Eastside Forest & Habitat Improvement Project Scoping Comments

June 9, 2021

Mr. Stephen Brown (Stevensville District Ranger),

Please accept the following comments, all of which are in response to the scoping letter dated, May 11, 2021, for the Eastside Forest & Habitat Improvement Project (Eastside Project).

That scoping letter for the Eastside Project stated the following:

> The Bitterroot National Forest in conjunction with the Confederated Salish & Kootenai Tribes (CSKT) is proposing a mix of vegetation treatments including prescribed fire and non-commercial thinning which will cover the majority of the "east side" of the Bitterroot National Forest, involving most of the Forest that is east of highway 93 as well as the entire Sula Ranger District, extending from the northern boundary of the Forest on the Stevensville Ranger District near 8 mile creek in Florence down to Conner, following the Darby/Sula Ranger District boundary to the south (see attached map).
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> The area proposed for treatment consists of Forest Service lands located in Management Areas 1, 2, 3a, 3c, 5, 8a, and 8b. Goals for these Management Areas include managing timber, emphasizing wildlife habitat quality, maintaining recreational value, and a variety of visual quality objectives.
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> This project will be done entirely within a designated priority landscape and NEPA would be conducted using the Categorical Exclusion Authorities established in 36 CFR 220.6(e)(6). The CE category that applies to this project is listed below:
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> > (6) Timber stand and/or wildlife habitat improvement activities that do not include the use of herbicides or do not require more than 1 mile of low standard road construction. Examples include, but are not limited to:
> >
> > (i) Girdling trees to create snags;
> > (ii) Thinning or brush control to improve growth or to reduce fire hazard including the opening of an existing road to a dense timber stand;
> > (iii) Prescribed burning to control understory hardwoods in stands of southern pine; and
> > (iv) Prescribed burning to reduce natural fuel build-up and improve plant vigor.

In addition, as of May 27, 2021, the Forest Service (FS) website for the Eastside Project proposal advertised:

> Project proposes to use a mix of prescribed fire and pre-commercial thinning to address forest health and wildlife habitat improvement needs.
>
> - To use non-commercial thinning (no commercial logging) and prescribed fire to address forest health and wildlife habitat improvement needs.
> - There will be no treatments within areas of mapped lynx habitat as identified by the latest BNF lynx habitat model, or as verified by on the ground habitat typing.

- No treatments would occur within the grizzly bear May Be Present Area as identified by the latest U.S. Fish and Wildlife Service map, unless treatments in the May Be Present Area are consistent with the screens for the R1 programmatic grizzly bear BA. Examples of treatments consistent with the programmatic screens include activities such as prescribed fire unit prep, ignition and mop-up using hand ignition, hand tools and chainsaws, and off-road equipment operating within 300?(sic) of an open road.

An Environmental Impact Statement (EIS) is required for the Eastside Project to proceed

The Forest Service (FS) proposes to execute a "condition-based implementation approach" (CBIA) on an undisclosed number of acres of the Bitterroot National Forest (BNF). (During the BFC meeting on May 24th, Steve Brown, Stevensville District Ranger, estimated that management activities in the project area will encompass approximately 96,000 acres of the more than proposed project's 470,000+ acres). That acreage (470,000+) is more than 8 times as large as the Gold Butterfly Project which covers approximately 55,000 acres. The suggestion that this proposed project can satisfy NEPA regulations using a Categorical Exclusion (CE) when a project a fraction of its size (Gold Butterfly) required an EIS is absurd.

The attempt by the FS to conduct this gigantic proposal using a CE exposes that the Agency has no interest in achieving broad public support for its actions. The use of a CE forces those segments of the public whose interests are being threatened with harm to petition the courts simply to be heard.

- The stated purpose of this proposed project is to "Improve resilience to insect & disease and catastrophic wildfire in timber stands by modifying forest structures and composition, and fuel."

  The scoping documents do not define "resilience" in any objective, measurable terms nor do they cite any data that supports the FS implication of "inadequate resilience in the proposed project area."

  Without an objective way to measure "resilience," it is impossible to know if the management activities proposed for this project (or past projects on the BNF) do in fact improve resilience.

  No objectively measurable definition of resilience or proof of having improved resilience during past BNF management activities is offered, a fact which suggests that the need for this proposed project is questionable and, is at the very least, debatable.

  Please provide an objective way to measure resilience and a thorough, scientifically based explanation of the necessity for this proposed project.

- The Agency does not specify the length (in years) of this proposed project but declares it will take place "over the course of several years."

  If, as is likely to be the case for such a large scheme, implementation takes place over decades, current on-the-ground conditions will have changed significantly. In effect, the

Agency is expecting the public to accept the notion that the FS's proclamation (based on current conditions) that "no significant impact" will occur even if on-the-ground conditions have drastically changed by the time later segments of the project are implemented.

Please provide a more exact estimate of how long this proposed project will require to complete.

Please provide scientific evidence supporting the validity for the implied conclusion, based on current conditions, of "no significant impact" (will occur) during a decades-long project.

- The scoping letter for this proposed project suggests project-specific collaboration between the FS and the Confederated Salish & Kootenai Tribes (CSKT).

  Please supply records of that collaboration and any agreements which were reached.

- The scoping documentation provides no information about how the project-area old growth will be impacted by the proposed management actions nor does it indicate how old growth or the ecosystems and species that depend on that increasingly rare habitat will be protected.

  The EIS for the Gold Butterfly (GB) project—the area of GB is included as a portion of the project area for this proposal—admits, "historic logging dramatically reduced the amount of old growth in the Bitterroot drainage." It also states, "The amount of old growth habitat that existed in the project area or on the Forest prior to logging is not known." That concession is problematic and reveals that the FS lacks vital information about old growth in the proposed project area.

  Please explain how old growth and the interconnected ecosystems and dependent species will be protected during the duration of this proposed project.

- The scoping documentation offers no science, let alone recent research, which supports the statement, "Based on current conditions the area would greatly benefit from treatments to improve forest health and resilience as well [as] improve wildlife habitat."

  Please supply recent research which supports such an assertion.

- Most management activities, especially road construction and use, cause the degradation and compaction of forest soils and worsen the quality of surface water.

  During the second phase of the Darby Lumber Lands project which lies within the described area for the Eastside Project, the Agency was found to be in violation of Montana's regulations for roads near streams.

  Please explain exactly how that breach of regulations will not be repeated during the Eastside Project.

  Please explain how soils will be protected during the duration of this proposed project.

Please explain what mitigation measures will be implemented and monitored to ensure that streams will not be impaired (for example, sedimentation, water temperatures, impediments to natural stream flow, etc.) in any way during project implementation.

- Most management activities associated with Agency projects contribute to the accumulation of Greenhouse Gases (GHG) in the atmosphere.

  Please explain exactly how GHG emissions will be minimized and monitored during the duration of this proposed project.

- Current research refutes the claim that, "These forest types were historically characterized by frequent low-intensity fire, fire resistant and shade intolerant species and lower stem densities."

  In fact, recent research confirms that is not universally true, especially for forests as diverse and varied as the BNF.[1] [2] [3] [4]

  Please provide the most recent scientific research that supports the Agency's assertion that, "These forest types were historically characterized by frequent low-intensity fire, fire resistant and shade intolerant species and lower stem densities."

- This project proposal is based on the assumption that active forest management is required for "Creating a patchy mosaic of vegetation, including trees, shrubs, and grasses, …"

  Please justify why management activities are required when naturally occurring disturbances—insects, disease, and wildfire—achieve the same result (as they have always done) without human intervention.[5]

- No monitoring records of past projects are offered to confirm that the proposed management actions include in the Eastside Project "would improve big game and other wildlife habitat quality."

  In fact, there is no data offered to indicate that habitat quality even needs improvement.

  Please provide after-project records from monitoring of previous BNF projects that confirm that habitat quality requires improvement.

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[1] Baker, W.L. et al. (2006) Fire Fuels and Restoration of Ponderosa Pine Douglas-fir Forests in the Rocky Mountains USA - https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2699.2006.01592.x

[2] Odion, D.C. et al. (2014) Examining Historical and Current Mixed-Severity Fire Regimes in Ponderosa Pine and Mixed-Conifer Forests of Western North America - https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0087852

[3] Lindbladh, M. et al. (2013) Past forest composition, structures and processes - How paleoecology can contribute to forest conservation - https://www.sciencedirect.com/science/article/abs/pii/S0006320713003388?via%3Dihub

[4] Baker, W.L. (2017) Restoring and managing low-severity fire in dry-forest landscapes of the western USA - https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0172288

[5] Pearce, F. (2020) Natural Debate - Do Forests Grow Better With Our Help or Without - https://e360.yale.edu/features/natural-debate-do-forests-grow-better-with-our-help-or-without

- No monitoring of previous management actions is offered to confirm that "Timber stands *(or anything else)* would be improved by increasing crown spacing, raising canopy base heights, reducing competition for nutrients, and increasing growth rates." (Emphasis added)

  Please supply records from after-project monitoring of past BNF projects and the results of same.

  Please supply scientific evidence that "… increasing crown spacing, raising canopy base heights…" does improve, not just "timber stands" but "overall forest ecosystem health, carbon sequestration, and biodiversity."

- Scoping documentation, limited as it is, claims that "Improving these historic stand structure characteristics would make them more resilient to disturbances, such as insects, disease, and fire."

  However, without monitoring records from past projects, this claim is without merit, especially given recent research that contradicts that assumption.[6] [7] [8]

  Please provide the most recent scientific research and after-project monitoring records that support the Agency's assertion that historic stand structure characteristics improve resilience.

- There is at last one known, important American Indian site within the area of the proposed project area.

  Please explain what measures will be taken during the project to protect that and other archaeological sites.

- The FS hired a group of experts, headed by Martin Nie, to research who had the ultimate responsibility for managing and protecting wildlife—the states or the federal government—on federally managed lands. Through research of U.S legal documents and case law, the group established that federal agencies have the ultimate responsibility for managing and protecting wildlife.[9]

  Please provide a list of species-specific measures that will be implemented to ensure that all wildlife and their respective habitats in the area proposed for this project will be protected during and after management activities.

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[6] Bradley, C.M. et al. (2016) Does increased forest protection correspond to higher fire severity in frequent-fire forests of the western United States - https://esajournals.onlinelibrary.wiley.com/doi/pdf/10.1002/ecs2.1492

[7] Scullion, J.J. et al (2019) Conserving the last great forests - a meta-analysis review of intact forest loss - https://www.frontiersin.org/articles/10.3389/ffgc.2019.00062/full

[8] Moomaw, W.R. et al. (2019) Intact Forests in the United States - Proforestation mitigates climate change and serves the greatest good - https://www.frontiersin.org/articles/10.3389/ffgc.2019.00027/full

[9] Nie, M. et al. (2017) Fish and Wildlife Management on Federal Lands Debunking State Supremacy - https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2980807

- Scoping documentation states that "There will be no treatments within areas of mapped lynx habitat as identified by the latest BNF lynx habitat model, or as verified by on the ground habitat typing." Why are no maps included with the scoping documentation?

  Please provide those maps including their dates of publication.

  Please provide a thorough and exact explanation of what is meant by "… on the ground habitat typing".

- The scoping letter maintains that "No treatments would occur within the grizzly bear May Be Present Area as identified by the latest U.S. Fish and Wildlife Service map, unless treatments in the May Be Present Area are consistent with the screens for the R1 programmatic grizzly bear BA."

  Please provide that map, its date of publication, and a copy of the "screens for the R1 programmatic grizzly bear BA".

  There is solid documentation of recent and ongoing grizzly bear occupancy in the Bitterroot National Forest.[10]

  The area covered by the Eastside Project encompasses almost the entire Sapphire Range. That area has been shown to contain suitable grizzly bear denning habitat and provides an area of demographic connectivity, something necessary for the continued genetic health of the grizzly bear population.[11]

  Please explain why wording in the scoping documentation implies that status quo management of grizzly bears will be continued, thereby preventing science-based recommendations for expansion and recovery of the population as a whole.

- Black bear over-winter (den) in areas within the area encompassed by this proposed project.

  Disturbance of bears while denning has been shown to be detrimental, especially to females with cubs.[12]

  Please provide a list of the exact measures that will be taken to ensure that those den sites and their inhabitants will not be disturbed by management activities.

- Wolverine, pileated woodpeckers, boreal toads, lynx, bull trout, Westslope Cutthroat Trout, and numerous other Sensitive Species are known to live and breed in the project area.

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[10] See newspaper articles "Wandering grizzly leaves Bitterroot, returns to Idaho" and "Grizzly bear captured Saturday at golf course near Stevensville"

[11] Bader,M. and Sieracki, P. (2021) Grizzly Bear Denning Habitat and Demographic Connectivity in Northern Idaho And Western Montana – https://www.montanaforestplan.org/images/reports/grizzly-bear-denning-habitat-and-demographic-connectivity-in-northern-idaho-and-western-montana-june-2021.pdf

[12] Linnell, J.D.C. et al. (2000) How vulnerable are denning bears to disturbance - https://www.jstor.org/stable/3783698?origin=JSTOR-pdf&seq=1

Please provide a list of the exact measures that will be taken to assure project activities will not disturb them or destroy the habitat on which they currently depend.

- Prescribed fire has recently been shown to be less effective than wildfire at maintaining highly nutritious ungulate forage. [13]

  Given that one of the project's advertised objectives is the desire to "Improve the natural forage quality and quantity …" the proposed project's focus on the use of prescribed fire is especially concerning.

  Please justify, using the most recent scientific research, why this proposed project includes using prescribed fire as a major treatment.

- An old vermiculite mine exists within the project area.

  Please explain what measures will be taken to ensure that toxins from the mining area will not be spread throughout the environment during management activities.

- Several historical sites exist within the project area.

  Please list what measures will be taken to ensure that historical sites will not be disturbed during the implementation of the proposed project.

- There is a long record of cattle trespassing (illegal grazing) into the project area.

  Please list what measures the Agency will implement to eliminate cattle encroachment into the project area.

  Grazing has been repeatedly shown to degrade wildlife habitat.[14]

  Please explain why grazing continues to be allowed in the proposed project area and what measures will be implemented to minimize grazing impact in the project area.

- Most on-the-ground management activities have been shown to spread invasive plants and weeds into previously uninfected areas.[15]

  Please list the measures that will be used to eliminate the spread of invasive plants and weeds during this project and which of those measures have been verified as successful in the past.

- One of the listed purposes of the Eastside Project is to "Reduce conifer encroachment in meadows and grasslands to improve habitat."

  The scoping documentation offers no data to show that conifer encroachment is occurring in the proposed project area.

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[13] Proffitt, K.M. (2019) A century of changing fire management alters ungulate forage in a wildfire-dominated landscape - https://academic.oup.com/forestry/article/92/5/523/5448926

[14] Erb, K-H. et al. (2018) Unexpectedly large impact of forest management and grazing on global vegetation biomass - https://esajournals.onlinelibrary.wiley.com/doi/10.2307/2937150

[15] Dodson, E.K. and Fielder, C.E. (2006) Impacts of restoration treatments on alien plant invasion in ponderosa pine - https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2664.2006.01206.x

Given the current scarcity of tree seedlings in grassy areas of the project area, one would expect the scoping documentation to have included data which shows that conifer encroachment is occurring. Based on recent research conducted at UM, it is likely that climatic conditions are the reason tree seedlings have a low survival rate and brings into question the need to include this goal as part of the proposed project.[16]

Please explain why the proposed project includes the apparently unnecessary need to reduce conifer encroachment into meadows and grasslands.

- Given the gigantic size of this proposed project and the large size and number of other (past, current, and foreseeable future) projects within the BNF and in close proximity, it is unacceptable that there is not even a mention of the project's cumulative impact.

  The scoping documentation includes absolutely no information about the cumulative impact this proposed project would have on the environment or its contribution to global warming.

  CEQ adopted new regulations implementing NEPA in July 2020, 85 Fed. Reg. 43304 (July 16, 2020), and those regulations became effective for projects "begun" after September 14, 2020. However, those regulations have been challenged as illegal in numerous courts and are likely to be vacated. *See Environmental Justice Health Alliance v. CEQ*, Case 1:20-cv-06143 (S.D.N.Y. Aug. 6, 2020); *Wild Virginia v. CEQ*, Case 3:20-cv-00045-NKM (W.D. Va. July 29, 2020); *Alaska Community Action on Toxics v. CEQ*, Case 3:20-cv-05199-RS (N.D. Ca. July 29, 2020); *State of California v. Council on Environmental Quality*, Case No. 3:20-cv-06057 (N.D. Cal. Aug. 28, 2020)

  Please provide thorough and complete research that reveals the cumulative impact from this proposed project and, given the recent (2021) Presidential Directive, justify why ignoring that impact should be acceptable to the public.

The above list includes only a portion of the numerable reasons that this project proposal must be conducted using an EIS not a CE.

Condition-based implementation approach violates National Environmental Policy Act (NEPA) and National Forest Management Act (NFMA)

This proposal is not a "project." It is a Condition-Based Implementation Approach (CBIA) Plan. Project planning includes the disclosing of specific activities proposed for specific locations, identifying the current conditions in those specific locations and project area—based upon current data gathering and analysis—and analyze the direct, indirect, and cumulative impacts of those proposed activities. Project planning also requires disclosing details on how the suggested management activities are consistent with all relevant management direction in the current (1987) Forest Plan.

[16] Davis. K.T. et al. (2019) Wildfire and climate change push low-elevation forest across critical climate threshold for tree regeneration - https://www.pnas.org/content/116/13/6193

This proposal involves delaying site-specific data gathering and analysis until after a decision has already been reached—all under a predetermined assumption that there would be no significant impacts. The legality of CBIA projects is currently being litigated in multiple Circuit Courts with indications that such an approach will be found to be outside current laws and regulations.[17]

Purpose and Need is narrowly crafted to reject reasonable alternatives, shun public concerns and ignore best available science

The May 11, 2021, Scoping Letter states:

> Based on current conditions the area would greatly benefit from treatments to improve forest health and resilience as well [as] improve wildlife habitat. The area where most treatments would occur is comprised of warm and dry ponderosa pine/Douglas-fir type forests. These forest types were historically characterized by frequent low-intensity fire, fire resistant and shade intolerant species and lower stem densities. Creating a patchy mosaic of vegetation, including trees, shrubs, and grasses, would improve big game and other wildlife habitat quality. Timber stands would be improved by increasing crown spacing, raising canopy base heights, reducing competition for nutrients, and increasing growth rates.
>
> Improving these historic stand structure characteristics would make them more resilient to disturbances, such as insects, disease, and fire. To meet multiple resource objectives, implementation would incrementally take place over the course of several years with coordination from other resource areas such as hydrology, fisheries, botany, wildlife, and culture in areas selected for treatment.
>
> The main objectives of the project are to provide the Forest with the ability to address forest health and habitat improvements incrementally over the course of several years. Our initial proposal is to implement vegetation treatments to:
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> - Improve resilience to insect & disease and catastrophic wildfire in timber stands by modifying forest structures and composition, and fuel;
> - Reduce fuel loading in those stands, thereby setting stands up for future use of prescribed fire on a rotational basis;
> - Increase the mosaic nature of vegetative regrowth in previously burned areas (2000 and later);
> - Improve the natural forage quality and quantity in high potential elk habitat and elk winter range;
> - Reduce conifer encroachment in meadows and grasslands to improve habitat.

The stated **Purpose,** "To 'improve resilience…. by modifying forest structure and composition' narrows the alternatives to a single choice, active management (to modify forest structure and

[17] Southeast Alaska Conservation Council, et al. v. U.S. Forest Service, 443 F.Supp.3d 995 (D. Alaska 2020).

composition)." That declaration prevents any other alternatives for consideration, even if other alternatives might be more effective. For example, recent research suggests the best way to improve resilience to insects and disease is through passive management to let the forest evolve and adapt.[18] Other research indicates that prescribed fire is detrimental to the nutritional value of forage for ungulates.[19] Still more research reveals that, "the nutritional value of the summer food source for elk is more important to survival and reproduction than winter range."[20]

CEQ's A Citizens Guide to NEPA, p. 16, states, "The purpose and need statement explains to the reader why an agency action is necessary and serves as the basis for identifying the reasonable alternatives that meet the purpose and need."[21] This project's **Purpose** violates legal precedent and rules out all other alternatives for achieving the goal of "improving resilience" without providing justification.

Please offer additional alternatives for achieving the purpose and need.

The scoping documents do not define "resilience" in any objective, measurable terms nor do they cite any data that supports the FS implication of "inadequate forest resilience in the proposed project area."

Please supply the most recent scientific research that supports the scoping documentation's implication that there is inadequate forest resilience in the proposed project area.

The Agency asserts that the Eastside Project will protect the area from natural disturbance

The Agency's assumes, without justification, that the proposed project will improve landscape resilience to natural disturbance.

First, insects. The Forest Service (FS) has insisted for years that when insects begin damaging a patch of forest they must be stopped because infestations increase the risk of more insect invasions and promote catastrophic wildfire. The FS's recommended tools are always logging, thinning, and prescribed fire. Recent research contradicts FS claims that those tools work. A study by Meigs, G.W. et al. (2016) indicates that not only do insect infestations not increase the likelihood of wildfire but that in the event of wildfire the severity is not increased.[22]

Other research by Hart, S.J. et al. (2015) revealed that widespread and severe insect infestation restrict subsequent invasions.[23] This conclusion conflicts with current FS claims.

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[18] Pearce, F. (2020) ibid.
[19] Proffitt, K.M. (2019) ibid.
[20] Cook, R.C. et al. (2013) Regional and seasonal patterns of nutritional condition and reproduction in elk - https://wildlife.onlinelibrary.wiley.com/doi/abs/10.1002/wmon.1008
[21] CEQ's A Citizens Guide to NEPA - https://ceq.doe.gov/docs/get-involved/citizens-guide-to-nepa-2021.pdf
[22] Meigs, G. W. et al. (2016) Do insect outbreaks reduce the severity of subsequent forest fires - https://iopscience.iop.org/article/10.1088/1748-9326/11/4/045008/meta
[23] Hart, S.J. et al. (2015) Negative feedbacks on bark beetle outbreaks: widespread and severe spruce beetle infestation restricts subsequent infestation. - https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0127975

Later research by Six, D.L. et al (2018) suggests that Hart's finding of infestations restricting subsequent invasions may be the result of beetle choice and may result in a strong selection of trees for greater resistance to attack.[24]

The most recent research by Six, D.L. et al (2021) strongly suggests that, thinning—the standard FS prescription for insects—has, at least for whitebark pine, "little-to-no effect on enhancing constitutive defense against the insect" and that "… results also indicate that thinning prescriptions aimed at increasing tree growth in whitebark pine should be applied with considerable caution."[25]

Contrary to repeated FS assertions that a mountain pine beetle outbreak increases wildfire risk, spatial overlay analysis shows no effect from outbreaks on subsequent area burned during years of extreme burning across the West. These results refute the assumption that increased bark beetle activity increased the area burned.[26] [27]

Weather, not insects, is what determines wildfire behavior.[28]

Using the most recent scientific research, please justify the declaration that insects can and must be controlled by management activities to improve forest resilience.

Second, disease. Mistletoe is the disease which seems to be the most troubling to the FS. Reduction or eradication is given as a goal in almost every Agency project on the BNF. Interestingly, a FS leaflet explains that "It is a pest ONLY (emphasis added) where it interferes with management objectives, such as timber production." [29]

That same pamphlet points out that dwarf mistletoe is important to wildlife.

> "Some rodents, such as porcupines and squirrels, feed on bark tissues at infection sites because of the accumulations of starch and nutrients at these locations. The large witches' brooms caused by the parasite are used for hiding, thermal cover, and nesting sites by grouse, hawks, owls, squirrels, porcupines, martens, and other wildlife. Northern spotted owls east of the Cascades show an attraction to Douglas-fir witches' brooms for nest sites."[30]

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[24] Six, D.L. et al. (2018) Are Survivors Different? Genetic-Based Selection of Trees by Mountain Pine Beetle During a Climate Change-Driven Outbreak in a High-Elevation Pine Forest - https://www.frontiersin.org/articles/10.3389/fpls.2018.00993/full

[25] Six, D.L. et al. (2021) Growth, Chemistry, and Genetic Profiles of Whitebark Pine Forests Affected by Climate-Driven Mountain Pine Beetle Outbreaks - https://www.frontiersin.org/articles/10.3389/ffgc.2021.671510/full

[26] Meigs, G. W. et al. (2016) Ibid.

[27] Hart, S.J. et al. (2014) Area burned in the western United States is unaffected by recent mountain pine beetle outbreaks - https://www.pnas.org/content/112/14/4375

[28] Hart, S.J. and Preston, D.L. (2020) Fire weather drives daily area burned and observations of fire behavior in mountain pine beetle affected landscapes - https://iopscience.iop.org/article/10.1088/1748-9326/ab7953

[29] Hadfield, J.S. (2000), Douglas Fir Dwarf Mistletoe: Forest Insect and Disease Leaflet https://www.fs.fed.us/foresthealth/docs/fidls/FIDL-54-DouglasFirDwarfMistletoe.pdf

[30] Hadfield, J.S. (2000) Ibid.

A study by Watson, D.M. and Herring, M. (2012) confirmed mistletoe as a keystone resource that, when removed by management treatments, significantly reduces species richness of both birds and other wood-land dependent residents.[31]

The fact that the FS continually insists on reducing/eradicating dwarf mistletoe gives substance to the widely held belief that the focus of this project (and most others) is timber production even when detrimental to certain wildlife species.

Please explain why mistletoe should be "controlled" when it provides vital habitat and is a keystone resource needed to ensure species richness.

Third, wildfire. In project after project, the FS claims that the forest is primed for catastrophic wildfire. The oft-repeated assertion is made that the forest is too thick, overstocked with small trees, and contains an overabundance of ladder fuels. Those issues are blamed on long-term wildfire suppression by previous FS management actions that, ironically, must now be overcome using current FS management activities.

Those FS claims related to the history of wildfire rely heavily on research performed by Arno (1976) more than 40 years ago. That study focused on an extremely small portion of the Bitterroot Forest and was extrapolated to the entire Bitterroot National Forest (BNF). The assumption was made that approximately 4% of the BNF, which should have experienced multiple fires over the past 129 years, even burned once. That postulation is problematic and statistically unsound. Arno's sample was too small to support such an hypothesis.[32]

The fact is ignored that over the past 129 years ~4% of the BNF burned one or more times was mainly determined by climatic conditions that existed during that period. Claiming that more of the BNF "should have burned one or more times" during that period is subjective and based upon a silviculturist-imagined "perfect world" forest which supplies an endless supply of readily marketable timber.

As shown by numerable studies, the frequency and severity of wildfire is driven mostly by climate (high temperature, drought, and wind) and not by the availability of fuels.[33] [34]

It is not logical to presume that thinning will reduce the possibility of catastrophic wildfire.[35] Nor is the assertion by the scoping documents that the thinning proposed as part of this project

[31] Watson, D.M. and Herring, M. (2012) Mistletoe as a keystone resource - an experimental test - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3415901/

[32] Arno, S. F. (1976) The historical role of fire on the Bitterroot National Forest - https://forest.moscowfsl.wsu.edu/smp/solo/documents/RPs/Arno_RP-INT-187_1976.pdf

[33] Hart, S.J. et al. (2015) ibid.

[34] Abatzoglou, J.T., and A.P. Williams. 2016. Impact of anthropogenic climate change on wildfire across western US forests. PNAS https://www.pnas.org/content/113/42/11770

[35] Bradley, C.M., et al. (2016) Does increased forest protection correspond to higher fire severity in frequent-fire forests of the western United States? https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/ecs2.1492

will produce a more desirable forest. That belief is outdated and not based upon the latest research.[36] [37] [38]

Please provide the most recent research that justifies how thinning, the removal of ladder fuels, and the use of prescribed fire reduces catastrophic wildfire and how the elimination of such fires is better for forest health and resilience than allowing nature to take its course.

Management Activities

There is no suggestion in the scoping documentation for the possibility that not performing management activities in the current forest and allowing natural forest succession to occur is likely to produce a more natural forest.[39] Whether by oversight or design, this proposed project is sacrificing natural forest succession.

A forest and its multiple ecosystems can never reach a natural equilibrium if not left alone. Any and all management activities will disrupt naturally occurring processes and certainly cause unwished-for and unintended consequences. Far too many ecosystem components and their interconnectivity exist in a forest for anyone to gain a complete understanding. It is best to observe and study with the only intent being to gain knowledge. Interference with nature by humans has yet to produces positive results. Assuming that "this time will be different" is presumptuous and short sighted.

Given the predominance of recent, contradictory research, it is difficult to believe any forest treatment is necessary to prevent catastrophic wildfire or increase forest health by removing understory plants, opening the canopy, or removing certain tree species for the benefit of "preferred" trees. All suggested treatments are designed to "hopefully" produce a forest that represents an unproven, unrealistic historical condition, a silviculturist-imagined, perfect-world forest which yields an endless supply of readily marketable timber to industry.

Please justify, using the most recent scientific research, why any management activities are required in the area of this proposed project.

As suggested in an April 2021 article, "A better handle on all processes that affect microbial biodiversity and their net balance is needed. Lack of insight into the dynamics of evolution of microbial biodiversity is arguably the single most profound and consequential unknown with regard to human knowledge of the biosphere." [40] Although focused on microbial biodiversity, that article points out that humans lack insight into the impact of their actions on the planet's

[36] Harris, N.L. (2016) Attribution of net carbon change by disturbance type across forest lands in conterminous US - https://cbmjournal.biomedcentral.com/track/pdf/10.1186/s13021-016-0066-5.pdf

[37] Buotte, P.C. et al. (2019) Carbon sequestration and biodiversity co-benefits of preserving forests in the western United States - https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/eap.2039

[38] McNulty, S.G. et al. (2014) The rise of the mediocre forest - why chronically stressed trees may better survive extreme episodic climate variability - https://www.srs.fs.usda.gov/pubs/ja/2014/ja_2014_mcnulty_001.pdf

[39] Pearce, F. (2020) ibid.

[40] Thaler, D.S. (2021) Is global microbial biodiversity increasing, decreasing, or staying the same - https://www.frontiersin.org/articles/10.3389/fevo.2021.565649/full

ecosystems. That is applicable to the management actions contained in the scoping documentation.

Please explain, given the Agency's inability to identify and understand all of the consequences resulting from this proposed project, how BNF management reached the conclusion that this proposal should move forward.

Available from a USDA/FS website is an article, Wildfire and Salvage Logging (Beschta, R. L., 1995) which contains specific recommendations from a group of experts—mostly PhDs—for forest managers to follow.[41] They concluded that:

> "Land management practices in the interior Columbia and upper Missouri basins have profoundly impacted forest, grassland, and aquatic ecosystems. Watersheds and forests have been degraded (e.g., ecosystems fragmented, habitats simplified or lost, disturbance regimes altered). At every level of biological organization - within populations, within assemblages, within species, and across the landscape--the integrity of biological systems has been severely degraded. This degradation is best seen in the marked reduction in the biological diversity in the region.
>
> "The entire range of land management practices is implicated in this regionwide decline. Streamside development, logging, grazing, mining, fire suppression, removal of beaver and large predators, water withdrawals, introduction of exotic species, and chronic effects of roadbuilding have cumulatively altered landscapes to the point where local extirpation of sensitive species is widespread and likely to continue. Areas dominated by healthy populations of native species of vertebrates are exceptional. Many of these changes began long before the establishment of wilderness areas and other protections, and therefore, the majority of the region has been impacted."

The authors' findings and advice included:

- Ongoing human activity and the residual effect of past activity continue to threaten watershed ecosystem integrity.
- Fires are an inherent part of the disturbance and recovery patterns to which native species have adapted.
- There is no ecological need for immediate intervention on the post-fire landscape.
- Existing condition should not be used as "baseline" or "desired" conditions upon which to base management objectives.
- Fire suppression throughout forest ecosystems should not automatically be a management goal of the highest priority. The overall management goal must be to preserve (and reestablish) the fire and other disturbance regimes that maintain ecological systems and processes, while protecting human life and property.
- Fire suppression activities should be conducted only when absolutely necessary and with utmost care for the long-term integrity of the ecosystem and the protection of natural recovery processes.

[41] Beschta, R.L. et al. (1995) Wildfire and Salvage Logging - https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsm91_050057.pdf

- The region's ecosystems, not just forests, are under severe strain.

In relation to post-fire principles, the authors advise:

- Allow natural recovery and recognize the temporal scales involved with ecosystem evolution. Human intervention should not be permitted unless and until it is determined that natural recovery processes are not occurring.
- Protect soils. No management activity should be undertaken which does not protect soil integrity.
- Preserve capabilities of species to naturally regenerate.
- Do not take actions which impede natural recovery of disturbed systems.
- Salvage logging should be prohibited in sensitive areas.
- On portions of the post-fire landscape determined to be suitable for salvage logging, limitations aimed at maintaining species and natural recovery processes should apply.
- Because of the wide range of chronic ecological effects associated with roadbuilding, the building of new roads in the burned landscape should be prohibited.
- Active reseeding and replanting should be conducted only under limited conditions.
- Structural post-fire restoration is generally to be discouraged.

That paper, which offered a clear, well-defined scientific framework of principles and practices, was published in 1995 and has been available to FS personnel for more than 25 years. Yet, as is readily apparent from this project proposal, the Agency refuses to accept the guidance of experts. The FS remains stuck in the past, pursuing the singular objective of extracting timber from forested public lands. To continue chasing a goal which has caused the degradation of public lands and contributed to global warming is outrageous.

The current (1987) Forest Plan states that beavers will be introduced in the BNF

The East Fork Bitterroot Research Natural Area (RNA) appears to have been established by a Forest Plan (FP) amendment.

The FP indicates that RNA would “serve as a reference for ecological monitoring, especially the short- and long-term vegetation dynamics associated with a beaver-influenced river system.”

Please provide all the results regarding beaver impact that have been gathered from the East Fork RNA.

A different section of the current FP states that “Beaver will be introduced into suitable riparian habitat.”

Please explain the Agency’s efforts, or lack thereof, to introduce beavers into the many suitable riparian habitats in the BNF.

Recent research indicates that the presence of beavers increases the landscape health, improves biodiversity, controls water flow, reduces downstream water temperatures, and provides increased breeding habitat for of native fish.[42] [43] [44] [45] [46]

Given the FP directive and the substantial number of suitable areas in the proposed project area and the recent research that confirms beavers benefit the environment in many ways, please explain why beaver introduction is not included as one of the goals for this proposed project.

The Forest Service is dishonestly and knowingly intensifying global warming

Issued on August 1, 2016, this directive from Executive Office of the President, Council on Environmental Quality has been reimplemented as national direction. [*See* 86 Fed Reg. 10252 (Feb. 19, 2021).]

The 2016 CEQ guidance acknowledges, "changes in our climate caused by elevated concentrations of greenhouse gases in the atmosphere are reasonably anticipated to endanger the public health and public welfare of current and future generations." It directs federal agencies to consider the extent to which a proposed action such as this Eastside project would contribute to climate change. It rejects as inappropriate any notion that this project is of too small a scale for such consideration:

> "Climate change results from the incremental addition of GHG emissions from millions of individual sources, which collectively have a large impact on a global scale. CEQ recognizes that the totality of climate change impacts is not attributable to any single action, but is exacerbated by a series of actions including actions taken pursuant to decisions of the Federal Government. Therefore, a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA. Moreover, these comparisons are also not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations because this approach does not reveal anything beyond the nature of the climate change challenge

[42] Pershouse,D. (2020) Other Species are Essential Workers, Whose Economies Enfold Our Own - https://medium.com/the-regenerative-economy-collaborative/other-species-are-essential-workers-whose-economies-enfold-our-own-50deaa2f649f

[43] Goldfarb, B. (2020) How beavers became North America's best firefighter - https://www.nationalgeographic.com/animals/article/beavers-firefighters-wildfires-california-oregon

[44] Thomson environmental consultants (2020) The biodiversity benefits of beavers - https://www.thomsonec.com/news/biodiversity-benefits-beavers/

[45] Parks Canada - Beavers: 5 ways beavers keep our ecosystems healthy - https://www.pc.gc.ca/en/pn-np/mb/riding/nature/animals/mammals/castors-beavers

[46] Davey, C. (2020) Flood and pollution reduction, biodiversity boost : The ecological benefits of beavers - https://earth.org/ecological-benefits-of-beavers/

itself: the fact that diverse individual sources of emissions each make a relatively small addition to global atmospheric GHG concentrations that collectively have a large impact."[47]

The FS must quantify GHG emissions. The agency can only use a qualitative method if tools, methodologies, or data inputs are not reasonably available, and if that is the case, there needs to be rationale as to why a quantitative analysis is not warranted. Quantitative tools are available, so the FS must comply.[48]

Judging by its actions, the Agency is a huge global-warming denier.

The scoping documentation includes absolutely no analysis of climate change. That omission is abhorrent.

Given the urgency of preventing additional greenhouse gas emissions to the atmosphere and continuing carbon sequestration to protect the climate system, it would be best to protect trees for their carbon stores and for their co-benefits of habitat for biodiversity, resilience to drought and fire, and microclimate buffering under future climate extremes.

According to a 2021 article, "Keeping trees in the ground where they are already growing is an effective low-tech way to slow climate change."[49]

"Compared with other terrestrial ecosystems, forests store some of the largest quantities of carbon per surface area of land." Much of the carbon stored is within the soils, with a smaller part in the vegetation. Forest management can modify soil organic carbon stocks. For example, conventional harvests like clearcutting or shelterwood cutting cause soils to lose organic carbon which is not the case for soils in unharvested forests. Not only does it lose the carbon stored in the soils, but cutting trees eliminates the trees' potential to continue to sequester carbon.[50]

"Our study showed that, compared with conventional stem-only harvest, removing the stem plus the harvesting residues generally increases nutrient outputs thereby leading to reduced amounts of total and available nutrients in soils and soil acidification, particularly when foliage is harvested along with the branches. Losses of available nutrients in soils could also be explained by reduced microbial activity and mineralization fluxes, which in turn, may be affected by changes in organic matter quality and environmental conditions (soil compaction, temperature, and moisture). Soil fertility losses were shown to have consequences for the subsequent forest ecosystem: tree growth was reduced by 3–7% in the short or medium term (up to 33 years after harvest) in the most intensive harvests (e.g., when branches are exported with foliage). Combining all the results showed that, overall, whole-tree harvesting has

[47] Fed Reg. 10252 (Feb. 19, 2021) - https://www.govinfo.gov/content/pkg/FR-2021-02-19/pdf/2021-03355.pdf
[48] Greenhouse Gas (GHG) Accounting Tools - https://ceq.doe.gov/guidance/ghg-accounting-tools.html
[49] Law, B.E. and Moomaw, W.R (2021) Keeping trees in the ground where they are already growing is an effective low-tech way to slow climate change - https://theconversation.com/keeping-trees-in-the-ground-where-they-are-already-growing-is-an-effective-low-tech-way-to-slow-climate-change-154618
[50] Achat, D.L. et al.(2015) Quantifying consequences of removing harvesting residues on forest soils and tree growth - A meta-analysis - https://www.sciencedirect.com/science/article/abs/pii/S0378112715001814?via%3Dihub

negative impacts on soil properties and trees that may have an impact on the functioning of forest ecosystems."[51]

The scoping documentation provides no analysis of the interaction between management actions and global warming.

Vegetation management efforts that attempt to replicate how the FS thinks forests looked pre-European influence, ignores the larger pattern of climate, climate change, and ignores natural succession. The scoping documentation for this project clearly shows that the Agency continues its attempts to replicate the past and reveals its refusal to accept that global warming has made such an endeavor impossible.

Please provide the most recent scientific research that supports the Agency's belief that the FS should continue its (so far unsuccessful) attempts to replicate pre-European forest conditions and how those conditions are more resilient and healthier than current forest conditions.

Conclusion

The initial documentation for this proposed project consisted only of a two-page scoping letter dated May 11, 2021, and two project-area maps which included no explanations of definitions for the abbreviations used in the legends. The Agency website added GIS files to the documentation on May 19th. However, those GIS files would not download and were not viewable on-line.

The scoping documentation contains no mention of how this area was defined as a "priority landscape," an unacceptable omission.

The documentation that is available contains no recent scientific research to justify any need for the proposed project.

Despite its extremely large size, the proposed project is intended to move forward using a conditions-based analysis under a Categorical Exclusion (CE).

The possible impacts to the forest and its many interconnected ecosystems are completely ignored in the currently available scoping documentation.

Without proper justification, which must be based on the most recent scientific research, this proposed project should not move forward.

If the Agency insists on implementing a project on the proposed area, it must be done under an Environmental Impact Statement (EIS). That would require a reissuance of the project which must include adequate documentation and the support of recent scientific research.

Respectfully,

M L Hoyt

Michael Hoyt

[51] Achat, D.L. et al.(2015) ibid.