April 19, 2021

Seth Carbonari

West Fork District Ranger

Bitterroot National Forest

6735 West Fork Rd

Darby, MT 59829

RE: COMMENTS ON THE MUD CREEK PROJECT

DRAFT ENVIRONMENTAL ASSESSMENT

Transmitted via email--please acknowledge receipt!

RE: Mud Creek Project Comments

Dear Ranger Carboni:

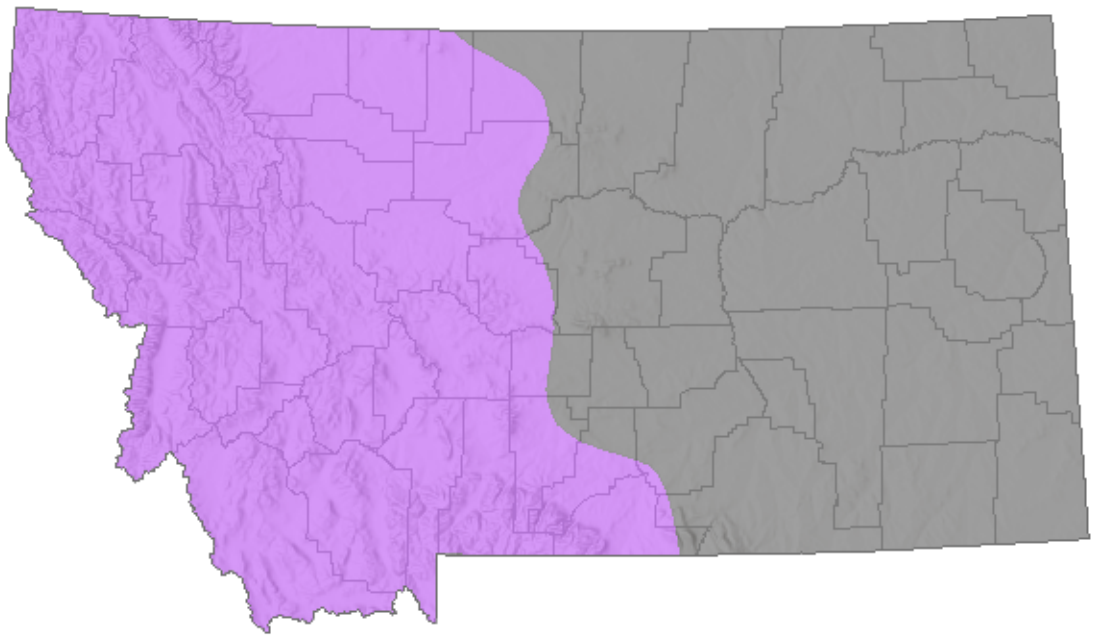
Thank you for the opportunity to comment. Please accept these comments on the draft Mud Creek Project Environmental Assessment on behalf of the Alliance for the Wild

Rockies, Friends of the Bitterroot, Friends of the Clearwater, Yellowstone to Uintas Connection, and Native Ecosystems Council, (collectively “Alliance”).

Page 30 of the EA states: "Sixty-day public review is required for creation of openings greater than 40 acres (FSM 2470, section 2471.1, Region 1 supplement 2400-2016-1). The project scoping letter (PF-SCOPE-002) initially notified the public of the proposed creation of openings greater than 40 acres as part of the Mud Creek project.” But the legal notice for scoping period states it is a 30 day comment period. Please initiate a 60 day public review if openings greater than 40 acres as required by FSM 2470, section 2471.1, Region 1 supplement 2400-2016-1.

Appendix A of the Wildlife report states grizzlies are not present in the project area. It also states: “Not designated as ‘may be present’ in the project area for grizzly bears.”

Please see the following Montana Fish Wildlife and Parks map of occupied grizzly habitat.



http://fieldguide.mt.gov/speciesDetail.aspx?elcode=AMA-JB01020

As of 2018, an article in the July/August 2020 issue of Montana Outdoors, the Montana Fish Wildlife and Parks magazine included a map showing the distribution of verified and possible grizzly bear locations. This map includes 5 verified grizzly bear sightings only about 10 miles east of the Mud Creek Project (verified since 2005) and 2 possible sightings since 2011.

https://issuu.com/montanaoutdoors/docs/outlierbears

It is clearly possible that grizzly bears are also present in the Mud Creek landscape in the last 3 years.

Please incorporate this into your analysis.

Please formally consult with the U.S. Fish and Wildlife Service on the impact of the Mud Creek project on grizzly bears.

Please see the attached paper by Dr. David Mattson, "Grizzly Bears for the Selway-Bitterroot." It recommends:) "Permanent and meaningful protection of Inventoried Roadless Areas; (ii) Road closures and permanent road retirement; (iii) Retirement of grazing allotments; (iv) Improved husbandry on allotments; (v) Increased law enforcement…"

The Interagency Grizzly Bear Guidelines (IGBC 1986)

document directs the FS to manage for "multiple land use

benefits" to the extent that these uses are compatible with grizzly recovery.

The Bitterroot National Forest has occupied grizzly bear habitat though out. Management must focus on grizzly bear habitat maintenance, improvement and minimization of grizzly-human- conflict. Since grizzly are listed as threatened under the Endangered Species Act, management decisions shall favor the needs of the grizzly bear when grizzly habitat and other land use values compete. The Draft EA and the Forest Plan do not disclose if adverse project or cumulative impacts are consistent with the requirement to

prioritize the needs of the grizzly bear for the applicable Management Situations.

Additional direction in the Interagency Grizzly Bear Guidelines (IGBG) (1986) for MS1 habitat included the following for timber management:

Logging and/or fire management activities which will adversely affect grizzly bear populations and/or their habitat will not be permitted; adverse population effects are population reductions and/or grizzly positive conditions; adverse habitat effects are reduction in habitat quantity and/or quality.

Schwartz et al. (2010) noted that management for grizzly bears re-quires not only the provision of security area, but control of open road densities between security areas. Otherwise, grizzly bear mortality risks will be high as bears attempt to move across highly roaded landscapes to another security area. There needs to be direction regarding existing road densities located outside of and between security areas.

Grizzly bears are winter-sleepers rather than true hibernators. If high density motorized routes are known to disturb, displace, habituate, and raise mortalities among grizzlies in spring, summer, and fall, there's no logical, or scientific reason to believe they don't do the same to sleeping bears in winter.

The Forest Plan's desired condition for patches which includes a range of larger opening sizes may result in adverse effects if lack of cover leads to under use of foraging habi-

tat or increased risk of human-grizzly bear conflicts causing mortality of a grizzly bear. The EA fails to show that the openings to be newly created by the project don't exceed levels of current incidental take.

The current management strategy allows "temporary" reductions in Core and "temporary" increases in road density as if the habitat would then get reprieve from such "temporary" adverse effects. However, the FS recognizes no genuine limitations on how much, how often and for how long these "temporary" current protections by allowing such harmful activities in Security Core as the opening of roads to public motorized uses like firewood gathering, unlimited amounts of non-motorized trails and human activity, and logging projects that reduce Security Core for half a decade.

Moreover, excusing logging roads from limits on Total Motorized Route Density even though they have not been decommissioned, have not been removed from the road system, and are instead being "stored" for future logging—which also makes them more vulnerable to continued use as trails. (Hammer, 2016.)

The EA fails to consider loss of vegetative cover from the massive clearcutting proposed, which will affect security for grizzly bears and other wildlife depending upon seclusion from humans.

By law, the logging roads and illegal user-created roads on National Forests are supposed to be securely and effective-

ly closed. Unfortunately, the Forest Service has interpreted this requirement to allow it to put a pile of dirt in front of the road and call it good. Road use on closed roads and illegal user-created roads is a pervasive and chronic problem and it is keeping these endangered grizzly bears on the brink of extinction.

This represents a major departure from prior management requirements and threatens to significantly degrade grizzly

The Forest Service is violating the ESA by arbitrarily dismissing the threat to grizzly bears and bull trout posed by roadbuilding.

Page 45 of the EA states: "Where roads were not needed in the near-term but may be needed for long-term resource management, the team proposed road storage (which included blocking public access and making the road prism hydrologically stable). A total of 16.25 miles of existing road was proposed for storage (this includes 0.76 miles of undetermined road that would be added to the NFS road system and then stored)."

How many road closure violations have occurred in the last 5 years in the West Fork Ranger District?

The Forest Service must reconsult with the USFWS on the impact of the Bitterroot Forest Plan on grizzly bears singer there are now grizzly bears where they were not when the Forest Plan was written. The Forest Service must also give the public a chance to comment on this consultation. It is a violation of NEPA, NFMA, the APA, and the ESA to not do so.

This is strong reason that the Forest Service should write an EIS for this project.

The Forest Service must complete a full environmental impact statement (EIS) for this Project because the scope of the Middleman 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 check-list of issues that must be included in the EIS for the Project in order for the Forest Service's analysis to comply with the law. Following the list of necessary elements, Alliance has also included a general narrative discussion on possible impacts of the Project, with accompanying citations to the relevant scientific literature. These references should be disclosed and discussed in the EIS for the Project.

I. NECESSARY ELEMENTS FOR PROJECT EIS:

- Disclose all Bitterroot National Forest (BNF) Plan requirements for logging/ burning projects and explain how the Project complies with them;

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

- Solicit and disclose comments from the Montana Department of Fish, Wildlife, and Parks regarding the

impact of the Project on wildlife habitat;

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

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

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

- Disclose the Bitterroot National Forest's record of compliance with the additional monitoring requirements set forth in previous DN/FONSIs and RODs on the Bitterroot 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 amount of detrimental soil disturbance that currently exists in each proposed unit from previous logging and grazing activities;

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

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

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

- Disclose the timeline for implementation;

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

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

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

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

- Disclose the level of mature and old growth forest necessary to sustain viable populations

of dependent wildlife species in the area;

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

- Disclose the amount of current habitat for old growth and mature forest dependent species in the Project area;
- How many acres of old growth will be logged or burned under the action alternative. What science are you using to justify this?
- Using Green et. al. will this still be clarified as old growth?

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

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

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

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

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

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

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

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

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

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

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

LL. Disclose how Project complies with the Roadless Rule;

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

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

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

Disclose maps of the area that show the following elements:
Past, current, and reasonably foreseeable logging units in the Project area;
Past, current, and reasonably foreseeable grazing allotments in the Project area; Density of human residences within 1.5 miles from the Project unit boundaries; Hiding cover in the Project area according to the Forest Plan definition;
Old growth forest in the Project area;

Big game security areas;
Moose winter range;

An article in the Bitterroot Star reports the following:

[Stevensville District Ranger Steve Brown] also said that in the Forest's 1994 monitoring report, it states that the Forest Plan standards adopted in 1987 are not the best available science, making it difficult if not impossible to measure and that the Forest should be using 'Green. et al'.

"I believe the language used actually said that we should amend our Forest Plan to include Green. et al.." said Brown.

He said the Forest went on to use 'Green. et al' for the next 26 years but did not bother to amend the Forest Plan to say that Green. et al. would be used to define old growth.

"Then these groups sued us, complaining that we were not following the Forest Plan," said Brown. "We took a look at it and said, hey, they are right . . . ."

The article continues: "The solution, according to Brown, will be to adopt a project specific amendment to the Forest Plan for the Gold Butterfly

Similarly, an article in the Ravalli Republic quotes the District Ranger as stating: "When it came out in the complaint that we were not using the standards found the Forest Plan, we took a look and saw that was right." In the interview, the District Ranger again concedes that the violation has

been occurring for the past 26 years. The article further quotes the Bitterroot Forest Supervisor as stating: “Upon further review of the project analysis, we recognized some deficiencies regarding Forest Plan compliance.”

This same statement was made in an agency press release.

C. Other Ongoing Projects

Although the Forest Service has now withdrawn the Gold Butterfly Project decision, there are a number of other on-going projects on the Bitterroot National Forest that have not been withdrawn. There is no publicly available list that indicates which projects are currently being implemented on the Bitterroot National Forest. Thus, the projects discussed below are not intended to be a complete list, but rather a representative sample.

In May 2020, the Forest Service signed a decision authorizing the Piquet Creek Project. Ex.10 at pdf-30. The project allows approximately 3,000 acres of commercial logging. Ex.10 at pdf-21. The agency’s response to scoping

comments states: There is no proposal to remove any old growth stand from old growth status, as defined by Green et al. 1992 (amended 2005). Treatments may be proposed to reduce competition and ingrowth to create a more resilient and resistant stand to insects, disease and wildfire that would protect and aid in managing these stands for old

growth into the future. Old growth data will be collected where appropriate to determine if stands qualify based on the Green et al. definition and ensure we're meeting the Forest Plan.

Thus, the agency did not use the Forest Plan old growth definition to calculate existing old growth in the project area, and the project permits logging in old growth to a level that would not comply with the Forest Plan old growth definition. Id. Nonetheless, the Forest Service exempted this project from NEPA analysis and the administrative objection process purportedly because it was complying with the Healthy Forest Restoration Act categorical exclusion mandate "to maximize retention of old-growth and large trees as appropriate." However, logging down to 8 large trees per acre and 33% canopy closure under Green et al. – instead of retaining at least 15 large trees per acre and 75% canopy closure as required by the Forest Plan – does not maximize old-growth and large trees but rather minimizes them.

Similarly, in April 2020, the Forest Service signed a decision authorizing the Buckhorn Project. Ex.12 at pdf-24. The project allows approximately 1,165 acres of commercial logging. Ex.12 at pdf-1. The Forest Service states: "Most treatment units do not contain old growth stands as defined by Green et al. 1992 (amended 2005)." Ex.12 at pdf-2 (emphasis added). For example, in Unit 14, "trees >20" DBH in one stand did not meet age requirements based on Green et al. 1992 (amended 2005) for the habitat type. Age requirements are 170 years or older . . . ." In contrast to Green et al., however, the Forest Plan old growth

definition does not have an age minimum; thus, this stand would likely have been protected as old growth under the Forest Plan.

Moreover, the Forest Service states: "Treatments within all units would retain large, old ponderosa pine and thus would not reduce the old growth percentage for this third order drainage." Ex.12 at pdf-2. This statement is premised upon retention in accordance with the Green et al definition, which only requires retention of 8 large trees per acre, whereas the Forest Plan definition requires 15 large trees per acre and 75% canopy closure. Thus, existing Forest Plan old growth may be logged by this Project down to conditions that no longer constitute Forest Plan old growth.

Since the Bitterroot National Forest has not been following the old growth requirements of the Forest Plan, the Bitterroot N.F. must amend the Forest Plan not do a site specific amendment since the Bitterroot N.F. has not been compelling with the Forest Plan and clearly does not intend to in the future. The other option is to follow the Forest Plan direction for old growth.

Following is a more detailed discussion of what we believe is needed in an EIS.

1. Did the Forest Service conduct NEPA analysis (i.e. an EA or EIS) for the local Wildfire protection plan or the WUI which the Forest is using for this project?

2.If the Forest Service did not conduct NEPA for the Fire local Community Wildfire protection plan and or the Wildland Urban Interface, please immediately start that NEPA process.

3.Please provide a map showing the WUI and the locations of all homes in comparison to the project area.

4.If the Forest Service did not conduct NEPA for the the local Community Wildfire protection plan, please disclose the cumulative effect of the Mud Creek project to avoid illegally tiering to a non-NEPA document. Specifically analyze the decision to prioritize mechanical, human-designed, somewhat arbitrary treatments as a replacement for naturally occurring fire.

5.Did the Forest Service conduct ESA consultation for the local Community Wildfire protection plan?

6.Will the Forest Service be considering binding legal standards for noxious weeds in its revision of the Bitterroot Forest Plan?

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

8.Is it true that new roads are the number one cause of new noxious weed infestations? Page 1o of the draft EA states: “Invasive plants and noxious weeds – Noxious weed monitoring and treatments would continue.” What are the latest weed monitoring? How often has the BNF monitored weeds in the last 10 years? How effective are the weed treatments?

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

10. Is it true that noxious weeds are one of the top threats to biodiversity on our National Forests?

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

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

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

14. How will the decreased elk security and thermal cover affect wolverines? Please formally consult with the US FWS on the impact of this project on wolverines.

15. Which wildlife species and ecosystem processes, if any, does fire-proofing or making the forests more resilient benefit?

16. Which species and processes do fire-proofing or making the forests more resilient harm?

17. What evidence do you have that this logging will make the forest healthier for fish and wildlife?

18. What about the role of mixed severity and high severity fire — what are the benefits of those natural processes?

19. How have those processes (mixed and high severity fire) created the ecosystems we have today?

20. Over how many millennia have mixed and high severity fire have been occurring without human intervention?

21. What beneficial ecological roles do beetles play?

22. Can the forest survive without beetles?

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

24. Why is logging that removes all/almost all trees considered regeneration (and not loss of existing forest), when a stand-replacing fire is considered loss of the forest (and not regeneration)?

25. How will the project improve watershed health?

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

27. After snags are cut down for safety for OSHA requirements will there still be enough snags left for old growth sensitive species?

28. Will this Project exacerbate existing noxious weed infestations and start new infestations? If they are present

near almost all roads and cannot be controlled then this is a violation of NFMA, the MUSY Act, the APA and the ESA.

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

30.How much more carbon would the project area absorb every year if the no action alternative is chosen versus the preferred alternative?

31.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?

32.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."

33.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.

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

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

36.The project appears to violate the best available science on road density in grizzly bear habitat. Please consult with the US FWS on the impact of the project before the draft ROD is signed so the public has a chance to comment as provided by in NEPA.

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

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

39.Would the habitat be better for whitebark pine, Monarch butterflies, wolverines, pine martins, northern goshawks, grizzly bears and lynx if roads were removed in the Project area?

40.What is the U.S. FWS position on the impacts of this Project on whitebark pine, Monarch butterflies, wolverines, pine martins, northern goshawks, grizzly bears and lynx? Have you conducted ESA consultation on wolverines?

41. Please provide us with the full BA for the whitebark pine, monarch butterflies, wolverines, pine martins, northern goshawks, grizzly bears and lynx.

42. What Federal Candidate Species-plants for listing under the Endangered Species Act are in the project area.

43. Please formally consult on the impact of the project on all Federal Candidate Species-Plants in the project area. How will the Forest Service that closures are effective when they haven't been in the past?

How often will the closures be monitored to be sure they are effective?

How many road closure violations has the Forest Service discovered in the project area in the last 5 years?

How will the Forest Service ensure that illegal roads or trails are not being built?

How effective are road closures in the BNF?

How often to you monitor the road closures to make sure they are working?

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

- Solicit and disclose comments from the Montana Department of Environmental Quality regarding the im-

pact of the Project on water quality;

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

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

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

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

- Disclose the results of the field surveys for threatened, endangered, proposed, candidate, and sensitive, and rare plants and species 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 timeline for implementation;

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

44. Please avoid illegally tiering to a non-NEPA document. Specifically analyze the decision to prioritize mechanical, human-designed, somewhat arbitrary treatments as a replacement for naturally occurring fire.

45. Did the Forest Service conduct ESA consultation for the Community Wildfire protection plan?

46.Will the Forest Service be considering binding legal standards for noxious weeds in its revision of the Bitterroot Forest Plan?

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

48.Is it true that new roads are the number one cause of new noxious weed infestations? Why isn't the Forest Service considering a Forest Plan amendment in this Project to amend the Forest Plan to include binding legal standards that address noxious weeds?

49.Is it true that noxious weeds are one of the top threats to biodiversity on our National Forests?

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

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

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

53. How will the decreased elk security and thermal cover affect wolverines? Please formally consult with the US FWS on the impact of this project on wolverines.

54.Which wildlife species and ecosystem processes, if any, does fire-proofing or making the forests more resilient benefit?

55. Which species and processes do fire-proofing or making the forests more resilient harm?

56.What evidence do you have that this logging will make the forest healthier for fish and wildlife?

57. What about the role of mixed severity and high severity fire — what are the benefits of those natural processes?

58. How have those processes (mixed and high severity fire) created the ecosystems we have today?

59. Over how many millennia have mixed and high severity fire have been occurring without human intervention?

60.What beneficial ecological roles do beetles play?

61.Can the forest survive without beetles?

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

63.Why is logging that removes all/almost all trees considered regeneration (and not loss of existing forest), when a stand-replacing fire is considered loss of the forest (and not regeneration)?

64.How will the project improve watershed health?

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

66. After snags are cut down for safety for OSHA requirements will there still be enough snags left for old growth sensitive species?

67. Will this Project exacerbate existing noxious weed infestations and start new infestations? If they are present near almost all roads and cannot be controlled then this is a violation of NFMA, the MUSY Act, the APA and the ESA.

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

69. How much more carbon would the project area absorb every year if the no action alternative is chosen versus the preferred alternative?

70.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?

71.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."

72.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.

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

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

75.The project appears to violate the best available science on road density in grizzly bear habitat. Will the project comply with the 19/19/68 standards? Please consult with the US FWS on the impact of the project before the draft ROD is signed so the public has a chance to comment as provided by in NEPA.

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

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

78.Would the habitat be better for whitebark pine, wolverines, pine martins, Monarch butterflies, northern goshawks, grizzly bears and lynx if roads were removed in the Project area?

79.What is the U.S. FWS position on the impacts of this Project on whitebark pine, Monarch butterflies, wolver-

ines, pine martins, northern goshawks, grizzly bears and lynx?

80.Please provide us with the full BA for the whitebark pine, wolverines, pine martins, northern goshawks, grizzly bears and lynx.

81.What Federal Candidate Species-plants for listing under the Endangered Species Act are in the project area.

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How often will the road closures be monitored to be sure they are effective?

How will the Forest Service ensure that illegal roads or trails are not being built?

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

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

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

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- 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 timeline for implementation;

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

Page 34 of the EA states: "***Elk Habitat EffectivenessCurrently the Forest Plan standard for elk habitat effectiveness is: "Manage roads through the Travel Plan process to attain or maintain 50 percent or higher elk habitat effectiveness (Lyon 1983) in currently roaded third order drainages. Drainages where more than 25 percent of roads are in place are considered roaded. Maintain 60 percent or higher elk habitat effectiveness in drainages where less than 25 percent of the roads have been built" (USDA Forest Service 1987, p. II-21.***

The proposed project-specific variance from this standard is intended to allow six third order drainages in the project area to not meet elk habitat effectiveness standards. The small size of the 3rd order drainages in the project area limits the amount of roads that can be present on the ground. In order to meet the standards, the mileage of roads needed to be closed would limit forest management access and conflict with other forest plan management objectives to provide roaded, dispersed recreation."

Do these calculations assume that your road closures are effective? How much further below the Forest Plan standards are they if you count the roads that have ineffective road closures as open? What will the calculations be if people continue to use the temporary roads after they are closed because they violate the road closures? How are you planning to close the new temporary roads to make sure the road closures are not violated?

The Forest Service is required to do a minimum roads analysis. Have you done this?

In light of the fact that you are exempting this project from Forest Plan hiding cover standards designed to protect and conserve elk habitat, the only protection left for elk habitat would be the Forest Plan open road density limits and man-

dates to maintain existing HE. This makes your failure to analyze road closure violations even more egregious — both in the Project analysis and your analysis of the Forest Plan amendment. Chronic, illegal road use is reasonably foreseeable and must be addressed in the cumulative effects analysis for both the Project and the Forest Plan amendment.

Additionally, your emphasis on elk populations across entire hunting districts is disingenuous and has little relevance to whether you are meeting your Forest Plan obligations to maintain sufficient elk habitat on National Forest lands. What percentage of elk are currently taken on National Forest lands? Have you asked Montana FWP for this information? Any honest biologist would admit that high elk population numbers do not indicate that you are appropriately managing National Forest elk habitat; to the contrary, high elk numbers indicate that you are so poorly managing elk habitat on National Forest lands that elk are being displaced to private lands where hunting is limited or prohibited. Your own Forest Service guidance document, Christensen et al. states: “Reducing habitat effectiveness should

never be considered as a means of controlling elk populations."

Do your open road density calculations include all of the recurring illegal road use documented in your own law enforcement incident reports?

You represent that the Travel Plan "analyzed the open road density, as well as elk security as measured by areas at least 250 acres in size and greater than 1⁄2 mile from an open road or motorized trail." 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 tier to the analysis in the Travel Plan because it is invalid. You must either complete new NEPA analysis for the Travel

Plan on this issue or provide that new analysis in the NEPA analysis for this Project. Either way, you must update your open road density calculations to include all roads receiving illegal use.

Please verify if the Elk Habitat Effectiveness is based on actual conditions or a promised goal for a future condition.

Please produce the 2017 Travel Plan on your website, as well as its full NEPA analysis. 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 61 miles of road for this project and (b) you have problems with recurring illegal use, and means that your conclusion that this Project will have no effect on open road density or habitat effectiveness is implausible to the point of being disingenuous. You cannot exclude these roads simply because you say they are closed to the public. Every road receiving motorized use must be included in the HE calculation. You must consider all of this road use in

order to take a hard look that is fully and fairly informed regarding habitat effectiveness. In the very least you must add in all “non-system” roads, i.e., illegal roads, as well as recurring illegal road use (violations) in your ORD calculations. Also, as a side note, your calculations in Table 12 give the HE of the existing condition, not the HE during the project.

Christensen et al. 1993 finds: “Areas where habitat effectiveness is retained at lower than 50 percent must be recognized as making only minor contributions to elk management goals. If habitat effectiveness is not important, don't fake it. Just admit up front that elk are not a consideration.”

You fail to make this admission and instead represent that you are meeting all relevant objectives.

You appear to be violating your Forest Plan requirements for ORD limitations:

Climate Issues

Please take a “hard look” at climate issues, including cumulative effects of the “treatments” in the proposed project

when added to the heat, drought, wind and other impacts associated with increased climate risk. Regeneration/Re-stocking 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 "the human environment." Climate risk presents important adverse impacts on cultural, economic, environmental, and social aspects of the human environment. — people, jobs, and the economy — 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 — 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) 80–96, S.W. Golladay et al. (Please, find attached with our comments.)

Stands are at risk of going from forest to non-forest, even without the added risk of "management" as proposed in the project area.

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

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

ignored at the project-level, or at the programmatic (Forest Plan) level.

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

It is clear that the management of the planet's forests is a nexus for addressing this largest crisis ever facing humanity. Yet the EA fails to even provide a minimal quantitative analysis of project-or agency-caused CO_2 emissions or consider the best available science on the topic. This is

Immensely unethical and immoral. The lack of detailed scientific discussions in the EA concerning climate change is far more troubling than the document's failures on other topics, because the consequences of unchecked climate change will be disastrous for food production, sea level rise, and water supplies, resulting in complete turmoil for all human societies. This is an issue as serious a nuclear annihilation (although at least with the latter we're not already pressing the button).

Page 73 of the EA states: "By reducing the risk of large wildfires, the largest source of carbon emissions, the Pro-

posed Action will lower the potential for increased carbon emissions. Additionally, the establishment of new and vigorously growing age-classes will improve carbon stores (Birdsey et al. 2019)." Birdsey et al. 2019 does not mention anything about logging reducing the threat of large wildfires.

Rhodes and Baker in a paper that looked at thinning and ponderosa pine forest find a very low probability of a thinned site encountering a fire during the narrow window when tree density is lowest. Another review paper by fire specialists at the Missoula Fire Lab about fuel reductions concluded: "The majority of acreage burned by wildfire in the US occurs in very few wildfires under extreme conditions. Under these extreme conditions, suppression efforts are largely ineffective."

Please see the column below by George Wuerthner, published in the October 11, 2019, Statesman Journal.

Fuels don't drive wildfires; climate and weather are the dominant factor | Opinion

George Wuerthner
Guest Opinion

The Wildfire Council set up by Oregon Gov. Kate Brown has many good recommendations including the need to reduce the flammability of communities, implementation of more effective evacuation routes, and other measures that will undoubtedly contribute to a safer and healthier environment for Oregon citizens.

However, the council puts a lot of emphasis on ramping up the logging of our forests as a means of precluding large wildfires. The underlying assumption of the recommendations is that fuels drive wildfires.

Yet according to the Oregon Department of Forestry in 2019 only 16,868 acres burned in the state, compared to 846,411 acres burned last year. Why the big difference? Is there that much less fuel? If fuel is the reason, we are seeing large acreages burn, then why so little this past year?

Opinion:Logging our forests is a misguided solution

The obvious reason and what the research shows is that climate/weather is the dominant factor in all large wildfires. If you have drought, low humidity, high temperatures, and high winds, you get large fires—regardless of the fuel load.

That is why even though the Oregon Coast forests have some of the highest "fuel loadings" in the nation, they seldom burn.

The Wildfire Council continues to "sell" the myth that fuels are the problem and logging our forests is the solution.

The Council ignores the growing science that calls into question the efficiency and effectiveness of fuel reductions.

For instance, Rhodes and Baker in a paper that looked at thinning and ponderosa pine forest find a very low probability of a thinned site encountering a fire during the narrow window when tree density is lowest.

Another review paper by fire specialists at the Missoula Fire Lab about fuel reductions concluded: "The majority of acreage burned by wildfire in the US occurs in very few wildfires under extreme conditions. Under these extreme conditions, suppression efforts are largely ineffective."

The authors go on to suggest: "Extreme environmental conditions .. .overwhelmed most fuel treatment effects. . . This included almost all treatment methods including prescribed burning and thinning. . .. Suppression efforts had little benefit from fuel modifications."

The Congressional Research Service (CRS) : "From a quantitative perspective, the CRS study indicates a very weak relationship between acres logged and the extent and severity of forest fires. … the data indicate that fewer acres burned in areas where logging activity was limited."

The Bitterroot National Forest has not yet accepted that the effects of climate risk represent a significant issue, and em-

inent loss of forest resilience already, and a significant and growing risk into the "foreseeable future?"

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

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

It is clear that the management of the planet's forests is a nexus for addressing this largest crisis ever facing humanity. Yet the FSEIS fails to even provide a minimal quantita-

tive analysis of project- or agency-caused CO_2 emissions or consider the best available science on the topic. This is immensely unethical and immoral. The lack of detailed scientific discussions in the FSEIS concerning climate change is far more troubling than the document's failures on other topics, because the consequences of unchecked climate change will be disastrous for food production, sea level rise, and water supplies, resulting in complete turmoil for all human societies. This is an issue as serious a nuclear annihilation (although at least with the latter we're not already pressing the button).

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

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

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

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

The EA does not analyze or disclose the body of science that implicates logging activities as a contributor to reduced carbon stocks in forests and increases in greenhouse gas emissions. The EA fails to provide estimates of the total amount of carbon dioxide (CO_2) or other greenhouse gas emissions caused by FS management actions and policies—forest-wide, regionally, or nationally. Agency policymakers seem comfortable maintaining a position that they need not take any leadership on this issue, and obfuscate via this EA to justify their failures.

The best scientific information strongly suggests that management that involves removal of trees and other biomass increases atmospheric CO_2. Unsurprisingly the FSEIS doesn't state that simple fact.

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

The EA also ignores CO_2 and other greenhouse gas emissions from other common human activities related to forest management and recreational uses. These include emissions associated with machines used for logging and associated activities, vehicle use for administrative actions, and recreational motor vehicles. The FS is simply ignoring the

climate impacts of these management and other authorized activities.

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

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

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

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

In March of 2018 the Federal District Court of Montana found the Miles City (Montana) and Buffalo

(Wyoming) Field Office's Resource Management Plans unlawfully overlooked climate impacts of coal mining and oil and gas drilling. The case was brought by Western Organization of Resource Councils, Montana Environmental Information Center, Powder River Basin Resource Council, Northern Plains Resource Council, the Sierra Club, and the Natural Resources Defense Council.

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

Please see the following article that ran in the Missoulian on March 11, 2019.

Fire study shows landscapes such as Bitterroot's Sapphire Range too hot, dry to restore trees

ROB CHANEY rchaney@missoulian.com Mar 11, 2019

Burned landscapes like this drainage in the Sapphire Mountains hasn't been able to grow new trees since the Valley Complex fire of 2000, due to lack of soil moisture, humidity and seed trees, as well as excess heat during the growing season. University of Montana students Erika

Berglund and Lacey Hankin helped gather samples for a study showing tree stands are getting replaced by grass and shrubs after fire across the western United States due to climate change.

Courtesy Kim Davis

Fire-scarred forests like the Sapphire Range of the Bitterroot Valley may become grasslands because the growing seasons have become too hot and dry, according to new research from the University of Montana.

"The drier aspects aren't coming back, especially on north-facing slopes," said Kim Davis, a UM landscape ecologist and lead investigator on the study. "It's not soil sterilization. Other vegetation like grasses are re-sprouting. It's too warm. There's not enough moisture for the trees."

Davis worked with landscape ecologist Solomon Dobrowski, fire paleoecologist Philip Higuera, biologist Anna Sala and geoscientist Marco Maneta at UM along with colleagues at the U.S. Forest Service and University of Colorado-Boulder to produce the study, which was released

Monday in the Proceedings of the National Academy of Sciences journal.

"What's striking is if you asked scientists two decades ago how climate warming would play out, this is what they expected we'd see," Higuera said. "And now we're starting to see those predictions on the impact to ecosystems play out."

The study concentrated on regrowth of Ponderosa pine and Douglas fir seedlings in Montana, Idaho, Colorado, New Mexico,

Arizona and northern California. Field workers collected trees from 90 sites, including 40 in the northern Rocky Mountains, scattered within 33 wildfires that had occurred within the past 20 years.

"We did over 4,000 miles of road-tripping across the West, as well as lots of miles hiking and backpacking," Davis said. The survey crews brought back everything from dead seedlings to 4-inch-diameter tree rings; nearly 3,000 samples in total. Then they analyzed how long each tree had been growing and what conditions had been when it sprouted.

Before the 1990s, the test sites had enough soil moisture, humidity and other factors to recruit new seedlings after forest fires, Dobrowski said.

“There used to be enough variability in seasonal conditions that seedlings could make it across these fixed thresholds,” Dobrowski said. “After the mid-‘90s, those windows have been closing more often. We’re worried we’ll lose these low-elevation forests to shrubs or grasslands. That’s what the evidence points to.”

After a fire, all kinds of grasses, shrubs and trees have a blank slate to recover. But trees, especially low-elevation species, need more soil moisture and humidity than their smaller plant cousins. Before the mid-90s, those good growing seasons rolled around every three to five years. The study shows such conditions have evaporated on virtually all sites since 2000.

“The six sites we looked at in the Bitterroots haven’t been above the summer humidity threshold since 1997,” Higuera said. “Soil moisture hasn’t crossed the threshold since 2009.”

The study overturns some common assumptions of post-fire recovery. Many historic analyses of mountain forests show the hillsides used to hold far fewer trees a century ago, and have become overstocked due to the efforts humans put at controlling fire in the woods. Higuera explained that some higher elevation forests are returning to their more sparse historical look due to increased fires.

“But at the lower fringes, those burn areas may transition to non-forest types,” Higuera said, “especially where cli-

mate conditions at the end of this century are different than what we had in the early 20th Century."

The study also found that soil sterilization wasn't a factor in tree regrowth, even in the most severely burned areas. For example, the 2000 Sula Complex of fires stripped forest cover in the southern end of the Bitterroot Valley. While the lodgepole pine stands near Lost Trail Pass have recovered, the lower- elevation Ponderosa pine and Douglas firs haven't.

Another factor driving regeneration is the availability of surviving seed trees that can repopulate a burn zone. If one remains within 100 meters of the burned landscape, the area can at least start the process of reseeding. Unfortunately, the trend toward high-severity fires has reduced the once-common mosaic patterns that left some undamaged groves mixed into the burned areas.

Higuera said he hoped land managers could use small or prescribed fires to make landscapes more resilient, as well as restructure tree-planting efforts to boost the chances of heavily burned places.

Rob Chaney
Natural Resources & Environment Reporter

Natural Resources Reporter for The Missoulian.

Please write an EIS for this project if the FS still wants to pursue it, which includes an analysis that examines climate

change in the context of project activities and Desired Conditions. Better yet, it's time to prepare an EIS on the whole bag of U.S. Government climate policies.

The NFMA requires in the face of increasing climate risk, growing impacts of wildfire and insect activity, plus scientific research findings, the FS must disclose the significant trend in post-fire regeneration failure. The forest has already experienced considerable difficulty restocking on areas that have been subjected to prescribed fire, clear-cut logging, post-fire salvage logging and other even-aged management "systems."

NFMA (1982) regulation 36CFR 219.27(C)(3) implements the NFMA statute, which requires restocking in five years.

Forest managers must analyze and disclose the fact that the Bitterroot National Forest can no longer "insure that timber will be harvested from the National Forest system lands only where…there is assurance that such lands can be restocked within five years of harvest?" (NFMA§6(g)(3)(E)(ii)).

The project goals and expectations are not consistent with NFMA's "adequate restocking" requirement. Scientific research can no longer be ignored.

"At dry sites across our study region, seasonal to annual climate conditions over the past 20 years have crossed these thresholds, such that conditions have become increasingly unsuitable for regeneration. High fire severity and low seed availability further reduced the probability of post-fire regeneration. Together, our results demonstrate that climate change combined with high severity fire is leading to increasingly fewer opportunities for seedlings to establish after wildfires and may lead to ecosystem transitions in low-elevation ponderosa pine and Douglas-fir forests across the western United States." Wildfires and climate change push low-elevation forests across a critical climate threshold for tree regeneration, PNAS (2018), Kimberley T. Davis, et al. (Please, find attached)

Forests are already experiencing emissions-driven deforestation on both the post-fire and post-logging acreage. Ar-

eas where the cumulative effects of wildfire, followed by salvage logging on the same piece of ground are error upon error, with decades of a routine that can rightfully be described as willful ignorance and coverup.

Where is the reference to restocking? Monitoring data and analysis? If monitoring has been done there is no disclosure documenting the scope and probability of post-fire regeneration failures in the project area. NFMA requires documentation and analysis that accurately estimates climate risks driving regeneration failure and deforestation – all characteristic of a less "resilient" forest.

"In the US Rocky Mountains, we documented a significant trend of post-fire tree regeneration, even over the relatively short period of 23 years covered in this analysis. Our findings are consistent with the expectation of reduced resilience of forest ecosystems to the combined impacts of climate warming and wildfire activity. Our results suggest that predicted shifts from forest to non-forested vegetation." Evidence for declining forest resilience to wildfires under climate change, Ecology Letters, (2018) 21: 243–252, Stevens-Rumens et al. (2018). (Please find attached)

The Forest Plan is based on assumptions largely drawn from our past that no longer hold true. These assumptions, made decades ago, must be challenged, and amended, where overwhelming evidence demonstrates a change of course is critical. It is time to take a step back, assess the present and future and make the necessary adjustments, all in full public disclosure to the Congress and the American people. Many acres of (conifers) In many areas, conifers haven't shown "resilience" enough to spring back from disturbance. Regeneration is already a big problem. (Emphasis added).

Both RPA and NFMA mandate long-range planning which impose numerous limitations on commodity production, including grazing, timber harvesting practices and the amount of timber sold annually. These long-range plans are based on assumptions, which are based on data, expert opinion, public participation and other factors that all, well almost all, view from a historical perspective. Assumptions that drove forest planning guidance decades ago, when climate risk was not known as it is today, are obsolete today.

Present and future climate risk realities demand new assumptions and new guidance.

A proper reexamination of the assumptions relating to resilience and sustainability contained in the Forest Plan is necessary. Scientific research supporting our comments focus on important data and analysis. A full discussion and disclosure of the following is required: 1) trends in wildfires, insect activity and tree mortality, 2) past regeneration

success/failure in the project area, and 3) climate-risk science – some of which is cited below. Our comments, and supporting scientific research clearly "demonstrates

connection between prior specific written comments on the particular proposed project or activity and the content of the objection…"

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

Sec. 6. of the National Forest Management Act states:

(g) As soon as practicable, … the Secretary shall … promulgate regulations, under the principles of the Multiple-Use, Sustained-Yield Act of 1960…

The regulations shall include, but not be limited to-

(3) specifying guidelines for land management plans developed to achieve the goals of the Program which-

(E) insure that timber will be harvested from National Forest System lands only where-

(i) soil, slope, or other watershed conditions will not be irreversibly damaged;

NFMA regulations at 36 C.F.R. § 219.27 (Management requirements) state:

(a) Resource protection. All management prescriptions shall—

(1) Conserve soil and water resources and not allow significant or permanent impairment of the productivity of the land;

(b) Vegetative manipulation. Management prescriptions that involve vegetative manipulation of tree cover for any purpose shall--

(5) Avoid permanent impairment of site productivity and ensure conservation of soil and water resources;

The project-level, and programmatic-level (Forest Plan) fail to publicly disclose the current and future impacts of climate risk to our national forests. NEPA requires cumulative effects analysis at the programmatic level, and at the project-level. The failure to assess and disclose all risks associated with vegetative-manipulation (slash and burn) units in the project area in the proper climate-risk context/ scenario violates the NFMA, NEPA and the APA.

In the face of increasing climate risk, growing impacts of wildfire and insect activity, plus scientific research findings, NEPA analysis and disclosure must address the well-documented trend in post-fire regeneration failure. The project has already experienced difficulty restocking on areas that burned in the 1988 wildfire. NFMA (1982) regulation 36 CFR 219.27(c)(3) implements the NFMA statute, which requires adequate restocking in five years.

Given the forest's poor history of restocking success and its failure to employ the best available science, the adequacy of the site-specific and programmatic NEPA/NFMA process begs for further analysis and disclosure of the reality of worsening climate conditions which threaten – directly and cumulatively – to turn forest into non-forested vege-

tation, or worse. The desired future condition described in the Purpose and Need, or in the Forest Plan is not deforestation.

The Forest Plan is based on assumptions largely drawn from our past. These assumptions must be challenged, and amended, where overwhelming evidence demonstrates a change of course is critically important. It is time to take a step back, assess the future and make the necessary adjustments, all in full public disclosure to the Congress and the American people.

The EA fails to acknowledge the likelihood that "…high seedling and sapling mortality rates due to water stress, competing vegetation, and repeat fires that burn young stands," which will likely lead to a dramatic increase in non-forest land acres. Many acres of (conifers) trees already fail to regenerate. (Emphasis added). A map of these areas is required. In many areas, conifers haven't shown "resilience" enough to spring back from disturbance.

Looking to the Future and Learning from the Past in our National Forests: Posted by Randy Johnson, U.S. Forest Service Research and Development Program, on November 1, 2016 at 11:00 AM http://blogs.usda.gov/2016/11/01/looking-to-the-future-and-learning-from-the-past-in-our-national-forests/

Excerpt:

“Forests are changing in ways they've never experienced before because today's growing conditions are different from anything in the past. The climate is changing at an unprecedented rate, exotic diseases and pests are present, and landscapes are fragmented by human activity often occurring at the same time and place.

When replanting a forest after disturbances, does it make sense to try to reestablish what was there before? Or, should we find re-plant material that might be more appropriate to current and future conditions of a changing environment?

Restoration efforts on U.S. Forest Service managed lands call for the use of locally adapted and appropriate native seed sources. The science-based process for selecting these seeds varies, but in the past, managers based decisions on the assumption that present site conditions are similar to those of the past.”

“This may no longer be the case.”

REMEDY

Suggested remedies: Choose the No Action Alternative or Forest Plan Amendments are needed to establish standards and guidelines which acknowledge the significance of climate risk to other multiple-uses. Amendments must not only analyze forest-wide impacts, but the regional, national and global scope of

expected environmental changes. Based on scientific research, the existing and projected irretrievable losses must be estimated. Impacts caused by gathering climate risk (heat, drought, wind) and its symptoms, including wildfire, insect activity, and regeneration failure and mature tree mortality must be analyzed cumulatively.

The selected scientific research presented above is only a sampling of the growing body of evidence that supports the need to disclose the consequences of the proposed action in a proper context – a hotter forest environment, with more frequent drought cycles. This evidence brings into question the Purpose and Need for the project. It also requires the FS to reconsider the assumptions, goals and expected desired future condition expressed in the existing Forest Plan. Plan expectations must be amended at the programmatic level before proceeding with proposed project-level action(s). According to best available science, implementing the project will most likely accomplish the opposite of the desired future condition. We can adjust as we monitor and find out more. However, to willfully ignore what we do know and fail to disclose it to the public is a serious breach of public trust and an unconscionable act. Climate risk is upon us. A viable alternative to the proposal is not only reasonable and prudent, but it is the right thing to do.

The EA is in violation of NEPA, NFMA, the ESA and the APA because the project will adversely affect biological diversity, is not following the best available since and the purpose and need will not work. 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.

Economics

Please perform an accurate cost benefit analysis as required by NEPA, NFMA and the APA and include it in the final EA.

Canada Lynx (Threatened):

The Mud Creek project would impact Lynx Analysis Units (LAUs). The DEA does not include an analysis comparing the historic range of lynx habitat components with present conditions.

The U.S. District Court in Montana ruled that lynx critical habitat was not designated legally and ordered the FWS to reduce their analysis. Please consult with the FWS to see if any of the project area qualifies as lynx critical habitat.

The Mud Creek Draft EA does not apply the best available science regarding the Canada lynx.

The Project will result in unauthorized take under Section 9 of the ESA. The FS has duties under the ESA, 16 U.S.C. Section 1531 et seq., to ensure that its actions do not jeopardize threatened and endangered species, that their actions do not result in unauthorized take of these species of wildlife, and that their actions promote recovery of these species.

A big problem with the Forest Plan/NRLMD Amendment is that they allow essentially the same level of industrial forest management activities which occurred prior to Canada lynx listing under the Endangered Species Act (ESA). With the Gold Butterfly timber sale, the FS continues failure to consider, apply, and incorporate best available science; fails to demonstrate consistency with all Forest Plan/NRLMD direction, and will adversely modify lynx critical habitat in violation of the Endangered Species Act (ESA).

The project will result in unauthorized take as defined by Section 9 of the ESA.

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 coincident with that of snowshoe hares, and protection of snowshoe hares and their habitat is critical in

lynx conservation strategies. Yet the project specific amendment to thermal and hiding cover will affect snowshoe hare in the project area and subsequently lynx. Please provide analysis that demonstrates otherwise.

Please analyze how large openings and uneven aged management will affect lynx travel and travel habitat throughout the year and especially during winter and early spring.

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) 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. to avoid sparse, open forests and forest stands dominated by small-diameter trees during the winter.

How will the project actions affect lynx reproductive success and the female population?

Kosterman, 2014 finds 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 inched dbh.

DEA seems to state that project actions other than regeneration logging and some intermediate cuts will have little effect on lynx. However, Holbrook, et al., 2018 “used univariate analyses and hurdle regression models to evaluate

the spatio-temporal factors influencing lynx use of treatments." Their analyses "indicated …there was a consistent cost in that lynx use was low up to ~10 years after all silvicultural actions."

Holbrook 2019 states that all lynx habitat must be surveyed for lynx. Have you done this? If not please do so.

(Emphasis added.) Please explain how EA conclusions align with this research.

Using best available science please analyze and explain FS and DEA assumption that clearcutting/regeneration logging have the same temporal effects as stand-replacing fire as far as lynx re-occupancy.

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 for landscape connectivity should be maintained to allow for movement and dispersal of lynx. Lynx avoid forest openings at small scales, however effects on connectivity from project-created or cumulative openings were not analyzed in terms of this smaller landscape scale. And connectivity between project area LAUs and adjacent LAUs was not analyzed or disclosed.

DEA fails to analyze and disclose how much of the Project area would be affected by snowmobiles and other recreational activities. EA does not analyze the effects of winter-

recreation and other forest uses on lynx. Nor does it analyze new ATV loop trails and "other opportunities" that could be proposed during implementation.

As roads will provide access for trappers, How will the increased trapping season, snaring and large leg traps affect lynx in the project area?

Thank you for your attention to these concerns. Please keep us on your list to receive further mailings on the proposal.

Sincerely yours,
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