

January 6, 2025

Nathan Gassmann
Libby District Ranger
Libby Ranger District
12557 US Highway 37
Libby, MT 59923

Re: Pine Flats project

Dear Ranger Gassman,

Thank you for the opportunity to comment on the Pine Flats project.

We support trying to protect homes in the woodland urban interface but please demonstrate with a map that the project complies with the legal definition of the Wildland Urban Interface found in the Healthy Forest Restoration Act.

Please also include an alternative that focuses on home hardening.

Please see the article below about home hardening and please find the paper the arctic discusses, Calkin et al 2023, attached.

The project area should be within 100 feet of homes not on Forest Service and BL:M lands unless a home is within 100 feet of Forest Service and BL:M lands. The purpose and need are not based on the best available science and is in violation of NEPA, NFMA and the APA.

Please develop an alternative that follow the recommendations of Calkin et al. 2023.

<https://missoulacurrent.com/research-wildfire-preparation/>

Montana researchers urge towns to focus on wildfire preparation

Laura Lundquist

(Missoula Current) For more than a decade, a small group of scientists have been trying to convince people that fireproofing their homes is far more effective than logging the forest when it comes to surviving wildfire. But few people are listening.

In mid-December, six researchers published a paper in the Proceedings of the National Academy of Sciences journal warning that communities across the nation, but particularly those in the West, aren't prepared to survive an urban conflagration such as the one that devastated Lahaina, Hawaii, in August.

The paper, titled "Wildland-urban fire disasters aren't actually a wildfire problem," points out that, since 2016, communities from Lahaina to Gatlinburg, Tenn., that have lost hundred of homes to fires have certain things in common: the fires occurred under extreme weather conditions - high winds and persistent drought - and most of the structures weren't fire-resistant.

"These problem fires were defined as an issue of wildfires that involved houses. In reality, they are urban fires initiated by wildfires. That's an important distinction - and one that has big repercussions for how we prepare ourselves for future fires," the authors wrote.

The authors included three researchers from the Forest Science and Fire Sciences laboratories of the U.S. Forest Service Rocky Mountain Research Station in Missoula and one from Headwaters Economics in Bozeman.

In a 2014 paper in the Proceedings of the National Academy of Science, some of the same authors developed a community risk assessment that put the focus on improving the security of individual homes in a community, not the forest around them.

The emphasis is placed on modifying the house and the home ignition zone, a region within 100 feet of a house where debris and vegetation should be eliminated or minimized to reduce the chance of fire getting close to the house.

The reason that urban conflagrations begin and spread is because wind pushes embers and heat from one unprotected building to another, overwhelming fire departments that normally train to fight fire in just one building. Conditions are made worse when buildings are close together, because radiant heat becomes a bigger factor, spreading fire quicker.

“Reducing the likelihood that a home will ignite interrupts the disaster sequence by enabling effective structure protection. New construction siting, design, construction materials, and landscaping requirements should take wildfire potential into account,” the authors wrote in the December paper.

One of the paper’s authors, Jack Cohen, is a fire-behavior analyst and heat transfer engineer who has spent 40 years investigating wildfires, particularly those that are linked to incidents where hundreds of homes burned. He has spent at least the past decade writing papers and giving talks about the need to focus on making

homes less susceptible to wildfires, which are a natural process, especially in the arid West.

When asked why the researchers decided to submit the recent article that seeks to drum home points they already promoted a decade ago, Cohen said cities and agencies have done very little during that time period to put their recommendations into place.

“What prompted us this time was the Lahaina urban conflagration that was associated with a grassfire. It may be a repeated message on our part, but it’s not being received very well. Not much has changed,” Cohen said. “The federal and state agencies still don’t get it - they’re still defining the problem as a wildfire control problem.”

Since the 2014 paper, Cohen and other researchers have had to just watch as town after town has burned terribly but predictably, as if no one has read their research. In Gatlinburg and Pigeon Forge, Tenn., 2,460 buildings burned in a 2016 fire; in 2018, the Camp Fire led to the loss of almost 19,000 buildings in Paradise, Calif.; in December 2021, 1,084 buildings burned in Superior and Louisville, Colo. from a grass fire; and in November 2021, a grass-fire sparked fires in 23 homes in Denton, Mont.

Each wildfire had very little connection to most of the burning buildings, Cohen said. A wildfire is the source of initial ignition, but from that point on, it’s a series of structure fires that lead to more structure fires. For example, with the Four Mile Canyon Fire in Boulder, Colo., the state of Colorado and the Forest Service had completed a number of fuel treatments nearby that they touted as protective. But high winds carried fire brands to ignite the houses far from the fire. Cohen found that while 168 houses

burned, a lot of vegetation around the houses didn't, "so the wildfire didn't sweep through town."

"In the past five years, a number of incidents with more than 100 houses burning have been initiated by grass fires, which burn quickly. The grass fires pass through and are gone while the community continued to burn," Cohen said. "What I've found, particularly over the past five or six years, is that extreme wildfire is not dependent on closed-canopy conifers that produce big flames. The only time these urban disasters occur is under extreme conditions. That typically means it's very windy."

Nothing about the Lahaina Fire surprised Cohen. Not even the overblown claims that a wildfire "roared through and destroyed the town." Again, the wildfire was over before the town really started to burn. The fire started as a grassfire fanned by high winds, and had Lahaina not been there, the fire would have burned through the buffel grass and guinea grass within a matter of minutes before it died out on the beach.

But Lahaina was there, a high-density community with several blocks of multi-story, largely-connected wooden structures. That configuration caused buildings to catch fire either due to burning embers flying from other buildings or from catching fire due to the overwhelming heat from nearby buildings.

"The ignition initiated where the grassfire came down, and that was it - it was a conflagration," Cohen said. "You don't want to be in a high-density community when you can't control the fire. Thirteen of the 26 fatalities in the 1991 Oakland Hills Fire occurred in the street when two-story buildings were burning on both sides of the street and the road became blocked. The heat was untenable."



The Boulder 2700 fire on Flathead Lake. (Trevon Baker photo)

One house in Lahaina stood untouched and was dubbed “the miracle house.” But Cohen said it was just a good example of the points he and his fellow authors have been trying to communicate about defensible space and being fire-adapted. The owners had recently renovated the house with a nonflammable roof. It had wood walls, but the nearest building was about 30 feet away - far enough to prevent radiant heat from starting a fire - and there was little debris on the grounds or the house to actively spread the fire.

“The home ignition zone works,” Cohen said. “The home ignition zone came out of the modeling I did and then the crown fire experiments I did with wood walls to show the distance, the proximity required to produce an ignition was realistic. At the same time,

California was cutting 300-foot clearances around communities, which means nothing to (airborne) burning embers, but it's way over (what's required) for radiant heat exposure."

Cohen and his colleagues hope their latest paper prompts more action from local governments. Cohen is hoping Missoula County can do a better job when it updates its Wildfire Protection Plan in the near future.

But more than likely, Cohen said, they'll be writing a similar paper in another few years, trying to make politicians and the public understand. It doesn't help that they're fighting some in their own agency, the Forest Service, who insist that logging, not home modification, will save communities.

"Fire is inevitable. But nobody's figuring it out," Cohen said. "We're starting from the presumption that it's wildfire that spreads through a community that lays it to waste. We even have the agencies responding in that fashion by being obsessed with this notion of wildfire control. So they do fuel treatments to have safe fire-fighting. That's not only counter ecologically, it doesn't work."

Contact reporter Laura Lundquist at lundquist@missoulacurrent.com.

Please demonstrate the the project follows the best available science which is Calkin et al. 2023. Please find Calkin et al. 2023 attached.

Please 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 RLibby Ranger District including on private and state lands. The 9th circuit had ruled that the Forest Service can not gerrymander the project area to exclude non Forest Service land in an attempt to not consider the cumulative impacts of logging on private and state lands.

With the new roads will the project be in compliance with the road density standards?

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. These references should be disclosed and discussed in the EIS for the Project.

Please include a no commercial logging alternative.

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

- A. Disclose all KNF 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 Montana Department of Fish, Wildlife and Parks regarding the impact of the Project on wildlife habitat;
- D. Solicit and disclose comments from the Montana 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;

3F. 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 Rexford and Fortine Ranger Districts during the last 5 years.

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

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

4K. Disclose the KNF's record of compliance with the additional monitoring requirements set forth in previous DN/FONSI and RODs on the KNF;

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;

5R. 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;

6Y. 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;
7EE. 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 KNF 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 KNF's policy decision to replace natural fire with logging and prescribed burning;

LL. Disclose how Project complies with the 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;

9OO. 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;
- 106.Big game security areas;
- 7.Moose winter range;

SOIL PRODUCTIVITY The KNF (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.) The KNF has never attempted to put in place a scientifically sound definition of “soil productivity”

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 my 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) require 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 or indirect 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 MT 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 be 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 cannot 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 agencies 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.
8. 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 prepare the documents or because they did not disclose the documents to the public.
9. 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.

¹⁹Please explain why the area qualifies as Wildland Urban Interface (WUI).

Please demonstrate that the WUI follows the statutory definition of the WUI in the Healthy Forest Restoration Act of 2003 which is 1 1/2 miles from a community.

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 KNF Forest Plan to include binding legal standards for noxious weeds?

²⁰How 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 amendment 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 scoping notice 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 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?

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What is your definition of healthier?

What is your definition of resilient?

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 without human intervention?

What beneficial ecological roles do beetles play?
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?

Do unlogged old growth forests store more carbon than the wood products that would be removed from the same forest in a logging operation?

What is the cumulative effect of National Forest logging on U.S. carbon stores? How many acres of National Forest lands are logged every year? How much carbon is lost by that logging? Is this Project consistent with “research recommendations

(Krankina and Harmon 2006) for protecting carbon gains against the potential impacts of future climate change? That study recommends “[i]ncreasing or maintaining the forest area by avoiding deforestation,” and states that “protecting forest from logging or clearing offer immediate benefits via prevented emissions.”

Please take a hard look on how this project will effect climate change.

Please list each visual quality standard that applies to each unit and disclose whether each unit meets its respective visual quality standard.

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.

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 goshawks, bull trout, and lynx if roads were removed in the Project area?

Please provide us with the full BA for the whitebark pine, Monarch butterflies, bull trout, 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, and lynx.

Please see the attached paper titled: "Management of forests and forest carnivores: Relating landscape mosaics to habitat quality of Canada lynx at their range periphery" by Holbrook et al. 2019. It states that all lynx habitat has to be monitored for lynx.

Weeds

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 conversion 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 Service 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 community. By removing 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 because 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 grasslands and forest openings.

Prescribed burning activities within the analysis area would likely cumulatively contribute to increases in noxious weed distribution and populations. As a disturbance process, fire has the potential to greatly exacerbate infestations of certain noxious weed species, depending on burn severity and habitat type (Fire Effects Information System 2004). Soil disturbance, such as that resulting from low and moderate burn severities from prescribed fire and fire suppression related disturbances (dozer lines, drop spots, etc.), provide optimum conditions for noxious weed invasion. Dry site vegetation types and road corridors are extremely vulnerable, especially where recent ground disturbance (timber management, road construction) has occurred. Units proposed for burning within project area may have closed forest service access roads (jammers) located within units. These units have the highest potential for noxious weed infestation and exacerbation through fire activities. Please provide an alternative that eliminates units that have noxious weeds present on roads within units from fire management proposals.

Please address the ecological, social and ascetic impact of current noxious weed infestations within the project area. Include an analysis of the impact of the actions proposed by this project on the long and short term spread of current and new noxious

weed infestations. What treatment methods will be used to address growing noxious weed problems? What noxious weeds are currently and historically found within the project area? Please include a map of current noxious weed infestations which includes knapweed, Saint Johnswort, cheat grass, bull thistle, Canada thistle, hawkweed, hound's-tongue, oxeye daisy and all other Category 1, Category 2 and Category 3 weeds classified as noxious in the Montana COUNTY NOXIOUS

WEED LIST. State-listed Category 2 noxious weed species yellow and orange hawkweeds are recently established (within the last 5 to 10 years) in Montana and are rapidly expanding in established areas. They can invade undisturbed areas where native plant communities are intact. These species can persist in shaded conditions and often grow underneath shrubs making eradication very difficult. Their stoloniferous (growing at the surface or below ground) habit can create dense mats that can persist and spread to densities of 3500 plants per square mile (Thomas and Dale 1975). Are yellow and orange hawkweeds present within the project area?

Please address the cumulative, direct and indirect effects of the proposed project on weed introduction, spread and persistence that includes how weed infestations have been and will be influenced by the following management actions: road construction including new permanent and temporary roads and skid trails proposed within this project; opening and decommissioning of roads represented on forest service maps; ground disturbance and traffic on forest service template roads, mining access routes, and private roads; removal of trees through commercial and pre-commercial logging and understory thinning; and prescribed burns. What open, gated, and de-commissioned Forest Service roads within the project area proposed as haul routes

have existent noxious weed populations and what methods will be used to assure that noxious weeds are not spread into the proposed action units?

Noxious weeds are not eradicated with single herbicide treatments. A onetime application may kill an individual plant but dormant seeds in the ground can still sprout after herbicide treatment. Thus, herbicides must be used on consistent, repetitive schedules to be effective.

What commitment to a long-term, consistent strategy of application is being proposed for each weed infested area within the proposed action area? What long term monitoring of weed populations is proposed?

When areas treated with herbicides are re-seeded on national forest land, they are usually reseeded with exotic grasses, not native plant species. What native plant restoration activities will be implemented in areas disturbed by the actions proposed in this project? Will disturbed areas including road corridors, skid trails, and burn units be planted or reseeded with native plant species?

The scientific and managerial consensus is that prevention is the most effective way to manage noxious weeds. The Forest Service concedes that preventing the introduction of weeds into un-infested areas is “the most critical component of a weed management program.” The Forest Service’s national management strategy for noxious weeds also recommends “develop[ing] and implement[ing] forest plan standards . . .” and recognizes that the cheapest and most effective solution is prevention. Which units within the project area currently have no noxious weed

populations within their boundaries? What minimum standards
35are in the KNF Forest Plan to address noxious weed infestations? Please include an alternative in the DEIS or EA that includes land management standards that will prevent new weed infestations by addressing the causes of weed infestation. The failure to include preventive standards violates NFMA because the Forest Service is not ensuring the protection of soils and native plant communities. Additionally, the omission of an EIS alternative that includes preventive measures would violate NEPA because the Forest Service would fail to consider a reasonable alternative.

Rare Plants

The ESA requires that the Forest Service conserve endangered and threatened species of plants as well as animals. In addition to plants protected under the ESA, the Forest Service identifies species for which population viability is a concern as “sensitive species” designated by the Regional Forester (FSM 2670.44). The response of each of the sensitive plant species to management activity varies by species, and in some cases, is not fully
36known. Local native vegetation has evolved with and is adapted to the climate, soils, and natural processes such as fire, insect and disease infestations, and windthrow. Any management or lack of management that causes these natural processes to be altered may have impacts on native vegetation, including threatened and sensitive plants. Herbicide application – intended to eradicate invasive plants – also results in a loss of native plant diversity because herbicides kill native plants as well as invasive plants.

Not all ecosystems or all Rocky Mountain landscapes have ex-

perienced the impacts of fire exclusion. In some wilderness areas, where in recent decades natural fires have been allowed to burn, there have not been major shifts in vegetation composition and structure (Keane et al. 2002). In some alpine ecosystems, fire was never an important ecological factor. In some upper subalpine ecosystems, fires were important, but their rate of occurrence was too low to have been significantly altered by the relatively short period of fire suppression (Keane et al. 2002). For example, the last 70 to 80 years of fire suppression have not had much influence on subalpine landscapes with fire intervals of 200 to several hundred years (Romme and Despain). Consequently, it is unlikely that fire exclusion has yet to significantly alter stand conditions or forest health within Rocky Mountain sub-alpine ecosystems.

Whitebark pine seedlings, saplings and mature trees, present in subalpine forests proposed for burning, would experience mortality from project activity. Whitebark pine is fire intolerant (thin bark). Fire favors whitebark pine regeneration (through canopy opening and reducing competing vegetation) only in the presence of adequate seed source and dispersal mechanisms (Clarks Nutcracker or humans planting white-bark pine seedlings).

White pine blister rust, an introduced disease, has caused rapid mortality of whitebark pine over the last 30 to 60 years. Keane and Arno (1993) reported that 42 percent of whitebark pine in western Montana had died in the previous 20 years with 89 percent of remaining trees being infected with blister rust. The ability of whitebark pine to reproduce naturally is strongly affected by blister rust infection; the rust kills branches in the upper cone bearing crown, effectively ending seed production.

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 (consider 'Daylighting' seedlings and saplings as an alternative restoration method). 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?

Montana 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 Kootenai N.F. 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 (consider 'Daylighting' seedlings and saplings as an alternative restoration method). 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 tree vigor 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 a low 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 to achieve 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. Please discuss the success rate of planting seedlings in clearcuts.

Please disclose or address the results of its only long-term study on the effects of tree cutting and burning on whitebark pine. This attached study by Keane et al. 2017, 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 observed 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 find attached “Restoring Whitebark Pine Ecosystems in the Face of Climate Change

Robert E. Keane, Lisa M. Holsinger, Mary F. Mahalovich, and Diana F. Tomback” and “Restoring Whitebark Pine Forests of the Northern Rocky Mountains, USA Robert E. Keane and Russell a. Parsons.”

Please formally consult with the 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:

- (1) Forest Plan Standard 3 - Hiding Cover,
- (2) Forest Plan Standard 3 - Thermal Cover,
- (3) Forest Plan Standard 4a - 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).

MT FWP has informed the Forest Service that total number of elk is not a correct measure of whether or not adequate secure big game habitat is available on Forest Service lands: “This is inappropriate because the correct measures of big game security are annual bull survival rates and the degree to which big game are retained on public land during the fall hunting season.”

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.

FWP 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.

Are you planning on issuing any amendments to the Forest Plan for this project. If so what?

The Montana Department of Fish, Wildlife and Parks has indicated that there is a serious problem with elk being displaced from insecure National Forest lands onto private land during hunting season. Repeatedly exempting logging and roading projects from the only quantitative limits on logging and roading on this National Forest exacerbates this elk displacement problem and (a) results in a failure to comply with Forest Plan objectives and goals to maintain elk habitat and hunter opportunity, (b) results in a major change to standards and guidelines intended to maintain elk habitat and hunter opportunity, (c) significantly limits hunter opportunity on this Forest, and (d) affects a large portion of this National Forest that is reasonably available to the public for hunting.

For these reasons, the Forest Service's practice of routinely exempting projects from Standards 3 and 4a amounts to a significant change to the Forest Plan, which requires analysis under 36 C.F.R. §219.10 (f) and 36 C.F.R. §219.12.

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 dry-

ing 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 science that 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 public lands will protect resource values (homes) on private land.

The scoping notice states:

Fire and Fuels Resource

- ***Decrease wildfire impacts on resource values and private land through hazardous fuels reduction activities on public lands.***

480 Reduce fuels in all layers so that expected wildfire behavior is modified to a lower intensity allowing for safe and effective fire suppression.

o Create, enhance, and maintain fuel breaks where feasible.

Please see the attached paper by Baker et al. 2023. This landmark 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 back-country 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. The project is therefor in violation of NEPA, NFMA and the APA .

Please see the following article:

Montana researchers urge towns to focus on wildfire preparation

<https://missoulacurrent.com/research-wildfire-preparation/>

Laura Lundquist

(Missoula Current) For more than a decade, a small group of scientists have been trying to convince people that fireproofing their homes is far more effective than logging the forest when it comes to surviving wildfire. But few people are listening. In mid-December, six researchers published a paper in the Proceedings of the National Academy of Sciences journal warning that communities across the nation, but particularly those in the West, aren't prepared to survive an urban conflagration such as the one that devastated Lahaina, Hawaii, in August.

The paper, titled “Wildland-urban fire disasters aren’t actually a wildfire problem,” points out that, since 2016, communities from Lahaina to Gatlinburg, Tenn., that have lost hundred of homes to fires have certain things in common: the fires oc-

curred under extreme weather conditions - high winds and persistent drought - and most of the structures weren't fire-resistant.

"These problem fires were defined as an issue of wildfires that involved houses. In reality, they are urban fires initiated by
⁵¹*wildfires. That's an important distinction - and one that has big repercussions for how we prepare ourselves for future fires," the authors wrote.*

The authors included three researchers from the Forest Science and Fire Sciences laboratories of the U.S. Forest Service Rocky Mountain Research Station in Missoula and one from Headwaters Economics in Bozeman.

In a 2014 paper in the Proceedings of the National Academy of Science, some of the same authors developed a community risk assessment that put the focus on improving the security of individual homes in a community, not the forest around them.

The emphasis is placed on modifying the house and the home ignition zone, a region within 100 feet of a house where debris and vegetation should be eliminated or minimized to reduce the chance of fire getting close to the house.

The reason that urban conflagrations begin and spread is because wind pushes embers and heat from one unprotected building to another, overwhelming fire departments that normally train to fight fire in just one building. Conditions are made worse when buildings are close together, because radiant heat becomes a bigger factor, spreading fire quicker.

"Reducing the likelihood that a home will ignite interrupts the disaster sequence by enabling effective structure protection.

New construction siting, design, construction materials, and landscaping requirements should take wildfire potential into account," the authors wrote in the December paper.

⁵²*One of the paper's authors, Jack Cohen, is a fire-behavior an-*

alyst and heat transfer engineer who has spent 40 years investigating wildfires, particularly those that are linked to incidents where hundreds of homes burned. He has spent at least the past decade writing papers and giving talks about the need to focus on making homes less susceptible to wildfires, which are a natural process, especially in the arid West.

When asked why the researchers decided to submit the recent article that seeks to drum home points they already promoted a decade ago, Cohen said cities and agencies have done very little during that time period to put their recommendations into place.

“What prompted us this time was the Lahaina urban conflagration that was associated with a grassfire. It may be a repeated message on our part, but it’s not being received very well. Not much has changed,” Cohen said. “The federal and state agencies still don’t get it - they’re still defining the problem as a wildfire control problem.”

Since the 2014 paper, Cohen and other researchers have had to just watch as town after town has burned terribly but predictably, as if no one has read their research. In Gatlinburg and Pigeon Forge, Tenn., 2,460 buildings burned in a 2016 fire; in 2018, the Camp Fire led to the loss of almost 19,000 buildings in Paradise, Calif.; in December 2021, 1,084 buildings burned in Superior and Louisville, Colo. from a grass fire; and in November 2021, a grassfire sparked fires in 23 homes in Denton, Mont.

⁵³Each wildfire had very little connection to most of the burning buildings, Cohen said. A wildfire is the source of initial ignition, but from that point on, it’s a series of structure fires that lead to more structure fires. For example, with the Four Mile Canyon Fire in Boulder, Colo., the state of Colorado and the Forest Service had completed a number of fuel treatments

nearby that they touted as protective. But high winds carried fire brands to ignite the houses far from the fire. Cohen found that while 168 houses burned, a lot of vegetation around the houses didn't, "so the wildfire didn't sweep through town."

"In the past five years, a number of incidents with more than 100 houses burning have been initiated by grass fires, which burn quickly. The grass fires pass through and are gone while the community continued to burn," Cohen said. "What I've found, particularly over the past five or six years, is that extreme wildfire is not dependent on closed-canopy conifers that produce big flames. The only time these urban disasters occur is under extreme conditions. That typically means it's very windy."

Nothing about the Lahaina Fire surprised Cohen. Not even the overblown claims that a wildfire "roared through and destroyed the town." Again, the wildfire was over before the town really started to burn. The fire started as a grassfire fanned by high winds, and had Lahaina not been there, the fire would have burned through the buffel grass and guinea grass within a matter of minutes before it died out on the beach.

But Lahaina was there, a high-density community with several blocks of multi-story, largely-connected wooden structures.

⁵⁴That configuration caused buildings to catch fire either due to burning embers flying from other buildings or from catching fire due to the overwhelming heat from nearby buildings.

"The ignition initiated where the grassfire came down, and that was it - it was a conflagration," Cohen said. "You don't want to be in a high-density community when you can't control the fire. Thirteen of the 26 fatalities in the 1991 Oakland Hills Fire occurred in the street when two-story buildings were burning on both sides of the street and the road became blocked. The heat was untenable."

One house in Lahaina stood untouched and was dubbed “the miracle house.” But Cohen said it was just a good example of the points he and his fellow authors have been trying to communicate about defensible space and being fire-adapted. The owners had recently renovated the house with a nonflammable roof. It had wood walls, but the nearest building was about 30 feet away - far enough to prevent radiant heat from starting a fire - and there was little debris on the grounds or the house to actively spread the fire.

“The home ignition zone works,” Cohen said. “The home ignition zone came out of the modeling I did and then the crown fire experiments I did with wood walls to show the distance, the proximity required to produce an ignition was realistic. At the same time, California was cutting 300-foot clearances around communities, which means nothing to (airborne) burning embers, but it’s way over (what’s required) for radiant heat exposure.”

⁵⁵Cohen and his colleagues hope their latest paper prompts more action from local governments. Cohen is hoping Missoula County can do a better job when it updates its Wildfire Protection Plan in the near future.

But more than likely, Cohen said, they’ll be writing a similar paper in another few years, trying to make politicians and the public understand. It doesn’t help that they’re fighting some in their own agency, the Forest Service, who insist that logging, not home modification, will save communities.

“Fire is inevitable. But nobody’s figuring it out,” Cohen said. “We’re starting from the presumption that it’s wildfire that spreads through a community that lays it to waste. We even have the agencies responding in that fashion by being obsessed with this notion of wildfire control. So they do fuel treatments to have safe firefighting. That’s not only counter ecologically,

it doesn't work."

Contact reporter Laura Lundquist at lundquist@missoulacurrent.com.

Please find, "Wildland-urban fire disasters aren't actually a wildfire problem," by Calkin et al. 2023 attached.

The project area should be within 100 feet of homes not on Forest Service and BL:M lands unless a home is within 100 feet of Forest Service and BL:M lands. The purpose and need are not based on the best available science and is in violation of NEPA, NFMA and the APA.

Please develop an alternative that follow the recommendations of Calkin et al. 2023.

The agency is violating the NEPA by using vague, unmeasurable 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 see that 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 needed 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 with a Forest Plan amendment; although not provided in the scoping document for public comment, the agency is amending the Forest Plan to allow logging of old growth rather than preserving it. 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 amendments 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 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 in-

sure 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 National 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. According to the 1982 NFMA regulations, fish and wildlife must be managed to maintain viable populations of Canada lynx in the planning area. 36 C.F.R. 219.19. 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."

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. Has the KNF removed any units (LAUs) without going through NEPA? If so please disclose where these LAUs were and why you violated NEPA by removing the LAUs without taking public comment?

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 KNF is home to the Canada lynx, listed as a Threatened species under the Endangered Species Act (ESA). In December 1999, the Forest Service and Bureau of Land Management completed their “Biological Assessment Of The Effects Of National Forest Land And Resource Management Plans And Bureau Of Land Management Land Use Plans On Canada Lynx” (Programmatic Lynx BA). The Programmatic Lynx BA concluded that the current programmatic land management plans “may affect, and are likely to adversely affect, the subject population of Canada lynx.”

The Lynx BA team recommended amending or revising Forest

Plans to incorporate conservation measures that would reduce or eliminate the identified adverse effects on lynx. The Programmatic Lynx BA's determination means that Forest Plan implementation is a "taking" of lynx, and makes Section 7 formal consultation on the Kootenai Forest Plan mandatory, before actions such as the proposed project are approved.

Continued implementation of the Forest Plan constitutes a "taking" of the lynx. Such taking can only be authorized with an incidental take statement, issued as part of a Biological Opinion (B.O.) during of Section 7 consultation. The KNF must incorporate terms and conditions from a programmatic B.O. into a Forest Plan amendment or revision before projects affecting lynx habitat, such as this one, can be authorized.

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 within developmental 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. Therefore, 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.

- Are weak in providing direction for coordinating management activities with adjacent landowners and other agencies to assure consistent management of lynx habitat across the landscape.

This may contribute 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.

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- 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 affecting 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 elimi-

nate the identified adverse effects to lynx. The programmatic conservation measures listed in the Canada Lynx Conservation Assessment 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 factors 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
-

How many road closure violations have been found in the Libby-Ranger Districts 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 Fuels 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 areas 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 foreseeable reductions.

Please take a hard look at 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 on National Forest lands. As you note, the Forest Plan estimated that 70% of elk were taken on National Forest lands in 1986. What percentage of elk are currently taken on National Forest lands?

Have you asked Montana Department of Fish, Wildlife and Parks 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.”

⁶⁹What 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 KNF closed or obliterated all roads that were promised to be closed or obliterated in the your Travel Plans in the Rexford and Fortine Ranger Districts? 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 tie 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 the public should not be included in habitat effectiveness calculations. The facts that (a) you are con-

structing 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 to the 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 effectiveness is retained at lower than 50 percent must be recognized as making only minor contributions to elk management goals. If habitat effectiveness is not important, don't fake it. Just admit up front that elk are not a consideration.”

Will the project comply with Forest Plan Management Area C Goal states: “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.

New roadbuilding proposed in the Pine Flats project without meaningful reclamation to ensure no net increase in the road system threatens stream sedimentation that will degrade bull trout 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 reproduce.

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The proposed action will spread weeds due to existing weed infestations, potential soil disturbance, roads, private lands, activity timing, logging, and moving equipment through infested areas. Weeds are already prolific in the project area, washing equipment doesn't work when the equipment then moves through infestations and spreads across the 8,364 acres of soil disturbed by roads and logging. The design features are inadequate and the EA discloses that even given those measures the risk of establishment is high. Only the no action alternative

doesn't spread weeds.

With all the existing weed infestations and the high risk of weed proliferation there is no analysis or even discussion of how this impacts wildlife forage. Weeds are displacing native vegetation that wildlife need for food.

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 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.

74It 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.

A new study by Dominick A. DellaSala et al. found that reviewed 1500 wildfires between 1984 and 2014 found that actively managed forests had the highest level of fire severity. Please find DellaSala et al. attached. While those forests in protected areas burned, on average, had the lowest level of fire severity. In other words, the best way to reduce severe fires is to protect homes from the Home out in the Home Ignition Zone, not log forests outside the home ignition zone, therefore the purpose and need of the Lucy Lemoosh is not valid. Please find the study attached.

The best available science shows that Commercial Logging does not reduce the threat of Forest Fires. What best available science supports the action alternatives?

Please find Schoennagel et al (2004) attached. Schoennagel states: “we are concerned that the model of historical fire effects and 20th-century fire suppression in dry ponderosa pine forests is being applied incorrectly across all Rocky Mountain forests, including where it is inappropriate.

Schoennagel et al (2004) states: “High-elevation subalpine forests in the Rocky Mountains typify ecosystems that experience infrequent, high-severity crown fires []. . . The most extensive subalpine forest types are composed of Engelmann spruce (*Picea engelmannii*), subalpine fir (*Abies lasiocarpa*), and lodgepole pine (*Pinus contorta*), all thin-barked trees easily killed by fire. Extensive stand-replacing fires occurred historically at long intervals (i.e., one to many centuries) in subalpine forests, typically in association with infrequent high-pressure blocking systems that promote extremely dry regional climate patterns.”

Schoennagel et al (2004) states: “it is unlikely that the short period of fire exclusion has significantly altered the long fire intervals in subalpine forests. Furthermore, large, intense fires burning under dry conditions are very difficult, if not impossible, to suppress, and such fires account for the majority of area burned in subalpine forests.

Schoennagel et al (2004) states: “Moreover, there is no consistent relationship between time elapsed since the last fire and fuel abundance in subalpine forests, further undermining the idea that years of fire suppression have caused unnatural fuel buildup in this forest zone.”

Schoennagel et al (2004) states: “No evidence suggests that spruce–fir or lodgepole pine forests have experienced substantial shifts in stand structure over recent decades as a result of fire suppression. Overall, variation in climate rather than in fuels appears to exert the largest influence on the

size, timing, and severity of fires in subalpine forests []. We conclude that large, infrequent stand replacing fires are ‘business as usual’ in this forest type, not an artifact of fire suppression.”.

Schoennagel et al (2004) states: “Contrary to popular opinion, previous fire suppression, which was consistently effective from about 1950 through 1972, had only a minimal effect on the large fire event in 1988 []. Reconstruction of historical fires indicates that similar large, high-severity fires also occurred in the early 1700s []. Given the historical range of variability of fire regimes in high-elevation subalpine forests, fire behavior in Yellowstone during 1988, although severe, was neither unusual nor surprising.”

Schoennagel et al (2004)(emphasis added) states: “Mechanical fuel reduction in subalpine forests would not represent a restoration treatment but rather a departure from the natural range of variability in stand structure.”

Schoennagel et al (2004) states: “Given the behavior of fire in Yellowstone in 1988, fuel reduction projects probably will not substantially reduce the frequency, size, or severity of wildfires under extreme weather conditions.”

78Schoennagel et al (2004) states: “The Yellowstone fires in 1988 revealed that variation in fuel conditions, as measured by stand age and density, had only minimal influence on fire behavior. Therefore, we expect fuel-reduction treatments in high-elevation forests to be generally unsuccessful in reducing fire frequency, severity, and size, given the overriding importance of extreme climate in controlling fire regimes in this zone. Thinning also will not restore subalpine forests, because they were dense historically and have not changed significantly in response to fire suppression. Thus, fuel-

reduction efforts in most Rocky Mountain sub- alpine forests probably would not effectively mitigate the fire hazard, and these efforts may create new ecological problems by moving the forest structure outside the historic range of variability.”

Likewise, Brown et al (2004) states: “At higher elevations, forests of subalpine fir, Engelmann spruce, mountain hemlock, and lodgepole or whitebark pine predominate. These forests also have long fire return intervals and contain a high proportion of fire sensitive trees. At periods averaging a few hundred years, extreme drought conditions would prime these forests for large, severe fires that would tend to set the forest back to an early successional stage, with a large carry-over of dead trees as a legacy of snags and logs in the regenerating forest natural ecological dynamics are largely preserved because fire suppression has been effective for less than one natural fire cycle. Thinning for restoration does not appear to be appropriate in these forests. Efforts to manipulate stand structures to reduce fire hazard will not only be of limited effectiveness but may also move systems away from pre-1850 conditions to the detriment of wildlife and watersheds.” “Fuel levels may suggest a high fire ‘hazard’ under conventional assessments, but wildfire risk is typically low in these settings.”

Likewise, Graham et al (2004) states: “Most important, the fire behavior characteristics are strikingly different for cold (for example, lodgepole pine, Engelmann spruce, subalpine fir), moist (for example, western hemlock, western redcedar, western white pine), and dry forests. Cold and moist forests tend to have long fire- return intervals, but fires that do occur tend to be high- intensi-

ty, stand-replacing fires. Dry forests historically had short intervals between fires, but most important, the fires had low to moderate severity.”

According to Graham et al (2004), thinning may also increase the likelihood of wildfire ignition in the type of forests in this Project area: “The probability of ignition is strongly related to fine fuel moisture content, air temperature, the amount of shading of surface fuels, and the occurrence of an ignition source (human or lightning caused) There is generally a warmer, dryer microclimate in more open stands (fig. 9) compared to denser stands. Dense stands (canopy cover) tend to provide more shading of fuels, keeping relative humidity higher and air and fuel temperature lower than in more open stands. Thus, dense stands tend to maintain higher surface fuel moisture contents compared to more open stands. More open stands also tend to allow higher wind speeds that tend to dry fuels compared to dense stands. These factors may increase probability of ignition in some open canopy stands compared to dense canopy stands.”

Does this project comply with the access amendment to the Forest Plan?

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 and 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.

Sincerely yours,

Mike Garrity

Alliance for the Wild Rockies

P.O. Box 505

Helena, Montana 59624

406-459-5936

And on behalf of:

Sara Johnson Native Ecosystems Council

P.O. Box 125

Willow Creek, MT 59760

and for

Steve Kelly,

Council on Wildlife and Fish

P.O. Box 4641
Bozeman, MT 59772
And for
Kristine Akland
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The EA does not adequately demonstrate that all Forest Plan standards and requirements will be met.

Please demonstrate that the project is meeting all of the Flathead National (FNF) Forest Forest Plan's standards.

Public Law 117 - 58 - Infrastructure Investment and Jobs Act states(f) Exclusions.--An eligible activity may not be carried out under the Program--

(1) in a wilderness area or designated wilderness study area;

(2) in an inventoried roadless area;

(3) on any Federal land on which, by Act of Congress or Presidential proclamation, the removal of vegetation is restricted or prohibited; or

(4) in an area in which the eligible activity would be inconsistent with the applicable land and resource management plan.

The EA does not demonstrate that the project follows of the requirements of Public Law 117-58 and the Forest Plan requirements. Public Law 117-58 is not mentioned in the EA.

Page 7 of the EA states:

Ownership within the project area is 78 percent National Forest System (NFS) land and 22 percent privately owned land. Approximately 75.7 percent (27,144 acres) of the project area is located within the wildland-urban interface (WUI), as defined by the Healthy Forest Restoration Act (HFRA). The Healthy Forest Restoration Act of 2003 (project file exhibit H040) and Federal Register 2001 (project file exhibit H088) provide criteria for determining WUI boundaries and communities at risk.

H040 states the definition of a Wildland Urban Interface in the Healthy Forest Restoration Act:

SEC. 101. ø16 U.S.C. 6511; DEFINITIONS.

In this title:

(1) AT-RISK COMMUNITY.—The term “at-risk community” means an area—

(A) that is comprised of—

(i) an interface community as defined in the notice entitled “Wildland Urban Interface Communities Within the Vicinity of Federal Lands That Are at High Risk From Wildfire” issued by the Secretary of Agriculture and the Secretary of the Interior in accordance with title IV of the Department of the Interior and Related Agencies Appropriations Act, 2001 (114 Stat. 1009) (66 Fed. Reg. 753, January 4, 2001); or

(ii) a group of homes and other structures with basic infrastructure and services (such as utilities and

collectively maintained transportation routes) within or adjacent to Federal land;
(B) in which conditions are conducive to a large-scale wildland fire disturbance event; and
(C) for which a significant threat to human life or property exists as a result of a wildland fire disturbance event.

Please provide a map of the Wildland Urban Interface (WUI) showing that it complies with the definition of a WUI in the Healthy Forest Act.

Page 135 STAT. 1102]]

- (A) that has been approved for an extension of funding by the Secretary of Agriculture prior to the date of enactment of this Act; or*
- (B) that has been recommended for an extension of funding by the advisory panel established under section 4003(e) of the Omnibus Public Land Management Act of 2009 (16 U.S.C. 7303(e)) prior to the date of enactment of this Act that the Secretary of Agriculture subsequently approves; and*
- (3) select project proposals for funding under the Program in a manner that--*
 - (A) gives priority to a project proposal that will treat acres that--*
 - (i) have been identified as having very high wildfire hazard potential; and*
 - (ii) are located in--*
 - (I) the wildland-urban interface; or*

(II) a public drinking water source area;

The term ``wildland-urban interface'' has the meaning given the term in section

[[Page 135 STAT. 1252]]

101 of the Healthy Forests Restoration Act of 2003 (16 U.S.C. 6511).

The map in Appendix C in the EA does not adequately demonstrate that the project follows the Healthy Forest Restoration Act of 2003 definition of a wildland - urban interface which is 1 1/2 miles from a community.

Please demonstrate that the entire project area is a drinking water source area for the community.

We believe because of the size of the project and the cumulative effects of past current and future logging by the Forest Service and private logging in the area the Forest Service must complete a full environmental impact statement (EIS) for this Project. The scope of the Project will likely have a significant individual and cumulative impact on the environment. Alliance has reviewed the statutory and

regulatory requirements governing National Forest Management projects, as well as the relevant case law, and compiled a checklist of issues that must be included in the EIS for the Project in order for the Forest Service's analysis to comply with the law. 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. These references should be disclosed and discussed in the EIS or for an EA for the Project. We still believe that the Forest Service is required to write an EIS for the Rumbling Owl project.

I. NECESSARY ELEMENTS FOR

PROJECT EIS or EA:

A. Disclose all Flathead National Forest (FNF) Forest Plan requirements for logging/burning projects and explain how the Project complies with them;

B. Will this project comply with forest plan big game hiding cover standards and the eastside assessment?

C. Disclose the acreages of past, current, and reasonably foreseeable logging, grazing, mining, and road building activities within the Project area;

D. Solicit and disclose comments from the Montana Department of Fish Wildlife and Parks regarding the impact of the Project on wildlife habitat;

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

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

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

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

I. Disclose the current, during-project, and post-project road densities in the Project area;

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

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

L. Disclose the FNF's record of compliance with the additional monitoring requirements set forth in previous DN/FONSIIs and RODs on the FNF;

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

N. Please formally consult with the USFWS on the impacts of this project on candidate, threatened, or endangered species and plants;

O. Please consult with the USFWS on the impacts of this project on lynx critical habitat and potential lynx critical habitat;

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

Q. Do unlogged old growth forest store more carbon than the wood products that would be removed from the same forest in a logging operation? The EA does not answer this question even though we also asked it in our scoping comments.

R. What is the cumulative effect of National Forest logging on U.S. carbon stores? How many acres of National Forest lands are logged every year? How much carbon is lost by that logging? The EA does not answer this questions even though we also asked it in our scoping comments.

S. Is this Project consistent with “research recommendations (Krankina and Harmon 2006) for protecting carbon gains against the potential impacts of future climate change? That study recommends “[i]ncreasing or maintaining the forest area by avoiding deforestation,” and states that “protecting forest from logging or clearing offer immediate benefits via prevented emissions.” That study also states

that “[w]hen the initial condition of land is a productive old-growth forest, the conversion to forest plantations with a short harvest rotation can have the opposite effect lasting for many decades” The study does state that thinning may have a beneficial effect to stabilize the forest and avoid stand-replacing wildfire, but the study never defines thinning. The EA does not answer this question even though we also asked it in our scoping comments.

T. Please list each visual quality standard that applies to each unit and disclose whether each unit meets its respective visual quality standard. A failure to comply with visual quality Forest Plan standards violates NFMA.

U. For the visual quality standard analysis please define “ground vegetation,” i.e. what age are the trees, “reestablishes,” “short term,” “longer term,” and “revegetate.”

V. Please disclose whether you have conducted surveys in the Project area for this Project for monarch butterflies, howellia aquatilis, bull trout, bull trout critical habitat, wolverines, whitebark

pine, grizzly bears, pine martins, northern goshawk, lynx critical habitat, and lynx as required by the Forest Plan.

W. Please disclose how often the Project area has been surveyed for monarch butterflies, howellia aquatilis, bull trout, bull trout critical habitat, wolverines, whitebark pine, grizzly bears, pine martins, northern goshawk, lynx critical habitat, and lyn.

X. Is it impossible for a wolverines, pine martins, monarch butterflies, howellia aquatilis, northern goshawks, grizzly bears, bull trout, whitebark pine and lynx to inhabit the Project area?

Y. Would the habitat be better for wolverines, monarch butterflies, howellia aquatilis, pine martins, northern goshawks, grizzly bears, bull trout, whitebark pine and lynx if roads were removed in the Project area?

Z. What is the USFWS position on the impacts of this Project on monarch butterflies, howellia aquatilis, bull trout, bull trout critical habitat, wolverines, whitebark pine, grizzly bears, pine martins,

northern goshawk, lynx critical habitat, and lyn? Have you conducted ESA consultation?

AA. Please provide us with the full BA for the monarch butterflies, howellia aquatilis, bull trout, bull trout critical habitat, wolverines, whitebark pine, grizzly bears, pine martins, northern goshawk, lynx critical habitat, and lynx.

BB. What is wrong with uniform forest conditions?

CC. Has the beetle kill contributed to a diverse landscape?

DD. Why are you trying to exclude stand replacement fires when these fires help aspen and whitebark pine?

EE. Please disclose what is the best available science for restoration of whitebark pine.

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

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

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

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

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

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

LL. Disclose the timeline for implementation;

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

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

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

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

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

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

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

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

UU. 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;

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

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

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

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

ZZ. 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;

AAA. 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;

BBB. 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;

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

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

EEE. Disclose how Project complies with the Roadless Rule and if there are any inventoried roadless areas in the project area;

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

GGG. Disclose the impact of the proposed project on the carbon storage potential of the area; The EA does not answer this question even though we also asked it in our scoping comments:

HHH. Disclose the baseline condition, and expected sedimentation during and after activities, for all streams in the area;

III. 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;

The best available science, Christensen et al (1993), recommends elk habitat effectiveness of 70% in summer range and at least 50% in all other areas where elk are one of the primary resource considerations. According to Figure 1 in Christensen et al (1993), this equates to a maximum road density of approximately 0.7 mi/sq mi. in summer range and approximately 1.7 mi/sq mi. in all other areas.

Do any of the 6th Code watersheds in the Project area meet either of these road density thresholds? It appears the Project area as a whole also far exceeds these thresholds. Please disclose this type of Project level or watershed analysis on road density.

Christensen et al (1993) state that if an area is not meeting the 50% effectiveness threshold of 1.7 mi/sq mi, the agency should admit that the area is not being managed for elk: “Areas where habitat effectiveness is retained at lower than 50 percent must be recognized as making only minor contributions to elk management goals. If habitat effectiveness is not important, don't fake it. Just admit up front that

elk are not a consideration.” The Project EIS does not make this admission.

The Forest Service should provide an analysis of how much of the Project area, Project area watersheds, affected landscape areas, or affected Hunting Districts provide “elk security area[s]” as defined by the best available science, Christensen et al (1993) and Hillis et al (1991), to be comprised of contiguous 250 acre blocks of forested habitat 0.5 miles or more from open roads with these blocks encompassing 30% or more of the area.

Please provide a rational justification for the deviation from the Hillis security definition and numeric threshold that represent the best available science on elk security areas.

We believe that best available science shows that Commercial Logging does not reduce the threat of Forest Fires. What best available science supports the action alternatives?

The project does not demonstrate that it will meet the purpose and need of the project.

Please see Della-Sala 2022 which we attached to our scoping comments.

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

This landmark 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 high-

ly 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.

The project is therefor in violation of NEPA, NFMA and the APA .

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.

The EA did not take a hard look at the effects of the project on climate change. Please take a hard look at how the project effect the carbon storage of the project area and how the project effects climate change. The federal district court of Montana recently ruled against the Kootenai National Forest on the same boiler plate analysis,

writing: ***Ultimately, greenhouse gas reduction must happen quickly, and removing carbon from forests in the form of logging, even if trees are going to grow back, will take decades to centuries to re-sequester. Put more simply, logging causes immediate carbon losses, while re-sequestration happens slowly over time, time that the planet may not have.***

Please find the court's order attached to our scoping comments.

The Forest Service dismissed the impacts of logging these mature forests as “infinitesimal,” ignoring years of science, agency guidance, and pertinent legal precedent, and failed to address the climate pollution caused by cutting, hauling, and processing timber.

Council on Environmental Quality (“CEQ”) guidance addressing climate change recognizes that logging and prescribed burning can impact carbon stores, and urges land management agencies to “include a comparison of estimated net GHG emissions and carbon stock changes that are projected to occur with and without implementation of proposed land or resource management actions.” CEQ, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews (Aug. 1, 2016) at 25-26, available at https://ceq.doe.gov/docs/ceq-regulations-and-guidance/nepa_final_ghg_guidance.pdf (last visited April 16, 2024).

Numerous studies, including those by the Forest Service, have concluded that logging mature forests releases significant amounts of carbon stored in the trees by preventing such forests from continuing to sequester carbon in trees and roots. When forest stands are cut down, the vast majority of the stored carbon in the forest is released over time as CO₂, thereby converting forests from a sink to a “source” or “emitter.” *See* FS7888 (study reporting “[i]ncreased harvest through proposed thinning practices in [Oregon] has been shown to elevate emissions for decades to centuries regardless of product end use”).

Please find attached a report titled, Oregon Forest Carbon Policy which found:

Timber harvesting is by far the largest source of greenhouse gas (GHG) emissions in Oregon. Since 2000, annual emissions associated with removal of stored carbon, sacrificed sequestration, and decay of logging residuals averaged 33 million metric tons carbon

dioxide equivalent (mmt CO₂-e). Nationwide, logging emits more carbon than the residential and commercial sectors combined.

The Flathead National Forest (FNF) has not yet accepted that the effects of climate risk represent a significant issue, and eminent loss of forest resilience already, and a significant and growing risk into the “foreseeable future?”

It is now time to speak honestly about unrealistic expectations relating to desired future condition. Forest managers have failed to disclose that at least five common tree species, including aspens and four conifers, are at great risk unless atmospheric greenhouse gases and associated temperatures can be contained at today’s levels of concentration in the atmosphere. (See our scoping comments for the attached map). This cumulative (“reasonably foreseeable”) risk must not continue to be ignored at the project-level, or at the programmatic (Forest Plan) level.

Global warming and its consequences may also be effectively irreversible which implicates certain legal consequences under NEPA and NFMA and ESA (e.g., 40 CFR § 1502.16; 16 USC §1604(g); 36 CFR §219.12; ESA Section 7; 50 CFR §§402.9, 402.14). All net carbon emissions from logging represent “irretrievable and irreversible commitments of resources.”

It is clear that the management of the planet’s forests is a nexus for addressing this largest crisis ever facing humanity. Yet the EA and Draft Decision Notice fails to

even provide a minimal quantitative analysis of project- or agency-caused CO₂ emissions or consider the best available science on the topic. This is immensely unethical and immoral. The lack of detailed scientific discussions in the EA and Draft Decision Notice concerning climate change is far more troubling than the document's failures on other topics, because the consequences of unchecked climate change will be disastrous for food production, sea level rise, and water supplies, resulting in complete turmoil for all human societies. This is an issue as serious as nuclear annihilation (although at least with the latter we're not already pressing the button).

The EA provided a pittance of information on climate change effects on project area vegetation. The EA provides no analysis as to the veracity of the project's Purpose and Need, the project's objectives, goals, or desired conditions. The FS has the responsibility to inform the public that climate change is and will be bringing forest change. For the Galton project, this did not happen, in violation of NEPA.

The EA fails to consider that the effects of climate change on the project area, including that the "desired" vegetation conditions will likely not be achievable or sustainable. The EA fails to provide any credible analysis as to how realistic and achievable its desired conditions are in the context of a rapidly changing climate, along an unpredictable but changing trajectory.

The Forest Plan does not provide meaningful direction on climate change. Nor does the EA acknowledge pertinent

and highly relevant best available science on climate change. This project is in violation of NEPA.

The EA does not analyze or disclose the body of science that implicates logging activities as a contributor to reduced carbon stocks in forests and increases in greenhouse gas emissions. The EA fails to provide estimates of the total amount of carbon dioxide (CO₂) or other greenhouse gas emissions caused by FS management actions and policies—forest-wide, regionally, or nationally.

Agency policy-makers seem comfortable maintaining a position that they need not take any leadership on this issue, and obfuscate via this EA to justify their failures.

The best scientific information strongly suggests that management that involves removal of trees and other biomass increases atmospheric CO₂. Unsurprisingly the FSEIS doesn't state that simple fact.

The EA fails to present any modeling of forest stands under different management scenarios. The FS should model the carbon flux over time for its proposed stand management scenarios and for the various types of vegetation cover found on the FNF.

The EA also ignores CO₂ and other greenhouse gas emissions from other common human activities related to forest management and recreational uses. These include emissions associated with machines used for logging and associated activities, vehicle use for administrative actions, and recreational motor vehicles. The FS is simply ignoring the climate impacts of these management and other authorized activities.

The Committee of Scientists, 1999 recognize the importance of forests for their contribution to global climate regulation. Also, the 2012 Planning Rule recognizes, in its definition of Ecosystem services, the “Benefits people obtain from ecosystems, including: (2) Regulating services, such as long term storage of carbon; climate regulation...”

We have no more time to prevaricate, and it’s not a battle we can afford to lose. We each have a choice: submit to status quo for the profits of the greediest 1%, or empower ourselves to limit greenhouse gas emissions so not just a couple more generations might survive.

The District Court of Montana ruled in Case 4:17-cv-00030- BMM that the Federal government did have to evaluate the climate change impacts of the federal government coal program. Please find the order attached to our scoping comments.

In March 2019, U.S. District Judge Rudolph Contreras in Washington, D.C., ruled that when the U.S. Bureau of Land Management (BLM) auctions public lands for oil and gas leasing, officials must consider emissions from past, present and foreseeable future oil and gas leases nationwide. The case was brought by WildEarth Guardians and Physicians for Social Responsibility.

In March of 2018 the Federal District Court of Montana found the Miles City (Montana) and Buffalo (Wyoming) Field Office’s Resource Management Plans unlawfully overlooked climate impacts of coal mining and oil and gas

drilling. The case was brought by Western Organization of Resource Councils, Montana Environmental Information Center, Powder River Basin Resource Council, Northern Plains Resource Council, the Sierra Club, and the Natural Resources Defense Council.

The project is in violation of NEPA, NFMA, the APA, the ESA for not examining the impacts of the project on climate change. The project will eliminate the forest in the project area. Forests absorb carbon. The project will destroy soils in the project area. Soils are carbon sinks.

The Infrastructure Investment and Jobs Act (PL 117-58) requires:

[Page 135 STAT. 1260]

“(aa) documentation of an effective reforestation project plan;

“(bb) the ability to measure the progress and success of the project; and

“(cc) the ability of a project to provide benefits relating to forest function and health, soil health and productivity, wildlife habitat, improved air and water quality, carbon sequestration potential, resilience, job creation, and enhanced recreational opportunities.’

The project does not adequately demonstrate that it is improving the carbon sequestration potential and resilience of the project area.

The Montana Supreme Court recently ruled that the Montana Constitution requires that a hard look be taken at the effect of projects on climate change. Does the Rumbling Owl project comply with all state laws? It does not appear that it does in spite of the EA stating that the following on page 2 of the EA:

We prepared this environmental assessment to determine whether effects of the proposed activities may be significant and require preparation of an environmental impact statement. By preparing this environmental assessment, we are fulfilling agency policy and direction to comply with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations.

Please follow NEPA and take a hard look at the impact of the project on climate change.

It is a violation of NEPA to give incorrect information to the public in NEPA documents.

How will the project make the forest more resilient?

Please

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

- Disclose the biological evaluation for the sensitive and management indicator species with potential and/or actual habitat in the Project area;
- Disclose the snag densities in the Project area, and the method used to determine those densities;
- Disclose the current, during-project, and post-project road densities in the Project area;
- Disclose the Flathead National Forest's record of compliance with state best management practices regarding stream sedimentation from ground-disturbing management activities;
- Disclose the Flathead National Forest's record of compliance with its monitoring requirements as set forth in its Forest Plan;
- Disclose the Flathead National Forest's record of compliance with the additional monitoring requirements set forth in previous DN/FONSI and RODs on the Flathead National Forest;
- Disclose the results of the field surveys for threatened, endangered, sensitive, and rare plants in each of the proposed units;
- Disclose the level of current noxious weed infestations in the Project area and the cause of those infestations;

- Disclose the impact of the Project on noxious weed infestations and native plant communities;
- Disclose the timeline for implementation;
- . Disclose the amount of big game (moose and elk) hiding cover, winter range, and security currently available in the area;
- . Disclose the amount of big game (moose and elk) hiding cover, winter range, and security during Project implementation;
- . Disclose the amount of big game (moose and elk) hiding cover, winter range, and security after implementation;
- . Disclose the method used to determine big game hiding cover, winter range, and security, and its rate of error as determined by field review; de-
- . 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 and the failure to compile data to establish a reliable inventory of sensitive species on the Forest; able

. Disclose how Project complies with the Roadless Rule;
Are there any inventoried roadless areas in the project area?

Please include a complete cost benefit analysis for the project.

Please consult with the Montana State Historic Preservation Office to ensure the project complies with the National Historic Preservation Act.

Please formally consult with the FWS on the impact of this project on wolverines, lynx, lynx critical habitat, monarch butterfly, white-bark pine, grizzly bears, bull trout, and bull trout critical habitat.

Please fully address all relevant habitat standards for Bull Trout, and Bull Trout Designated Critical Habitat.

How many openings over 40 acres are proposed?

There have been two groundbreaking articles about lynx. “Correlates of Canada Lynx Reproductive Success in Northwestern Montana” by Megan K. Kosterman. Please find Kosterman attached.

And “Understanding and predicting habitat for wildlife conservation: the case of Canada lynx at the range periphery” by Holbrook et al. 2017, 2018, 2019 (Attached) confirms Kosterman’s findings.

Does the action alternative comply with Kosterman’s and Holbrook’s recommendations?

How many lynx analysis units been eliminated in the project area?

- 1) USFS needs to take a hard look at impacts to lynx under NEPA, apply the lynx conservation measures and standard, and consult on lynx via section 7 of the ESA b/c the best available science -- including recent tracking surveys conducted by WTU -- confirm lynx's presence and use of the area;

- (3) USFS has failed to survey for lynx as required by the ESA, NEPA, and NFMA.

NEPA requires the Forest Service to carefully consider detailed information concerning significant environmental impacts and to provide enough relevant information for the public to play a role in decision making and implementation of that decision. The FNF failed to adequately discuss or disclose how it defined and mapped “lynx habitat” in the Revised Forest Plan; therefore, the Revised Forest Plan violates NEPA and the APA. The Forest Service is required to supplement the RMP EIS to take a hard look at the impacts of its mapping of lynx habitat, and allow the public the opportunity to

comment on the agency's mapping of lynx habitat. Additionally, the The Revised Forest Plan EIS fails to take a hard look at the impacts of exempting lynx habitat within the WUI and FMZ 1 to lynx and lynx Critical Habitat, in violation of NEPA and the APA. At the Project level, the Forest Service e violates NEPA and the APA by failing to take a hard look at the impacts to lynx and lynx Critical Habitat of Project activities when combined with other reasonably foreseeable actions.

The Rumbling Owl Project violates NEPA, NFMA, and the APA because it fails to adequately discuss and disclose whether the lynx habitat mapped in the Project EA is consistent with the lynx habitat identified in the Revised Forest Plan EIS.

Further, the Forest Service utilizes an arbitrarily narrow definition of "lynx habitat," thereby removing a significant amount of potential lynx habitat from Lynx Assessment conservation measures, in violation of NEPA, NFMA, the Revised Forest Plan, and the APA.

The Forest Service's new "functional WUI" definition greatly illegally expanded the WUI for the Project from that which was defined in the EA to include almost the entire project area. This expanded definition of the WUI results in the Forest Service prioritizing fuels reduction treatments on significantly more acres than were contemplated or authorized by the Revised Forest Plan, and it exempts the vast majority of the Project area from Lynx Assessment conservation measures. Further, the Project's over-inclusive WUI definition, in and of itself, is not supported by law.

In sum, first, the FNF failed to properly define and map lynx habitat in the Project EA, and it arbitrarily remapped the WUI for the Project without NEPA review. Thus, the FNF failed to follow the procedure prescribed by law and failed to take a hard look at the

Project's impacts to lynx and lynx Critical Habitat in violation of NEPA, NFMA, the Revised Forest Plan, the ESA and the APA.

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).

LCAS requirements include:

Project planning—standards.

1. Within each

, map lynx habitat. Identify potential denning habitat and foraging habitat (primarily snowshoe hare habitat, but also habitat for important alternate prey such as red squirrels), and topographic features that may be important for lynx movement (major ridge systems, prominent saddles, and riparian corridors). Also identify non-forest vegetation (meadows), shrub-grassland communities, etc.) adjacent to and intermixed with forested lynx habitat that may provide habitat for alternate lynx prey species.

2. Within a LAU, maintain denning habitat in patches generally larger than 5 acres, comprising at least 10 percent of lynx habitat. Where less than 10 percent denning habitat is currently present within a LAU, defer any management actions that would delay development of denning habitat structure.

3. Maintain habitat connectivity within and between LAUs.

Programmatic planning-standards.

1. Conservation measures will generally apply only to lynx habitat on federal lands within LAUs.

2. Lynx habitat will be mapped using criteria specific to each geographic area to identify appropriate vegetation and environmental conditions. Primary vegetation includes those types necessary to support lynx reproduction and survival. It is recognized that other vegetation types that are intermixed with the primary vegetation will be used by lynx, but are considered to contribute to lynx habitat only where associated with the primary vegetation. Refer to glossary and description for each geographic area.

3. To facilitate project planning, delineate LAUs. To allow for assessment of the potential effects on an individual lynx, LAUs should be at least the size of area used by a resident lynx and contain sufficient year-round habitat.

4. To be effective for the intended purposes of planning and monitoring, LAU boundaries will not be adjusted for individual projects, but must remain constant.

5. Prepare a broad-scale assessment of landscape patterns that compares historical and current ecological processes and vegetation patterns, such as age-class distributions and patch size characteristics. In the absence of guidance developed from such an assessment, limit disturbance within each as follows: if more than 30 percent of lynx habitat within an LAU is currently in unsuitable condition, no further reduction of suitable conditions shall occur as a result of vegetation management activities by federal agencies.

Project planning-standards.

1. Management actions (e.g., timber sales, salvage sales) shall not change more than 15 percent of lynx habitat within a LAU to an unsuitable condition within a 10- year period.

Programmatic planning-standards.

1. Identify key linkage areas that may be important in providing landscape connectivity within and between geographic areas, across

all ownerships.

2. Develop and implement a plan to protect key linkage areas on federal lands from activities that would create barriers to movement. Barriers could result from an accumulation of incremental projects, as opposed to any one project.

Have you eliminated any larynx analysis units (LAUs) in the Flat-head National Forest without taking public comment?

Please demonstrate that project activities are consistent with above and all other applicable programmatic and project requirements.

The U.S. Court of Appeals for the Ninth Circuit hold that “[o]nce an agency is aware that an endangered species may be present in the area of its proposed action, the ESA requires it to prepare a biological assessment” *Thomas v. Peterson*, 753 F. 2d 754, 763 (9thCir. 1985). If the biological assessment concludes that the proposed action “may affect” but will “not adversely affect” a threatened or endangered species, the action agency must consult informally with the appropriate expert agency. 50 C.F.R. §§ 402.14 (b)(1), 402.12(k)(1).

Canada lynx are listed under the ESA.

Canada lynx may be present in the project area and the proposed project may affect lynx and lynx critical habitat by temporarily increasing road density, removing vegetative cover, and engaging in mechanized activities that could displace lynx.

Please complete a biological assessment for lynx and formally consult with USFWS regarding the project’s potential impacts on lynx.

Grizzly Bears

In May 2019, the United Nations released a report finding that the current rate of species extinction “is already at least tens to hundreds

of times higher than it has averaged over the past 10 million years.”¹ The mountain caribou in the lower 48 states went extinct just a few months ago. Like the Selkirk grizzly bear, the mountain caribou lived primarily on National Forest land, had a population of less than 50 individuals, and was threatened by logging and roads.

Alliance reiterates this point here because the agencies issued similar assurances regarding the mountain caribou that they now issue for the grizzly bear. For example, in litigation to protect the mountain caribou in this Court, the agencies represented that they would “meet caribou needs” by using the best available science and applying forest plan protections, and not approving logging projects unless they concluded that the project was “not likely to adversely affect” the mountain caribou. *Jayne v. Sherman*, 706 F.3d 994, 1001 (9th Cir.2013)(quoting FWS Biological Opinion).

In *Jayne*, these statements were accepted as adequate protections for the mountain caribou. Now the mountain caribou is extinct. It is not too late to avoid the same fate for the Selkirk grizzly bear. As members of Congress stated when

¹https://www.ipbes.net/sites/default/files/downloads/spm_unedited_advance_for_posting_htn.pdf

they passed the ESA: “The agencies of Government can no longer plead that they can do nothing about [the grizzly bear]. They can, and they must. The law is clear.” *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 184 (1978) (quoting Congressional Record).

The preservation of endangered species takes “priority over the ‘primary missions’ of federal agencies.” Accordingly, courts must “afford[] endangered species the highest of priorities,” and act with

“institutionalized caution” when reviewing ESA cases. *Cottonwood Env'tl. Law Ctr. v. USFS*, 789 F.3d 1075, 1091 (9th Cir.2015). This Court holds that the “fundamental principle [of institutionalized caution] remains intact and will continue to guide district courts when confronted with requests for injunctive relief in ESA cases.” *Id.* Although the district court did not apply this fundamental principle in this case, this Court may now remedy that error by issuing a temporary injunction pending appeal to preserve the status quo until a final decision is issued on the merits.

The project will not maintaining and enhancing grizzly habitat and will increase the potential for grizzly-human conflicts in violation of NFMA, NEPA, the APA and the ESA.

The Forest does not have a good track record of keeping closed roads closed. The Forest Service does not disclose the road mileage behind these ineffective closures; therefore it is unclear how many miles of additional open and total roads must be added to the existing condition calculations as a result of these ineffective closures.

How many road closure violations have occurred in the Swan Lake Ranger District in the last 5 years?

Chronic recurring road closure breaches cannot reasonably be construed as “temporary.”

Because of the serious impacts to grizzly bears, please demonstrate compliance with Forest Plan standards relevant to grizzly bears, and analyze the direct, indirect, and cumulative impacts to grizzly bears.

We find nothing substantial in the EA that addresses the concerns we expressed in our scoping comments on the Proposed Action. We therefore incorporate our earlier comments by reference and re al-

lege each of the claims and issues raised therein. The EA you have published is insufficient for public review and violates the spirit of Orders from the U.S. District Court in Missoula and the promises made by Flathead Forest Supervisor Anthony Botello in his efforts to avoid a Court order of vacatur against the Forest Plan and its BiOp.

This EA has no scientific or legal foundation for its treatment of roads, let alone its assessment of the impacts of roads to grizzly bears, bull trout and other resources. The Flathead Forest Plan currently has no adequate Biological Opinion (BiOp) because it was found legally deficient by Judge Christensen of the U.S. District Court in Missoula, MT, on 6/28/24, along with his determination that the Forest Service also violated the law by relying on that inadequate BiOp. Nor does the EA attempt to correct the same Court's (Judge Molloy, 6/24/23) ruling against the prior BiOp and the Forest Service's reliance upon it, as discussed in our prior comments.

These Court opinions can be found at https://earthjustice.org/wp-content/uploads/2024/06/flathead-2024-06-28_order.pdf and https://earthjustice.org/wp-content/uploads/2021-06-24_doc._116_opinion_and_order.pdf , respectively.

It is premature for the Forest Service to issue the Rumbling Owl EA until it has remedied the shortcomings detailed by these two court rulings, let alone ask for public comment on a premature EA that makes no mention of those shortcomings or how they will or have been remedied.

In his 4/9/24 Declaration to the Court, Supervisor Botello states:

I am writing this declaration to respond to Plaintiffs' request for partial and prospective vacatur. Plaintiffs' requested relief . . . would impact three planned projects under the challenged Forest Plan provisions – Dry Riverside, Rumbling Owl, and Mid Swan . . .

If the Court approves the (Magistrate Judge's) merits recommendations and remedy recommendation (remand without vacatur), none of the three planned projects will be approved until the U.S. Fish and Wildlife Service has revised its Biological Opinion for the Forest Plan.

This promise then resulted in Judge Christensen denying vacatur on the basis that “Regarding the three projects . . . it appears that the Forest Service has already elected not to move forward in anticipation of remand” The premature issuance of an EA for public review, under emergency exemptions from the public right to file Objections, is anything but electing “not to move forward.” This is instead a fast track to issuing a decision on Rumbling Owl that views the BiOp revision as nothing more than a speed bump with no need to alter course in any way.

While the Rumbling Owl EA is not a formal approval/decision, it nonetheless demonstrates Forest Service approval of the proposed action and its rejection of all suggested alternatives to the proposed action (EA at 6-20). No revised BiOp has been issued by FWS, the remand is not yet complete, and the estimated decision date for the project is estimated to be “09/2025” (<https://www.fs.usda.gov/project/flathead/?project=64924>).

It is unethical to ask the public to review a premature EA without the essential benefit of a revised BiOp and without honoring the spirit of the Court's Order and the Botello Declaration. The Forest Service intends to use emergency provisions that do not allow for a formal public Objection to the project, so this review of the EA is the only junction short of District Court for the public to be heard on this project.

The EA relies on the same flawed Forest Plan and BiOp road analyses that fails to account for total road density by excluding “impass-

able” roads from calculations of Total Motorized Route Density (TMRD). This approach was faulted by the Court. Judge Christensen ruled:

The issue is not a change in TMRD levels, but a change in how TMRD is calculated. Under the Revised Forest Plan, a road will be excluded from TMRD if it meets the definition of impassable. However, under Amendment 19, a road had to meet the more demanding reclaimed road standard before it would be excluded from TMRD calculations . . . As such, relying on 2011 baseline TMRD levels does not address the concern raised by Plaintiffs. . . Turning to Plaintiff’s final objection, the Court agrees that the scientific evidence cited by FWS does not support the agency’s decision to exclude impassable roads from TMRD calculations. (p 30)

FWS fails to explain how the exclusion of “impassable” roads from TMRD calculations - which could result in a net increase in total road density without any corresponding change in TMRD - does not negatively impact bears. The fact that Mace and Waller (1997) showed a “spectrum” of avoidance behavior does not sufficiently support the agency’s position. Moreover, the “spectrum” argument is undermined by various other scientific studies referenced by FWS that conclude “grizzly bears consistently were displaced from roads and habitat surrounding roads, often despite relatively low levels of use. USFWS_037333 (emphasis added). (p 32)

(Re Mace and Manley 1993) Importantly, the researchers also noted that “[u]nless a road has completely revegetated, managers should assume that some level of human use is occurring along closed roads, and grizzly bears will respond to that use.” . . . This finding again undermines FWS’s decision to exclude impassable roads from TMRD. (p 33)

The EA continues to exclude “impassable” roads from TMRD and continues to reason that, because the NCDE grizzly bear population was increasing in 2011, maintaining TMRD at 2011 levels will safeguard grizzly bear recovery. This, of course, ignores the fact that the actual “total road density” will increase above 2011 levels as new roads are built and old roads are rebuilt under the Forest Plan and projects like Rumbling Owl – so the actual total road density will not remain at the 2011 levels thought to support grizzly bear recovery. Judge Christensen indeed ruled:

Finally, an increase in the NCDE bear population prior to implementation of the Revised Forest Plan does not provide sufficient support for the agency’s position because the new “impassable” road standard could result in increased unauthorized motorized use due to an increased reliance on road closure methods that are not entirely effective. (p 26)

Nonetheless, the Forest Service continues with this big lie that all will be fine as impacts to bears are kept at 2011 baseline levels, while ignoring the fact that entrance-only road closures like those used on “impassable” roads are often ineffective, that such roads have continuing impacts to grizzly bears, and that such roads will increase with time as more roads are built and simply rendered “impassable” – all the while not being accounted for in TMRD. We find this false and unlawful assurance, among other places, in the EA at 48 and Project File Exhibit Q-09 at 15.

To the extent the EA pecks around the edges to address road issues raised in our prior letter, it instead introduces conflicting information. While the Forest Plan glossary states that only “Federal, State and tribal roads” are included in TMRD, the EA at 11 claims that the old Plum Creek roads in Section 33 were already included in TMRD so adding some of them to the National Forest Road System does not

constitute an increase in calculated road densities. These facts do not square with one another, given that previous landowners Plum Creek and Rocky Mountain Elk Foundation are/were neither a federal, state or tribal agency. Is the Forest Plan Glossary wrong on this or is the EA wrong?

Similarly, the EA uses the term “obliterated” road when that term appears nowhere in the Forest Plan, not even its Glossary (see EA at 7, 10, 11, 44, 99, 122, and 128). The EA, at 128, adds more confusion by stating that “obliterated” roads “would meet the forest plan’s impassable definition.” The EA goes on to say that obliteration would include “Removing all stream-aligned and cross-drain culverts,” but the definition for “impassable” road has no such requirement. So, which is it? The circular references between “decommissioned” and “impassable” roads did not pass muster with the District Court, so what makes the Forest Service think that a new circular reference to “obliterated” roads will? Indeed, Judge Christensen ruled:

Reviewing de novo, the Court finds that FWS was arbitrary and capricious for failing to address its decision to abandon the culvert removal requirement with respect to “impassable” roads. (p 35)

Defendants read the holding in Flathead I too narrowly by limiting its discussion to culvert removal on decommissioned roads and ignoring impassable roads. (p 37)

Thus, the error identified in Flathead I persists in the Revised BiOp because FWS has again failed to address the effects of abandoning the culvert removal requirement on impassable roads. (p 38)

Thus, it would appear that both agencies agree that culvert removal is an important component of managing sediment impacts on both decommissioned and closed/barriered roads, which includes impass-

able roads . . . This reading of Flathead I is also consistent with the opinion of the Forest Service’s own biologist who noted in an email that the agency is not “decommissioning many roads anymore and instead [is] making new roads meet the new impassable definition” and, therefore, would “not necessarily remove culverts.” (p 39)

In regards to the Revised BiOp’s ITS requirement that all stream-aligned culverts be removed from “decommissioned” roads. Judge Christensen ruled:

The court is unpersuaded that the Culvert Monitoring Plan, ITS, and other components of the Revised Forest Plan act as sufficient safeguards for bull trout and bull trout habitat . . . the existence of the Culvert Monitoring Plan did not excuse FWS’s failure to adequately consider abandonment of the culvert removal requirement . . . because ITS only applies to decommissioned roads, the Court fails to see how this distinction makes any difference with respect to culvert removal on impassable roads and the potential impacts to bull trout. Moreover, the addition of the ITS on remand further underscores the potential adverse impacts of allowing culverts to remain on closed roads, including impassable roads, and the importance of addressing this issue. (p 40)

The EA, at 10, appears to confine culvert removal from closed roads to apply only to the 2.8 miles of road to be “obliterated” among the approximately 8 miles of “newly acquired” roads in Section 33. What of the remaining barriered roads and temporary roads in the project area? Simply meeting the definition of “impassable” does not require the removal of culverts nor does it adequately protect threatened bull trout and other aquatic life. Indeed, PDF-TRANS-01 (EA at 123) allows stream-aligned culverts to remain in place on barriered roads. Pardon our skepticism, but after Swan View Coalition and

Friends of the Wild Swan having been through District Court twice now on this issue, we and they find it very curious that the Forest Service now introduces a new culvert-removal requirement for “obliterated” roads that is contradicted by the very definition of “impassable” that it is tied to.

One thing the EA appears to get right, on page 52, is that the “replacement of the berm on Road 9582 with a gate would increase potential motorized access on the southern portion of this road” accessing Section 33, although it is not clear if the EA is referencing administrative use or unauthorized motorized use. As noted on page 7 of our Road Hunt report, gates are far less effective than berms, at 31% compared to 69% effective, respectively. Making the prospect of a gate even worse is the fact that Forest Service road closure surveys show that the existing berm closure on Road 9582 was being driven around by motor vehicles in 2022 and 2023. (See the road closure survey spreadsheets Flathead_National_Forest_Closure_Monitoring_2022.xlsx and R01_Flathead_National_Forest_Closure_Monitoring_2023_Inspections_Export_Raw.xls, which we will email you separately). If the Forest Service can’t prevent unauthorized motorized use of Road 9582 with an earth berm, what makes it think it can do so with a gate?

Project File Exhibit Q-09 references a review of closure device monitoring in the analysis area for 2022-2024, concluding in Table 1 that the percent found ineffective was 4% for 2022, 8% for 2023, and 2% for 2024. What Exhibit Q-09 does not disclose is that, since 2021, the Flathead NF has surveyed its road closures to determine whether they are “found functional” or “found not functional,” not whether they are found “effective” or “ineffective.” Nonetheless, the Flathead reports results as percent ineffective even though it has repeatedly failed to provide an explanation of how it gets from monitoring for “functional/not functional” to reporting percent “effective/ineffective.”

tive,” especially in the face of having listed scores of road closures displaying a breach by motor vehicles as “found functional.” We discuss these matters thoroughly in our May 2023 Road Hunt report provided with our prior comments and now with our December 2024 report “Roads Revisited: A revisit of ten ineffective road closures in the Flathead National Forest’s Swan Valley Geographic Area,” which can be found at <https://www.swanview.org/public/assets/uploads/reports/Roads-Revisited-2024-Hammer.pdf> . We will also email you a copy separately

At least the Flathead’s “Cyclone Bill Project File Exhibit Q-22” (emailed separately) admits that its Forest-wide road closure device inspections remain “draft” for 2021- 2024. Perhaps this is because the Flathead has no documented method for determining “effectiveness” from “found functional” data? We are given no clues in the Rumbling Owl EA, let alone any Forest-wide data like that found in Cyclone Bill Exhibit Q-22.

In Swan View Coalition’ 2024 Roads Revisited report, at 10-11, they show that Cyclone Bill Exhibit Q-22 itself shows a Forest-wide increase in ineffective road closure ineffectiveness from 4-7% from 2021-2023. Moreover, we find that increase to likely be from 17-31% ineffective when we estimate adjustments using common-sense assumptions that “not functional” road closures are likely “ineffective” and that closures “breached” by motor vehicles are likely “not functional!”

Until the Flathead provides a clear description of how its road closures found “not functional” somehow are apparently often counted as “effective,” and how its road closures found “breached” by motor vehicles often get counted as “functional,” its summaries of road closure effectiveness simply can’t be trusted. And until the Flathead

and FWS correct the scientific and legal problems pointed out in the above-mentioned Court Orders, its project-level analyses of the effects of roads on grizzly bears, bull trout and other resources can't be trusted either.

The general public have not yet been provided the revised Forest Plan BiOp and any other results of the Court's Remand that would be the basis for the analyses in the EA, as described above. It seems abundantly clear from the Court's Order that, due to the gravity of the factors contributing to the Remand of the BiOp, changes to the Forest Plan are also necessary – such as the need to include “impassable” roads in TMRD.

It appears with Glacier Loon, Rumbling Owl and other logging projects the Forest Service is violating the terms for how often they can log in grizzly bear management units. Please show that you are meeting the legal requirements for how often you can log and build roads in grizzly bear management units.

The Forest Service must comply with National Forest Management Act (“NFMA”) and its implementing regulations. NFMA requires the Forest Service to ensure that site-specific management projects are consistent with the applicable forest plan. 16 U.S.C. § 1604(i). Thus, the Forest Service must ensure that all aspects of the proposed action comply with the Flathead National Forest Land Management Plan.

1. Will the Forest Service be considering binding legal standards for noxious weeds in its Land Management Plan?

2. Has the State Historic Preservation Office signed off that this project complies with the Historic Preservation Act? The project is in violation of the National Historic Preservation Act if this is not done.
5. How effective has the Forest Service been at stopping (i.e. preventing) new weed infestations from starting during logging and road building operations?
6. Is it true that new roads are the main cause of new noxious weed infestations?
7. Is it true that noxious weeds are one of the top threats to biodiversity on public lands?
8. How can the Forest Service be complying with NFMA's requirement to maintain biodiversity if it has no legal standards that address noxious weeds?
9. How will the decreased elk security affect wolverines and have you formally consulted with the FWS on the effects of this project on wolverines? The wolverine was recently determined to be warranted for listing under the ESA. 75 Fed.

Reg. 78030 (Dec. 14, 2010). It is currently a candidate species, proposed for listing.. The USFWS found that “[s]ources of human disturbance to wolverines include . . . road corridors, and extractive in-

dustry such as logging . . .” . The Forest Service must go through ESA formal consultation for the wolverine for this project.

Please prepare a Biological Assessment and formally consult with the USFWS as required by law.

THE AGENCIES MUST COMPLETE A BIOLOGICAL ASSESSMENT, BIOLOGICAL OPINION, INCIDENTAL TAKE STATEMENT, AND MANAGEMENT DIRECTION AMENDMENT FOR THE RMP FOR THE WOLVERINE.

The agencies do not have in place any forest plan biological assessment, biological opinion, incidental take statement, and management direction amendment for wolverines.

THE AGENCIES MUST CONDUCT ESA CONSULTATION FOR THE WOLVERINE.

Wolverines may be present in the Project area. The Forest Service concedes that the Project “may affect” wolverines. The agencies’ failure to conduct ESA consultation for a species that may be present and may be affected by the Project violates the ESA. Wolverines are currently warranted for listing under the ESA. As the agencies are well aware, the scheduled, court ordered listing date for the wolverine is this year. In fact, FWS has recently filed the a document in federal court committing to a listing date for the wolverine. Accordingly, the wolverine will be listed under the ESA before the final decision is made to authorize and implement this Project, and long before any project activities commence. Regardless, even candidate species must be included in a biological assessment.

Did the Forest Service survey for wolverines in the project area? Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. In order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area. Ruggiero et al 2000;

Wolverines generally scavenge for ungulates along valley bottoms and forage and den in remote, high-elevation areas (Hornocker and Hash 1981; Morgan and Copeland 1998). Thus if managers wished to provide habitat for wolverines, they could pay particular attention in the planning process to ungulates winter range and other aspects of habitat quality for ungulates to provide a consistent supply of carcasses for wolverine to scavenge. In addition, wolverines generally avoid areas of human activity. To limit the threat of human-caused disturbance or mortality, managers could restrict access to portions of the landscape where wolverines are most likely to occur.

In order to meet this viability mandate, the 1982 NFMA planning regulations require that the Forest Service select “management indicator species” whose “population changes are believed to indicate the effects of management activities.” 36 C.F.R. § 219.19 (1) (2000). 253.

The 1982 NFMA planning regulations require the Forest Service to monitor the population trends of these species and to state and evaluate land management alternatives

“in terms of both amount and quality of habitat and of animal population trends of the management indicator species.” 36 C.F.R. § 219.19 (2),(6) (2000).

The wolverine was recently determined to be warranted for listing under the ESA. 75 Fed. Reg. 78030 (Dec. 14, 2010). It is currently a proposed species, waiting for work to be completed on other species before it is officially listed. The USFWS found that “[s]ources of human disturbance to wolverines include . . . road corridors, and extractive industry such as logging . . .” .The Forest Service admits that the wolverine and/or its habitat are present within the project area and would be impacted by the project. The Forest Service must go through ESA consultation for the wolverine for this project.

Would native species such as grizzly bears, lynx, wolverine, elk, bull trout and bull trout critical habitat be better off if you instead spent this money removing roads in the project area?

Why did you not analyze a restoration only alternative that did not include logging?

Has the money already been appropriated to do restoration work called for in the EA?

Do the action alternatives comply with PACFISH-INFISH?

Are you meeting the INFISH Riparian Management Objectives for temperature, pool frequency, and sediment?

With all of the bull trout spawning streams and designated as critical habitat in the project area we would expect robust road decommissioning and culvert removals, and no logging in riparian areas of streams. Instead the project is a robust logging and roading project that will degrade, not improve aquatic ecosystems.

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.

What are the redd counts in bull trout critical habitat in the project area? Please also provide the all the historical bull counts that you have in the project area?

The EIS must fully and completely analyze the impacts to bull trout critical 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 introduction of sediment in excess of natural amounts can have multiple adverse effects on bull trout and their habitat (Rhodes et al. 1994, pp. 16-21; Berry, Rubinstein, Melzian, and Hill 2003, p. 7). The effect of sediment beyond natural background conditions can be fatal at high levels. Embryo survival and subsequent fry emergence success have been highly correlated to percentage of fine material within the stream-bed (Shepard et al. 1984, pp. 146, 152). Low levels of sediment may result in sublethal and behavioral effects such as increased activity, stress, and emigration rates; loss or reduction of foraging capability; reduced growth and resistance to disease; physical abrasion; clogging of gills; and interference with orientation in homing and migration (McLeay et al. 1987a, p. 671; Newcombe and MacDonald 1991, pp. 72, 76, 77; Barrett, Grossman, and Rosenfeld 1992, p. 437; Lake and Hinch 1999, p. 865; Bash et al. 2001n, p. 9; Watts et al. 2003, p. 551; Vondracek et al. 2003, p. 1005; Berry, Ru-

binstein, Melzian, and Hill 2003, p. 33). The effects of increased suspended sediments can cause changes in the abundance and/or type of food organisms, alterations in fish habitat, and long-term impacts to fish populations (Anderson et al. 1996, pp. 1, 9, 12, 14, 15; Reid and Anderson 1999, pp. 1, 7-15). No threshold has been determined in which fine sediment addition to a stream is harmless (Suttle et al. 2004, p. 973). Even at low concentrations, fine-sediment deposition can decrease growth and survival of juvenile salmonids.

Aquatic systems are complex interactive systems, and isolating the effects of sediment to fish is difficult (Castro and Reckendorf 1995d, pp. 2-3). The effects of sediment on receiving water ecosystems are complex and multi-dimensional, and further compounded by the fact that sediment flux is a natural and vital process for aquatic systems (Berry, Rubinstein, Melzian, and Hill 2003, p. 4). Environmental factors that affect the magnitude of sediment impacts on salmonids include duration of exposure, frequency of exposure, toxicity, temperature, life stage of fish, angularity and size of particle, severity/magnitude of pulse, time of occurrence, general condition of biota, and availability of and access to refugia (Bash et al. 2001m, p. 11). Potential impacts caused by excessive suspended sediments are varied and complex and are often masked by other concurrent activities (Newcombe 2003, p. 530). The difficulty in determining which environmental variables act as limiting factors has made it difficult to establish the specific effects of sediment impacts on fish (Chapman 1988, p. 2). For example, excess fines in spawning gravels may not lead to smaller populations of adults if the amount of juvenile winter habitat limits the number of juveniles that reach adulthood.

Often there are multiple independent variables with complex inter-relationships that can influence population size.

The ecological dominance of a given species is often determined by environmental variables. A chronic input of sediment could tip the ecological balance in favor of one species in mixed salmonid populations or in species communities composed of salmonids and non-salmonids (Everest et al. 1987, p. 120). Bull trout have more spatially restrictive biological requirements at the individual and population levels than other salmonids (USFWS (U.S. Fish and Wildlife Service) 1998, p. 5). Therefore, they are especially vulnerable to environmental changes such as sediment deposition.

Aquatic Impacts

- Classify and analyze the level of impacts to bull trout and westslope cutthroat trout in streams, rivers and lakes from sediment and other habitat alterations:

Lethal: Direct mortality to any life stage, reduction in egg-to-fry survival, and loss of spawning or rearing habitat. These effects damage the capacity of the bull trout to produce fish and sustain populations.

Sublethal: Reduction in feeding and growth rates, decrease in habitat quality, reduced tolerance to disease and toxicants, respiratory impairment, and physiological stress. While not leading to immediate death, may produce mortalities and population decline over time.

Behavioral: Avoidance and distribution, homing and migration, and foraging and predation. Behavioral effects change the activity patterns or alter the kinds of activity usually associated with an unper-

turbed environment. Behavior effects may lead to immediate death or population decline or mortality over time.

Direct effects:

Gill Trauma - High levels of suspended sediment and turbidity can result in direct mortality of fish by damaging and clogging gills (Curry and MacNeill 2004, p. 140).

Spawning, redds, eggs - The effects of suspended sediment, deposited in a redd and potentially reducing water flow and smothering eggs or alevins or impeding fry emergence, are related to sediment particle sizes of the spawning habitat (Bjornn and Reiser 1991, p. 98).

Indirect effects:

Macroinvertebrates - Sedimentation can have an effect on bull trout and fish populations through impacts or alterations to the macroinvertebrate communities or populations (Anderson, Taylor, and Balch 1996, pp. 14-15).

Feeding behavior - Increased turbidity and suspended sediment can affect a number of factors related to feeding for salmonids, including feeding rates, reaction distance, prey selection, and prey abundance (Barrett, Grossman, and Rosenfeld 1992, pp. 437, 440; Henley, Patterson, Neves, and Lemly 2000, p. 133; Bash et al. 2001d, p. 21).

Habitat effects - All life history stages are associated with complex forms of cover including large woody debris, undercut banks, boulders, and pools. Other habitat characteristic important to bull trout include channel and hydrologic stability, substrate composition,

temperature, and the presence of migration corridors (Rieman and McIntyre 1993, p. 5).

Physiological effects - Sublethal levels of suspended sediment may cause undue physiological stress on fish, which may reduce the ability of the fish to perform vital functions (Cederholm and Reid 1987, p. 388, 390).

Behavioral effects - These behavioral changes include avoidance of habitat, reduction in feeding, increased activity, redistribution and migration to other habitats and locations, disruption of territoriality, and altered homing (Anderson, Taylor, and Balch 1996, p. 6; Bash et al. 2001, pp. 19-25; Suttle, Power, Levine, and McNeely 2004, p. 971).

- How will this project affect native fish? What is the current condition in the riparian areas?

How will this project protect rather than adversely impact fish habitat and water quality? No logging or road building should be done in riparian areas. There should not be any stream crossings. Roads should be decommissioned and removed, not upgraded and rebuilt.

- Hauer, et al. (1999) found that bull trout streams in wilderness habitats had consistent ratios of large to small and attached to unattached large woody debris. However, bull trout streams in watersheds with logging activity had substantial variation in these ratios. They identified logging as creating the most substantive change in stream habitats.

“The implications of this study for forest managers are twofold: (i) with riparian logging comes increased unpredictability in the frequency of size, attachment, and stability of the LWD and (ii) maintaining the appropriate ratios of size frequency, orientation, and bank attachment, as well as rate of delivery, storage, and transport of LWD to streams, is essential to maintaining historic LWD characteristics and dynamics. Our data suggest that exclusion of logging from riparian zones may be necessary to maintain natural stream morphology and habitat features. Likewise, careful upland management is also necessary to prevent cumulative effects that result in altered water flow regimes and sediment delivery regimes. While not specifically evaluated in this study, in general, it appears that patterns of upland logging space and time may have cumulative effects that could additionally alter the balance of LWD delivery, storage, and transport in fluvial systems.

These issues will be critical for forest managers attempting to prevent future detrimental environmental change or setting restoration goals for degraded bull trout spawning streams.”

Muhlfeld, et al. (2009) evaluated the association of local habitat features (width, gradient, and elevation), watershed characteristics (mean and maximum summer water temperatures, the number of road crossings, and road density), and biotic factors (the distance to the source of hybridization and trout density) with the spread of hybridization between native westslope cutthroat trout *Oncorhynchus clarkii lewisi* and introduced rainbow trout *O. mykiss* in the upper Flathead River system in Montana and British Columbia.

They found that hybridization was positively associated with mean summer water temperature and the number of upstream road crossings and negatively associated with the distance to the main source of hybridization. Their results suggest that hybridization is more likely to occur and spread in streams with warm water temperatures, increased land use disturbance, and proximity to the main source of hybridization.

The EIS or what ever analysis you do must use the best available science to analyze how logging riparian habitat will impact native fish and water quality.

Please see the following article from the 9/25/15 Missoulian disagrees with the Forest Service and says it is habitat destruction causing bull trout declines.

http://missoulian.com/news/local/montana-fwp-biologist-despite-successes-bull-trout-populations-still-in/article_2798e4c6-0658-522f-be4c-4274f903129e.html

Montana FWP biologist: Despite successes, bull trout populations still in peril

Ladd Knotek is disturbed by the lack of attention being paid to the many western Montana streams where bull trout populations are struggling to survive.

The fisheries biologist with Montana Fish, Wildlife and Parks knows people love to latch on to the success stories

from streams like Fish Creek and several Blackfoot tributaries, where bull trout populations are viable.

“But what nobody talks about is all these other populations that, 50 years ago, these were all viable populations,” he said Tuesday as part of a presentation on bull trout in Rattlesnake Creek. “You know, Gold Creek, Belmont Creek, Trout Creek, there’s a whole list of them. There’s a whole bunch of them that are just basically on the verge of disappearing. And what we like to talk about are the ones that are doing OK. But in places like Lolo Creek and some Bitterroot tributaries, bull trout there are just barely hanging on.”

Bull trout have faced a long, slow decline over the past century, to the point where they are now listed as a threatened species under the Endangered Species Act. Success is a relative term even in the places where they are doing well.

“They’re nowhere near what they were historically,” Knotek said of the tributaries where the populations are relatively healthy. “But they have a fair number of adult spawners coming in. People see them in the fishery. But we need to start looking at all these other tributaries that used to be bull trout spawning tributaries and recognize what’s going on in the bigger picture. We’re just looking at a very thin slice instead of looking at the whole thing. A lot of this stuff is just symptoms of what’s going on at the larger scale.

Bull trout are the canary. They're very susceptible to environmental change, whether it's temperature, whether it's physical, whether it's sediment. There's something going on in these drainages and the symptoms we're seeing are the bull trout distribution is shrinking, we're losing populations and we're seeing expansion of nonnatives."

Bull trout – which are native to the Columbia River Basin and are only found west of the Continental Divide in Montana – need clear, cold mountain waters to spawn and require clean gravel beds, deep pools, complex cover, good in-stream flows in the fall and large systems of interconnected waterways for their migrations. Rising temperatures and falling water levels trigger their migration to spawning tributaries in June, and they hang out until they spawn in the fall. They are much more susceptible to warming temperatures and habitat change than nonnative species such as brown and rainbow trout.

Knotek was the featured presenter Friday for a discussion on restoration efforts and the importance of Rattlesnake Creek as a bull trout habitat. The event was organized by the Clark Fork Coalition, a nonprofit in Missoula that aims to protect water quality for the 22,000-square-mile Clark Fork River Basin.

Knotek explained that because Rattlesnake Creek is south-facing and doesn't have much groundwater recharging, it

has much less of a buffer against a warming climate than other streams.

“The water temperatures are significantly higher than they were 10 years ago,” he said. “The types of temperatures we’re seeing in late summer and early fall, we never saw those 10 to 15 years ago. Water temperature is driving a lot of what we’re talking about. It’s definitely stressful on fish. It doesn’t spell good news for bull trout.”

Knotek said it’s a common misconception that brown trout and rainbows are driving out bull trout, and he explained that those nonnative species are simply moving in because the native species is dying off.

“It’s replacement rather than displacement,” he said.

In Rattlesnake Creek, biologists have conducted redd counts of the migratory population in the lower reaches since 1999. There is a healthy resident population in the upper reaches, but researchers are more interested in the fish that actually migrate to the Clark Fork River.

The results have been disturbing.

They found a high of 36 in 2006 and 24 in 2008, before Milltown Dam was removed. There was an expected drop to just four redds – spawning beds – after the dam was removed in 2009, because of the massive disturbance.

However, the number of redds has not bounced back since, and researchers found just six last year.

“That tells us that it wasn’t just the dam removal that caused it, because they should be recovering by now,” Knotek said. “And there are lots of populations like this stream that are not doing well but need more attention. We’ve got a problem here, but it’s not inconsistent with other tributaries. There’s something bigger going on.”

Knotek said that Rattlesnake Creek was historically braided before the area was developed, and that eliminated a lot of the back channels the juvenile fish need to grow.

“You need complexity,” he said. “When you have a straight ditch in a system that used to be braided, it ain’t good.”

He’s also seen much more algae growth in the upper sections, something that is obviously related to higher temperatures and added nutrients.

“We have browns and rainbows progressing upstream, and we attribute that to water temperature,” he said. “That’s consistent with other streams, too. It’s very obvious something is going on here.”

Knoteck believes that a “ramping up” of current conservation work is the only thing that can save bull trout populations. Fish screens, the removal of dams, awareness of anglers and water conservation – especially by people using stream irrigation to water their lawns – is crucial.

“Bull trout are the canary,” he said. “But there are a lot of other species that we could be looking at as indicators as well. A lot of research needs to be done. There’s a lot of species being affected.”

As Knoteck pointed out, bull trout need clear, cold mountain waters to spawn and require clean gravel beds, deep pools, complex cover, good in-stream flows in the fall and large systems of interconnected waterways for their migrations.

How many bull trout will be killed during the implementation of the project?

How will the Rumbling Owl project project make the waters clearer in the short term?

How will the Rumbling Owl project project make the waters colder in the short term?

How will the Rumbling Owl project project make the gravel beds of the streams in the project area cleaner in the short and long term?

How will the Rumbling Owl project project make the affect deep pools in streams in the project area in the short and long term?

How will the Rumbling Owl project project make the affect complex cover over the streams in the project area in the short and long term?

How will the Rumbling Owl project project make the affect the in-stream flows in the fall in the short and long term?

How will the Rumbling Owl project project make the affect large systems of interconnected waterways for bull trout migrations?

Critical habitat receives protection under section 7 of the Endangered Species Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. There is no exception for the short run? How long is the project scheduled to last?

Will this project adversely modify bull trout critical habitat in the short run?

How will the Rumbling Owl project project affect the temperature of the streams in the project area including bull trout critical habitat?

Will all of the proposed logging increase the temperature of the streams in the project area?

Will all of the proposed road building and road use by log truck, clearcutting, and other logging put more sediment into streams in the project area?

How will this affect bull trout and bull trout critical habitat?

When was the last time the project area was surveyed for bull trout?

What were the results of these surveys?

The Notice of proposed action does not characterize or evaluate the project area watersheds based on the Watershed Condition Framework or the baseline condition developed for bull trout. We do not know what the current condition of streams are in the project area, i.e., are they functioning acceptably, at risk or at unacceptable risk? And for what ecosystem parameters? How will this project affect stream function, i.e., degrade, maintain, restore?

- The project relies on BMPs to protect water quality and fish habitat. First, there is no evidence that application of BMPs actually protects fish habitat and water quality.
- Second, BMPs are only maintained on a small percentage of roads or when there is a logging project.

BMPs fail to protect and improve water quality because of the allowance for “naturally occurring degradation.” In Montana, “naturally-occurring degradation” is defined in ARM 16.20.603(11)

as that which occurs after application of “all reasonable land, soil and water conservation practices have been applied.” In other words, damage caused directly by sediment (and other pollution) is acceptable as long as BMPs are applied. The result is a never-ending, downward spiral for water quality and native fish.

Here’s how it works:

- Timber sale #1 generates sediment damage to a bull trout stream, which is “acceptable” as long as BMPs are applied to project activities.
- “Natural” is then redefined as the stream condition after sediment damage caused by Timber Sale #1.
- Timber sale #2 – in the same watershed – sediment damage would be acceptable if BMPs are applied again – same as was done before.
- “Natural” is again redefined as the stream condition after sediment damage caused by Timber Sale#2.

The downward spiral continues with disastrous cumulative effects on bull trout, westslope cutthroat trout and most aquatic life. BMPs are not “reasonable.” Clearly, beneficial uses are not being protected. Please demonstrate that the project is following Montana state water quality policy.

- The Notice of proposed action does not include an analysis of climate change and how that will impact the project.
- The Purpose and Need for this project is solely to prop up the timber industry at the expense of

wildlife, fish and water quality. This project is a money-loser, the logging portion should be dropped and the road decommissioning in Alternative 4 should be implemented.

The U.S. Fish and Wildlife Service found that bull trout are exceptionally sensitive to the direct, indirect, and cumulative effects of roads. Dunham and Rieman demonstrated that disturbance from roads was associated with reduced bull trout occurrence. They concluded that conservation of bull trout should involve protection of larger, less fragmented, and less disturbed (lower road density) habitats to maintain important strongholds and sources for naturally recolonizing areas where populations have been lost. (USFS 2000, page 3-82.

Hitt and Frissell showed that over 65% of waters that were rated as having high aquatic biological integrity were found within wilderness-containing subwatersheds.

Trombulak and Frissell (attached) concluded that the presence of roads in an area is associated with negative effects for both terrestrial and aquatic ecosystems including changes in species composition and population size. (USFS 2000, pages 3-80-81).

"High integrity [forests] contain the greatest proportion of high forest, aquatic, and hydrologic integrity of all are dominated by wilderness and roadless areas [and] are the least altered by management. Low integrity [forests have] likely been altered by past management are extensively roaded and have little wilderness." (USFS 1996a-pages 108, 115 and 116).

"Much of this [overly dense forest] condition occurs in areas of high road density where the large, shade-intolerant, insect-, disease- and fire-resistant species have been harvested over the past 20 to 30 years. Fires in unroaded areas are not as severe as in the roaded areas because of less surface fuel, and after fires at least some of the large trees survive to produce seed that regenerates the area. Many of the fires in the unroaded areas produce a forest structure that is consistent with the fire regime, while the fires in the roaded areas commonly produce a forest structure that is not in sync with the fire regime. In general, the effects of wildfires in these areas are much lower and do not result in the chronic sediment delivery hazards exhibited in areas that have been roaded." (USFS 1997a, pages 281-282).

"Increasing road density is correlated with declining aquatic habitat conditions and aquatic integrity An intensive review of the literature concludes that increases in sedimentation [of streams] are unavoid-

able even using the most cautious roading methods." (USFS 1996b, page 105).

"This study suggests the general trend for the entire Columbia River basin is toward a loss in pool habitat on managed lands and stable or improving conditions on unmanaged lands." (McIntosh et al 1994).

"The data suggest that unmanaged systems may be more structurally intact (i.e., coarse woody debris, habitat diversity, riparian vegetation), allowing a positive interaction with the stream processes (i.e., peak flows, sediment routing) that shape and maintain high-quality fish habitat over time." (McIntosh et al 1994).

"Although precise, quantifiable relationships between long-term trends in fish abundance and land-use practices are difficult to obtain (Bisson et al. 1992), the body of literature concludes that land-use practices cause the simplification of fish habitat." (McIntosh et al 1994).

"Land management activities that contributed to the forest health problem (i.e., selective harvest and fire suppression) have had an equal or greater effect on aquatic ecosystems.

If we are to restore and maintain high quality fish habitat, then protecting and restoring aquatic and terrestrial ecosystems is essential." (McIntosh et al 1994).

"Native fishes are most typically extirpated from waters that have been heavily modified by human activity, where native fish assemblages have already been depleted, disrupted, or stressed []." (Moyle et al 1996).

"Restoration should be focused where minimal investment can maintain the greatest area of high-quality habitat and diverse aquatic biota. Few completely roadless, large watersheds remain in the Pacific Northwest, but those that continue relatively undisturbed are critical in sustaining sensitive native species and important ecosystem processes (Sedell, et. al 1990; Moyle and Sato 1991; Williams 1991; McIntosh et al. 1994; (Frissell and Bayles 1996, please find attached).

With few exceptions, even the least disturbed basins have a road network and history of logging or other human disturbance that greatly magnifies the risk of deteriorating riverine habitats in the watershed." (Frissell undated).

"[A]llocate all unroaded areas greater than 1,000 acres as Strongholds for the production of clean water, aquatic and riparian-dependent species. Many unroaded areas are isolated, relatively small, and most are not protected from road construction and subsequent timber harvest, even in steep areas. Thus, immediate protection through allocation of the unroaded areas to the production of clean water,

aquatic and riparian-dependent resources is necessary to prevent degradation of this high quality habitat and should not be postponed." (USFWS et al 1995).

"Because of fire suppression, timber harvest, roads, and white pine blister rust, the moist forest PVG has experienced great changes since settlement of the project area by Euroamericans. Vast amounts of old forest have converted to mid seral stages."(USFS/BLM 2000, page 4-58).

"Old forests have declined substantially in the dry forest PVG []. In general, forests showing the most change are those that have been roaded and harvested. Large trees, snags, and coarse woody debris are all below historical levels in these areas."

(USFS/BLM 2000, page 4-65).

"High road densities and their locations within watersheds are typically correlated with areas of higher watershed sensitivity to erosion and sediment transport to streams. Road density also is correlated with the distribution and spread of exotic annual grasses, noxious weeds, and other exotic plants. Furthermore, high road densities are correlated with areas that have few large snags and few large trees that are resistant to both fire and infestation of insects and disease. Lastly, high road densities are correlated with areas that have relatively high risk of fire occurrence (from human caused fires), high

hazard ground fuels, and high tree mortality." (USFS 1996b, page 85, parenthesis in original).

In simpler terms, the Forest Service has found that there is no way to build an environmentally benign road and that roads and logging have caused greater damage to forest ecosystems than has the suppression of wildfire alone. These findings indicate that roadless areas in general will take adequate care of themselves if left alone and unmanaged, and that concerted reductions in road densities in already roaded areas are absolutely necessary.

Indeed, other studies conducted by the Forest Service indicate that efforts to "manage" our way out of the problem are likely to make things worse. By "expanding our efforts in timber harvests to minimize the risks of large fire, we risk expanding what are well established negative effects on streams and native salmonids. The perpetuation or expansion of existing road networks and other activities might well erode the ability of [fish] populations to respond to the effects of large scale storms and other disturbances that we clearly cannot change." (Reiman et al 1997).

The following quotes demonstrate that trying to restore lower severity fire regimes and forests through logging and other management activities may make the situation worse, compared to allowing nature to reestablish its own equilibrium. These statements are found in

“An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins, Volume 3 (ICBEMP):

“Since past timber harvest activities have contributed to degradation in aquatic ecosystems, emphasis on timber harvest and thinning to restore more natural forests and fire regimes represent risks of extending the problems of the past.” (ICBEMP page 1340).

“Proposed efforts to reduce fuel loads and stand densities often involve mechanical treatment and the use of prescribed fire. Such activities are not without their own drawbacks -- long-term negative effects of timber harvest activities on aquatic ecosystems are well documented (see this chapter; Henjum and others 1994; Meehan 1991; Salo and Cundy 1987).” (ICBEMP page 1340).

“Species like bull trout that are associated with cold, high elevation forests have probably persisted in landscapes that were strongly influenced by low frequency, high severity fire regimes. In an evolutionary sense, many native fishes are likely well acquainted with large, stand-replacing fires.” (ICBEMP page 1341).

“Attempts to minimize the risk of large fires by expanding timber harvest risks expanding the well-established negative effects on aquatic systems as well. The perpetuation or expansion of existing road networks and other activities might well erode the ability of

populations to respond to the effects of fire and large storms and other disturbances that we cannot predict or control (National Research Council 1996). (ICBEMP page 1342).

“Watersheds that support healthy populations may be at greater risk through disruption of watershed processes and degradation of habitats caused by intensive management than through the effects of fire.” (ICBEMP page 1342).

"Timber harvest, through its effects on forest structure, local microclimate, and fuels accumulation, has increased fire severity more than any other recent human activity. If not accompanied by adequate reduction of fuels, logging (including salvage of dead and dying trees) increases fire hazard by increasing surface dead fuels and changing the local microclimate. Fire intensity and expected fire spread rates thus increase locally and in areas adjacent to harvest". (USFS 1996c, pages 4-61-72).

"Logged areas generally showed a strong association with increased rate of spread and flame length, thereby suggesting that tree harvesting could affect the potential fire behavior within landscapes...As a by-product of clearcutting, thinning, and other tree-removal activities, activity fuels create both short- and long-term fire hazards to ecosystems." (Huff et al 1995).

The answer, therefore, is not to try managing our way out of this situation with more roads and timber harvest/management. In summary:

- Roads have adverse effects on aquatic ecosystems. They facilitate timber sales which can reduce riparian cover, increase water temperatures, decrease recruitment of coarse woody debris, and disrupt the hydrologic regime of watersheds by changing the timing and quantity of runoff. Roads themselves disrupt hydrologic processes by intercepting and diverting flow and contributing fine sediment into the stream channels which clogs spawning gravels. High water temperatures and fine sediment degrade native fish spawning habitat.

According to the U.S. Forest Service 82% of all bull trout populations and stream segments range-wide are threatened by degraded habitat conditions. Roads and forest management are a major factor in the decline of native fish species on public lands in the Northern Rockies and Pacific Northwest.

- An open road density (ORD) of one mile per square mile of land reduces elk habitat effectiveness to only 60% of potential. When ORD increases to six miles per square mile, habitat effectiveness for elk decreases to less than 20%. (Lyon 1984).

The Notice of proposed doesn't analyze or disclose the extent of snowmobiling across the project area. It merely mentions groomed trails. Effects of cross-country travel are not considered. These effects must be considered in the NEPA document.

Thank you for your time.

Sincerely yours,

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