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Organization: Alliance For The Wild Rockies
Title: Executive Director
Comments: Please find our comments attached.

August 12, 2026
Sawtooth Information Team
c/o Sawtooth National Recreation Area 5 North Fork Canyon Road
Ketchum, Idaho 83340
208-423-7559
SM.FS.sawtoothinfo@usda.gov
RE:
https://www.fs.usda.gov/r04/sawtooth/newsroom/releases/forest-accepting-input-wapiti-post-fire-recovery-project

Dear Sawtooth National Recreation Area,
Thank you for this opportunity to comment. Please accept com-ments from Alliance for the Wild Rockies, Center for Biological Diversity, Council on Wildlife and Fish, WildLands Defense, and Native Ecosystems Council on the National Recreation Area's 2026 Wapiti Post-Fire Recovery Fire project.
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 and mining in the area the Forest Service must complete a full environmental impact statement (EIS) for this Project. We also believe the project is too big for the Forest Service to analyze all of effects and for the public to understand them.

The scope of the Project will likely have a significant individual and cumulative impact on the environment. Alliance has re-viewed the statutory and regulatory requirements governing Na-tional Forest Management projects, as well as the relevant case law, and compiled a check- list of issues that must be included in the EIS for he 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 pos-sible impacts of the Project.
I.NECESSARY ELEMENTS FOR PROJECT EIS:

A.Disclose all National Recreation Area requirements for log-ging/burning projects and explain how the Project complies with them;
B.Will this project comply with forest plan big game hiding cover standards?
C.Disclose the acreages of past, current, and reasonably fore-seeable logging, grazing, and road building activities within the Project area;

D.Solicit and disclose comments from the Idaho Department of Fish regarding the impact of the Project on wildlife habitat;
E.Solicit and disclose comments from the Idaho Department of Environmental Quality regarding the impact of the Project on water quality;
F.Disclose the biological assessment for the candidate, threat-ened, or endangered species with potential and/or actual habitat in the Project area;
G.Disclose the biological evaluation for the sensitive and man-agement 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 all of Sawtooth National Forest's record of com-pliance with state best management practices regarding stream sedimentation from ground-disturbing management activities;
K.Disclose the all of Sawtooth National Recreation Area's records of compliance with its monitoring requirements as set forth in its Forest Plan;
L.Disclose the all of Sawtooth National Recreation Area's records of compliance with the additional monitoring require-ments in Sawtooth National Forest.
M.Disclose the results of the field surveys for threatened, en-dangered, sensitive, and rare plants in each of the proposed units;
N.Please formally consult with the US FWS on the impacts of this project on candidate, threatened, or endangered species and plants;

O.Please consult with the US FWS on the impacts of this project on lynx critical habitat and potential lynx critical habitat;
(The US District Court just ordered the US FWS to redo their designation of lynx critical based on where lynx were in 2000 when lynx were listed.
P.Will this Project exacerbate existing noxious weed infesta-tions 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?
R.What is the cumulative effect of Sawtooth National Forest's 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?
S.Is this Project consistent with "research recommendations (Krankina and Harmon 2006) for protecting carbon gains againstt he potential impacts of future climate change? That study rec-ommends "[i]ncreasing or maintaining the forest area by avoid-ing deforestation," and states that "protecting forest from log-ging or clearing offer immediate benefits via prevented emis-sions." That study also states that "[w]hen the initial condition of land is a productive old-growth forest, the conversion to for-est plantations with a short harvest rotation can have the oppo-site 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. In this Project, where much of the logging is clear-cut-ting and includes removing large trees without any diameter lim-it, and where the removal of small diameter surface and ladder fuels is an unfunded man- date to the tune of over $3 million dollars, it is dubious whether the prescriptions are the same type of "thinning" en- visioned in Krankina and Harmon (2006).

T.Please list each visual quality standard that applies to each unit and disclose whether each unit meets its respective vi- sual 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 wolverines, grizzly bears, pine martins, northern goshawk, whitebark pine, monarch butterflies, Chinook salmon, Sockeye salmon, bull trout, black-backed woodpeckers, and lynx as required by the Forest Plans.
W.Please disclose how often the Project area has been surveyed for wolverines, pine martins, northern goshawks, grizzlies, Chi-nook salmon, Sockeye salmon, bull trout, whitebark pine, monarch butterflies, black-backed woodpeckers, and lynx.

X.Is it impossible for wolverines, pine martins, northern goshawks, Chinook salmon, Sockeye salmon, bull trout, griz-zlies, whitebark pine, monarch butterflies, black-backed wood-peckers, to inhabit the Project area?
Y.Would the habitat be better for Chinook salmon, Sockeye salmon, bull trout, bull trout critical habitat, wolverines, pine martins, northern goshawks, grizzlies, whitebark pine, black-backed woodpeckers, monarch butterflies, if roads were re-moved in the Project area?
Z.What is the U.S. FWS position on the impacts of this Project on wolverines, pine martins, black-backed woodpeckers, Chi-nook salmon, Chinook salmon, critical habitat, Sockeye salmon, Sockeye salmon critical habitat, bull trout, bull trout critical habitat, northern goshawks, grizzlies, whitebark pine, monarch butterflies, and

lynx? Have you conducted ESA consultation?

AA.Please provide us with the full BA for the black-backed woodpeckers, wolverines, pine martins, northern goshawks, grizzlies, whitebark pine, black-backed woodpeckers, Chinook salmon, Chinook salmon critical habtiat, bull trout, bull trout critical habitat, Sockeye salmon, Sockeye salmon critical habi-tat, monarch butterflies, blackbacked woodpeckers, and lynx.
BB.What is wrong with unlogged post fire forest conditions?

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

DD.Why are you trying to get rid of all of the snags from the fire?
EE.Please disclose what is the best available science for restora-tion 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 infesta-tions and native plant communities;
HH.Disclose the amount of detrimental soil disturbance that currently exists in each pro- posed 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 mit-igation/ 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 pre-dictions;
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 neces-sary 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 imple-mentation;
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 cover during Project imple-mentation;
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 deter-mined by field review;

ZZ. Disclose and address the concerns ex- pressed by the ID Team in the draft Five-Year Review of the Forest

Plan regar-ding the failure to monitor population trends of MIS or focal specie, 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, includ-ing a two-year, five- year, ten-year, and 20-year projection;
CCC. Disclose when and how the Sawtooth National Forest made the decision to suppress natural wildfire in the Project area and replace natural fire with logging and pre- scribed burning;

DDD. Disclose the cumulative impacts on the Forest-wide level of the Sawtooth National Forests' policy decision to replace nat-ural fire with logging and prescribed burning;
EEE. Disclose how Project complies with the Roadless Rule;

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;
HHH. Disclose the baseline condition, and expected sedimenta-tion 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),recom-mends elk habitat effective- ness of 70% in summer range and at least 50% in all other areas where elk are one of the prima- ry resource considerations. Ac- cording to Figure 1 in Christensen et al (1993), this equates to a maximum road density of approx-imately 0.7 mi/sq mi. in sum- mer range and approximately 1.7 mi/sq mi. in all other areas.
Do any of the 6th Code watersheds in the Project area meet ei-ther 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 man- aged for elk: "Areas where habitat effective- ness is retained at lower than 50 percent must be recognized as making only minor contri- butions to elk management goals. If habitat effectiveness is not important, don't fake it. Just admit up front that elk are not a consid- era-tion." The Project EIS does not make this ad- mission.
The Forest Service should provide an analysis of how much of the Project area, Project area watersheds, affected land- scape 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 en- compassing 30% or more of the area.
Please provide a rational justification for the deviation from the Hillis security definition and numeric threshold that re- present 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?
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 uncritical- ly 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 experi-ence infrequent, high-severity crown fires []. . . The most exten- sive subalpine forest types are composed of Engelmann spruce (Picea engelmannii), subalpine fir (Abies lasiocarpa), and lodgepole pine (Pinus contorta), all thin- barked trees ea- sily killed by fire. Extensive stand-replacing fires occurred histori-cally 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 pe-riod of fire exclusion has significantly altered the long fire inter-vals in subalpine forests. Furthermore, large, intense fi- res burn-ing 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 consis-tent 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 sub- stan-tial shifts in stand structure over recent decades as a re- sult 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 fo- rests, fire behavior in Yellow- stone during 1988, although se- vere, was nei- ther unusual nor surprising."
Schoennagel et al (2004)(emphasis added) states: "Mechanical fuel reduction in sub- alpine 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."

Schoennagel et al (2004) states: "The Yellow- stone fires in 1988 revealed that variation in fuel conditions, as measured
by stand age and density, had only minimal influence on fire be-havior. 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. Thin-ning also will not restore subalpine forests, because they were dense historically and have not changed significantly in re-sponse to fire suppression. Thus, fuel- reduction efforts in most Rocky Mountain sub- alpine forests probably would not effec-tively 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 hem- lock, 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 the- se 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 forestnatural ecological dynamics are largely preserved be- cause fire sup-pression 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 water- sheds." "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 ex-ample, 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- intensity, stand-replacing fires.

Dry forests historically had short intervals between fi- res, 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 rela- ted to fine fuel moisture content, air temperature, the amount of shad-ing of surface fuels, and the occurrence of an ignition source (human or lightning caused) . . . . There is generally a warmer, dryer microcli- mate in more open stands (fig. 9) compared to denser stands. Dense stands (canopy cover) tend to provide more shading of fuels, keep- ing 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 com- pared to more open stands. More open stands also tend to allow higher wind speeds that tend to dry fu-els compared to dense stands. These factors may in- crease probability of ignition in some open canopy stands com- pared to dense canopy stands."
Please see the attached study by DellaSala et. al. 2022 reviewed 1500 wildfires between 1984 and 2014 found that actively man-aged forests had the highest level of fire severity. While those forests in protected areas burned, on average, had the lowest level of fire severity. In other words, the best way to reduce se-vere fires is to protect the land as wilderness, not "manage" it.
Please also find DellaSala 2025 attached.

A study of over 1,500 fires covering 23 million acres by Bradley et al. 2016, (attached) concluded the more "thinning" of trees in a forest the more quickly and intensely a wildfire burns. One au-thor writes, "Dense, mature forests tend to burn less intensely … because they have higher canopy cover and more shade, which creates a cooler, more moist microclimate. The higher density of trees of all sizes can act as a windbreak, buffering gust-driven flames. Thinning and other activities that remove trees, especial-ly mature trees, reverse those effects, creating hotter, drier, and windier conditions." Even a USFS review of the largest fire in New Mexico history, a mismanaged prescribed burn, agreed.

Please see the attached paper by Schoennagel et al. 2017, con-cluded that "fuels reduction cannot alter regional wildfire trends."

The Project will violate the NEPA if there are no valid snag sur-veys done for the project area both within and outside proposed harvest units.
The project will violate the NEPA if there are no valid surveys for old growth habitat within each project area, as identified by Green et al. 1992; old growth types need to be defined and quan-tified by timber types, such as lodgepole pine, Douglas-fir, mixed conifer, spruce, subalpine fir, and limber pine.
The project will likely violate the NEPA if the mitigation mea-sures for MIS, sensitive species, and Montana Species of Con-cern (birds, mammals including bats) are not clear- ly de- fined, and demonstrated to be effective as per the current best science.

We request a careful analysis of the impacts to fisheries and wa-ter quality, including considerations of sedimentation, in- creas-es in peak flow, channel stability, risk of rain-on- snow events, and increases in stream water temperature. Please disclose the locations of seeps, springs, bogs and other sensitive wet areas, and the effects on these areas of the project activities. Where livestock are permitted to graze, we ask that you assess

the present condition and continue to monitor the impacts of grazing activities upon vegetation diversity, soil compaction, stream bank stability and subsequent sedimentation. Livestock grazing occurs in the Project area and causes sediment impacts, trampled or destabilized banks, increased nutrient loads in streams, and decreased density, diversity, and function of riparian vegetation that may lead to in- creased stream temperatures and further detrimental impacts to water quality.

The Project will violate the NEPA if there are no valid snag sur-veys done for the project area both within and outside proposed harvest units.
The project will violate the NEPA if there are no valid surveys for old growth habitat within each project area, as identified by Green et al. 1992; old growth types need to be defined and quan-tified by timber types, such as lodgepole pine, Douglas-fir, mixed conifer, spruce, subalpine fir, and limber pine.
The project will likely violate the NEPA if the mitigation mea-sures for MIS, focal species, sensitive species, and Montana Species of Concern (birds, mammals including bats) are not clearly defined, and demonstrated to be effective as per the cur-rent best science.
FAILURE TO REVIEW AND PROTECT CULTURAL AND HISTORICAL RESOURCES

Consultation with the Idaho and Montana State Historic Preser-vation Office (SHPO) must be completed prior to a decision be-ing signed.
Any required protection measures provided from the SHPOs will be incorporated into my final decision.
Crucial to the preservation of the historical and cultural founda-tions of the nation, Section 106 of the National Historic Preser-vation Act (NHPA) and its implementing regulations, 36 C.F.R. Part 800 (PDF) (revised August 5, 2004) re- quire Federal agen-cies 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 de-fined as an "undertaking." An undertaking means a project, ac-tivity 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 per-mit, license, or approval.
Section 110 of the NHPA

Added to the NHPA in 1992, Section 110 requires Federal agen-cies to emphasize the preservation and enhancement of cultural re- sources. 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 histori-cal 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 consul-tation 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 given a chance to comment on this.
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 Wildland Urban Interface (WUI) and the locations of all homes in comparison to the project area. Please demonstrate that the WUI complies with the definition of the WUI found in the Healthy Forest Restoration Act.

Since the Forest Service did not conduct NEPA for the Fire Plan, please disclose the cumulative effects of Forest-wide implemen-tation 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 docu-ment. Specifically analyze the decision to prioritize mechanical, human-designed, somewhat arbitrary treatments as a replace-ment for naturally-occurring fire.
Did the Forest Service conduct ESA consultation for the Fire Plan?

Will the Forest Service be considering binding legal standards for noxious weeds in its revision of the all the Forest Plans that cover the project area?
How effective have BMPs been at stopping (i.e. preventing) new weed infestations from starting during logging and related road operations?

Is it true that new roads are the number one cause of new nox-ious weed infestations?
Why isn't the Forest Service considering a Forest Plan amend-ment in this Project to amend the Forest Plan to include binding legal standards that address noxious weeds?
Is it true that noxious weeds are one of the top threats to bio- di-versity on our National Forests?
How can the Forest Service be complying with NFMA's re-quirement 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. The U.S. District Court or-dered the USFWS to reconsider if wolverines should be listed untie ESA. Wolverines need secure habitat in big game winter range.
Which wildlife species and ecosystem processes, if any, does the fire-proofing in the proposed project benefit?
Which species and processes do fire-proofing harm?
What is your definition of healthier and resilient?

What evidence do you have that this logging will make the for-est healthier for fish and wildlife? What about the role of mixed severity and high severity fire - what are the benefits of those natural processes?
How have those processes (mixed and high severity fire) created the ecosystems we have today?

Over how many millennia have mixed and high severity fire have been occurring with- out human intervention?
What beneficial ecological roles do beetles play? You didn't an-swer this in violation of NEPA, NFMA and the APA.
Can the forest survive without beetles?

Will all WQLS streams in the project area have completed TMDLs before a decision is signed?
Will this project leave enough snags to follow the Forest Plan requirements and the requirements of sensitive old growth species such as flammulated owls and goshawks?
Will this Project exacerbate existing noxious weed infestations and start new infestations?
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 rec-ommends "[i]ncreasing or maintain-ing the forest area by avoiding deforestation," and states that "protecting forest from logging or clearing offer immediate benefits via pre- vented emissions."
Please list each visual quality standard that applies to each unit and disclose whether each unit meets its respective visual quali-ty standard.
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 na-tive 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 imple-mentation of Forest Service "best management practices" (BMPs), noxious weed infestation on the Forest is getting worse and noxious weeds will likely overtake native plant populations if introduced into areas that are not yet infested. The Forest Ser-vice has recognized that the effects of noxious weed invasions may be irreversible. Even if weeds are eliminated with herbicide treatment, they may be replaced by other weeds, not by native plant species.

Invasive plant species, also called noxious weeds, are one of the greatest modern threats to biodiversity on earth. Noxious weeds cause harm because they displace native plants, resulting in a loss of diversity and a change in the structure of a plant commu-nity. By re- moving native vegetative cover, invasive plants like knapweed may increase sediment yield and surface runoff in an ecosystem. As well knapweed may alter organic matter dis- trib-ution 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 ear-ly 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 re-sponsible for noxious weed infestations; in particular, logging, pre- scribed 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 es-tablishment of noxious weed infestations be- cause of soil dis-turbance 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 dis-turbances from road construction and maintenance create ideal establishment conditions for weeds. Roads also provide obvious dispersal corridors. Roadsides throughout the project area are in-fested with noxious weeds. Once established along roadsides, invasive plants will likely spread into adjacent grass- lands and forest openings.
Please address the ecological, social and ascetic impact of cur-rent 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 ad-dress 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 in-cludes 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 IDAHO COUNTY NOXIOUS WEED LIST. State-listed Category 2 noxious weed species yel-low and orange hawkweeds are recently established (within the last 5 to 10 years) in Idaho and Montana and are rapidly expand-ing in established areas. They can invade undisturbed areas where native plant communities are intact. These species can persist in shaded conditions and of- ten grow under- neath 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 hawk- weeds 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 influ-enced 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, min- ing access routes, and private roads; removal of trees through commercial and pre-commercial logging and understory thinning; and pre-scribed 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 pro-posed action units?
Noxious weeds are not eradicated with single herbicide treat-ments. 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, repeti-tive schedules to be effective.
What commitment to a long-term, consistent strategy of applica-tion is being proposed for each weed infested area wi- thin the proposed action area? What long term monitoring of weed popu-lations is proposed?
When areas treated with herbicides are re- seeded on national forest land, they are usually reseeded with exotic grasses, not na-tive 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 Ser-vice concedes that preventing the introduction of weeds into un-infested areas is "the most critical component of a weed man-agement 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 are in the Idaho Panhandle, Nez Perce-Clearwater, Lolo, Flat-head, Bitterroot, and Kootenai National Forests' Plans to address noxious weed infestations? Please include an alternative in the DEIS that includes land management standards that will prevent new weed infestations by addressing the causes of weed infesta-tion. 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 Ser- vice would fail to consider a rea-sonable alter- native.
Rare Plants

The ESA requires that the Forest Service con- serve 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 manage-ment activity varies by species, and in some cases, is not fully known. Local native vegetation has evolved with and is adapted to the climate, soils, and natural processes such as fire, in- sect and disease infestations, and windthrow. Any management or lack of management that causes these natural processes to be al-tered may have impacts on native vegetation, including threat-ened 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.
Whitebark Pine

Not all ecosystems or all Rocky Mountain landscapes have ex-perienced the impacts of fire exclusion. In some wilder- ness ar-eas, 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 eco- logical factor. In some upper subalpine ecosystems, fires were im- portant, 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 signifi-cantly alter stand conditions or forest health within Rocky Mountain sub- alpine ecosystems.

Whitebark pine seedlings, saplings and mature trees, present in subalpine forests pro- posed for burning, would experience mor-tality 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 pres-ence 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 ra- pid 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 per-cent of remaining trees being infected with blister rust. The abil-ity 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.
Montana is currently experiencing a mountain pine beetle epi-demic. Mountain pine beetle prefer large, older whitebark pine, which are the major cone producers. In some areas the few re-maining whitebark that show the potential for blister rust resis-tance are being at- tacked 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 ab- sence of fire, this naturally occurring white- bark pine re-generation 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 re-gion, natural whitebark pine regeneration in the project area is prospective rust resistant stock.
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 re-sistant 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? Please see the attached paper by Six et al. 2021 about logging and white bark pine.
It is not clear how vast acres of national forest lands can be in-tensively manipulated without a single wildlife management ob-jective identified. This means that the agency cannot be meeting the NFMA requirements to maintain a diversity of wildlife. And it also means that the stated purpose and need is invalid, and a violation of the NEPA, because vegetation and fuels manage-ment have a direct impact on wildlife, which means that wildlife management also has to be included as a purpose and need. In effect, the purpose and need of the project is to remove wildlife habitat, but this is never identified to the public, in violation of the NEPA.
The agency is violating the NEPA by using vague, unmeasure-able 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 con-stitutes a diversity of age classes, how is this to be measured, and how are proposed changes measured as per diversity? How are diversity measures related to wildlife (why is diversity need-ed for what species)? If the reasons for logging cannot be clearly identified and measured for the public, the agency is not meeting the NEPA requirements for transparency.
Please find attached the paper by Faison et al. 2023 titled, "The importance of natural forest stewardship in adaptation planning in the United States." They "argue that expensive management interventions are often unnecessary, have uncertain benefits, or are detrimental to many forest attri- butes such as resilience, carbon accumulation, structural complexity, and genetic and bio-logical diversity. Natural forests (i.e., those protected and largely free from human management) tend to develop greater complex-ity, car- bon storage, and tree diversity over time than forests that are actively man- aged; and natural forests often become less susceptible to future insect attacks and fire following these disturbances. Natural forest stewardship is therefore a critical and cost effective strategy in forest climate adaptation."
Faison et al. 2023 shows that the project is not meeting the pur-pose and need of the project. Please find Faison et al. 2023 at-tached.
Please see the paper by Baker et al. 2023. This landmark study found a pattern of "Falsification of the Scientific

Record" in government-funded wildfire studies.
Dr. Baker's paper is the best available science. Please explain why this project is not following the best available science. The Draft Decision Notice is in violation of NEPA.
This unprecedented study was published in the peer- reviewed journal Fire, exposing a broad pattern of scientific misrepresen-tations and omissions that have caused a "falsification of the sci-entific record" in recent forest and wildfire studies funded or au-thored 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 di-rectly refuted and discredited this narrative were either misrep-resented or omitted by agency publications. The corrected scien-tific 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 compo-nent 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 mitiga-tion 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, unfortu-nately, 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 re-lease 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 com-munities 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 car-bon emissions and in the long-run contributes to more fires" said, Dr. Dominick A. DellaSala, Chief Scientist, Wild Heritage, a Project of Earth Island Institute concluded in the press release.
Please analyze how the project would effect wilderness quality lands.
Please see the attached Northern Rockies Ecosystem protection Act, S. 1198 (attached) and H.R. 2420 in the Sawtooth National Forest Would this project make any lands no longer qualify as wilderness?
Please see the following article:
Montana researchers urge towns to focus on wildfire prepara-tion

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 confla-gration 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-re-sistant.
"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 Sci-ence 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 in-dividual 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 be-cause wind pushes embers and heat from one unprotected building to another, overwhelming fire departments that nor-mally 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 an-alyst and heat transfer engineer who has spent 40 years inves-tigating 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 lit-tle during that time period to put their recommendations into place.
"What prompted us this time was the Lahaina urban confla-gration that was associated with a grassfire. It may be a re-peated 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 prob-lem 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 pre-dictably, 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 build-ings burned in Superior and Louisville, Colo. from a grass fire; and in November 2021, a grassfire 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 igni-tion, 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 ex-treme 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 de-stroyed 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 con-trol 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 com-municate 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 igni-tion 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 Protec-tion 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@missoulacur-rent.com.
Please find, "Wildland-urban fire disasters aren't actually a wildfire problem," by Calkin et al. 2023 attached. Calkin et al. 2024 found that to protect homes from wildfire we have to hard-en homes, not cut and burn forests.

The project area should be within 100 feet of homes not on For-est 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 see the attached paper titled: "Management for Mountain Pine Beetle Outbreak Suppression: Does Relevant Science Sup-port Current Policy?" By Six et al. 2014.
The abstract states: While the use of timber harvests is general-ly accepted as an effective approach to controlling bark beetles during outbreaks, in reality there has been a dearth of moni-toring to assess outcomes, and failures are often not reported. Additionally, few studies have focused on how these treatments affect forest structure and function over the long term, or our forests' ability to adapt to climate change. Despite this, there is a widespread belief in the policy arena that timber harvesting is an effective and necessary tool to address beetle infestations. That belief has led to numerous proposals for, and enactment of, significant changes in federal environmental laws to en-courage more timber harvests for beetle control. In this review, we use mountain pine beetle as an exemplar to critically eval-uate the state of science behind the use of timber harvest

treatments for bark beetle suppression during outbreaks. It is our hope that this review will stimulate research to fill impor-tant gaps and to help guide the development of policy and management firmly based in science, and thus, more likely to aid in forest conservation, reduce financial waste, and bolster public trust in public agency decision-making and practice.
The paper finds:

Mountain pine beetle can remain in non-outbreak phase for very long periods of time, even when forests are

composed of suitable age classes of host trees and in a condition often con-sidered to be highly susceptible and "unhealthy". Outbreaks occur only when multiple thresholds involving temperature, tree defenses, and brood productivity are surpassed that allow positive feedbacks to amplify across several scales [2,64].
While outbreak development is complex, the primary elements
that must exist are an abundance of suitable hosts and a trig-ger [63]. Triggers for mountain pine beetle that allow popula-tion amplification and subsequent widespread outbreak initia-tion are warm temperatures and drought, conditions that often co-occur [65]. There can also be a substantial lag period, even several years, from the initiation of the abiotic factors that trigger an outbreak to when populations actually amplify [65,66]. However, once a threshold number of beetles is sur-passed, the outbreak becomes self-perpetuating.
They also state: The on-the-ground reality is that direct control efforts typically fall far below the levels needed to stabilize, let alone control, mountain pine beetle populations. In the above cited studies, rates of detection in mitigated stands ranged from 45%-79%. These situations are not unusual. Direct control treatments are laborious, extremely costly and time consum-ing, and require high levels of training. Logistical difficulties, including proper seasonal timing, access, inclement weather, and lack of trained personnel, increase the odds that they will not be effective. The high financial cost of such efforts coupled with a volatile market for sawtimber, pulp and pellets further complicates the use of direct controls. Importantly, outbreak development is extremely swift and the amount of mitigation required can rapidly outstrip the ability of managers to re-spond.
Six et al. 2014 also note:

The hypothesis that light has a strong effect on mountain pine beetle behavior, particularly in reducing attacks, has led to a new treatment called daylighting. This approach is currently being implemented on a broad scale by federal and western state agencies. Daylighting involves removing trees and vegeta-tion from around trees that are targeted for retention and is believed to work by repelling beetles from the boles of trees by increasing light and solar radiation [117]. While widely rec-ommended, the efficacy of this treatment is unknown; there are no published studies on its effects on bark beetles.
Six et al. 2014 found that beetles are selective in killing the least healthy trees but logging occurs without consideration of genetics.

Very importantly, the beetle exercises selectivity in the trees it kills. While extremely high numbers may override this selectiv-ity, evidence is accumulating that, even under outbreak condi-tions, beetles choose trees that have particular qualities. Bee-tles commonly select trees for attack that exhibit lower growth rates, defenses, and higher water stress [58,74,77]. While these factors can be influenced both locally and regionally by site conditions and climate, much of the variation in these proper-ties within individual stands that affect bark beetle choice like-ly has a genetic basis. Outbreaks can result in strong natural selection against trees with phenotypes (and likely genotypes) favorable for the beetle and for those that possess unfavorable qualities [58,77]. However, when humans thin forests, trees are removed according to size, species, and density, without consideration of genetics. Thus, trees best adapted to surviving beetle outbreaks are as likely to be removed as those that are not.
When humans thin forests, they typically manage for resis-tance and resilience, rather than adaptation which involves genetic change. It is very important to distinguish between re-sistance, resilience, and adaptation, as each have different goals and operate on different temporal scales [140]. Resis-tance is a short-term holding action where we try to maintain an existing state. Approaches focusing on resistance often re-quire massive interventions and increasing physical and fi-nancial investments over time. Such approaches may set forests up for future outbreaks [136] and even catastrophic failure as they surpass thresholds in a warming climate [140]. In contrast, practices that promote resilience attempt to allow forests the ability to adjust to gradual changes related to cli-mate change and to recover after disturbance. However, like resistance, resilience is not a long-term solution. In the long term, forests must be able to adapt to change. Adaptation in-volves genetic change driven by natural selection. Currently, much of forest management, including bark beetle manage-ment, focuses on resistance and resilience, mainly through di-rect and indirect management, respectively. However, neither

approach allows for true adaptation. For long term continuity of our forests, it will be imperative to begin to incorporate this aspect of management into our approaches.
Six et al 2014 conclude: One of the biggest problems in assess-ing the utility of direct controls is a general lack of monitoring or post hoc assessments of the outcomes of implementing these practices. Despite decades of direct control and large-scale im-plementation of these practices, few rigorous studies on its ef-ficacy have been done and there remains no agreement among scientists or foresters regarding its ability to reduce beetle pop-ulations or losses of trees. Studies conducted prior to the cur-rent outbreak have variously concluded that direct treatments may merely act to delay infestation of susceptible stands [97], or that if used correctly, can be effective [98,99]. Many studies found that while some treatments slowed the rate of infesta-tion, overall, they had little to no impact on mountain pine bee-tle populations [97,100-104].
The manner in which policy makers have accepted beetle tim-ber harvest treatments as a panacea for responding to bark beetle outbreaks in North American forests raises a number of red flags. As ecosystems and places that have economic, social, and cultural value to human communities are altered by cli-mate change, there is a risk that people will overreact because of a need to "do something" to respond to change, and to give themselves some sense of control over broader forces that ap-pear to be out of control. That pressure, to "do something", might also interact with the uncertainty about which choices are effective and appropriate (as with beetle timber harvest treatments) to create an opportunity for political pressures to force the adoption of particular choices that benefit specific in-terest groups [143]. It is perhaps no accident that the beetle treatments that have been most aggressively pushed for in the political landscape allow for logging activities that might pro-vide revenue and jobs for the commercial timber industry. The result is that the push to "do something," uncertainty, and po-litical pressures might lead us to act to respond to climate change before we understand the consequences of what we are doing, in the end producing more harm than good.
Our argument here is not to forgo management, but rather that management should be led by science and informed by monitoring. Both direct and indirect management for bark beetles have their place. However, to manage our forests in a way that best ensures their long-term function while wisely us-ing limited financial resources, policy makers and the public need a clearer understanding of current science
The project's use of conditions based management is a violation of NEPA, NFMA, the Clearwater Act, the APA and the ESA based on the Federal Court ruling on a Forest Service logging project in the Tongass N.F.

Please see the following article by the American bar Association about the use of Condition-Based Management.

May 10, 2021

The U.S. Forest Service's Expanding Use of Condition-Based Management: Functional and Legal Problems from Short-Circuiting the Project-Planning and Environmental Impact Statement Process
Andrew Cliburn, Paul Quackenbush, Madison Prokott, Jim Murphy, and Mason Overstreet

https://www.americanbar.org/groups/environment_energy_re-sources/publications/fr/20210510-the-us-forest-services-ex-panding-use-of-condition-based-management/

Condition-based management (CBM) is a management ap-proach that the U.S. Forest Service has increasingly used to authorize timber harvests purportedly to increase flexibility, discretion, and efficiency in project planning, analysis, and

implementation. The agency believes it needs this flexible ap-proach because sometimes conditions on the ground can change more quickly than decisions can be implemented. In practice, however, CBM operates to circumvent the National Environmental Policy Act (NEPA) review framework by post-poning site-specific analysis until the Forest Service imple-ments the project, which effectively excludes the public from site-specific decisions, reduces transparency, and removes in-centives for the agency to avoid harming localized resources. The practice should be curtailed by the Biden administration

NEPA requires federal agencies including the Forest Service to provide the public with "notice and an opportunity to be heard" in the analysis of "specific area[s] in which logging will take place and the harvesting methods to be used." Ohio Forestry Ass'n v. Sierra Club, 523 U.S. 726, 729-30 (1998). Site-specific public involvement can significantly improve projects because the agency may be unaware of harmful im-pacts or resource concerns until the public flags them during the environmental analysis process. Nationally, the Forest Ser-vice drops about one out of every five acres it proposes for tim-ber harvest based on information or concerns presented dur-ing the NEPA process, often due to public comments regarding site-specific information. Public Lands Advocacy Coalition, Comments on Proposed Rule, National Environmental Policy Act (NEPA) Compliance (June 13, 2019) (analyzing 68 projects that relied on environmental assessments).

The Forest Service appears to be abandoning the site-specific analysis model in favor of CBM. CBM projects use an overar-ching set of "goal variables"-predetermined management cri-teria that guide implementation-that Forest Service staff ap-ply to on-the-ground natural resource "conditions" encoun-tered during the course of project implementation, a period that can span years or even decades: essentially, when the Forest Service finds X resource condition on the ground, it ap-plies Y timber harvest prescription. However, basic information regarding the project's details-such as unit location, timing, roadbuilding, harvesting methods, and site-specific environ-mental effects-is not provided at the time the Forest Service conducts its NEPA environmental review (when the public can weigh in), nor when it gives its final approval to a project (when the public can seek administrative review). Instead, site-level disclosures are made after NEPA environmental and ad-ministrative review is complete, depriving the public of oppor-tunities to comment and influence the decision based on local-ized conditions.

While CBM is not a new management tool, the Forest Service has employed it for over a decade and it was used sparingly during the Obama administration. However, its use accelerated during the Trump administration and shows no sign of slow-ing. To date, dozens of Forest Service projects across the coun-try have used CBM. See, e.g., Red Pine Thinning Project, Ot-tawa National Forest; Medicine Bow Landscape Vegetation Analysis, Medicine Bow-Routt National Forest; Sage Hen In-tegrated Restoration Project, Boise National Forest.

As the Forest Service's use of CBM continues, questions re-main about its legality. Public-lands advocates argue that CBM violates NEPA's mandate that agencies take a hard look at the consequences of their actions before a project com-mences. This "look before you leap" approach was the primary purpose of NEPA and remains the statute's greatest strength.

NEPA works by requiring an agency to consider alternatives and publicly vet its analysis whenever its proposal may have "significant" environmental consequences, 42 U.S.C. § 4332(2)(C), or implicates "unresolved conflicts" about how the agency should best accomplish its objective. Id. at § 4332(2)
(E). However, CBM allows the Forest Service to circumvent the effects analysis process when exercising discretion about where and how to log decisions that often may have "signifi-cant" environmental consequences. Only two federal cases have addressed CBM's legality. In WildEarth Guardians v. Connor, 920 F.3d 1245 (10th Cir. 2019), the Tenth Circuit approved a CBM approach for a log-ging project in southern Colorado in Canada lynx habitat. The environmental assessment utilized CBM and analyzed three different alternatives, one of which was a worst-case scenario. For the worst-case scenario, the Forest Service assumed that the entire lynx habitat in the project area would be clear-cut.

The Forest Service "took the conservative approach" because it "did not know precisely" where it would log in the lynx habi-tat areas. WildEarth Guardians, 920 F.3d at 1255. Based on this conservative approach, coupled with a comprehensive, re-gion-wide lynx management agreement and its associated en-vironmental impact statement, the court agreed with the Forest Service that its future site-specific choices were "not material" to the effects on lynx-i.e., that no matter where logging oc-curred, "there would not be a negative effect on the lynx." Id. at 1258-59.

However, a second case addressing CBM found that site-spe-cific analysis was needed to satisfy NEPA's "hard-look" stan-dard. In Southeast Alaska Conservation Council v. U.S. Forest Service, 443 F. Supp. 3d 995 (D. Ak. 2020), the court held that the Forest Service's Prince of Wales Landscape Level Analysis Project-a 15-year logging project on Prince of Wales Island in the Tongass National Forest-violated NEPA. The project would have authorized the logging of more than 40,000 acres, including nearly 24,000 acres of old growth, along with 643

miles of new and temporary road construction, but it "d[id] not include a determination-or even an estimate-of when and where the harvest activities or road construction . . . w[ould] actually occur." Id. at 1009. The court found that this analysis was not "specific enough" without information about harvest locations, methods, and localized impacts. Id. at 1009-10. The court further held that a worst-case analysis could not save the project, because site-specific differences were consequential.
Id. at 1013.
The Forest Service's widespread use of CBM also creates compliance challenges under the Endangered Species Act (ESA). Section 7(a)(2) of the ESA requires federal agencies to consult with the Fish and Wildlife Service and/or National Marine Fisheries Service whenever a proposed action "may af-fect" listed species or destroy or adversely modify its critical habitat to ensure that the action is "not likely to jeopardize" these species. 16 U.S.C. § 1536. CBM conflicts with that statu-tory requirement because it does not allow agencies to properly determine whether an action "may affect" or is "likely to jeop-ardize" a listed species when the consulting agencies do not know the specifics of when or where the action will be imple-mented, or what the site-specific impacts of the action may be.
For some projects, the Forest Service has tried to avoid this tension by conducting section 7 consultation prior to each phase of a CBM project, but this approach has run headlong into the general rule against segmenting project consultation duties under the ESA. See, e.g., Conner v. Burford, 848 F.2d 1441, 1457 (9th Cir. 1988). With few exceptions, section 7 con-sultation must cover the overall effects of the entire project at the initial stage before the project can commence. Thus, re-gardless of whether agencies choose to consult up front or to consult in stages, the Forest Service is likely to face significant legal hurdles when its CBM project "may affect" listed species.
CBM is not only legally dubious, but also unnecessary. The Forest Service already has NEPA-compliant methods to deal with situations that require a nimble response to the needs of a dynamic landscape. In these cases, the Forest Service can complete a single "programmatic" analysis to which future site-specific decisions will be tiered. This programmatic ap-proach allows the Forest Service to speed the consideration and implementation of site-specific, step-down proposals. Un-like CBM, this approach allows for public review of site-specif-ic decision-making and administrative review of those deci-sions.
Surveying the regulatory horizon, the future of CBM in the Forest Service system is uncertain. The national forests face a host of complex challenges including climate-related crises, insect and forest pestilence, protecting and restoring biodiver-sity, and wildfire management. These challenges are made worse by budget and staff restrictions. Without adequate fund-ing, the Forest Service must rely on imperfect tools like com-mercial logging, which can cause more harm than good in the wrong places.
But this is not the time to shortchange the most consequential decisions that the agency must make: determining where and how to act. During the final two years of the Trump adminis-tration, the Forest Service attempted to explicitly codify CBM provisions in revisions to its NEPA regulations, although those provisions were dropped from the final rule. Simultaneously, other federal land-management agencies like the Bureau of Land Management have started to use CBM analogues in their NEPA-related planning documents. Although it is still early, the Biden administration's newly appointed Council on Envi-ronmental Quality team has yet to weigh in on CBM. If use of CBM continues in a manner that undermines public participa-tion and NEPA's "hard look" standard, some of our riskiest land management projects may not receive proper environ-mental oversight.
This is a violation of NEPA to not identifying specific areas where logging would have occurred and where roads and how many roads will be built.

The project is in violation of NEPA, NFMA, the Clean Water Act, the APA and the ESA.
The EA fails to take a hard look at the Project's impacts to lynx and lynx habitat caused by the Project's expansive logging be-yond the boundaries analyzed in the Forest Plan EIS and the EIS for the NRLMD.
The EA fails to take a hard look at the Project's impacts to lynx and lynx habitat caused by the Project's expansion of the WUI beyond the boundaries analyzed in the Forest Plan EIS and the EIS for the NRLMD.
Moreover, the EA fails to adequately consider how large open-ings and removing significant cover will impact elk displace-ment from public lands during hunting season, or how increased motorized access into previously

secure areas will displace elk and grizzly bears, even if new roads are not open to the public.
The Forest Service's analyses, actions, and omissions regarding the cumulative impacts of the Project to wildlife and to the con-nectivity of important wildlife habitat across the Project area vi-olate NEPA and the APA.
Also in violation of NFMA, the Forest Service has not demonstrated compliance with the Forest Plan's wildlife and vegetation standards for occupied lynx habitat. Because the Forest Service failed to consider the direct, indirect, and cu-mulative impacts from other reasonably foreseeable logging projects overlapping Project area LAUs, the EA fails to demonstrate the Project's consistency with Forest Plan and NRLMD standards that are designed to maintain connectivity and prevent more than 15% of an LAU from being clearcut, or "regenerated," in a 10-year period.
In sum, the Forest Service's failure to demonstrate compliance with provisions of HFRA and the Forest Plan, as well as its failure to properly analyze the Project's impacts to lynx and adequately inform the public of the Project's impacts to lynx and lynx habitat, are violations of HFRA, NFMA, and NEPA, and render the Project EA arbitrary and capricious, not in ac-cordance with law, and without observance of procedures re-quired by law, in violation of the APA.

Please see the attached University of Montana Thesis: Correlates of Canada Lynx Reproductive Success in Northwestern Montana by Megan K. Kosterman.

Kosterman finds that 50% of lynx habitat must be mature undis-turbed forest for it to be optimal lynx habitat where lynx can have reproductive success and no more than 15% of lynx habitat should be young clearcuts, i.e. trees under 4 inched dbh. This contradicts the agency's assumption in the Lynx Amendment that 30% of lynx habitat can be clearcut, and that no specific amount of mature forest needs to be conserved. It is now the best available science out there that describes lynx habitat in the Northern Rockies related to lynx viability and recovery.
Kosterman's study demonstrates that the Lynx Amendment standards are not adequate for lynx viability and recovery, as previously assumed by the Forest Service.
Please also find attached peer reviewed papers by Holbrook that confirm Kosterman's thesis.

Since this is now the best available science we are hereby for-mally requesting that the Forest Service write a supplemental EIS for the Northern Rockies Lynx Management Direction and reinitiate consultation with the FWS for the Lynx Amendment to publicly disclose and address the findings of this study, and to allow for further public comment on this important issue of lynx recovery.
The Forest Service and the FWS have no idea what the popula-tion of lynx is because they don't do lynx popula-tion monitor-ing. In light of the government's failure to monitor lynx popula-tion trends, it would be disingenuous for FWS to argue that "there is no evidence of population decline" because the reason that "there is no evidence" is because the government refuses to conduct monitoring. In light of the government's failure to mon-itor and document populations and population trends, the Forest Service and the FWS must apply the precautionary principle and assume that the effects of al- lowing logging that does not com-ply with Kosterman and Squires findings is resulting in popula-tion declines.
Since this is now the best available science we are hereby for-mally requesting that the Forest Service write a supplemental EIS for the Northern Rockies Lynx Management Direction and reinitiate consultation with the FWS for the Lynx Amendment to publicly disclose and address the findings of this study, and to allow for further public comment on this important issue of lynx recovery.

The Forest straddles the mountains of the Continental Divide and contains nationally renowned trout streams, elk populations, and some of last wild refuges for many threatened, endangered, and sensitive fish and wildlife species.
In particular, the Forest and Project area provide habitat for griz-zly bears, wolverines, Canada lynx, gray wolves,

and westslope cutthroat trout.
Ruggiero et al (1999), the Forest Service's General Technical Report "Ecology and Conservation of Lynx in the United States," states that lynx are present in the For- est.
Ruediger et al (2000), the agencies' "Canada lynx conservation assessment and strategy," considers the Forest within the geo-graphic extent of the strategy.
The Montana Department of Fish, Wildlife, and Parks has com-piled a database of lynx occurrences and distribution throughout Montana from 1977 -1998. This information was mapped on pages 244 and 247 of Ruggiero et al (1999) and shows numer-ous occurrences in the Forest.
In Squires (2003), the Forest Service documents: "Discussions with local trappers and biologists indicate that lynx were present in the Pioneer Mountains prior to the late 1990's, and had been detected during winter track surveys as recently as 2000 (Forkan 2000). This fact is substantiated by the number of trapped lynx from this area in the 1970s." Elsewhere, the report notes "[f]rom 1977 to 1994, 39 lynx oc- currences were recorded in the Pio-neer Mountains, including 13 harvested individ- uals (McKelvey et al. 2000). Snow-track surveys performed as recently as 2000 indicated that lynx were present along the Scenic Byway (Forkan 2000)."
In Squires (2003), the Forest Service documented the results of winter tracking surveys. The record indicates two (2) sets of lynx tracks were found in the Forest near the Project area, within the Big Hole landscape area (which is the analysis area for wildlife security for the Project). The report con- cludes that "lynx were either absent or at very low densities during our study." (emphasis added).
The U.S. Fish and Wildlife Service's final map (2003) for lynx shows that the For- est is within the range of both resident and dispersing lynx.
Berger (2009) found one set of potential lynx tracks in the For-est during winter tracking surveys, as well as one set outside the Forest boundary that was heading towards the Forest boundary.
In Devineau (2010), the State of Colorado Division of Wildlife documented loca- tions of radio-collared lynx released in Col-orado. The record shows multiple lynx traveling in the Forest (approximately four (4) in-dividuals), including at least two individual lynx traveling in the Project area. One of the individuals in- habited the Madison Range for approximately two weeks.

In litigation over lynx critical habitat in 2010, the U.S. Fish and Wildlife Service admitted that the Forest is occupied for the purpose of designating lynx critical habitat. Alliance for Wild Rockies v. Lyder, 728 F.Supp.2d 1126, 1133 (D. Mont. 2010) ("Plaintiffs take exception to the Service's failure to designate the Beaver- head-Deerlodge [and certain other National Forests] as lynx critical habitat. [FN4] . . . In response, the government acknowledges the record shows such forests to be occupied")
The Forest Service's Fleecer Mountains Watershed Assessment (2009) indicates that lynx are "potentially" "likely to be present" in the Project area. It also states "f]rom 1988 to 1999 there are 72 reports of lynx being trapped or observed in the Pioneers, Big Hole Mountains and Fleecer Range."
The Project area contains agency-designated "linkage areas" for the Canada lynx.
The Project analysis and impacts on ESA-listed Canada lynx vi-olate the ESA, NEPA, and NFMA.
The Federal District Court of Montana recently ordered the US-FWS to reconsult on lynx critical habitat because they did not base lynx critical habitat on where lynx were at the time of list-ing in 2000. Lynx were in the project area at the time of listing so the Forest Service needs to consult with the FWS to see if this project could effect lynx critical habitat.
The Forest Plan analysis and impacts on ESA-listed lynx violate ESA, NFMA, and NEPA.

The Forest Service's failure to take a hard look at lynx presence and the Forest Plan's potential impacts on lynx, using the best available science, including the agency's failure to assess the Forest Plan's impacts on lynx travel/linkage corridors, violates NEPA. See Pacific Rivers Council v. U.S.
th Forest Service, --- F.3d ----, 2012 WL 336133 (9Cir. 2012).
The Forest Service's failure to include binding legal standards aimed at conserving and recovering ESA-listed lynx on the For-est in the Forest Plan violates NFMA.
When was the last time the project area was surveyed for bull trout?

What was 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 oth-er words, damage caused directly by sediment (and other pollu-tion) 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 sedi-ment 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 sed-iment damage caused by Timber Sale#2.

The downward spiral continues with disastrous cumulative ef-fects 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 ex-ceptionally sensitive to the direct, indirect, and cumulative ef-fects of roads. Dunham and Rieman demonstrated that distur-bance from roads was associated with reduced bull trout occur-rence. They concluded that conservation of bull trout should in-volve 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 ter-restrial 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 man-agement. Low integrity [forests have] likely been altered by past management are extensively roaded and have little wilder-ness." (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-, dis-ease- 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 for-est 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 unavoidable 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 struc-turally intact (i.e., coarse woody debris, habitat diversity, ripari-an 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 es-sential." (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 ripar-ian-dependent species. Many unroaded areas are isolated, rela-tively small, and most are not protected from road construction and subsequent timber harvest, even in steep areas. Thus, imme-diate protection through allocation of the unroaded areas to the production of clean water, aquatic and riparian-dependent re-sources is necessary to prevent degradation of this high quality habitat and should not be postponed." (USFWS et al 1995).
"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 infes-tation

of insects and disease. Lastly, high road densities are cor-related with areas that have relatively high risk of fire occur-rence (from human caused fires), high hazard ground fuels, and high tree mortality." (USFS 1996b, page 85, parenthesis in orig-inal).

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 them-selves if left alone and unmanaged, and that concerted reduc-tions 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 net-works 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 man-agement activities may make the situation worse, compared to allowing nature to reestablish its own equilibrium. These state-ments 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 degra-dation in aquatic ecosystems, emphasis on timber harvest and thinning to restore more natural forests and fire regimes repre-sent 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 ecosys-tems 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 eleva-tion 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 ac-quainted with large, stand-replacing fires." (ICBEMP page 1341).

"Attempts to minimize the risk of large fires by expanding tim-ber harvest risks expanding the well-established negative effects on aquatic systems as well. The perpetuation or expansion of ex-isting 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 ef-fects of fire." (ICBMP page 1342).

"Timber harvest, through its effects on forest structure, local mi-croclimate, 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 in-creased 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 facili-tate 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 hydro-logic processes by intercepting and diverting flow and contribut-ing fine sediment into the stream channels which clogs spawn-ing gravels. High water temperatures and fine sediment degrade native fish spawning habitat.
According to the U.S. Forest Service 82% of all bull trout popu-lations and stream segments range-wide are threatened by de-graded 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 ef-fectiveness 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 consid-ered. These effects must be considered in the NEPA document.

Please formally consult with the FWS on the impact of this project on wolverines, lynx, lynx critical habitat, monarch but-terfly, whitebark 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.

Please take a hard look at the impact of this project on climate change.

Thank you for your attention to these concerns. Sincerely yours,

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