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First name: Michael

Last name: Garrity

Organization: Alliance For The Wild Rockies

Title: Executive Director

Comments: Name of the Proposed Project, Responsible Official, National Forest and Ranger District where Project is: Bug Creek Integrated Resource Management Project; Swan Lake District Ranger Christopher Dowling is the Responsible Official;

The project is in the Swan Lake Ranger District of the Flathead National Forest. Ranger Dowling chose the proposed or selected alternative B-Proposed Action which includes 4,604 acres of vegetation management on National Forest System lands, motorized access management, and a non-motorized trail system in the Draft Decision Notice and FONSI.

NOTICE IS HEREBY GIVEN that AWR objects pursuant to 36 CFR section 218 to the Responsible Official's adoption of the selected Alternative. As discussed below, thug Creek Project as proposed violates the Clean Water Act, the National Environmental Policy Act (NEPA), the National Forest Management Act (NFMA), the Endangered Species Act (ESA), the Gallatin Forest Plan and the Administrative Procedure Act (APA).

Location the Bug Creek project area lies on the east and west sides of Crane Mountain, between Flathead Lake and Swan Lake in Lake County, MT in the Swan Lake Ranger District of the Flathead National Forest in Lake County, MT. The project area is approximately is approximately 35,675.

Specific Issues Related to the Proposed Projects, including how Objectors believes the Environmental Analysis or Draft Record of Decision specifically violates Law, Regulation, or Policy: We included this under number 8 below.

Thank you for the opportunity to object on the Bug Creek Project. Please accept this objection from me on behalf of the Alliance for the Wild Rockies and Native Ecosystems Council.

1. Suggested Remedies that would Resolve the Objection: We recommend that the [ldquo]No Action Alternative[rdquo] be selected. We have also made specific recommendations after each problem.

2. Supporting Reasons for the Reviewing Office to Consider: This landscape has very high wildlife values, including for the threatened grizzly bear, lynx, big game species, and wildlife dependent upon unlogged. The project area will be concentrated within some of the best wildlife habitat in this landscape which is an important

travel corridor for wildlife such as lynx, bull trout, grizzly bears, and wolverine. The agency will also be exacerbating an ongoing problem of displacing elk to adjacent private lands in the hunting season due to a lack of security on public lands. The public interest is not being served by this project. Suggested Remedies to Resolve the Objection: We recommend that the [ldquo]No Action Alternative[rdquo] be selected. We have also made specific recommendations after each problem.

Supporting Reasons for the Reviewing Office to Consider This landscape has very high wildlife values, including for the threatened grizzly bear, and lynx, big game species, and wildlife dependent upon mature forest habitat. The project area is concentrated within some of the best wildlife habitat in this landscape which is an important travel corridor for wildlife such as lynx, grizzly bears, and wolverine. The agency will also be exacerbating an ongoing problem of displacing elk to adjacent private lands in the hunting season due to a lack of security on public lands. The public interest is not being served by this project. Thank you for the opportunity to object. NOTICE IS HEREBY GIVEN that, pursuant to 36 CFR Part 218, AWR objects to the Draft Decision Notice (DDN) and Finding of No Significant Impact (FONSI) with the legal notice published on March 16, 2021, including the Responsible Official[rsquo]s adoption of proposed or selected Alternative. AWR is objecting to this project on the grounds that implementation of the Selected Alternative is not in accordance with the laws governing management of the national forests such as the FLPMA, ESA, NEPA, NFMA, the Flathead National Forest Forest Plan and the APA, including the implementing regulations of these and other laws, and will result in additional degradation in already degraded watersheds and mountain slopes, further upsetting the wildlife habitat, ecosystem and human communities. Our objections are detailed below. If the project is approved as proposed, individuals and members of the above-mentioned groups would be directly and significantly affected by the logging and associated activities. Objectors are conservation organizations working to ensure protection of biological diversity and ecosystem integrity in the Wild Rockies bioregion (including the FNF). The individuals and members use the Flathead National Forest and the project area for recreation and other forest related activities. The selected alternative would also further degrade the water quality, wildlife and fish habitat. These activities, if implemented, would adversely impact and irreparably harm the natural qualities of the Project Area, the surrounding area, and would further degrade the watersheds and wildlife habitat.

Statements that Demonstrates Connection between Prior Specific Written Comments on the Particular Proposed Project and the Content of the Objection
ROADS

We wrote in our comments,

The EA states that barriers will be installed to prevent motorized use on closed roads. What is the effectiveness of these barriers, and how many miles of closed roads are expected to have illegal motorized use?

The Forest Service responded:

The 2016 A19 report, Table 8b, shows the results of closure device monitoring on the Flathead National Forest from 2006 through 2015. This table shows from 3-13 percent of the barrier devices were found to be ineffective in preventing

unauthorized use, depending on the year, with an average of

6.9 percent per year from 2006-2015. Since 2011, the average road closure effectiveness has improved, not declined. Since 2011, the average percentage of ineffective closures improved to 5 percent (project file exhibit L-012).

We wrote in our comments:

Only the road junctions, and the first 50-300 feet of roads to be claimed as "impassable" will be treated, which means that most of the road will be suitable for illegal motorized use and recreational use. For example, culverts will be maintained.

Why are these suitable criteria for a road identified as "impassable?"

The Forest Service responded:

The Forest Service does not agree that treating only the road junction and the first 50-300 feet of roads will mean that the rest of road will be suitable for authorized motorized use. It is the intent that our impassable road treatments described in the updated EA and the forest plan will restrict unauthorized motorized use. The impassable road treatments are minimal treatments. Other treatments may occur (such as more debris laid on the surface of the road, more boulders blocking the entrance, recontouring portions or all or a portion of the road, etc.) if unauthorized use continues. The Forest Plan (USDA 2018b, p199) definition of Impassable is as follows: A road that has been treated in such a manner that the road is blocked and there is little resource risk if road maintenance is not performed on a regular basis (self-maintaining). These roads are not counted in the total motorized route density as long as the road (generally the first 50 to 300 feet) has been treated to make it inaccessible to wheeled motorized vehicles during the non-denning season. Roads may become impassable due to a variety of causes, including but not limited to one or more of the following: natural vegetation growth, road entrance obliteration, scarified ground, fallen trees, boulders, or culvert or bridge removal. Impassable roads may remain on the inventoried road system if use of the road is anticipated at some point in the future.

How many road closure violations have occurred in the Swan Lake Ranger District in the last 5 years? Since road closure violations are pervasive throughout the project area and the Forest, the FNF is in violation of not only the Forest Plan but also the big game security standards.

It is fair to assume that there are many more violations that regularly occur and are not witnessed and reported. It is also fair to assume that you have made no effort to request this available information from your own law

enforcement officers, much less incorporate it into your analysis. Considering your own admissions that road density is the primary factor that degrades elk and grizzly habitat, this is a material and significant omission from your analysis— all of your ORD and HE calculations are wrong without this information.

The veracity of the FS's inventory of system and nonsystem ("undetermined" or "unauthorized") roads is at issue here also. This is partly because the FS basically turns a blind eye to the situation with insufficient commitment to monitoring, and also because violations are not always remedied in a timely manner.

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

The EA does not disclose how many years the existing core areas have provided the habitat benefits assumed under the Forest Plan. As pointed out, some has been lost (due to "private infrastructure development") and we're not told of other likely and foreseeable reductions.

The EA does not take a hard look at road closure violations. It also shows the inadequacy of Forest Plan road density metrics.

Since we are awaiting the results of a lawsuit against the Forest Plan, the issuance of the Bug Creek draft DN is premature and subverts NEPA, NFMA, the APA and the ESA.

Have you closed or obliterated all roads that were promised to be closed or obliterated in the Travel Plan? Or, are you still waiting for funds to close or obliterate those roads? This distinction matters because you cannot honestly claim that you are meeting road density standards promised by the Travel Plan if you have not yet completed the road closures/obliterations promised by the Travel Plan. Furthermore, as noted above, you have a major problem with recurring, chronic violations of the road closures created by the Travel Plan, which means that your assumptions in the Travel Plan that all closures would be effective has proven false. For this reason, you cannot tie to the analysis in the Travel Plan because it is invalid.

Christensen et al (1993) states: "Any motorized vehicle use on roads will reduce habitat effectiveness. Recognize and deal with all forms of motorized vehicles and all uses, including administrative use." Please disclose this to the public and stop representing that roads closed to the public should not be included in habitat effectiveness calculations. The facts that (a) you are constructing or reconstructing over 13.3 miles of new system roads and 5.3 miles of temporary roads for this project, (b) you have problems with recurring illegal use, which means that your conclusion that this Project will have no effect on open road density or habitat effectiveness is implausible to the point of being disingenuous. You cannot exclude these roads simply because you say they are closed to the public. Every road receiving motorized use must be included in the HE calculation. You must consider all of this road use in order to take a hard look that is fully and fairly informed regarding

habitat effectiveness. In the very least you must add in all [ldquo]non-system[rdquo] roads, i.e. illegal roads, as well as recurring illegal road use (violations) in your ORD calculations.

Remedy: Choose the No Action Alternative or you must either complete new NEPA analysis for the Travel Plan on this issue or provide that new analysis in the NEPA analysis for this Project. Either way, you must update your open road density calculations to include all roads receiving illegal use.

GRIZZLY BEARS

We wrote in our comments:

Creating barriers on roads to prevent motorized access will not affect recreational use, including hiking, hunting, bike riding, and berry picking, for example, Where are these impacts to grizzly bear displacement and mortality risk addressed?

Response: Cumulative effects to grizzly bears such as existing non-motorized activities are addressed in the updated EA (p147) and in project file exhibit L-007. While non-motorized activities such as hiking or berry picking may impact individual bears, these activities have not been determined to have population impacts to grizzly bears (NCDE, 2019). With the exception of mountain biking, the majority of the recreational uses listed such as hiking, hunting or berry picking can travel cross-country through the project area regardless of a presence a trail or barriered road.

We wrote in our comments:

The agency failed to define total road densities at present, what these will be during the 5 years of project implementation, and what these will be once the project is completed. So the impacts to grizzly bear displacement and mortality risk are not identified to the public.

Response: The baseline conditions for Total Motorized Route Density (TMRD) are outlined in the updated Bug Creek EA grizzly bear section (p137). Additionally, the temporary changes in TMRD for the five years of project implementation as well as the years post implementation are described for both Alternatives in the updated EA (p144). The ten-year running average for temporary project increases to TMRD calculated for 15 years can be found in the updated EA (p144). The impacts of the proposed changes to TMRD to grizzly bears is also discussed in the grizzly bear section of the updated EA (p135-148). Additional information regarding grizzly bears and the proposed project can be found in the project file (exhibit L-004).

The response, the EA and the DDN evaluation of this issue was not adequate and violates NEPA, ESA, NFMA, and the APA.

The Analysis of the Management Situation Technical Report for Revision of the Kootenai and Idaho Panhandle Forest Plans states:

[ldquo]Direct mortality (related to access) from trapping, legal hunting, and illegal shooting has impacted all wide-ranging carnivores (e.g. lynx, wolverine, grizzly and black bears, wolves)[hellip][rdquo]

The analysis is not credible given the FS[rsquo]s inability to effectively prevent motorized traffic behind roads, as discussed in the grizzly bear section of this objection. Moreover, it[rsquo]s not just hunters in season[mdash]it[rsquo]s poachers during every season. Also, this ignores the fact that lawful hunters find easier travel on newly accessible routes. Although this is usually by walking, it is also increasingly by bicycle[mdash]even eBikes not considered in the Forest Plan EIS.

The science is clear that motorized access via trail, road, or oversnow adversely impact habitat for the elk. Servheen, et al., 1997 indicate that motorized trails increase elk vulnerability and reduce habitat effectiveness, and provide scientific management recommendations.

Also, the EA fails to provide a meaningful analysis of cumulative impacts of recreational activities on elk. Wintertime is an especially critical time for elk, and stress from avoiding motorized activities takes its toll on elk and populations.

The EA doesn[rsquo]t demonstrate consistency with Forest Plan requirements for these medium priority Planning Subunits, probably because of its false assumptions noted above.

Scientific information recognizes the importance of thermal cover, including Lyon et al, 1985. Christensen et al., 1993 also emphasize [ldquo]maintenance of security, landscape management of coniferous cover, and monitoring elk use...[rdquo] This USFS Region 1 document also states, [ldquo]management of winter range to improve thermal cover and prevent harassment may be as important as anything done to change forage quantity or quality.[rdquo]

You cannot exclude roads simply because you say they are closed to the public. Every road receiving motorized use must be included in the HE calculation. You must consider all of this road use in order to take a hard look that is fully and fairly informed regarding habitat effectiveness. In the very least you must add in all [ldquo]non-system[rdquo] roads, i.e. illegal roads, as well as recurring illegal road use (violations) in your ORD calculations. Also, as a side note, your calculations in Table 12 give the HE of the existing condition, not the HE during the project.

As stated above, the LYNX

We wrote in our comments:

The proposed project will violate the Endangered Species Act (ESA), the National Environmental Policy Act (NEPA), the Administrative Procedures Act (APA), and the National Forest Management Act (NFMA) in regards to the proposed management and analysis of environmental impacts to the threatened Canada lynx (hereafter "lynx") and lynx critical habitat.

The Forest Service responded:

The proposed project alternatives and associated activities are consistent with the ESA, NEPA, APA and NFMA for Canada lynx and lynx critical habitat. The updated EA discloses that consultation with the USFWS for Canada lynx and critical habitat will be completed under Section 7 of the Endangered Species Act (updated EA p116 and 128). The Environmental Effects sections of the updated EA for Canada lynx and critical habitat use the best available science and regulatory guidance to thoroughly disclose the potential impacts of the project to both Canada lynx and critical habitat satisfying NEPA and the APA. The project alternatives are consistent with Appendix A of the Flathead Forest Plan within includes the Forest Plan direction for Canada lynx (project file exhibit L-001 and

L-003) satisfying NFMA.

We wrote in our comments:

The literature cited in the Bug Creek project did not include the most recent publication on lynx by Holbrook et al. 2019, titled "Management of forests and forest carnivores: relating landscape mosaics to habitat quality of Canada lynx at their range periphery, published in Forest Ecology and Management 437:411-425.

The Forest Service responded:

Holbrook et al. (2019) built on the findings of Kosterman et al. (2018) and explored the changing nature of forest structural classes in home ranges core-use areas within those ranges of female lynx. The study evaluated sensitivity of composition and arrangement of forest structures within the core-use areas to assign a female lynx a probability of producing kittens.

Holbrook et al. (2019) found that snowshoe hare occupancy was greatest in their advanced regeneration and mature classes. Female productivity was most sensitive to connected mature, multistoried forest (composed of mostly spruce-fir) and this was driven primarily at the core-use area scale of a home range. Those core-use areas could be one unit or many within a home range. Despite this metric, the authors stated, "Although more sensitive to MFCI, our analysis further indicated that the probability of producing a litter varied among

female lynx[rdquo] (Holbrook et al. 2019 p417). Additionally, the authors found that abundance recent forest conversion (termed [ldquo]stand initiation[rdquo] in the study) had less influence on

litter production than connected mature forest. The study concludes with recommendations for silvicultural management for forest to meet desired conditions for lynx over the long term.

The findings and recommendations of Holbrook et al. (2019) are consistent with the lynx analysis for the Bug Creek project, however it is important to note that the forest structural stages used for the analysis (directed by the Flathead Forest Plan) are different than the habitat classifications in Holbrook et al. (2019). This is discussed further in project file exhibit L-003.

The Bug Creek analysis identifies snowshoe hare habitat for lynx as stand initiation (saplings stands similar to [ldquo]advanced regeneration[rdquo] classified by Holbrook et al. (2019) and mature, multistory stands that are dominated by spruce and fir (updated EA p117). Both these structural stages had high horizontal cover (updated EA p119). The project analysis identified the snowshoe hare habitats in the project LAUs. The lynx analysis maps the locations of these structural stages across the project LAUs, crosswalks and maps other [ldquo]mature[rdquo] classifications (project file exhibits L-003) in the LAUs to examine spatial arrangement of structural stages for lynx.

Additionally, forest connectivity was evaluated for the project area which includes the project LAUs (project file exhibit

L-009). The project treatments would maintain a diversity of forest conditions in the project LAUs including reducing the risk of large-scale habitat conversation from wildfire (updated EA p120).

We wrote in our comments:

The Lynx Amendment has not been updated to require an LAU to be the median size of a female lynx's home range. Both LAUs in the Bug Creek project exceed the 13,568 acre mean home range size by over 4000-5000 acres (Table 49 at updated EA p120).

The Forest Service responded:

The Northern Rockies Lynx Management Direction (NRLMD) or [ldquo]Lynx Amendment[rdquo] amended forest plans 2007. The Northern Rockies Lynx Management Direction no longer applies to Flathead National Forest. In 2018, the Flathead Forest revised the forest plan and relevant direction for lynx is in Forest Plan Appendix A. The rationale for use of a LAU is located discussed in 3.7.5 of the Forest Plan EIS under Canada lynx, subsection

[Idquo]Methodology and analysis process.[rdquo] This is also discussed in response to comments on the forest plan in Volume 4 of the FEIS (p8-116).

We wrote in our comments:

The Lynx Amendment has not undergone any Forest Plan amendments to allow the changed definitions of lynx structural stages the agency is now using, including those used in the Bug Creek analysis. The Lynx Amendment needs to be amended to provide the current best science definitions of lynx habitat, and include standards for each of these 4 habitat

categories as defined by the current best science (Holbrook et al. 2019).

The Forest Service Responded:

The Northern Rockies Lynx Management Direction (NRLMD) or [Idquo]Lynx Amendment[rdquo] amended forest plans 2007. The Northern Rockies Lynx Management Direction no longer applies to Flathead National Forest. In 2018, the Flathead Forest revised the forest plan and relevant direction for lynx is in Forest Plan Appendix A. See also Comment Response O-04r above regarding Holbrook et al. (2019). The habitat categories used in Holbrook et al. (2019) are the same as used in Kosterman (2014) and Kosterman et al. (2018). There is uncertainty regarding the management application of this new science because forest structure characteristics used to define habitat relationships in these publications are not the same as those used to establish vegetation management standards for lynx in the forest plan, which were adopted from the NRLMD (USDA FS 2007). Forest Service Region 1 biologists and researchers at the Rocky Mountain Research Station are working together to better understand these relationships and their management application, which may result in improved interpretations and analysis methods in the future. The Flathead Forest Plan FEIS considered Kosterman[rsquo]s research and provided rationale for not incorporating the findings (Forest Plan FEIS 8-124). The estimated existing condition of potential lynx habitat by structural stage in the affected lynx analysis units is disclosed on page 119 of the updated EA (see project file exhibit L-003 for a description of the analysis process and additional information).

We wrote in our comments:

The measurements of project impacts on lynx habitat do not measure fragmentation, which has been identified as a key component of lynx habitat (Kosterman et al. 2018, Holbrook et al. 2019).

The Forest Service responded:

The updated EA analysis considered Kosterman et al. (2018) and is consistent with Holbrook et al. (2019). See also Comment Response O-04r above. The structural stage forest classifications used by Kosterman et al. (2018) are discussed further in project file exhibit L-03 including the difference in

90nomenclature used in the Flathead Forest plan direction for lynx. Habitat metrics relative to Kosterman et al. (2018) were discussed pre and post project activities in project file exhibit

L-003. The project lynx analysis discusses connectivity of lynx habitat as well as discussing forest connectivity in the project area (exhibits L-003 and exhibits L-009). The project would not sever forest connectivity in the project area or the LAUs (project file exhibit L-009 and updated EA p126). The Bug Creek project is consistent with Flathead Forest plan direction for lynx (project file exhibit L-001). Flathead Forest plan direction also contributes to forest connectivity in the project LAUs. This is discussed in the Flathead Forest Plan FEIS in the lynx section (3.7.5) as well as in the response to comments on the plan (FEIS p8-114).

We wrote in our comments:

The Lynx Amendment does not measure project impacts on snowshoe hare habitat, which is the key prey species for lynx. These severe impacts are not measured in the Lynx Amendment and were not disclosed in the draft EA for the Bug Creek Project.

Response: Flathead Forest plan direction for Canada lynx considered the effects of the programmatic direction to Canada lynx in the Forest Plan FEIS (Section 3.7.5). Specific impacts to snowshoe hare habitat from proposed activities in the Bug Creek project were analyzed in detail in the Canada lynx section of the updated EA (p116-128).

We wrote in our comments:

The impact of climate change on lynx and lynx critical habitat must be addressed in any proposed vegetation management project, including the impacts of logging, forest thinning, and prescribed fire.

Response: A detailed analysis of climate change was not included in the environmental assessment because the forest scale is the most appropriate scale for analyzing these effects.

Therefore, the project tiers to the detailed analysis for climate change in the Forest Plan Final EIS, Alternative B Modified (USDA FS 2018a). For more information, please refer to the Forest Plan Final EIS, Volume 1, 3.4 Carbon Sequestration pages 304-311; and Volume 2, 3.7 Wildlife, 3.7.5 Threatened, Endangered, Proposed, and Candidate Wildlife Species: Canada Lynx pages 211-213, 215, 219-221; and Canada Lynx Critical Habitat pages 242-243 and 248-249. Additional Forest climate change strategies may be found in the FEIS, Volume 4,

Appendix 7 [ndash] Climate Change Adaptation Strategies. The updated EA (p97-115) identifies how the project will move the project area towards the desired species composition identified in the 2018 Forest Plan. The Forest Plan[rsquo]s desired conditions for vegetation composition, structure, and density, which we are addressing with this project, are built upon the concept of maintaining and improving the resilience and resistance of the Forest, in part to address climate change and improve forest adaptability, as analyzed in the FEIS.

We wrote in our comments:

The Lynx Amendment has a standard to limit unsuitable habitat, or young newly clearcut forests to no more than 15% of the lynx habitat in an LAU (VEG S2). This VEG S2 standard needs to be corrected in the Lynx Amendment.

Response: Flathead Forest plan direction standard VEG S1 states, [ldquo]If more than 30 percent of the lynx habitat in an LAU is currently in a stand initiation structural stage that does not

yet provide winter snowshoe hare habitat, no additional habitat may be regenerated by vegetation management project[rdquo] (Flathead Forest Plan Appendix A pA-5). The early stand initiation structural stage is a stand initiation structural stage that does not provide winter snowshoe habitat. This structural stage has also been referred to as [ldquo]temporarily unsuitable[rdquo] in the past under the 2007 NRLMD. The Bug Creek EA discloses that the post-project condition of the project LAUs would have 15-17% early stand initiation depending on LAU and alternative (updated EA p123).

Kosterman et al. (2018) found that the [ldquo]probability of producing a litter was highest for females that had core-use areas with ~12-20% of small diameter regenerating forest[rdquo]. The [ldquo]core-use[rdquo] areas defined by Kosterman et al. (2018) are a different spatial scale than LAUs defined by the Flathead Forest Plan. The Forest Plan FEIS discusses consideration of Kosterman and best available science the FEIS response to comments (p8-115 through 127).

We wrote in our comments:

North Crane LAU: The proposed project will thus exceed documented levels of early stand initiation habitat by over 3 times in lynx habitat, and at least over 2 times in the overall landscape, excluding natural openings that should be included. The EA does not identify this adverse impact that may be created by the project.

Response: Both the existing and post project estimated early stand initiation structural stage for the project LAUs is described in the updated EA (p116-128) as well as in the project file (exhibit L-003). The methods used to estimate lynx habitat structural stage across the project area is described in the project file (exhibit L-003). The project file (exhibit L-003) describes the methods used to identify early stand initiation structural stage including how natural openings are included in that analysis. The impacts of the proposed changes in early stand initiation habitats within the project area are described in the updated EA (p120-122).

We wrote in our comments:

South Crane LAU: Thus the project will increase openings by over 3 times the level typical of high-quality female lynx habitat (4-5%) and by roughly 3 times this level.

Response: Both the existing and post project estimated early stand initiation structural stage for the project LAUs is described in the updated EA (p116-128) as well as in the project file (exhibit L-003). The methods used to estimate lynx habitat structural stage across the project area is described in the project file (exhibit L-003). The project file (exhibit L-003) describes the methods used to identify early stand initiation structural stage including how natural openings are included in that analysis. The impacts of the proposed changes in early stand initiation habitats within the project area are described in the updated EA (p116-128).

We wrote in our comments:

Thus the Lynx Amendment allows for no management of large portions of lynx critical habitat, which is a violation of the ESA as well as the NEPA, because actual impacts of removing a productive lynx home range are never assessed.

Response: The Northern Rockies Lynx Management Direction (NRLMD) or [ldquo]Lynx Amendment[rdquo] amended forest plans 2007. The Northern Rockies Lynx Management Direction no longer applies to Flathead National Forest. In 2018, the Flathead Forest revised the forest plan and relevant direction for lynx is in Forest Plan Appendix A. The updated Bug Creek EA discloses the impacts of the proposed project to lynx habitat and lynx critical habitat (p116- 135). Although the project activities may lead to adverse impacts to lynx critical habitat, the project activities are not anticipated to have significant effects to the species. Consultation under section 7 of the Endangered Species Act will be completed with the USFWS before the decision is finalized for the Bug Creek project.

We wrote in our comments:

The Bug Creek project is a good example, as it is claimed that habitat connectivity will be maintained for lynx, but no analysis was ever provided, including maps that show an overlay of matrix habitat and proposed treatment units. The Lynx Amendment needs to be amended to provide a specific criteria for the standard on connectivity, as well as establishing a minimum level of connectivity as defined by the current best science. Analysis of connectivity needs to include the entire LAU landscape, including natural openings.

Response: The project lynx analysis discusses connectivity of lynx habitat as well as discussing forest connectivity in the project area (exhibits L-003 and exhibits L-009). The project would not sever forest

connectivity in the project area or the LAUs (project file exhibit L-009 and updated EA p126 and p133). The conclusions stated for lynx connectivity in the updated EA are supported by analyses detailed in project file exhibits L-003 and L-009. Rationale and responses on how the Flathead Forest plan direction provides for lynx connectivity is discussed in the lynx section of the FEIS (section 3.7.5) as well as in response to comments on the forest plan FEIS

(p8-114-126). Comment (O-04r): The adverse impacts of the Bug Creek Project on lynx habitat and lynx critical habitat is not correctly identified and disclosed by the agency. Response: The updated Bug Creek EA discloses the impact of the proposed project to lynx habitat and lynx critical habitat (p116-135).

Additional information regarding lynx habitat and critical habitat within the project area can be found in the project file (exhibit L -003).

We wrote in our comments:

The Lynx Amendment does not require any level of mature forest habitat within LAUs. Thus the Lynx Amendment does not require maintenance of this key feature for lynx, nor does it require disclosure of project impacts on mature forest habitat. The project EA did not disclose this adverse impact on lynx or critical lynx habitat.

Response: The updated Bug Creek EA discloses the impacts to lynx habitat and lynx critical habitat (p116-135). Impacts to multistory mature lynx foraging habitat are summarized by LAU and project alternatives in table 54 (updated EA p121).

Although the project activities may lead to adverse impacts to lynx habitat or lynx critical habitat, the project activities are not anticipated to have significant effects to the species.

Consultation under section 7 of the Endangered Species Act will be completed with the USFWS before the decision is finalized for the Bug Creek project. The Bug Creek project is consistent with the lynx direction in Appendix A of the Flathead Forest Plan. The Flathead Forest Plan does not specify a quantity of mature, multistory lynx forage within a LAU. The Forest FEIS discusses lynx science and direction in the lynx section (3.7.5) as well as in response to comment on the Forest Plan (p8-125-126). The Bug Creek project would not impact mature, multistory lynx forage outside of the WUI. Project file exhibit L-003 discusses the [ldquo]mature[rdquo] habitat classification in research by Kosterman et al. (2018) and estimates [ldquo]mature[rdquo] habitat in the project LAUs.

We wrote in our comments:

The Lynx Amendment does not have a standard for the amount of stand initiation structural stage in an LAU. NCLAU: The project will thus reduce the typical level of advanced regeneration habitat from already marginal levels in the NCLAU landscape down to only about 7% of the landscape, and 11 % of just lynx habitat. The EA does not disclose this adverse impact of the project on lynx or lynx critical habitat. SCLAU: The agency may reduce this down to 738 acres of advanced regeneration, which would be 5% of lynx habitat and 4% of the

SCLAU landscape. This adverse impact of the project, due to conflicts with the current best science, is not disclosed in the EA.

Response: The updated Bug Creek EA discloses the impacts to lynx habitat and lynx critical habitat on pages 128-135. The estimated pre and post condition of potential lynx habitat by structural stage is also found within those pages. Additional information regarding the existing structural stages of lynx habitat within the project area as well as the estimated post project structural stages can be found in the project file (exhibit L-003). The Bug Creek project is consistent with the lynx direction in Appendix A of the Flathead Forest Plan. The Forest FEIS discusses lynx science and direction in the lynx section (3.7.5) as well as in response to comment on the Forest Plan (p8-125-126).

A big problem with the Forest Plan and the NRLMD is that it allows with few exceptions the same level of industrial forest management activities that occurred prior to Canada lynx ESA listing. The FS approval and implementation of the NRLMD and the revised Flathead National Forest Forest Plan is arbitrary and capricious, violates NEPA's hard look requirement and scientific integrity mandate and fails to apply the best available science necessary to conserve lynx. The NRLMD or the revised Flathead Forest Plan contain no protection or standard for conservation of winter lynx habitat (old growth forests).

The EA doesn't disclose if the FS conducted lynx occurrence surveys of habitat in the LAUs.

The EA doesn't disclose if surveys target snowshoe hare occurrence data in these stands newly considered unsuitable for lynx. Also, the EA doesn't indicate if the FS surveyed any areas (proposed for logging and/or burning or not) thought to not be lynx habitat based on mapping or stand data were surveyed to confirm unsuitable habitat conditions.

The EA explains the project area is within Lynx's Critical Habitat Unit.

The current science demonstrates that lynx must travel between areas of high hare densities and resist traveling through low cover areas in winter. The EA fails to identify the amount of non-cover or low-cover areas that will be created from the project.

It appears the FS doesn't have a coherent strategy for recovering lynx from their Threatened status, including linking currently populated areas with each other through important linkages such as project area LAUs.

The EA fails to analyze and disclose cumulative impacts of recreational activities on lynx, such as snowmobiles. As the KNF's Galton FEIS states, "The temporal occurrence of forest uses such ... winter (skiing and snowmobiling) ... may result in a temporary displacement of lynx use of that area..."

The Bug Creek EA also fails to quantify and disclose the cumulative effects on Canada lynx due to trapping or from use of the road and trail networks in the project area.

In failing to properly analyze and disclose cumulative effects, the EA violates NEPA and the ESA.

The EA claims that sufficient denning habitat occurs in the LAU, but it fails to explain how it arrived at that conclusion. Habitat capacity for denning will be impaired by project activities.

The USFWS listed the Canada lynx as a threatened species under the Endangered Species Act in 2000 due to [ldquo]lack of guidance for conservation of lynx and snowshoe hare habitat...[rdquo] and subsequent authorization of actions that may cumulatively adversely affect the lynx. Relatively little is known about lynx in the contiguous United States. Historically, lynx inhabited states spanning from Maine to Washington, but it is unknown how many lynx remain.

Lynx are highly mobile and generally move long distances [greater than 60 mi. (100 km.)]; they disperse primarily when snowshoe hare populations decline; subadult lynx disperse even when prey is abundant, presumably to establish new home ranges; and lynx also make exploratory movements outside their home ranges. 74 Peg. Reg. at 8617. The contiguous United States is at the southern edge of the boreal forest range, resulting in limited and patchy forests that can support snowshoe hare and lynx populations.

Lynx subsist primarily on a prey base of snowshoe hare, and survival is highly dependent upon snowshoe hare habitat, forest habitat where young trees and shrubs grow densely. In North America, the distribution and range of lynx is nearly [ldquo]coincident[rdquo] with that of snowshoe hares, and protection of snowshoe hares and their habitat is critical in lynx conservation strategies.

Since more often than not when the FS conducts logging projects in LAUs surveys of stands for lynx habitat result in less suitable habitat than previously assumed, the FS needs to take a few steps backward and consider that its range-wide Canada lynx suitable habitat estimations were too high.

Squires et al. (2013) noted that long-term population recovery of lynx, as well as other species as the grizzly bear, require maintenance of short and long-distance connectivity. The importance of maintaining lynx linkage zones is also recognized by the FS's Lynx Conservation Assessment and Strategy (LCAS), as revised in 2013, which stresses that landscape connectivity should be maintained to allow for movement and dispersal of lynx.

Squires et al. (2013) noted in their research report that some lynx avoided crossing highways; in their own report, they noted that only 12 of 44 radio-tagged lynx with home ranges including 2- lane highways crossed them.

The current best science indicates that lynx winter foraging habitat is critical to lynx persistence (Squires et al. 2010), and that this habitat should be [ldquo]abundant and well-distributed across lynx habitat.[rdquo] (Squires et al. 2010; Squires 2009.) Existing openings such as clearcuts not yet recovered are likely to be avoided by lynx in

the winter. (Squires et al. 2010; Squires et al. 2006a.) Lynx winter habitat, provided only in older, multi-storied forests, is critical for lynx preservation. (Squires et al. 2010.) Winter is the most constraining season for lynx in terms of resource use; starvation mortality has been found to be the most common during winter and early spring. (Squires et al. 2010.) Prey availability for lynx is highest in the summer. (Squires et al. 2013.)

Openings, whether small in uneven-aged management, or large with clearcutting, remove lynx winter travel habitat on those affected acres, since lynx avoid openings in the winter. (Squires et al. 2010.)

Squires et al., 2010 reported that lynx winter habitat should be [ldquo]abundant and spatially well- distributed across the landscape.[rdquo] Those authors also noted that in heavily managed landscapes, retention and recruitment of lynx habitat should be a priority.

The LCAS (Ruediger et al. 2000) recommends, until conclusive information is developed concerning lynx management, the agencies retain future options; that is, choose to err on the side of maintaining and restoring habitat for lynx and their prey. To err on the side of caution, the KNF would retain all remaining stem exclusion forests for recruitment into lynx winter habitat, so that this key habitat would more closely resemble historic conditions.

As early as 2000, the LCAS noted that lynx seem to prefer to move through continuous forest (1- 4); lynx have been observed to avoid large openings, either natural or created (1-4); opening and open forest areas wider than 650 feet may restrict lynx movement (2-3); large patches with low stem densities may be functionally similar to openings, and therefore lynx movement may be disrupted (2-4). Squires et al. 2006a reported that lynx tend to avoid sparse, open forests and forest stands dominated by small-diameter trees during the winter. Squires et al. 2010 again reported that lynx avoid crossing clearcuts in the winter; they generally avoid forests composed of small diameter saplings in the winter; and forests that were thinned as a silvicultural treatment were generally avoided in the winter.

Squires et al. 2010 show that the average width of openings crossed by lynx in the winter was 383 feet, while the maximum width of crossed openings was 1240 feet.

Recent scientific findings undermine the Forest Plan/NRLMD direction for management of lynx habitat. This creates a scientific controversy the FS fails to resolve, and in fact it essentially ignores it.

For one, Kosterman, 2014 found that 50% of lynx habitat must be mature undisturbed forest for it to be optimal lynx habitat where lynx can have reproductive success and no more than 15% of lynx habitat should be young clearcuts, i.e. trees under 4 inches dbh. Young regenerating forest should occur only on 10-15% of a female lynx home range, i.e. 10-15% of an LAU.

This renders inadequate the agency[rsquo]s assumption in the Forest Plan/NRLMD that 30% of lynx habitat can be open, and that no specific amount of mature forest needs to be conserved.

Kosterman, 2014 demonstrates that Forest Plan/NRLMD standards are not adequate for lynx viability and recovery.

Also, the Forest Plan essentially assumes that persistent effects of vegetation manipulations other than regeneration logging and some intermediate treatments are essentially nil. However, Holbrook, et al., 2018 [ldquo]used univariate analyses and hurdle regression models to evaluate the spatio-temporal factors influencing lynx use of treatments.[rdquo] Their analyses [ldquo]indicated ...there was a consistent cost in that lynx use was low up to 10 years after all silvicultural actions.[rdquo] (Emphasis added.) From their conclusions:

First, we demonstrated that lynx clearly use silviculture treatments, but there is a 10 year cost of implementing any treatment (thinning, selection cut, or regeneration cut) in terms of resource use by Canada lynx. This temporal cost is associated with lynx preferring advanced regenerating and mature structural stages (Squires et al., 2010; Holbrook et al., 2017a) and is consistent with previous work demonstrating a negative effect of precommercial thinning on snowshoe hare densities for 10 years (Homyack et al., 2007). Second, if a treatment is

implemented, Canada lynx used thinnings at a faster rate post-treatment (e.g., 20 years posttreatment to reach 50% lynx use) than either selection or regeneration cuts (e.g., 34[ndash]40 years post-treatment to reach 50% lynx use). Lynx appear to use regeneration and selection cuts similarly over time suggesting the difference in vegetation impact between these treatments made little difference concerning the potential impacts to lynx (Fig. 4c). Third, Canada lynx tend to avoid silvicultural treatments when a preferred structural stage (e.g., mature, multi-storied forest or advanced regeneration) is abundant in the surrounding landscape, which highlights the importance of considering landscape-level composition as well as recovery time. For instance, in an area with low amounts of mature forest in the neighborhood, lynx use of recovering silvicultural treatments would be higher versus treatments surrounded by an abundance of mature forest (e.g., Fig. 3b). This scenario captures the importance of post-treatment recovery for Canada lynx when the landscape context is generally composed of lower quality habitat. Overall, these three items emphasize that both the spatial arrangement and composition as well as recovery time are central to balancing silvicultural actions and Canada lynx conservation. So Holbrook et al., 2018 fully contradict Forest Plan assumptions that clearcuts/regeneration can be considered useful lynx habitat as early as 20 years post-logging.

Results of a study by Vanbianchi et al., 2017 also conflict with Forest Plan/NRLMD assumptions: [ldquo]Lynx used burned areas as early as 1 year postfire, which is much earlier than the 2[ndash]4 decades postfire previously thought for this predator.[rdquo] The NRLMD erroneously assumes clearcutting/regeneration logging have basically the same temporal effects as stand-replacing fire as far as lynx re-occupancy.

Kosterman, 2014, Vanbianchi et al., 2017 and Holbrook, et al., 2018, Holbrook 2019 demonstrate that Forest Plan direction is not adequate for lynx viability and recovery, as the FS assumes.

Holbrook 2019 such all lynx habitat must be surveyed. You have not done this.

The Forest Plan/FEIS fail to describe the quantity and quality of habitat that is necessary to sustain the viability of the Canada lynx.

Page 13 of the DDN states:

The biological assessment prepared for the Bug Creek Project found that there would be a may affect, likely to adversely affect determination for both Canada lynx and Canada lynx critical habitat. These determinations were made because the majority of project activities are located within the wildland- urban interface to conduct fuels reduction activities. An estimated 1,310 acres of winter lynx foraging habitat would be affected by the proposed project. The project would affect approximately 11 percent of the potential winter foraging habitat in the South Crane LAU and 6 percent in the North Crane LAU. Approximately 433 acres of existing lynx multistory forage would be negatively affected by vegetation management, primarily through the removal of the horizontal structure. This acreage would include treatment within the wildland urban interface conducted under exemptions to standard VEG S6. The project would also include 47 acres of daylighting for western white pine outside the WUI in stand initiation forage under exceptions for standard VEG S5. The proposed action would not result in regeneration of more than 15% of lynx habitat in an LAU in a 10-year period (FW-STD- WL-04).

The WUI exception is arbitrary and capricious and in violation of NEPA, NFMA, the APA, and the ESA. There is no scientific evidence that lynx can withstand a loss of 15% of an LAU. Remedy: Select the No Action alternative. Alternatively, prepare an EIS that addresses the analytical and scientific issues identified above.

Remedy:

Choose the No Action Alternative or withdraw the DDN and write an EIS for the project that fully complies with the law and a SEIS for the Forest Plan to reflect the best available science and fully complies with the law.

PURPOSE AND NEED

We wrote in our comments;

The stated purpose of the project is wildfire suppression, including to reduce ladder fuels in multistoried stands, and reduce the stand density in late seral stands, supposedly because these types of habitats never occurred historically. There is abundant new science that notes that fires are largely driven by weather, which is related also to climate change.

Also, the claim that dense forests never existed historically is a direct contradiction to the habitat type criteria. The rationale for removing vast amounts of bird habitat is clearly just a disguised excuse to log and burn public lands.

The Forest Service responded:

The purpose and need for action on the proposed Bug Creek project is lined out in the updated EA (p 4-5).

The EA and the DDN do not demonstrate that the project will meet the Purpose and Need in violation of NEPA, ESA, NFMA, and the APA.

Please see the attached paper by Dr. William Baker titled: "[dquo]Are High-Severity Fires Burning at Much Higher Rates Recently than Historically in Dry-Forest Landscapes of the Western USA?[rdquo]

Dr. Baker writes: "[dquo]Programs to generally reduce fire severity in dry forests are not supported and have significant adverse ecological impacts, including reducing habitat for native species dependent on early-successional burned patches and decreasing landscape heterogeneity that confers resilience to climatic change.[rdquo]

Dr. Baker concluded: "[dquo]Dry forests were historically renewed, and will continue to be renewed, by sudden, dramatic, high- intensity fires after centuries of stability and lower-intensity fires.[rdquo] Based on Dr. Baker[squo]s paper, the proposed action will not meet the purpose and need of the project. Baker writes on p. 20: "[dquo]Management issues The evidence presented here shows that efforts to generally lower fire severity in dry forests for ecological restoration are not supported.[rdquo] Dr. Baker[squo]s paper is the best available science. Please explain why this project is not following the best available science. The Draft Decision Notice is in violation of NEPA. Remedy, choose the No Action Alternative or write an EIS that complies with the law. In "[dquo]Fire Ecology in Rocky Mountain Landscapes[rdquo] by William Baker, (which I am sending a copy of via U.S. mail) Dr. Baker writes on page 435, "[dquo] ...a prescribed fire regime that is too frequent can reduce species diversity (Laughlin and Grace 2006) and favor invasive species (M.A. Moritz and Odion 2004). Fire that is entirely low severity in ecosystems that historically experience some high-severity fire may not favor germination of fire- dependent species (M.A. Moritz and Odion 2004) or provide habitat key animals (Smucker, Hutto, and Steele 2005).[rdquo] Baker continues on page 436: "[dquo]Fire rotations equal the average mean fire interval across a landscape and are appropriate intervals at which individual points or the whole landscape is burned. Composite fire intervals underestimate mean fire interval and fire rotation (chap 5) and should not be used as prescribed burning intervals as this would lead to too much fire and would likely lead to adversely affect biological diversity (Laughlin and Grace 2006).[rdquo]

Please find (Laughlin and Grace 2006) attached.

Dr. Baker estimates the high severity fire rotation to be 135 - 280 years for lodgepole pine forests. (See page 162.). Baker writes on page 457-458 of Fire Ecology in Rocky Mountain Landscapes:

"[dquo]Fire rotation has been estimated as about 275 years in the Rockies as a whole since 1980 and about 247 years in the northern Rockies over the last century, and both figures are near the middle between the low (140 years) and high (328 years) estimates for fire rotation for the Rockies under the HRV (chap. 10). These estimates suggest the since EuroAmerican settlement, fire control and other activities may have reduced fire somewhat in particular places, but a general syndrome of fire exclusion is lacking. Fire exclusion also does not accurately

characterize the effects of land users on fire or match the pattern of change in area burned at the state level over the last century (fig 10.9). In contrast, fluctuation in drought linked to atmospheric conditions appear to match many state-level patterns in burned area over the last century. Land uses that also match fluctuations include logging, livestock grazing, roads and development, which have generally increased flammability and ignition at a time when the climate is warming and more fire is coming. [rdquo] Schoennagel et al (2004) (please find attached) states: [ldquo]High-elevation subalpine forests in the Rocky Mountains typify ecosystems that experience infrequent, high-severity crown fires [l. . . The most extensive subalpine forest types are composed of Engelmann spruce (*Picea engelmannii*), sub-alpine fir (*Abies lasiocarpa*), and lodgepole pine (*Pinus contorta*), all thin-barked trees easily killed by fire. Extensive stand-replacing fires occurred historically at long intervals (i.e., one to many centuries) in subalpine forests, typically in association with infrequent high-pressure blocking systems that promote extremely dry regional climate patterns.[rdquo] Please find Schoennagel et al (2004) attached.

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

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

zone.[rdquo]

Schoennagel et al (2004) states: [ldquo]No evidence suggests that spruce[ndash] fir or lodgepole pine forests have experienced substantial shifts in stand structure over recent decades as a result of fire suppression. Overall, variation in climate rather than in fuels appears to exert the largest influence on the size, timing, and severity of fires in sub-alpine forests [l. We conclude that large, infrequent stand replacing fires are [lsquo]business as usual[rsquo] in this forest type, not an artifact of fire suppression.[rdquo].

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

Schoennagel et al. (2004) states: [ldquo]Mechanical fuel reduction in sub-alpine forests would not represent a restoration treatment but rather a departure from the natural range of variability in stand structure.[rdquo]

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

Schoennagel et al (2004) states: [ldquo]The Yellow-stone fires in 1988 revealed that variation in fuel conditions, as measured by stand age and density, had only minimal influence on fire behavior.

Therefore, we expect fuel- reduction treatments in high- elevation forests to be generally unsuccessful in reducing fire frequency, severity, and size, given the overriding importance of extreme climate in controlling fire regimes in this zone.

Thinning also will not re-store subalpine forests, because they were dense historically and have not changed significantly in response to fire suppression. Thus, fuel- reduction ef- forts in most Rocky Mountain subalpine forests probably would not effectively mitigate the fire hazard, and these efforts may create

new ecological problems by moving the forest structure out-side the his- toric range of variability.[rdquo]

Please find Schoennagel et al (2004) attached.

The NEPA requires a [ldquo]hard look[rdquo] at climate issues, including cumulative effects of the [ldquo]treatments[rdquo] in the proposed project when added to the heat, drought, wind and other impacts associated with in- creased climate risk. Regeneration/ Restocking failure following wildfire, prescribed fire and/or mechanical tree-killing has not been analyzed or disclosed.

There is a considerable body of science that suggests that regeneration following fire is increasingly problematic.

NEPA requires disclosure of impact on [ldquo]the human environment.[rdquo] Climate risk presents important adverse impacts on cultural, economic, environmental, and social aspects of the human environment. [ndash] people, jobs, and the economy [ndash] adjacent to and near the project area. Challenges in predicting responses of individual tree species to climate are a result of species competing under a never-before-seen climate regime [ndash] one forests may not have experienced before either.

In an uncertain future of rapid change and abrupt, unforeseen transitions, adjustments in management approaches will be necessary and some actions will fail. However, it is increasingly evident that the greatest risk is posed by continuing to implement strategies inconsistent with and not informed by current understanding of our novel future....Achievable future conditions as a framework for guiding forest conservation and management, Forest Ecology and Management 360 (2016) 80[ndash]96, S.W. Golladay et al. (Please, find attached)

Stands are at risk of going from forest to non-forest, even without the added risk of [ldquo]management[rdquo] as proposed in the project area. The project is currently is violation of NEPA, NFMA, and the APA.

REMEDY

Withdraw the draft Decision Notice and write an EIS that fully complies with the law.
Monarch Butterfly.

Monarch butterflies have been proposed for listing under the ESA. This is new information that was not available when we submitted our comments.

The project is in violation of the ESA, NFMA, and the APA for not formally consulting with the FWS on the impact of the project on the Monarch butterfly.

Remedy

Please formally consult with the FWS on the impact of the South Plateau project on the Monarch Butterfly.

Thank you for your time and consideration of our concerns.