January 6, 2026

Rob Davies, District Ranger
Hungry Horse Ranger District and
P.O. Box 190340
Hungry Horse, MT 59919

Dear Ranger Davies,

Please accept these comments from me on the Granite Mountain project on behalf of the Alliance for the Wild Rockies, Center for Biological Diversity, Council on Wildlife and Fish, and Native Ecosystems Council, collectively "Alliance."

We object to the use of the emergency action determination under the Infrastructure Investment and Jobs Act, Section 40807 for fuels and forest health. The public deserves to see how our comments on the EA were addressed and to object to the project (if necessary) as allowed under 36 CFR Part 218. This area is not a Wildland Urban Interface, aside from 19 cabins on Forest Service lands at the Hein-rude residential permits that have strict regulations on development, there are no residential areas that would be impacted by not imple-menting this project. And there is no emergency to protect homes and infrastructure since there aren't any in the project area.

The Forest Service seems to be declaring every project an emer-gency now. What are the criteria for a project to be declared an emergency. Criteria that declares everyting an emergency is arbitrary and capricious.

We still believe because of the size of the project and the cumulative effects of past current and future logging by the Forest Service and private logging in the area the Forest Service must complete a full environmental impact statement (EIS) for this Project. The scope of the Project will likely have a significant individual and cumulative impact on the environment. Alliance has reviewed the statutory and regulatory requirements governing National Forest Management projects, as well as the relevant case law, and compiled a checklist of issues that must be included in the EIS for 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 possible impacts of the Project, with accompanying citations to the relevant scientific literature. These references should be disclosed and discussed in the EIS or for an EA for the Project. We still believe that the Forest Service is required to write an EIS for the Granite Moccasin project or an EA if you refuse to write an EIS.

I. NECESSARY ELEMENTS FOR

PROJECT EIS or EA:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

R. What is the cumulative effect of National Forest logging on U.S. carbon stores? How many acres of National Forest lands are logged every year? How much carbon is lost by that logging?

S. Is this Project consistent with "research recommendations (Krankina and Harmon 2006) for protecting carbon gains against the potential impacts of future climate change? That study recommends "[i]ncreasing or maintaining the forest area by avoiding deforestation," and states that "protecting forest from logging or clearing offer immediate benefits via prevented emissions." That study also states that "[w]hen the initial condition of land is a productive old-growth forest, the conversion to forest plantations with a short harvest rotation can have the opposite effect lasting for many decades . . . ." The

study does state that thinning may have a beneficial effect to stabilize the forest and avoid stand- replacing wildfire, but the study never defines thinning.

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

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

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

W. Please disclose how often the Project area has been surveyed for monarch butterflies, howellia aquatilis, bull trout, bull trout critical

habitat, wolverines, whitebark pine, grizzly bears, pine martins, northern goshawk, lynx critical habitat, and lyn.

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

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

Z. What is the USFWS position on the impacts of this Project on monarch butterflies, howellia aquatilis, bull trout, bull trout critical habitat, wolverines, whitebark pine, grizzly bears, pine martins, northern goshawk, lynx critical habitat, and lynx? Have you conducted ESA consultation?

AA. Please provide us with the full BA for the monarch butterflies, howellia aquatilis, bull trout, bull trout critical habitat, wolverines,

whitebark pine, grizzly bears, pine martins, northern goshawk, lynx critical habitat, and lynx.

BB. What is wrong with uniform forest conditions?

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

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

EE. Please disclose what is the best available science for restoration of whitebark pine. Please find Six et al. 2021 attached.

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

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

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

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

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

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

LL. Disclose the timeline for implementation;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GGG. Disclose the impact of the proposed project on the carbon storage potential of the area;

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

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

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

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

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

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

5. Old growth forest in the Project area;

6. Big game security areas;

7. Moose winter range;

The proposed action will impact old-growth forest habitat by thinning in old-growth stands, burning in and adjacent to old-growth,

placing regeneration units directly adjacent to four old- growth stands (increasing risk of blowdown and edge effects to old-growth) and constructing 1,500 feet of new roads within three old growth stands.

The Environmental Assessment fails to analyze the impacts of these treatments in and adjacent to old-growth forest habitat on:

Old-growth associated wildlife
Weed spread
Connectivity between old-growth stands Soil trampling

Mychorrizal fungi and other fungi necessary for a healthy forest

Old growth patch sizes are not even disclosed or analyzed to see whether they are sufficient to provide habitat for old-growth associated wildlife. Logging will further diminish their function as habitat for wildlife.

By subjecting old growth forest to edge effects, that are not analyzed, you are degrading old growth habitat which directly impacts birds, wildlife, native plants, mychorizal fungi and other attributes that are necessary to these species survival and old growth attributes. Again, no analysis.

The EA is totally devoid of any analysis of the impacts to wildlife that are dependent on old growth habitat. How large should old growth patch sizes be to maintain viability? How much edge is too much?

Corridors of interior forest habitat between old growth habitat with a minimum width of >100 meters have been recommended by scientists. All corridor habitat in the project area should be mapped and both current and long-term objectives defined for maintaining these

corridors over time. This was not done so the EA is inadequate in analyzing the impacts to wildlife connectivity.

The Flathead has no plan for retaining old-growth forest habitat on the landscape and allowing stands to develop into old growth. Instead this project will fragment old growth, create abrupt edges from roads and cutting units adjacent to it, diminish habitat values from roads built through old-growth stands, and degrade the habitat quality for old growth associated birds and wildlife. The Flathead must develop an old growth network to ensure viability of old-growth associated wildlife rather than the current piecemeal encroachment on old growth from logging and roads.

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

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

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

The Forest Service should provide an analysis of how much of the Project area, Project area watersheds, affected 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 encompassing 30% or more of the area.

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

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

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

Please find Della-Sala 2022attached to our scoping comments..

Please find Baker et al 2023 attached to our scoping comments.

This landmark study found a pattern of "Falsification of the Scientific Record" in government-funded wildfire studies.

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

However, the new study comprehensively documents that a vast body of scientific evidence in peer-reviewed studies that have direct-

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

These findings have profound implications for climate mitigation and community safety, as current forest policies that are driven by the distorted narrative result in forest management policies that reduce forest carbon and increase carbon emissions, while diverting scarce federal resources from proven community wildfire safety measures like home hardening, defensible space pruning, and evacuation assistance."Forest policy must be informed by sound science but, unfortunately, the public has been receiving a biased and inaccurate presentation of the facts about forest density and wildfires from government agencies," said Dr. William Baker in their press release announcing the publication of their paper.

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

"The falsified narrative from government studies is leading to inappropriate forest policies that promote removal of mature, fire-resistant trees in older forests, which causes increased carbon emissions and in the long-run contributes to more fires" said, Dr. Dominick A.

DellaSala, Chief Scientist, Wild Heritage, a Project of Earth Island Institute concluded in the press release.

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

Does the WUI in the project area follow the plan language of tthe Healthy Forest Restoration Act?

The 9th Circuit Court of Appeals has ruled that the Forest Service has to follow the plan language of the WUI found in the Healthy Forest Restoration Act.

Did the Flathead County Community Wildlife Protection Plan (2021) go through NEPA? If not, it must.

An expanded definition of the WUI results in the Forest Service prioritizing fuels reduction treatments on significantly more acres than were contemplated or authorized by the Revised Forest Plan, and it exempts the vast majority of the Project area from Lynx Assessment conservation measures. Further, an over-inclusive WUI definition, in and of itself, is not supported by law.

By illegally expanding the WUI, the FNF also illegally reduced protections for lynx.

In sum, first, it appears the FNF failed to properly define and map lynx habitat in the Project EA, and it arbitrarily remapped the WUI for the Project without NEPA review. Please follow the procedure prescribed by law and take a hard look at the Project's impacts to lynx and lynx Critical Habitat in violation of NEPA, NFMA, the Revised Forest Plan, the ESA and the APA.

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Please see the column below by Dr. Chad Hanson.

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

Logging makes forests and homes more vulnerable to wildfires

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

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

In this fraught context, filled with a swirling admixture of panic, confusion, and opportunism, the truth and scientific evidence are all too often casualties. This, unfortunately, can lead to regressive

policies that will only exacerbate the climate crisis and increase threats to communities from wildfire. We can no longer afford either outcome.

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

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

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

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

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

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

Billions of dollars are being wasted to further this false logging industry narrative—funds that instead should be used to prepare communities for more climate-driven wildfires. Congress can in-

stead redirect much needed support to damaged communities so they can build back better and adopt proven fire safety measures that harden homes and clear flammable vegetation nearest structures.

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

Please take a hard look at the effects of the project on climate change. Please take a hard look at how the project effect the carbon storage of the project area and how the project effects climate change. The federal district court of Montana recently ruled against the Kootenai National Forest on the same boiler plate analysis, writing:

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

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

Page 14 of the proposed Action states:

Treatment in Inventoried Roadless Area

The 2001 Roadless Conservation Rule generally prohibits cutting, selling, or removing timber in NFS inventoried roadless areas. However, an exception exists: timber may be removed if the responsible official determines that the removal of generally small diameter timber is necessary for specific purposes, such as reducing the risk of uncharacteristic wildfire effects, as specified under § 294.13(b)(1). Additionally, any removal of small diameter timber must also maintain or improve one or more of the roadless area characteristics, including but not limited to: diversity of plant and animal communities; habitat for threatened and endangered species; and natural

appearing landscapes with high scenic quality. Inventoried roadless areas across the forest were assigned different management areas under the forest plan. Management of these lands must comply with forest plan direction and the provisions of the 2001 Roadless Conservation Rule. About 61 percent (41,470 acres) of the project area is within inventoried roadless areas. Vegetation management is proposed on up to 2,250 acres in roadless areas, including prescribed fire, commercial thinning, noncommercial thinning, and white bark pine restoration treatments. No road construction would occur in roadless areas to accomplish these activities. These activities will be consistent with the Roadless Rule.

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

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

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

tural properties and sacred sites; and other locally identified unique characteristics.

The Roadless Rule mandates:

Prohibition on timber cutting, sale, or removal in inventoried roadless areas.

(a) Timber may not be cut, sold, or removed in inventoried roadless areas of the National Forest System, except as provided in paragraph (b) of this section.

(b) Notwithstanding the prohibition in paragraph (a) of this section, timber may be cut, sold, or removed in inventoried roadless areas if the Responsible Official determines that one of the following circumstances exists. The cutting, sale, or removal of timber in these areas is expected to be infrequent.

(1) The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the roadless area characteristics as defined in § 294.11.

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

(ii) To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;

(2) The cutting, sale, or removal of timber is incidental to the implementation of a management activity not otherwise prohibited by this subpart;

... .
36 C.F.R. §294.13 (2005)(emphases added).

The Roadless Rule further explains the meaning of the phrase "incidental to" in subsection (b)(2) above as follows:

Paragraph (b)(2) allows timber cutting, sale, or removal in inventoried roadless areas when incidental to implementation of a management activity not otherwise prohibited by this rule. Examples of these activities include, but are not limited to trail construction or maintenance; removal of hazard trees adjacent to classified road for public health and safety reasons; fire line construction for wildland fire suppression or control of prescribed fire; survey and maintenance of property boundaries; other authorized activities such as ski runs and utility corridors; or for road construction and reconstruction where allowed by this rule.

66 Fed. Reg. 3258.

The proposed project does not comply with the Roadless rule because the Forest Service has not shown that the project is outside the normal range a variability that would be expected to occur under natural disturbance regimes of the current climatic period.

The Forest Service recognizes the value of forestland unencumbered by roads, timber harvest, and other development. Sometimes these areas are known as "inventoried roadless areas" if they have been inventoried through the agency's various Roadless Area Review

Evaluation processes, or "unroaded areas" if they have not been inventoried but are still of significant size and ecological significance such that they are eligible for congressional designation as a Wilderness Area.

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

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

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(1) The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the roadless area characteristics as defined in § 294.11.

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

(ii) To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;

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66 Fed. Reg. 3258.

Are the roadless areas in the project area currently within the natural historic range of variability? Is the project area within natural range for wildfire conditions? Will this prescribed Fire Project substantially alter the Roadless characteristics in the inventoried roadless areas within the project area?

Use of an EA for this project is also invalid because the proposed vegetation treatments would occur within Inventoried Roadless Areas (IRA). This qualifies as an extraordinary circumstance that invalidates use of a EA. It is the existence of a cause- effect relationship between a proposed action and the potential effects on these resource

conditions and if such a relationship exists, the degree of the potential effects of a proposed action on these resource conditions that determine whether extraordinary circumstances exist (36 CFR 220.g(b).

In relevant part, regarding the prohibition on tree cutting, the Roadless Rule mandates: Prohibition on timber cutting, sale, or removal in inventoried roadless areas. 1. Timber may not be cut, sold, or removed in inventoried roadless areas of the National Forest System, except as provided in paragraph (b) of this section. 2. Notwithstanding the prohibition in paragraph (a) of this section, timber may be cut, sold, or removed in inventoried roadless areas if the Responsible Official determines that one of the following circumstances exists. The cutting, sale, or removal of timber in these areas is expected to be infrequent. 1. The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the roadless area characteristics as defined in § 294.11. 1. To improve threatened, endangered, proposed, or sensitive species habitat; or 2. To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;

2. The cutting, sale, or removal of timber is incidental to the implementation of a management activity not otherwise prohibited by this subpart; 36 C.F.R. §294.13 (2005).

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Paragraph (b)(2) allows timber cutting, sale, or removal in inventoried roadless areas when incidental to implementation of a management activity not otherwise prohibited by this rule. Examples of

these activities include but are not limited to trail construction or maintenance; removal of hazard trees adjacent to classified road for public health and safety reasons; fire line construction for wildland fire suppression or control of prescribed fire; survey and maintenance of property boundaries; other authorized activities such as ski runs and utility corridors; or for road construction and reconstruction where allowed by this rule.

The Granite Moccasin Project violates the Roadless Rule because, among other things: Neither the Granite Moccasin Project proposed action document nor any of the Flathead National Forest's supporting documents limits logging to small diameter trees for any of the stands within the project area's Inventoried Roadless Areas.

The decision also has no limit on the size of a tree that they can cut in violation of the Roadless Rule, NEPA, NFMA and the APA.

Overall, the proposed action document is devoid of any useful information to the public as to why this project enhances wildlife habitat, or is needed to maintain natural ecosystem processes within an IRA. If juniper is so flammable, it is not clear why it has to be slashed before it can be burned. It is clear that this project requires much more information to be provided to the public, and much more documentation to justify vegetation management within the IRA. And as previously noted, the criteria which the resource specialists used to estimate the level of impact needs to be provided, as well, to the public. It seems readily apparent that this project requires at a minimum an environmental assessment in order to comply with the NEPA, including the provision of valid, reliable information to the public when the Forest Service is planning resource management activities.

The Granite Moccasin Project provisions does not limit logging to small diameter trees, instead the proposed action indicates that some "treatments" will do the opposite by targeting large trees for cutting, sale, or rem Granite Moccasin Project proposed action document nor any of the Flathead National Forest's supporting documents provides stand-level data for inventoried roadless areas to allow the public or the decision-maker to discern either the size of trees in stands in the project area, or the size of trees to be removed.

Neither the Granite Moccasin Project proposed action document nor any of the Flathead National Forest's supporting documents alleges or demonstrates that stands proposed for logging are "overstocked" with small diameter trees that require thinning.

NEPA and its implementing regulations require federal agencies, including the Forest Service, to take a "hard look" at the environmental consequences of proposed actions and the reasonable alternatives that would avoid or minimize such impacts or enhance the quality of the human environment. See 42 U.S.C. § 4332(2)(C)(i); 40 C.F.R. Parts 1502 and 1508 (1978). Agencies must take a hard look at the direct, indirect, and cumulative impacts of a proposed agency action and all alternatives in an EA. 40 C.F.R. §§ 1508.7, 1508.8 (1978). The information presented in the EA must be of high quality and include "accurate scientific analysis," and disclose that information and analysis, and its limitations, to the public. 40 C.F.R. § 1500.1(b)–(c) (1978).

NEPA also requires environmental analysis to disclose existing conditions in the project area to provide a baseline against which the impacts of alternative courses of action can be compared.

The Forest Service failed to take the required "hard look" to consider and disclose the Project's direct, indirect, and cumulative impacts, including impacts of logging in Inventoried Roadless Areas.

For example, the NEPA and its implementing regulations require federal agencies, including the Forest Service, to take a "hard look" at the environmental consequences of proposed actions and the reasonable alternatives that would avoid or minimize such impacts or enhance the quality of the human environment. See 42 U.S.C. § 4332(2)(C)(i); 40 C.F.R. Parts 1502 and 1508 (1978). Agencies must take a hard look at the direct, indirect, and cumulative impacts of a proposed agency action and all alternatives in an EA. 40 C.F.R. §§ 1508.7, 1508.8 (1978). The information presented in the EA must be of high quality and include "accurate scientific analysis," and disclose that information and analysis, and its limitations, to the public. 40 C.F.R. § 1500.1(b)–(c) (1978).

NEPA also requires environmental analysis to disclose existing conditions in the project area to provide a baseline against which the impacts of alternative courses of action can be compared. Id.

The Forest Service failed to take the required "hard look" to consider and disclose the Granite Moccasin Project's direct, indirect, and cumulative impacts, including impacts of logging in Inventoried Roadless Areas.

For example, the Granite Moccasin EA fails to demonstrate that the forest stands within Inventoried Roadless Areas where tree removal can occur are overstocked with small trees, or where specific types of logging will occur within Inventoried Roadless Areas, thus making it impossible for the Forest Service or the public to understand the impacts of the proposed action, especially whether the Granite Moccasin project complies with the Roadless Rule.

The Forest Service's failure to take the required "hard look" at the Granite Moccasin Project's baseline, and the direct, indirect, and cumulative impacts and the agency's action violates NEPA. The Forest Service's action is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law, and accordingly the NEPA documents must be held unlawful and set aside. 5 U.S.C. § 706(2)(A). The NEPA documents fail to disclose the nature of forest stands within Inventoried Roadless Areas where tree removal can occur, or where specific types of treatments will occur within Inventoried Roadless Areas, thus making it impossible for the Forest Service or the public to understand the impacts of the proposed action, especially whether the Aspen Project can comply with the Roadless Rule.

The Granite Moccasin Project's baseline, and the direct, indirect, and cumulative impacts and the agency's action violates NEPA. The Forest Service's action is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.

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

Council on Environmental Quality ("CEQ") guidance addressing climate change recognizes that logging and prescribed burning can impact carbon stores, and urges land management agencies to "include a comparison of estimated net GHG emissions and carbon stock changes that are projected to occur with and without implementation of proposed land or resource management actions." CEQ, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act

Reviews (Aug. 1, 2016) at 25-26, available at https://ceq.doe.gov/docs/ceq-regulations-and- guidance/nepa_final_ghg_guidance.pdf (last visited April 16, 2024).

Numerous studies, including those by the Forest Service, have concluded that logging mature forests releases significant amounts of carbon stored in the trees by preventing such forests from continuing to sequester carbon in trees and roots. When forest stands are cut down, the vast majority of the stored carbon in the forest is released over time as CO_2, thereby converting forests from a sink to a "source" or "emitter." *See* FS7888 (study reporting "[i]ncreased harvest through proposed thinning practices in [Oregon] has been shown to elevate emissions for decades to centuries regardless of product end use").

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

Timber harvesting is by far the largest source of greenhouse gas (GHG) emissions in Oregon. Since 2000, annual emissions associated with removal of stored carbon, sacrificed sequestration, and decay of logging residuals averaged 33 million metric tons carbon dioxide equivalent (mmt CO2-e). Nationwide, logging emits more carbon than the residential and commercial sectors combined.

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

It is now time to speak honestly about unrealistic expectations relating to desired future condition. Forest

managers have failed to dis- close that at least five common tree species, including aspens and four conifers, are at great risk unless atmospheric greenhouse gases and associated temperatures can be contained at today's levels of concentration in the atmosphere. This cumulative ("reasonably foreseeable") risk must not continue to be ignored at the project-level, or at the programmatic (Forest Plan) level.

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

It is clear that the management of the planet's forests is a nexus for addressing this largest crisis ever facing humanity.
Please take a hard look at how climate change effects on project area vegetation. Please provide A detailed analysis as to the veracity of the project's Purpose and Need, the project's objectives, goals, or desired conditions. The FS has the responsibility to inform the public that climate change is and will be bringing forest change.

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

changing trajectory.

The Forest Plan does not provide meaningful direction on climate change. Please acknowledge pertinent and highly relevant best available science on climate change. If the Forest Service does not do so this project will be in violation of NEPA.

Please analyze or disclose the body of science that implicates logging activities as a contributor to reduced carbon stocks in forests and increases in greenhouse gas emissions. Please provide estimates of the total amount of carbon dioxide (CO2) or other greenhouse gas emissions caused by FS management actions and policies—forest-wide, regionally, or nationally. Agency policy-makers seem comfortable maintaining aposition that they need not take any leadership on this issue, and obfuscate via this EA to justify their failures.

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

The FS should model thecarbon flux over time for its proposed stand management scenarios and for the vari- ous types of vegetation cover found on the FNF.

Please do not ignore CO2 and other greenhouse gas emissions from other common human activities related to forest management and recreational uses. These include emissions associated with machines used for logging and

associated activities, vehicle use for administrative actions, and recreational motor vehicles. The FS is simply ignoring the climate impacts of these management and other authorized activities.

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

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

The District Court of Montana ruled in Case 4:17-cv-00030- BMM that the Federal government did have to evaluate the climate change impacts of the federal government coal pro- gram.

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

In March of 2018 the Federal District Court of Montana found the Miles City (Montana) and Buffalo (Wyoming)Field Office's Resource Management Plans unlawfully overlooked climate impacts of coal mining and oil and gas drilling. The case was brought by Western Organization of Resource Councils, Montana Environmental Information Center, Powder River BasinResource Council, Northern Plains Resource Council, the Sierra Club, and the Natural Resources Defense Council.

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

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

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> ***``(aa) documentation of an effective reforestation project plan;***
> ***``(bb) the ability to measure the progress and success of the project; and***
> ***``(cc) the ability of a project to provide benefits relating to forest function and health, soil health and productivity, wildlife habitat, improved air and water quality,***

carbon sequestration potential, resilience, job creation, and enhanced recreational opportunities.'

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

The Montana Supreme Court recently ruled that the Montana Constitution requires that a hard look be taken at the effect of projects on climate change. Does the Granite Moccasin project comply with all state laws?

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

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

How will the project make the forest more resilient?

Please

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

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

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

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

- Disclose the Flathead National Forest's record of compliance with state best management practices regarding stream sedimentation from ground-disturbing management activities;

- Disclose the Flathead National Forest's record of compliance with its monitoring requirements as set forth in its Forest Plan;

- Disclose the Flathead National Forest's record of compliance with the additional monitoring requirements set forth in previous DN/FONSIs and RODs on the Flathead National Forest;

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

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

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

- Disclose the timeline for implementation;

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

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

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

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

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

. Disclose how Project complies with the Roadless Rule;

Are there any inventoried roadless areas in the project area?

Please include a complete cost benefit analysis for the project.

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

Please formally consult with the FWS on the impact of this project on wolverines, lynx, lynx critical habitat, monarch butterfly, 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.

New management standards must be added based upon USFWS consultation, a new biological opinion (BO) and terms and conditions designed to mandate forest management standards that contribute to the recovery of the listed whitebark pine in the SPLAT project area, and forest-wide. Emphasis added. Anything less is unacceptable under the legal requirements of the ESA and NEPA.

The pine is a keystone species with direct and indirect, interrelated ecological links to the health of the ecosystem(s) upon which grizzly bears, squirrels, mountain pine beetle and Clark's nutcracker depend.

NEPA and the ESA require that these "significant" ecosystem relationships between these four species be maintained and improved in order to recover, and eventually remove from the ESA list whitebark pine and grizzly bears. Emphasis added. "Daylighting" selected whitebark pine using industrial machines and man-induced fire will upset the delicate balance already at play in the ecosystem – with no material assistance from man and man's "brilliant" imagination. Leave Creation to the ultimate expert, leave it to Mother Nature.

Red squirrels do not inhabit pure whitebark pine stands. This is because whitebark cone production does not occur on a reliable or predictable basis. Red squirrels, instead, forage in mixed forest stands that include whitebark pine, where forage opportunities are more reliable. Grizzly bears, therefore, also tend to forage in mixed stands because of their reliance upon red squirrels to obtain and concentrate the whitebark pine nuts. (South Plateau Project) Custer Gallatin N.F., Wildlife Report, p. 28.

If you run the squirrels and Clark's nutcrackers out of the "…mixed forest stands that include whitebark pine…" you lose the squirrels, and the nut cashes. Grizzlies are significantly impacted in a negative way if cashes are lost – a "taking" of grizzlies due to preventable human arrogance and imagining that there is an absolute (scientific) truth, that in fact, more resembles a WAG ("wild ass guess") than science-based analysis.

There is no site-specific map for whitebark pine. There must be a detailed, "fine-filter" scale map of whitebark pine added to the NEPA analysis, public disclosure and project record. NEPA and ESA require an inventory and map to demonstrate the "site-specific," "fine-filter" data and analysis required of a project-level NEPA process. Neither the public, nor the USFS-USDA have any

clue as to where or how many, nor the abundance and distribution of whitebark pine groups and individuals in the project area. No disclosure is a "no-go," deal-breaker extraordinaire. This is a significant, unresolved issue, which requires an EIS, an updated SPLAT BA (biological assessment), a Forest Plan amendment and a new project-level and forestwide BO to include the significant new information of the ESA listing, and subsequent management guidance issued by the USFWS.

Forest (vegetation) management includes a variety of methods and techniques used to manage healthy forests, and known previous projects that fall within this action type are summarized in Table D of Appendix C. These types of forest management activities include timber harvest (using chainsaws and using machinery which may create skid trails) and management/hazardous fuels reduction (using chainsaws and using machinery which may create skid trails, to remove dead and dying trees and understory vegetation that may carry wildfire), salvage harvest (removing dead trees either by hand or using machinery which may create skid trails), pest control (use of Verbenone or Carbaryl insecticide), precommercial thinning (thinning trees that are too small for a commercial timber harvest), silviculture stand improvement projects (using a planned set of treatments such as thinning, harvesting, planting, pruning, prescribed burning, and site preparation designed to change the current stand structure and composition to one that meets a management goal), and silvicultural reforestation activities (planning for natural regeneration or tree planting).

Forest management related road construction, maintenance, and use may also be part of vegetation management projects. Logging of WBP has not been well tracked as records often group it with other

species and incorrectly identify it as another species. Silviculture approaches create a system that excludes regeneration opportunities and increases competition by planting faster-growing species, and consequently, stands that contain WBP prior to harvest are not routinely replanted with WBP.

Please write a cumulative effects analysis in the EA, and disclosure of the number of individual, stands, acres or any other estimate of the number of whitebark pine that will be killed in the project area. Please include an estimate of the number of whitebark pine killed in previous logging projects, including those permanently lost to clearcutting and permanent and temporary roads over decades of active timber management. These cumulative effects are significant, and yet, unquantified and undisclosed.

Do not do so is a violation of NEPA, NFMA, the APA and the ESA, 16 U.S.C. §§ 1531 et seq., to ensure that its actions do not adversely affect whitebark pine and that their actions promote conservation and recovery of these species. The federal agencies' (USFS-USDA and USFWS) mandate is to protect and recover imperiled species and their habitats.

The project will harm whitebark pine in unknown numbers, with unknown adverse cumulative impacts.

Since Whitebark pine are now listed under the ESA, the USFS-USDA must formally reconsult with the USFWS on the impact of the project on whitebark pine. To do this the Forest Service will need to have a complete and recent survey of the entire project area for the presence of whitebark pine and consider planting whitebark pine as the best available science.

Hundreds of acres of clearcutting and burning threaten individual whitebark pine trees in the project area, including miles and miles of

new roads, and including clearings around individual whitebark pines. The Forest Service fails to disclose the level of “take” and the incredibly high failure rate of these practices as a technique for natural restoration, regeneration and recovery of whitebark pine under these conditions.

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

Therefor the project’s plan to cut down trees around whitebark pine will cause the whitebark pine to grow faster and then die from beetles. This is a violation of NEPA, NFMA, the APA and the ESA.

For whitebark pine, spring or fall burning may kill seedlings susceptible to fire. For mature whitebark pine trees, the bark is relatively thin compared to other species such as ponderosa pine and susceptible to scorching from fire. Fires that approach the tree trunks may scorch the bark, diminishing the bark's protective properties from other stressors. Depending on the fireline intensity and residence time of lethal temperatures, the heat from the fire may also penetrate the bark, killing the underlying cam- bium layer. Harm to the bark and cambium may reduce individual tree vigor and also increase susceptibility to infections such as white pine blister rust or infestations by the mountain pine beetle.Whitebark pine seed banks and fine roots may also be impacted should fire move through an area when fuels and soil moisture is conducive to longer residence time of lethal temper- atures. Seeds are buried by Clark's nutcrackers generally within one inch of the soil surface and may be susceptible to longer res- idence time of lethal temperatures. Fine roots located near the soil surface serve as the primary water absorbing roots for trees and may be harmed or killed with longer residence times of lethal temperatures when soil moisture is low which would lead to an increase in the penetration depth of lethal temperatures. In general, the proposed prescription would attempt to achieve a low severity surface fire in which shrubs, needle cast and upper duff layers would be consumed. In some instances, including dense stands in which commercial or non-commercial thinning is not feasible, higher severity fire effects may be preferred to achieve the desired condition for those forested stands.In the long term, broadcast burning in the vicinity of living whitebark pine stands may improve the habitat suitability for seed caching by Clark's nutcracker; seed germination; and whitebark pine seedling establishment. Clark's nutcrackers prefer to cache seeds in recently burned areas as fire removes understory plants and creates soils surfaces that are easier to penetrate for seed caching. In addition, in the long term, broadcast burning may

reduce the vigor of other species that would compete with whitebark pine seedlings for sunlight, soil water, and nutrients."

Whitebark pine are now a threatened species and the project is in violation of the ESA.

On December 2, 2020, the U.S. Fish and Wildlife Service issued a rule proposing to list whitebark pine (Pinus albicaulis) under the Endangered Species Act. The Granite Moccasin Project area includes whitebark pine. The whitebark pine present in the project area represents a major source within the larger geographic area. The Project proposes tree cutting and burning across thousands of acres where whitebark pine may be present. Regardless of whether individual activities are intended to impact whitebark pine, whitebark pine may be affected by damage from equipment and equipment trails, cutting, soil compaction and disturbance, mortality from prescribed burning, scorching from jackpot burning, trampling of seedlings and saplings, and removal of necessary microclimates and nursery trees needed for sapling survival. Additionally, thousands of acres of whitebark pine habitat manipulation are proposed for the Project, including intentionally cutting and burning Whitebark pine trees. No discussion on the success rate of natural regeneration under these conditions is provided. No discussion of the success rate of planting seedlings in clearcuts is provided. There have been no surveys for whitebark pine in violation of the ESA, NEPA, NFMA, and the APA.

The Forest Service admits that whitebark pine is known to be present in the area and that the Project "may impact individuals. . . ." The Forest Service further admits: "some ad- verse impacts are possible." The Forest Service further admits that "implementation of the project may cause incidental loss of whitebark pine seedlings and saplings . . . ." Crucially, the Forest Service does not disclose or address the re- sults of its only long-term study on the effects of tree

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

Please see the attached paper by Six et al 2021 Whitebark Gnetics 2021. Six et at found:

"Anthropogenic change is creating or enhancing a number of stressors on forests. To aid forests in adapting to these stress- ors, we need to move beyond traditional spacing and age-class

Individual whitebark pine trees will be maintained and im- proved by cutting all other species within 5 to 30 feet of outside crown edge of planted or natural whitebark pine trees.

Prescriptions and take into account the genetic variability within and among populations and the impact our actions may have on adaptive potential and forest trajectories. Because so little is known about the genetic diversity in most forest trees, and because it is key to effective conservation, studies of ge- netic diversity and structuring in

forest trees should be a top priority in forest adaptation and conservation efforts."

Six also concluded:

"Our results also indicate that thinning prescriptions aimed at increasing tree growth in whitebark pine should be applied with considerable caution. Greater tree ring width/faster growth has been widely used as a proxy for tree vigor and as an indicator of greater resistance to bark beetles (Bhuyan et al., 2017). This view has led to thinning projects in whitebark pine aimed at increasing growth and vigor (Retzlaff et al., 2018) and resistance to D. ponderosae. However, while the re- lationship between growth and resistance to beetles has been shown to be positive in some pines and variable in others (Mil- lar et al., 2012; Knapp et al., 2013; Keen et al., 2020), the opposite appears to be true for some populations of P. contorta (Cooper et al., 2018) and for P. albicaulis. In our study, as well as in that of Kichas et al. (2020), faster overall growth was the strongest predictor of mortality due to D. ponderosae indicating that such treatments will not have their intended effect in P. albicaulis and may even be detrimental. Furthermore, natu- rally low resin production, even by survivor and open-grown P. albicaulis, indicates thinning will have little-to-no effect on en- hancing constitutive defenses against the insect."

Therefore the proposal of Individual whitebark pine trees will be maintained and improved by cutting all other species within 5 to 30 feet of outside crown edge of planted or natural white- bark pine trees is counterproductive and does not follow the best available science.

Much of the proposed treatments are termed "whitebark pine restoration." But, the agency has not demonstrated that even past logging

and burning in whitebark pine, such as in Fisher Creek, restored whitebark pine.

Please provide the results of this logging and burning to the public. Current research indicates that various treatments to thin whitebark pine result in little to no regeneration many years later. As such, these logging and burning white bark pine are destroying vast amounts of whitebark pine recruitment (seedlings and saplings) which is highly detrimental to stand persistence. It is a violation of the NEPA and the ESA to suggest the removal of recruitment is restoring these whitebark pine stands.

The EA seems to have ignored our scoping comments. The EA is also in violation of NFMA and the APA. We are repeating part of our scoping comments again in hopes that you will respond.

We believe it is premature to release the Environmental Assessment (EA) for this project prior to complying with the June 28, 2024 District Court Order. In that Order the Court granted:
1. Plaintiffs are entitled to summary judgment on their ESA [Endangered Species Act] claims regarding grizzly bears insofar as FWS failed to address the exclusion of unauthorized motorized use from road density calculations and, to the extent the agency did address this issue, failed to articulate a satisfactory explanation regarding its decision;

2. Plaintiffs are entitled to summary judgment on their ESA claims regarding grizzly bears insofar as FWS offered an explanation for its decision to exclude impassable roads from TMRD [Total Motorized Route Density] that runs counter to the evidence before the agency;

3. Plaintiffs are entitled to summary judgment on their ESA claims regarding bull trout and bull trout critical habitat insofar as FWS failed to address its decision to abandon the culvert removal requirement with respect to impassable roads;
4. Plaintiffs are entitled to summary judgment on their ESA claims insofar as the Forest Service relied on the flawed provisions of the Revised BiOp.

The Flathead does not have a valid Biological Opinion on its Forest Plan for roads, grizzly bears and bull trout so it is baffling that this project is being pushed forward without the essential elements in place to protect threatened species given that it adds 3.1 miles of roads to the forest system road network and constructs 1.6 miles of temporary roads that will be made "impassable" after use but not decommissioned or reclaimed. Immediately excluding impassable roads from TMRD when they have not been reclaimed or culverts removed is increasing road densities above the 2011 baseline.

It appears that the Forest Service is proposing roadbuilding in the Primary Conservation Area. Therefore the Forest Service must write a full analysis of secure habitat, open road density, and total road density.

How will the project maintaining connectivity for wildlife including grizzlies, lynx and wolverine, which will be hard because the Forest Service is proposing to remove hiding cover next to a Highway 2?

Please analyze the impacts from displacement of grizzlies, lynx and other native species onto the highway and railroad, both of which are big sources of grizzly mortality.

How many openings over 40 acres are proposed?

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

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

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

How any lynx analysis units (LAUs) been eliminated in the project area? If so did you take public comment on removing LAUs?

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

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

NEPA requires the Forest Service to carefully consider detailed information concerning significant environmental impacts and to provide enough relevant information for the public to play a role in decision making and implementation of that decision. The FNF failed to adequately discuss or disclose how it defined and mapped “lynx habitat” in the Revised Forest Plan; therefore, the Revised Forest Plan violates NEPA and the APA. The Forest Serivice is required to supplement the RMP EIS to take a hard look at the impacts of its mapping of lynx habitat, and allow the public the opportunity to comment on the agency’s mapping of lynx habitat. Additionally, the The Revised Forest Plan EIS fails to take a hard look at the impacts of exempting lynx habitat within the WUI and FMZ 1 to lynx and

lynx Critical Habitat, in violation of NEPA and the APA. At the Project level, the Forest Service e violates NEPA and the APA by failing to take a hard look at the impacts to lynx and lynx Critical Habitat of Project activities when combined with other reasonably foreseeable actions.

Please analyze the impacts from displacement onto the highway and railroad (both big sources of griz mortality)

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

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

In order to meet the requirements of the FS/USFWS Conservation Agreement, the FS agreed to insure that all project activities are consistent with the Lynx Conservation Assessment and Strategy (LCAS).

LCAS requirements include:

Project planning—standards.
1. Within each

, map lynx habitat. Identify potential denning habitat and foraging habitat (primarily snowshoe hare habitat, but also habitat for important alternate prey such as red squirrels), and topographic features that may be important for lynx movement (major ridge systems,

prominent saddles, and riparian corridors). Also identify non-forest vegetation (meadows), shrub-grassland communities, etc.) adjacent to and intermixed with forested lynx habitat that may provide habitat for alternate lynx prey species.

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

3. Maintain habitat connectivity within and between LAUs.

Programmatic planning-standards.

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

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

3. To facilitate project planning, delineate LAUs. To allow for assessment of the potential effects on an individual lynx, LAUs should be at least the size of area used by a resident lynx and contain sufficient year-round habitat.
4. To be effective for the intended purposes of planning and monitoring, LAU boundaries will not be adjusted for individual projects, but must remain constant.

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

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

Programmatic planning-standards.
1. Identify key linkage areas that may be important in providing landscape connectivity within and between geographic areas, across all ownerships.
2. Develop and implement a plan to protect key linkage areas on federal lands from activities that would create barriers to movement. Barriers could result from an accumulation of incremental projects, as opposed to any one project.

Have you eliminated any larynx analysis units (LAUs) in the Flathead National Forest without taking public comment?
Please demonstrate that project activities are consistent with above and all other applicable programmatic and project requirements.

The U.S. Court of Appeals for the Ninth Circuit hold that "[o]nce an agency is aware that an endangered species may be present in the area of its proposed action, the ESA requires it to prepare a biological assessment . . . ." Thomas v. Peterson, 753 F. 2d 754, 763 (9thCir. 1985). If the biological assessment concludes that the proposed action "may affect" but will "not adversely affect" a threatened or en-

dangered species, the action agency must consult informally with the appropriate expert agency. 50 C.F.R. §§ 402.14 (b)(1), 402.12(k)(1).

Canada lynx are listed under the ESA.

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

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

Grizzly Bears

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

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

How many road closure violations have occurred in the Hungry Horse Ranger District in the last 5 years?

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

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

The published information for this project insufficient for public review and violates the spirit of Orders from the U.S. District Court in Missoula and the promises made by Flathead Forest Supervisor Anthony Botello in his efforts to avoid a Court order of vacatur against the Forest Plan and its BiOp.

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

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

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

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

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

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

This promise then resulted in Judge Christensen denying vacatur on the basis that "Regarding the three projects . . . it appears that the Forest Service has already elected not to move forward in anticipation of remand." The premature scoping notice is anything but electing "not to move forward." This is instead a fast track to issuing a decision on Granite Moccasin Project that views the BiOp revision as nothing more than a speed bump with no need to alter course in any way.

No revised BiOp has been issued by FWS, the remand is not yet complete, and the estimated decision date for the project is estimated to be "09/2025" (https://www.fs.usda.gov/project/flathead/?project=64924).

It is unethical to ask the public to review a comment without the essential benefit of a revised BiOp and without honoring the spirit of the Court's Order and the Botello Declaration. The project relies on the same flawed Forest Plan and BiOp road analyses that fails to account for total road density by excluding "impassable" roads from calculations of Total Motorized Route Density (TMRD). This approach was faulted by the Court. Judge Christensen ruled:

The issue is not a change in TMRD levels, but a change in how TMRD is calculated. Under the Revised Forest Plan, a road will be excluded from TMRD if it meets the definition of impassable. However, under Amendment 19, a road had to meet the more demanding reclaimed road standard before it would be excluded from TMRD calculations . . . As such, relying on 2011 baseline TMRD levels

does not address the concern raised by Plaintiffs. . . Turning to Plaintiff's final objection, the Court agrees that the scientific evidence cited by FWS does not support the agency's decision to exclude impassable roads from TMRD calculations. (p 30)

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

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

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

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

Nonetheless, the Forest Service continues with this big lie that all will be fine as impacts to bears are kept at 2011 baseline levels, while ignoring the fact that entrance-only road closures like those used on “impassable” roads are often ineffective, that such roads have continuing impacts to grizzly bears, and that such roads will increase with time as more roads are built and simply rendered “impassable” – all the while not being accounted for in TMRD.

Please do not use the term “obliterated” road because that term appears nowhere in the Forest Plan, not even its Glossary. The circular references between “decommissioned” and “impassable” roads did not pass muster with the District Court, so what makes the Forest Service think that a new circular reference to “obliterated” roads will? Indeed, Judge Christensen ruled:

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

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

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

Thus, it would appear that both agencies agree that culvert removal is an important component of managing sediment impacts on both decommissioned and closed/barriered roads, which includes impassable roads . . . This reading of Flathead I is also consistent with the opinion of the Forest Service's own biologist who noted in an email that the agency is not "decommissioning many roads anymore and instead [is] making new roads meet the new impassable definition" and, therefore, would "not necessarily remove culverts." (p 39)

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

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

At least the Flathead's "Cyclone Bill Project File Exhibit Q-22" (emailed separately) admits that its Forest-wide road closure device inspections remain "draft" for 2021- 2024. Perhaps this is because the Flathead has no documented method for determining "effectiveness" from "found functional" data?

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

Until the Flathead provides a clear description of how its road closures found "not functional" somehow are apparently often counted as "effective," and how its road closures found "breached" by motor vehicles often get counted as "functional," its summaries of road closure effectiveness simply can't be trusted. And until the Flathead and FWS correct the scientific and legal problems pointed out in the above-mentioned Court Orders, its project-level analyses of the effects of roads on grizzly bears, bull trout and other resources can't be trusted either.

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

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

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

1. "Forest roads facilitate human access into grizzly bear habitat, which directly or indirectly increases the risk of mortality to grizzly bears. Historically, increasing road networks on the landscape resulted in grizzly bears becoming increasingly vulnerable to illegal and legal harvest in Montana (Mace et al. 1987) and in the Yellowstone region (Mattson et al. 1992). In southeastern British Columbia, McLellan and Shackleton (1988) reported roads increased access for legal hunters and poachers, the major source of adult grizzly mortality. McLellan (1989b) reported that 7 of 13 successful legal hunters interviewed had been on a road when they harvested their grizzly bear, and McLellan

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and Mace (1985) found that a disproportionate number of mortalities occurred near roads . . . In the Yellowstone ecosystem, Mattson and Knight (1991) reported that areas influenced by secondary roads and major developments were most lethal to grizzly bears. Aune and Kasworm (1989) reported 63 percent of known, human-caused grizzly bear deaths on the eastern front of the Rocky Mountains occurred within 1 kilometer (0.6 miles) of a road, including 10 of 11 known female grizzly bear deaths. In Montana, Dood et al. (1986) reported that 48 percent of all known, non-hunting mortalities during the period of 1967 through 1986 occurred within 1 mile of roads . . . In addition to directly affecting bull trout habitat, these roads also facilitated increased fishing and harvest or poaching of spawning bull trout in many tributaries.

(U.S. Fish and Wildlife Service; Biological Opinion on the Revised Forest Plan for the Flathead National Forest; 11/22/17). See DVD Folder 42, Biological Opinion Flathead Forest Plan 171122 opt.

2. "Research supports the premise that forest roads facilitate human access into grizzly bear habitat, which directly or indirectly increases the risk of mortality to grizzly bears (Proctor et al. 2019, Mattson et al. 1992, McLellan and Shackleton 1988, Mace et al. 1987, Dood et al. 1986) . . . Potential grizzly bear mortality near roads is typically the result of intentional (self-defense, defense of life, poaching, etc.) or unintentional (mistaken identity) shootings . . . In addition to directly affecting bull trout habitat, these roads also facilitated increased fishing and harvest or poaching of spawning bull trout in many tributaries."

(U.S. Fish and Wildlife Service; Revised Biological Opinion on the Revised Forest Plan for the Flathead National Forest; 2/16/22). See DVD Folder 42, 20220216 LTR&BO Conard_Steele FNF Plan Revision opt.pdf.

3. "Roads and associated motorized human access shape availability of food resources but also displace bears and facilitate human-caused mortality . . . While vehicle collisions are rare on backcountry resource roads, conflicts can result in direct mortalities associated with wildlife hunting; unsecured attractants, self-defense, mistaken identity, or illegal killings including poaching or malicious kills all contribute to top-down pressures on grizzly bear populations (McLellan et al. 1999, Benn and Herrero 2002, Schwartz et al. 2010) . . . The vast majority of bears killed by legal grizzly bear hunting and non-hunt causes were shot within 500m of an open backcountry road (open to vehicular causes; see review in Proctor et al. 2019) and some studies report mortality concentrated within 120m of roads (McLellan 2015) . . . These mortality patterns were observed in multiple-use landscapes that had

legal bear and ungulate hunts (McLellan et al. 1999, Boulanger and Stenhouse 2014) but also in areas with no bear hunting such as national parks (Benn and Herrero 2002, Schwartz et al. 2010). Unreported human-caused grizzly bear mortality can contribute to high and potentially unsustainable mortality levels, as was suggested in an area of southeast British Columbia far from human settlements (McLellan et al. 2018). Extensive resource road networks may lead to unsustainable levels of total mortality in some areas despite a low level of publicly reported grizzly bear mortalities (McLellan et al. 2018) . . . Additional studies have identified the negative effect of backcountry human-caused female mortality mediated through road networks (McLellan and Shackleton 1988, Mace et al. 1996, Nielsen et al. 2004c, Schwartz et al. 2006, Schwartz et al. 2010)."

(Proctor et al; Berries and bullets: influence of food and mortality risk on grizzly bears in British Columbia; Wildlife Monographs 2023;e1078). See DVD Folder 24, Berries and Bullets Proctor Kasworm 2023.pdf.

4. "Increased human access to grizzly bear habitat leads to mortality caused by poaching, self-defence kills, hunters mistakenly shooting grizzlies instead of black bears, and wildlife-vehicle collisions . . . In the Alberta portion of the Central Rockies Ecosystem, 89 per cent of human-caused grizzly mortalities occurred within 500 metres of a road on provincial lands, and 100 per cent of human-caused mortalities occurred within 200 metres of a trail in national parks. On the northern East Slopes of Alberta, grizzly bear survival rates decreased with increasing densities of "open routes" that allow motorized access. Because female grizzly bears spend more time close to roads than males, they are subject to a higher level of mortality. Numerous other studies also have found that human-caused mortality, including hunting, most often occurs near roads. The weight of evidence suggests that areas with high open-route densities cannot sustain populations of grizzly bears. As the proportion of altered habitat increases,

mortality rates inevitably increase . . . Volumes of scientific research and experiences in Alberta, the United States and elsewhere prove that the key to recovering at-risk grizzly bear populations is to reduce the likelihood of people and bears coming into close contact with each other. The primary way to achieve this is to limit the number of roads in grizzly bear habitat. Attempting to prevent the use of existing road networks, even those officially closed by gates, signage and regulations, has proven ineffective."

(Gailus, Jeff; A Grizzly Challenge: Ensuring a Future for Alberta's Threatened Grizzlies; 2010). See DVD Folder 24, Gailus 2010 Grizzly Challenge Report.pdf.

5. "Factors related to human access include increased potential for poaching, collisions with vehicles, and chronic negative human interactions at campgrounds and campsites that are accessed by roads and trails (Claar et al. 1999, Wisdom et al. 2000) . . ."

(William L. Gaines, Peter H. Singleton, and Roger C. Ross; Assessing the Cumulative Effects of Linear Recreation Routes on Wildlife Habitats on the Okanogan and Wenatchee National Forests; USDA Forest Service; PNW-GTR-586; November 2003). See DVD Folder 24, Gaines et al 2003 gtr586.pdf.

6. "Road density explained much of the variation in male and female abundance in our study area. This is consistent with earlier nearby habitat selection studies, which found that bears selected against areas with high road density (Mace et al., 1996) or used areas near roads less than expected (Waller & Servheen, 2005). In recent years, land managers such as the Flathead National Forest have closed roads to reduce road density to decrease the risk of grizzly bear mortality and bolster recovery. This study supports the assumption that closing and removing roads may increase the number of bears when mesic habitat and low road density habitat are nearby."

(Graves et al; Linking landscape characteristics to local grizzly bear abundance using multiple detection methods in a hierarchical model; Animal Conservation Animal Conservation 14 (2011) 652–664). See DVD Folder 24, Graves et al 2011.pdf.

7. “Known human-caused mortality occurred disproportionately more often within 1.5- 1.6km of a road compared to areas more remote from roads, or was negatively correlated with distance to the nearest road (Mattson and Knight 1991, Mclellan and Shackleton 1988a, Dood et al. 1986, Aune and Kasworm 1989).”

(Mattson, David J.; Grizzly bear responses to human activities: A review and summary; Interagency Grizzly Bear Study Team, Forestry Sciences Lab, Montana State University, Bozeman, MT 59717; July 23, 1993). See DVD Folder 24, Mattson 1993 Summary Review.pdf.

8. “Roads increase access for hunters and poachers, the probability of vehicle-bear collisions, and the frequency of energy costly flight responses by the bear . . . Roads did increase the bears' vulnerability to legal hunters and to poachers by providing ready access. All known and suspected adult and sub-adult grizzly deaths (n = 29) since 1979 have been due to legal or illegal hunting; most bears were shot from roads (B. N. McLellan & D. M. Shackleton, unpublished).”

(McLellan, B.N. and D.M. Shackleton; Grizzly Bears and Resource-Extraction Industries: Effects of Roads on Behaviour, Habitat Use and Demography; Journal of Applied Ecology, Vol. 25, No. 2 (Aug., 1988), pp. 451-460). See DVD Folder 24, McLellanBN&ShackletonDM1988-GrizzlyBearsAnd.pdf.

9. “Previous research on human-caused grizzly bear mortality has shown a strong relationship between bear mortalities and roads (McLellan, 1989). As resource extraction activities enter an area, initially without much access, road construction provides entry for hunters, poachers, and settlers, the major cause of grizzly bear mortality

(McLellan, 1989). Even in 'pristine' landscapes such as national parks where grizzly bears are protected from hunting, as much as 100% of known adult grizzly bear mortalities occurred within 500 m of roads or 200 m of high use trails (Benn and Herrero, 2002)."

(Nielsen et al; Modelling the spatial distribution of human-caused grizzly bear mortalities in the Central Rockies Ecosystem of Canada; Final report of the Eastern Slopes Grizzly Bear Project; 2005). See DVD Folder 24, Modelling_the_spatial_ distribution_of_hu.pdf.

10. "Although grizzly bears are occasionally killed by motor vehicles on roadways, the primary impact is displacement from preferred habitats (Mace et al. 1999). Conversely, bears not displaced by roads are at higher risk of mortality from hunters, poachers, and management removal."

(Servheen et al; Identification and management of linkage zones for grizzly bears between the large blocks of public land in the Norther Rocky Mountains; ICOET 2001 Proceedings; 9/24/2001). See DVD Folder 24, Servheen et al 2001 Linkage Zones.pdf.

11. "The road network facilitates excessive mortality through illegal poaching, small isolated core areas and extensive habitat fragmentation (Bader and Sieracki 2022) . . . Motorized access leads to increased mortality in grizzly bears. McLellan (2015) found 84% of mortalities occurred within 182m of an open road."

(Bader, Michael and Paul Sieracki; Spatiotemporal dimensions of grizzly bear recovery; Technical Report 02-24. Missoula, MT. 37p.). See DVD Folder 24, Spatiotemporal Dimensions of Grizzly Bear Recovery.pdf.

12. "Roads are a significant source of direct human-caused bear mortality and increase access for human recreational activities, which in turn increases the potential for bear- human conflicts [126]. Increased

access may also lead to an increase in direct mortality, through hunting and poaching."

(Fortin et al; Impacts of human recreation on brown bears (Usus arctos): A review and new management tool; PLOS ONE | DOI:10.1371/journal.pone.0141983; January 5, 2016). See DVD Folder 24, Fortin et al 2016.pdf.

13. "Human activity and associated poaching on these Forest Service roads introduce additional fragmentation of bear habitat, especially in the North and South Fork drainages of the Flathead River, the Swan Valley, and Salish Mountains."

(Mattson, David; Heart of the Grizzly Bear Nation: An evaluation of the status of the Northern Continental Divide Grizzly Bears; The Grizzly Bear Project Report GBRP- 2019-2; 2019). See DVD Folder 24, Mattson_2019_Heart of Grizzly Nation GBRP-2019- 2.pdf.

The above literature clearly shows that road access increases the risk of mortality to grizzly bears and bull trout. The impact of bad actors already violating legal road closure orders cannot be minimized nor considered on par with sanctioned "administrative" use.

We object to this being the only opportunity to comment on this project and the fact that the comment period is only two weeks long. The proposed action document provides no clear explanation of how it responds to our scoping comments.

Because the Forest Plan Biological Opinion (BiOp) is once again being revised due to shortcomings identified by the U.S. District Court in Missoula, we do not know whether this culvert removal requirement will be a part of the revised BiOp. We object to being asked to review and comment on this DEA before the revised BiOp is made public and sheds some guiding light on projects like Granite Moccasin.

Indeed, based on a reading the propsed action, one would not know that the Forest Plan's lack of this culvert removal requirement has been a major issue since before the revised Plan was issued and has been faulted repeatedly by the U.S. District Court in Missoula. For this reason, among others, we include as a part of these comments our earlier scoping comments named above and ask that you read them again as a part of these comments.

While the issue of road closure effectiveness plays a major role in our scoping comments in the above Court opinions, the DEA dispenses with the issue with one misleading sentence, on page 42: "Road closure effectiveness is monitored on the forest, and closures are generally found to be effective (project file exhibit Q-021)." As an attempt to quantify the magnitude and frequency of un-authorize motorized bypass, the Flathead Forest deployed remote cameras 7 restricted roads in 2023. The cameras were positioned to detect unauthorized motorized use on the roads behind the closure device. Of the 7 roads monitored, two roads had documented unauthorized motorized bypass. The remaining 5 roads did not have any documented unauthorized motorized use behind the closure device. Of the two roads that had documented unauthorized motorized use, the frequency on road 9893 was one event detected. The frequency on road 1658 was 24 unauthorized events detected. When combined with road logs from Forest motorized administrative use on these roads, motorized use, authorized or unauthorized, did not exceed administrative motorized thresholds under FW-STD-01. The sample size of the effort was low, and time duration limited.

However, the evidence supports that magnitude and frequency of unauthorized motorized bypass is low and spatially scattered.

This paragraph is riddled with problems. Firstly, administrative motorized use cannot be considered equal to unauthorized motorized

use and the Forest Plan makes no accommodation for such, in standard FW-STD-IFS-01 or elsewhere. Administrative use is to be conducted by informed people that agree to carry out no ill will toward bears or other wildlife while performing an authorized agency activity (see Forest Plan Glossary). That is partly why the DEA, at 103, cites the Forest Plan and requires: PDF-WL-09: Contractors, operators, and their employees will be informed of procedures for safely working and recreating in grizzly bear country and of food and wildlife attractant storage special order prior to beginning work and annually thereafter, to reduce the risk of grizzly bear-human conflicts (FW-GDL-WL-01).

The same can't be said about people engaged in unauthorized motorized use, who are already engaged in unlawful activity by violating a road or area closure order in the first place. Research shows that a disproportionate amount of poaching and other grizzly bear mortality occurs near roads. That is part of why there are limits on road densities. Regardless, the Forest Plan does not define "administrative use" to include unauthorized motorized use and the latter cannot simply be swept under the rug of the former. Attempting to do so renders Exhibit Q-021 without scientific or ethical integrity.

Secondly, the above cited paragraph from Exhibit Q-021 fails to provide adequate detail about how the road closures for remote camera placements were selected in order to eliminate sample bias, whether those road closures were already known to be violated by unauthorized motorized use or not, and for what length of time the cameras were active. The most enlightening statement in the paragraph ap-

pears to be "The sample size of the effort was low, and time duration limited."

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

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

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

THE AGENCIES MUST CONDUCT ESA CONSULTATION FOR THE
WOLVERINE.

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

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

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

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

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

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

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

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

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

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

Do the action alternatives comply with PACFISH-INFISH?

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

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

The best available science shows that roads are detrimental to aquatic habitat and logging in riparian areas is not restoration.

Fish evolved with fire, they did not evolve with roads and logging.

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

The EIS must fully and completely analyze the impacts to bull trout critical habitat and westslope cutthroat trout habitat. What is the standard for sediment in the Forest Plan? Sediment is one of the key factors impacting water quality and fish habitat. [See USFWS 2010]

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

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

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

Often there are multiple independent variables with complex interrelationships that can influence population size.

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

Aquatic Impacts

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

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

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

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

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

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

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

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

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

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

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

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

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

• How will this project affect native fish? What is the current condition in the riparian areas?
How will this project protect rather than adversely impact fish habitat and water quality? No logging or road building should be done in riparian areas. There should not be any stream crossings. Roads should be decommissioned and removed, not upgraded and rebuilt.
• Hauer, et al. (1999) found that bull trout streams in wilderness habitats had consistent ratios of large to small and attached to unattached large woody debris. However, bull trout streams in watersheds with logging activity had substantial variation in these ratios. They identified logging as creating the most substantive change in stream habitats.

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

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

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

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

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

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

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

Montana FWP biologist: Despite successes, bull trout populations still in peril
Ladd Knotek is disturbed by the lack of attention being paid to the many western Montana streams where bull trout populations are struggling to survive.

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

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

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

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

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

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

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

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

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

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

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

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

"It's replacement rather than displacement," he said.

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

The results have been disturbing.

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

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

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

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

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

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

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

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

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

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

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

How will the Granite Moccasin project project make the waters clearer in the short term?

How will the Granite Moccasin project project make the waters colder in the short term?

How will the Granite Moccasin project project make the gravel beds of the streams int he project area cleaner in the short and long term?

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

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

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

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

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

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

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

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

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

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

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

What 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 other words, damage caused directly by sediment (and other pollution) is acceptable as long as BMPs are applied. The result is a never-ending, downward spiral for water quality and native fish.
Here's how it works:
• Timber sale #1 generates sediment damage to a bull trout stream, which is "acceptable" as long as BMPs are applied to project activities.
• "Natural" is then redefined as the stream condition after sediment damage caused by Timber Sale #1.
• Timber sale #2 – in the same watershed – sediment damage would be acceptable if BMPs are
applied again – same as was done before.
• "Natural" is again redefined as the stream condition after sediment damage caused by Timber
Sale#2.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

"High road densities and their locations within watersheds are typically correlated with areas of higher watershed sensitivity to erosion and sediment transport to streams. Road density also is correlated with the distribution and spread of exotic annual grasses, noxious weeds, and other exotic plants. Furthermore, high road densities are correlated with areas that have few large snags and few large trees that are resistant to both fire and infestation of insects and disease. Lastly, high road densities are correlated with areas that have relatively high risk of fire occurrence (from human caused fires), high hazard ground fuels, and high tree mortality." (USFS 1996b, page 85, parenthesis in original).

In simpler terms, the Forest Service has found that there is no way to build an environmentally benign road and that roads and logging have caused greater damage to forest ecosystems than has the sup-

pression of wildfire alone. These findings indicate that roadless areas in general will take adequate care of themselves if left alone and unmanaged, and that concerted reductions in road densities in already roaded areas are absolutely necessary.

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

The following quotes demonstrate that trying to restore lower severity fire regimes and forests through logging and other management activities may make the situation worse, compared to allowing nature to reestablish its own equilibrium. These statements are found in “An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins, Volume 3 (ICBEMP):

“Since past timber harvest activities have contributed to degradation in aquatic ecosystems, emphasis on timber harvest and thinning to

restore more natural forests and fire regimes represent risks of extending the problems of the past." (ICBEMP page 1340).

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

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

"Attempts to minimize the risk of large fires by expanding timber harvest risks expanding the well-established negative effects on aquatic systems as well. The perpetuation or expansion of existing road networks and other activities might well erode the ability of populations to respond to the effects of fire and large storms and other disturbances that we cannot predict or control (National Research Council 1996). (ICBEMP page 1342).

"Watersheds that support healthy populations may be at greater risk through disruption of watershed processes and degradation of habi-

tats caused by intensive management than through the effects of fire.” (ICBMP page 1342).

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

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

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

• Roads have adverse effects on aquatic ecosystems. They facilitate timber sales which can reduce riparian cover, increase water temperatures, decrease recruitment of coarse woody debris, and disrupt the

hydrologic regime of watersheds by changing the timing and quantity of runoff. Roads themselves disrupt hydrologic processes by intercepting and diverting flow and contributing fine sediment into the stream channels which clogs spawning gravels. High water temperatures and fine sediment degrade native fish spawning habitat.

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

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

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

Thank you for your time.

Sincerely yours,

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