodpecker
7. Hammond's Flycatcher
8. Hermit Thrush
9. Lewis Woodpecker
10. Northern Goshawk
11. Pileated Woodpecker
12. Pine Grosbeak
13. Red-breasted Nuthatch
14. Swainson's Thrush
15. Three-toed Woodpecker
16. Townsend's Warbler
17. Winter Wren
18. Pygmy Nuthatch

b. Bird Species Associated with Snags

The Flathead National Forest also provide a list of forest wildlife that are associated with snags, generally for nesting. These include the following 21 forest bird species that likely occur on the Idaho Panhandle Forest;

1. American Kestrel
2. Black-backed Woodpecker
3. Boreal Owl
4. Brown Creeper
5. Flammulated Owl
6. Hairy Woodpecker
7. House Wren
8. Lewis Woodpecker
9. Mountain Bluebird
10. Northern Flicker
11. Pileated Woodpecker
12. Northern Pygmy Owl
13. Red-breasted Nuthatch
14. Red-naped Sapsucker
15. Northern Saw-whet Owl
16. Three-toed Woodpecker
17. Tree Swallow
18. Violet-green Swallow
19. Western Screech Owl
20. Williamson Sapsucker
21. Pygmy Nuthatch

c. Bird Species Associated with Dense Forests

The following 17 species of forest birds that are likely present on the Idaho Panhandle National Forest require dense forests as habitats. Those species whose names are followed by an asterisk are also old growth species.

1. Boreal Owl* (USDA 2018; Carlsen 1991).
2. Brown Creeper* (USDA 2018; Hutto 1995).
3. Golden-crowned Kinglet* (USDA 2018; Hutto 1995).
4. Hammond's Flycatcher* (USDA 2018; Hutto 1995).
5. Northern Goshawk* (USDS 2018)
6. Pileated Woodpecker* (USDA 2018; Hutto 1995).
7. Townsend's Warbler* (USDA 2018; Hutto 1995)
8. Hermit Thrush* (Hutto 1995).
9. Gray Jay (Hutto 1995).
10. Mountain Chickadee (Hutto 1995).
11. Pine Grosbeak* (Hutto 1995).
12. Red-breasted Nuthatch* (Hutto 1995).
13. Winter Wren* (Hutto 1995).
14. Stellar's Jay (Hutto 1995).
15. Soliltary Vireo (Hutto 1995).
16. Ruby-crowned Kinglet (Hutto 1995)
17. Great Gray Owl* (Koshmrl 2013)

d. Forest Birds That Feed on Conifer Seeds

The following 17 forest bird species that likely occur on the Idaho Panhandle National Forest feed on conifer seeds as

forage (Smith and Balda 1979; Smith and Aldous 1947; Widrlechner and Dragula 1984).

1. Hairy Woodpecker
2. Clark's Nutcracker
3. Gray Jay
4. Stellar's Jay
5. Mountain Chickadee
6. Red-breasted Nuthatch
7. Crossbills
8. Pine Siskin
9. Lewis Woodpecker
10. Northern Flicker
11. Winter Wren
12. American Robin
13. Evening Grosbeak
14. Pine Grosbeak
15. Chipping Sparrow
16. Oregon Junco
17. Pygmy Nuthatch

Excluding an overlap of forest birds that use more than one of these forest types, along with the analysis of habitat for the Flammulated Owl and Pygmy Nuthatch, there are at least 38 western forest birds likely present on the Idaho Panhandle National Forest that will be adversely impacted by the loss and/or degradation of almost thousand of acres of habitat in the Katkee Project Area. This is clearly a significant adverse impact, not only from a resource aspect, but for forest birds, most of which are neotropical migratory birds. The project had no analysis of almost all these species, even though this is required by the NEPA and the MBRA, as well as the NFMA.

B. There are no conservation measures in place to protect adequate levels of habitat for the 40 species of western forest birds that will have vast expanses of their habitat removed and/or degraded with the project.

Conservation measures are essential in order to minimize impacts from logging and prescribed burning on wildlife, including forest birds. The only conservation measures included for western forest birds for the Katkee project include leaving a few snags in harvest units, and leaving some bigger old trees in logged old growth and recruitment old growth stands. All 4 of the forest bird habitat groups discussed above will experience severe adverse impacts from the proposed project.

a. Forest Birds Associated With Old Growth Forests

In the Response to Comments at 37 and 64, the agency acknowledges there was no analysis of wildlife associated with old growth forests, claiming there are no “true obligates” for old growth. However, the Flathead National Foreste noted that old growth-associated species are those that require or use old growth as important habitat at some phase of their life cycle (USDA 2019). And Montana Partners in Flight (2000) recommends 20-25% old growth for all forest birds. The Katkee NEPA analysis did not identify the scientific reference being used to support a lack of any management for old growth wildlife because almost none exist.

There was also no analysis of how the proposed management of old growth and recruitment old growth will maintain western forest birds in the Katkee NEPA documents. It was difficult to even determine how much old growth current exists in this area. This information was not even included in the Wildlife Report. However, the response to comments section of the draft DN at 36 states there are 1,099 acres of old growth in the project area. This equates to 2% old growth. The current recommended level of old growth for forest birds ranges from 20-25% (Montana Partners in Flight 2000). The current recommended levels of old growth for the Northern Goshawk is 20% (Reynolds et al. 1992). The current level of old growth recommended for the Pileated Woodpecker is 25% (Bull and Holthausen 1993). Historical levels of old growth in the Northern Rocky Mountains is 20-50% (Lessica 1996). However, the landscape composition of historical older forest habitat, evaluated with the same methodology used by Lessica, or fire cycles, likely included from 36% up to 71% as older forests (over 100 years in age) (McKelvey et al. 1999). These levels would depend upon what fire cycles, from 100 years up to 300 years, were operating within a specific landscape. Id. So historically, forest landscapes would have been dominated by a mosaic of both older forests as well as old growth. In addition, old growth forests would have varied from early-phase to late-phase old growth, depending upon the age of the forest and seral conditions (USDA 1993; Whitford 1991; Green et al. 1991).

There are already severe habitat deficiencies for old growth-associated forest birds. The additional proposed logging of old growth and old growth recruitment stands (possibly early phase old growth) will further reduce this habitat, indicating the agency has no interest in managing for old growth-associated wildlife, including neotropical migratory birds.

The proposed logging of old growth stands is also a NEPA violation, because the agency claims that it will remain old growth in spite of logging (e.g., Response to Comments at 12, 36, 48, 66). However, we identified at least 11 species of forest birds that require dense old growth forests. Forest thinning would remove habitat for these species. The proposed old growth management is simply to increase the growth of remaining trees (e.g., Response to Comments 12, to increase stand health and vigor and reduce insect infestations; Response to Comments at 29, where is stated that the agency is proposing silvicultural treatments that promote old growth habitat resilience to drought and insects and fires, or Response to Comments at 48, where it is noted that logging is intended to increase the resistance and resiliency of these stands to disturbances of stressors; or at Response to Comments at 65 that the agency is logging old growth by tending them to carry them into the future. There is no information ever provided that these logging and burning proposals will maintain, let alone promote, wildlife associated with old growth; or at Response to Comments at 66 that logging and burning old

growth is intended to reduce density and improve stand vigor. So what the agency is proposing is to manage old growth stands for timber production (e.g., improving stand vigor), while on paper still calling them old growth.

b. Forest Birds Associated with Dense Forest Habitat

The Wildlife Report at 20 stated that 63% of the project area has less than a 10% canopy cover. This means that only 37% of the project area has more dense forests. This would come to roughly 18,734 acres. Since the proposal includes logging of 13,217 acres, it seems that almost all of the currently relatively dense forest will be logged, resulting in almost no dense forest habitat in this landscape. Subtracting 13,217 acres from the potential 18,734 acres of more dense forest leaves about 5517 acres of more dense forest, which is only 11% of the project area. The amount of dense forest that is currently old growth and recruitment old growth is unknown.

It appears that the lack of more dense forest habitat in the Katkee Project Area not only creates a severe lack of more dense old growth required by many old growth species, but as well, a lack of dense forest habitat for other species that are not specifically old growth associates. It is clear that the proposed forest thinning on 13,217 acres will create a severe habitat loss compared to existing conditions for the 17 forest birds that need dense forest habitat. This is a significant adverse impact on neotropical migratory birds, in violation of the MBTA. This Act and the associated

MOU is also being violated because there is no conservation strategy in place on the Idaho Panhandle National Forest to maintain habitat for these 17 forest bird species that require relatively dense forest habitat, in spite of a logging program in place that thins and/or removes forest habitat.

c. Forest Birds Associated with Snags

This project will also create a severe adverse impact on the 21 species of forest birds dependent upon snags for nesting and foraging. Although some snags may be left in logging units, most of the forest birds that use snags require snags embedded in forests. The invalid strategy of managing this suite of forest birds by leaving a few snags in harvest units was identified as invalid over 30 years ago (Goggans et al. 1989). It was also identified as invalid via a Forest Service Pacific Northwest Research Station publication in 1997 (Bull et al. 1997), over 20 years ago. So it is not only a violation of the MBTA and associated MOU, but also a NEPA violation by failing to use the current best science in a NEPA document, to claim that snag retention in harvest units will maintain this large suite of species.

The agency also violated the NEPA by claiming that logging will improve habitat for the Pygmy Nuthatch and Flammulated Owl because thinned forests will retain some snags. No monitoring data was provided to demonstrate what level of snag retention will maintain either species based on previous logging projects. Also, as is noted in the

Wildlife Report at 28, the Flammulated Owl prefers forests with a canopy cover from 35-65%. So it is not clear why reducing the canopy cover down to 10% or lower, as will happen with most logging units (Wildlife Report at 22), how this can be considered "habitat improvement for this species. Seed tree and shleterwood harvests include 4,795 and 7,897 acres, respectively. These combined impacts of forest thinning and snag reduction will clearly have significant adverse impacts on this species, contrary to what is claimed by the agency.

Also, if the current density of forests is as low as is claimed in the Wildlife Report (63% with less than a 10% canopy), it is unclear why additional open forest habitat is needed for these 2 species at the expense of many more species that require relatively dense forest.

d. Forest Birds that Feed on Conifer Seeds

There are at least 17 western forest bird species that feed on conifer seeds. Forest thinning and clearcutting will reduce the availability of conifer seeds to these forest bird species. As just one example, Douglas-fir stands have been reported to produce up to 95,000 seeds per acre in a good cone year (Hagar 1960). Most conifers begin pro9ducing cones only after the6 are about 20 to 30 years old; younger conifers produce smaller cone crops than do older conifers; maximum cone production for some conifers is 200 years or age; an old-growth stand of Douglas-fir produces 20 to 30 times more cones than a 50 to 100 year old second

growth stand; smaller cone-producing trees in a stand fail to produce cones more often than larger and presumably older trees; a conifer that first begins producing cones at 30 years of age may regularly produce many cones only after 90 or more years (Benkman 1993). Also, because cross-pollination and the number of full seeds per cone declines as mature tree density decreases, there will be a lower limit to tree density (as affected by forest thinning) below which seeds are adequate for some bird species. Id.

The Idaho Panhandle National Forest has no conservation strategy in place to maintain adequate habitat for forest birds that feed on conifer seeds. Nor is there any analysis in the Katkee NEPA analysis as to how this suite for forest birds will be impacted by the proposed logging.

e. Hiding and Thermal Cover for Forest Birds will be Removed.

The reductions in forest overstory density through logging, and the reduction of forest understory density through prescribed burning, is never evaluated as per impacts on forest birds, either in regards to the loss of thermal and hiding cover. Thermal cover is important to almost all forest birds by mitigating the effects of severe weather as well as general weather extremes (Herbers et al. 2004). And hiding cover is not only important to help conceal nesting birds, but also to hide newly fledged juvenile birds who are generally flightless when they leave the nest. Forest thinning will result in increased mortality for forest birds

due to these reductions in hiding and thermal cover on up to almost 20,000 acres in the Katkee project area.

C. The agency has violated the NEPA by failing to identify the ongoing significant declines of North American birds, including western forest birds, a important disclosure to the public since the proposed project will degrade and/or remove more habitat for these declining species on about 20,000 acres of the project area; failure to acknowledge this ongoing decline for a project that will eliminate vast acres of western forest bird habitat also demonstrates a failure to take a "hard look" at the project; as a result, the agency ignored the possibility that this project will contribute to cumulatively significant adverse impacts on this large suite of western forest birds.

The Forest Service failed to identify that many birds in North American, including western forest birds, have been declining since the 1970s. This alarming trend will be directly exacerbated by the proposed logging and burning of almost 20,000 acres in the Katkee project area. As early as 2016, there were reports of significant population declines of North American birds. A report in Scientific American (2016) noted that the number of breeding North American birds had plummeted by approximately 1.5 billion over the past 40 years; 46 species had lost at least half their populations, primarily through urbanization and habitat degradation. A more recent publication indicates these declines have been even more severe. Rosenberg et al. (2019) used multiple and independent monitoring

networks to reach their conclusions that the North American avifauna have had a net loss approaching 3 billion birds, or 29% of the 1970 abundance; a continent-wide weather radar network also reveals a similarly steep decline in biomass passage of migrating birds over a recent 10-years period. The authors concluded that this loss of bird abundance signals an urgent need to address threats to avert future avifaunal collapse and associated loss of ecosystem integrity, function and services.

This severe decline in North American avifauna has been well publicized. The Bozeman Daily Chronicle included a story on this issue in their September 20, 2019 issue, with a headline for this study "Where have all the wild burds gone? 3 billion fewer than 1970." The Week magazine also published a similar report on this decline in their October 4, 2019 issue, with a story headline "Birds vanishing from America's skies." The New York Times published a relatively extensive story on this topic on September 19, 2019 titled "The crisis for birds is a crisis for us all." And finally, the Montana Outdoors November/December issue of 2019 reported on this bird decline. The title of this report was "Really wrong" bird losses. This magazine is published by the Montana Fish, Wildlife and Parks.

The above reports of severe decline in North American birds were all based on the Rosenberg et al. (2019) scientific publication. This article also identified bird species declines by habitat. Of the 67 species of western forest birds tallied in Table 1, the net change in their

abundance since 1970 is minus 139.7%; 64.2% of these western forest bird species are in decline. A graph in the Montana Outdoors November/December 2019 article on bird declines shows that western forest birds have decline by almost 30% since the 1970s.

The agency is violating the NEPA by a failure to evaluate project impacts on elk, which is a Management Indicator Species for the RFP; the agency is also violating the NFMA by failing to adhere to Revised Forest Plan (RFP) direction for elk regarding security and management of big game winter ranges; and the agency is violating the NEPA by failing to define claimed mitigation measures that are supposed to avoid the triggering of significant impacts without ever demonstrating how this will be achieved.

A. There is no valid analysis of project impacts on elk.

a. There is no analysis of project impacts on hiding cover.

The NEPA analysis for the Katkee Project does not evaluate how the forest thinning and under-burning will affect elk hiding cover. Hiding cover is defined in Black et al. (1976) as enough horizontal cover to conceal at least 90% of al elk within 300 feet. Hiding cover will be removed on these treatment acres. The forest understory burning will also remove hiding cover by killing smaller trees and shrubs that provide most of the horizontal cover. It is likely that the commercial thinning units will also remove horizontal

hiding cover as well, due to both stand overstory and understory thinning.
The NEPA analysis for this project does not identify either the current level of hiding cover, or what it will be after the project is implemented. Thus the public is not provided the information required to understand that project impacts will not be significant to elk. The historic level of hiding cover recommended for elk is 40% (Black Et al. 1976). However, good hiding cover has been defined as at least 66% of the landscape (Lyon et al. 1985). This 66% level of hiding cover is likely sufficient to provide a minimum of 30% security on the landscape (Christensen et all 1993; Hillis et al. 1991). These security blocks require a minimum of 250 acres of contiguous forest cover to qualify as security. It is thus unlikely that a 40% hiding cover level would be sufficient to meet the 30% security recommendation.

If the project will reduce hiding cover below the minimum recommended level of 40%, then the project will have significant adverse impacts on elk, which would require completion of an Environmental Impact Statement (EIS).

b. There was no analysis of project impacts on elk security.

As noted above, the recommended level of big game security is 30% (Christensen et al. 1993; Hillis et al. 1991). The Forest Service defines security as per the Hillis Paradigm, which include generally timbered areas over 250 acres in size and at least 0.5 miles from an open road. This

is not quite accurate, as the Hillis Paradigm defines elk security as a minimum of 250 acres of "contiguous forest cover" over 0.5 miles from a motorized route.

The Katkee project EA claims that the project is not expected to noticeably increase elk vulnerability during hunting seasons. There was no analysis, however, to support this conclusion. The current level of big game security in the project area is never identified. Nor is the level of security during project activities, and once project activities are completed, defined as well. The public has no information ever provided to indicate that project impacts will not significantly increase elk vulnerability, including through claimed mitigation measures of "phases" of projects over the 20 year timeline for the entire project to be completed. It is also unknown if even current levels of big game security meet the minimum recommendation. If this is the case, then serious questions arise about the agency's plans for this "restoration project," if elk habitat will be degraded, including within Inventoried Roadless Areas (IRAs).

Elk security will change with the loss of hiding cover. It is seem unavoidable that the project will reduce elk security below recommended levels, with hiding cover affected on almost 40% of the project area. Added to this is the opening of almost 65 miles of currently stored roads, and the construction of another 30 miles of new roads. Thus almost 100 miles of active motorized routes will be added to this landscape. The NEPA analysis does not map either these

roads or existing security areas, so the impact of roads on security is never identified. The agency claims that project impacts will be mitigated by phasing the project over time, but there is no information ever provided to demonstrate open road densities for each individual activity area.

The Forest Service recognizes the value of forestland unencumbered by roads, timber harvest, and other development. Sometimes these areas are known as "inventoried roadless areas" if they have been inventoried through the agency's various Roadless Area Review Evaluation processes, or "unroaded areas" if they have not been inventoried but are still of significant size and ecological significance such that they are eligible for congressional designation as a Wilderness Area.

Roadless areas provide clean drinking water and function as biological strongholds for populations of threatened and endangered species. Special Areas; Roadless Area Conservation; Final Rule, 66 Fed. Reg. 3,244, 3,245 (Jan. 12, 2001) (codified at 36 C.F.R. Part 294). They provide large, relatively undisturbed landscapes that are important to biological diversity and the long- term survival of many at-risk species.

Roadless areas provide opportunities for dispersed outdoor recreation, opportunities that diminish as open space and natural settings are developed elsewhere. Id. They also serve as bulwarks against the spread of non-native invasive plant species and provide reference areas for study and research. Id.

Other values associated with roadless areas include: high quality or undisturbed soil, water, and air; sources of public drinking water; diversity of plant and animal communities; habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land; primitive, semi-primitive non-motorized, and semi-primitive motorized classes of dispersed recreation; reference landscapes; natural appearing cultural properties and sacred sites; and other locally identified unique characteristics.

Much of the Roadless areas the Katkee Fuels project p[ropsoes to log are designated BackCountery/Restoration or Wild Land Recreation.

Approximately 18 percent of the project area occurs within the Forest Plan designation of Backcountry (MA5). This MA is characterized as relatively large areas,

generally without roads, providing a variety of motorized and non-motorized recreation opportunities. Trails are the primary improvements constructed and maintained for recreation users. In some areas, lookouts, cabins, and other structures are present, as well as some evidence of management activities. Most lands within this MA occur within Idaho Roadless Areas classified as backcountry/ restoration. The use of fire serves as the primary tool for trending the vegetation toward the desired conditions as well as serving other important ecosystem functions.

Approximately 4 percent of the project area occurs within the Forest Plan designation of Eligible Wild and Scenic Rivers (MA2b), in this case along the Kootenai River. This MA applies to river segments identified as eligible (but not designated) for inclusion as part of the Wild and Scenic Rivers System WSR) under the authority granted by the Wild and Scenic Rivers Act of 1968, as amended. Eligible rivers and adjacent areas are managed to protect the free-flowing nature of these rivers and the outstandingly remarkable scenic, recreational, geologic, fish, wildlife, historic, cultural, or other similar values for the benefit and enjoyment of present and future generations. P. 10 of the EA.

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The Idaho Roadless Rule mandates:

(a) Wild Land Recreation. The cutting, sale, or removal of timber is prohibited in Idaho Roadless Areas designated as Wild Land Recreation under this subpart, except:

(1) For personal or administrative use, as provided for in 36 CFR part 223; or

(2) Where incidental to the implementation of a management activity not otherwise prohibited by this subpart.

(c) Backcountry/Restoration.

(1) The cutting, sale, or removal of timber is permissible in Idaho Roadless Areas designated as Backcountry/ Restoration only:

(i) To reduce hazardous fuel conditions within the community protection zone if in the responsible official's judgment the project generally retains large trees as appropriate for the forest type and is consistent with land management plan components as provided for in § 294.28(d);

(ii) To reduce hazardous fuel conditions outside the community protection zone where there is significant risk that a wildland fire disturbance event could adversely affect an at-risk community or municipal water supply system. A significant risk exists where

the history of fire occurrence, and fire hazard and risk, indicate a serious likelihood that a wildland fire disturbance event would present a high risk of threat to an at-risk community or municipal water supply system;

(iii) To improve threatened, endangered, proposed, or sensitive species habitat;

(iv) To maintain or restore the characteristics of ecosystem composition, structure, and processes;

(v) To reduce the risk of uncharacteristic wildland fire effects;

(vi) For personal or administrative use, as provided for in 36 CFR part 223;

(vii) Where incidental to the implementation of a management activity not otherwise prohibited by this subpart; or

(viii) In a portion of an Idaho Roadless Area designated as Backcountry/Restoration that has been substantially altered due to the construction of a forest road and subsequent timber cutting. Both the road construction and subsequent timber cutting must have occurred prior to October 16, 2008.

(2) Any action authorized pursuant to paragraphs § 294.24(c)(1)(ii) through (v) shall be approved by the Regional Forester and limited to situations that, in the Regional Forester's judgment:

(i) Maintains or improves one or more of the roadless characteristics over the long-term;

(ii) Maximizes the retention of large trees as appropriate for the forest type to the extent the trees promote fire-resilient stands; and

(iii) Is consistent with land management plan components as provided for in § 294.28(d).

(3) The activities in paragraph § 294.24(c)(1) may use any forest roads or temporary roads, including those authorized under § 294.23(b)(2 and 3) until decommissioned.

Since the Kattee project calls for helicopter logging of roadless areas that means large trees will be removed since helicopter logging is very expensive and could only afford to take out large trees. Also, there is nothing in the EA to show that the project will leave large trees in the roadless areas. It also does not qualify for any of the exceptions listed above. There is nothing in the EA that restricts the logging of large trees in roadless areas. It harms threatened, endangered, proposed, or sensitive species habitat. There aren't any music

Please better analyze the cumulative effects of the project on fish and wildlife.

The project logs and builds roads through old growth forest habitat yet analysis of the impacts to wildlife is nil, a mere two paragraphs for goshawk.
It is time to give this area a rest. If landowners are concerned about fire then the best thing they can do is thin and manage their own property.

The Forest Plan weakened grizzly bear habitat protections by allowing new roadbuilding throughout the IPNF, without meaningful and permanent reclamation of other roads elsewhere in the Forest to compensate for the new road construction.
New roadbuilding in the Forest without meaningful reclamation to ensure no net increase in the road system presents a significant threat to grizzly bears, because motor vehicle users and other recreationists can trespass on the supposedly "impassable" roads and thus encroach on grizzly bear habitat. Further, even unused roads cause detrimental impacts to grizzly bear survival
77and reproduction, because grizzly bears are displaced from roaded habitat, regardless of whether the roads receive public or administrative use.
However, in concluding that the Forest Plan will not jeopardize the species, FWS's Revised Biological Opinion failed to adequately examine adverse impacts to grizzly bears from unauthorized motorized use on roads closed according to the Forest Plan's weaker closure standards; failed to consider the displacement impacts

caused by roads even when they do not receive motorized use; and failed to account for increased roadbuilding enabled by the Forest Service's abandonment of stringent road-reclamation requirements.

Please find attached the paper titled, "The importance of natural forest stewardship in adaptation planning in the United States" by Faison et al 2023 which found that protecting more forests with natural stewardship is a cost effective way to harness the inherent adaptation and mitigation powers in forests and ensure that they are at their most functional to regulate planetary processes. Which is the opposite of the purpose and need of this project.

Please see the article below by George Wuerthner about the ineffectiveness of proposals like the Katkee Project.

November 12, 2021

Why Prescribed Burning May Not Prevent Large Wildfires

by George Wuerthner

This site by Chester, California was treated by thinning and even clearcutting (seen in the background) and later burned in the Dixie Fire. Photo George Wuerthner.

A recent article in the Los Angeles Times on November 8th (Prescribed burns are crucial to reducing wildfire risks) Los Angeles Times highlights a California study that advocates suggest demonstrates the effectiveness of fuel reductions as a result of prescribed burns and thinning.

In the study, plots were treated with thinning, thinning in combination with prescribed burning, and a control with no treatment. According to the Forest Service, the area treated with thinning and prescribed burning survived a recent blaze with the most negligible mortality.

While numerous other studies have confirmed the basic findings that thinning combined with prescribed burns is the most effective means of reducing fire spread and severity, there is more to the story than acknowledged in the article.

First, we must acknowledge that wildfire is a natural ecological process, so any efforts to reduce wildfire should be limited to the "structure ignition zone."

The study zone, Goosenest Adaptive Management Area, is a patch of old timberland that was heavily logged before it was turned over to the Forest Service in the mid-1950s. Previously logged forests are not the same as natural forest stands. They tend to have a higher tree density. Fire tends to burn with higher severity in tree plantations.

The second problem is that the study results which may be accurate cannot be "scaled up" readily due to costs and personnel shortage. The thinned/prescribed burn sites in this study were five acres in size and experienced two rounds of broadcast burning in 2001 and 2010. To do this kind of fuel manipulation over millions of acres is simply not practical.

Most national forests have trouble treating more than a few thousand acres per year. To expand such fuel treatments presents many problems. One is the amount of smoke that would occur annually during the prescribed burning season that would be added to the smoke resulting from the normal natural summer/fall ignitions. Not to mention, scaling up also scales up the potential for

prescribed fires to get out of control and inadvertently burn communities and lands.

Plus the effectiveness of any fuel reduction, but especially prescribed burning, lose their effectiveness over time.

Indeed, unless maintained (i.e., reburned on a frequent rotation), the prescribed burned areas are ultimately more explosive than before burning. One reason is that prescribed burning by removing or killing some vegetation and releasing nutrients permits the rapid regrowth of plants. However, this regrowth is dominated mainly by flashy fuels like grasses, shrubs, and small trees.

Secondly, think of the problem created by trying to maintain prescribed burning on a landscape scale. Since you can't just burn an area once and expect it to remain effective, you must return over and over to re-burn sites. Over time, the more acreage treated, the more area you must re-burn.

The third issue not mentioned by the Forest Service researchers is that the likelihood of a fire encountering any treated area is small—most studies suggest a 1-2% probability. So most treated acres do not influence wildfires.

Fourth, no fuel treatment work under extreme fire weather conditions. Why is this important? Because the very fires that fuel reduction advocates are trying to influence are the larger blazes. Thinning, or the

combination of thinning and prescribed fire may work under low to moderate fire weather but fails under extreme fire conditions.

For instance, a study in Yellowstone National Park, which allowed 235 backcountry ignitions to burn without any suppression, found that 222 of them burned less than an acre of land, and even the few that grew larger all self-extinguished. The same statistics still dominate all fires—the vast majority are small whether we suppress them because they ignite when climatic/weather conditions are not conducive to fire spread.

We have lots of evidence that fuel reductions, mainly thinning/logging, are ineffective at controlling wildfire under extreme fire weather conditions. For example, the two largest fires of the summer of 2121, the Dixie Fire that spread across more than 900,000 acres in northern California and the Bootleg Fire that raced across 400,000 plus acres in southern Oregon, both burned through lands where the majority of the landscape had experienced significant logging/thinning. For instance, it is estimated that 75% of the Bootleg Fire burned through "fuel reductions."

Therefore, the majority of all acreage experiencing wildfire annually results from a small percentage of blazes burning under extreme fire weather conditions characterized by low humidity, high temperatures, drought, and high winds. Unfortunately, these are the very conditions that now dominate the western landscape due to climate warming. And paleoclimate studies and fire

show that we have always had large blazes under such conditions, so the fires today are not unusual nor unexpected.

Another issue seldom mentioned is that most of the wildfire acreage burning is not in ecosystems where wildfire was frequent. For instance, the Labor Day Fires that burned across Western Oregon Cascades in 2020 occurred in Douglas Fir forests where the normal fire rotation is 300 years or more. Similarly, much of the acreage burning in the Rockies is in higher elevation forests of spruce, fir, and lodgepole pine—all of which tend to have fire rotations of hundreds of years. Same for the range fires charring sagebrush where natural fire frequency is also often on the hundreds of years rotation.

Plus most of the "fuels are the problem" advocates are working under a flawed set of assumptions. One flaw is comparing the acreage burning today to fire acreage from the recent past when the climate was significantly different. This mistake is what some call a "sliding baseline."

California and much of the rest of the West is experiencing the most severe drought in a thousand years. Does anyone seriously think that with such a severe drought, wildfires will respond the same way to fire ignitions they did when the climate is moist and cool, as was common between the 1940-s and 1980s?

***Logging** can also increase solar radiation drying vegetation and permits greater wind penetration increasing fire spread.*

The entire emphasis of the study and current Forest Service policy is based on the Industrial Forestry Paradigm that sees large fires as somehow abnormal and chainsaw medicine as the cure. The current Infrastructure bill will fund logging and fuel treatments of more than 30 million acres of public lands. Thirty million acres is nearly the acreage of Maine, New Hampshire, and Vermont combined!

Logging is not benign. Ecological impacts of logging/and fuel treatments include a reduction in carbon storage, the spread of weeds due to logging disturbance, impacts to aquatic ecosystems from the chronic sedimentation that results from logging roads, displacement of sensitive wildlife, and loss of genetic diversity in forests, and other effects. Treated areas are "sanitized" with low tree age class diversity and habitat diversity.

These ecological impacts are seldom considered or downplayed, in part, because many logging/thinning projects now occur under "Categorical Exclusions," eliminating most environmental reviews.

The "fuel reduction" paradigm also downplays that increasingly larger blazes dominate current fire regimes due primarily to climate warming, not fuels. Thus, even if

thinning/burning did reduce fire severity and spread, this is essentially a "fire suppression" mindset.

It is yet another example of human hubris that suggests humans know what is best for the forest and other plant communities, and we know enough to manipulate them for their "own" good.

Ironically, thinning/logging millions of acres of land, as fuel reduction advocates assert, will "cure" or "reduce" larger blazes ignores the fact that logging is a significant contributor to climate warming- the very factor responsible for larger wildfires. For instance, 35% of the Greenhouse Gas Emissions are due to logging and wood processing in Oregon. Thus, ramping up logging and thinning even more will only exacerbate climate warming.

A far better solution than more logging/thinning/and prescribed burning is to stop all logging on public lands, which will create carbon reserves that will reduce the climate warming that is propelling wildfires.

Instead of controlling the planet, we should focus on controlling the human behavior that is causing the problem. Ultimately this means a serious effort to reduce all sources of GHG emissions, from logging to the burning of fossil fuels.

Beyond that long-term goal, we can emphasize other measures that will reduce the negative impact of wildfire on humans, such as zoning to preclude more home construction in the Wildlands Urban Interface and

reducing the flammability of homes. Such treatments more than 100 feet from structures provide no additional benefits.

George Wuerthner has published 36 books including Wildfire: A Century of Failed Forest Policy.

Sincerely yours,

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