

# Bitterroot Front Project Scoping Comments

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Submitted via Bitterroot National Forest Website:

<https://cara.fs2c.usda.gov/Public//CommentInput?Project=57341>

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Please accept the following comments respectfully submitted by Friends of the Bitterroot, The Flathead Lolo Bitterroot Citizen Task Force, WildEarth Guardians, Montana Chapter Sierra Club, Center for Biological Diversity, Alliance for the Wild Rockies, Western Watersheds Project, and Native Ecosystems Council. Comments are in response to the scoping letter dated, April 20, 2022, for the Bitterroot Front Project.

The project location is described as:

The project area is located along the eastern face of the Bitterroot Range from the Bitterroot National Forest boundary at the northern end of the Stevensville Ranger District near McClain Creek to the southern end of the Darby Ranger District near Trapper Creek (Figure 1 and Figure 2). The Bitterroot Front runs north to south, bounded on the east by private lands and communities situated along U.S. Highway 93. The Selway-Bitterroot Wilderness Area bounds the project area to the west. Elevation ranges from about 3,400 to over 9,100 feet. Notable landforms include Lolo Peak on the northern end of the project and Trapper Peak at the south. Blodgett Canyon, Mill Creek, Lake Como, and Bass Creek recreation areas, as well as various motorized and non-motorized recreational trails, fall within the project boundary.

National Forest System (NFS) lands cover approximately 99 percent of surface ownership within the 143,983-acre project area. Most of the project area (97 percent) falls within Ravalli County, Montana with the remaining 3 percent in Missoula County, MT. (Scoping Document, p. 1)

That scoping letter for the Bitterroot Front Project begins with the following:

The Forest Service, in partnership with the Confederated Salish and Kootenai Tribes, Ravalli County, State of Montana, and other federal agencies are proposing to conduct forest management activities in the Bitterroot Front Project area and invites your comments. The project area is approximately 144,000 acres in size and is located within Ravalli County, Montana encompassing various watersheds of the Bitterroot Valley. This project is a landscape-scale proposal to address the wildfire risk to our communities and promote

forest restoration using a wide range of tools, including tree thinning, harvest, and prescribed burning on lands administered by the Stevensville and Darby-Sula Ranger Districts. Our team plans to work with other landowners, local organizations and other agency partners in an all-lands approach to this forest restoration effort, with an emphasis on reducing fuels and improving forest resiliency to disturbances. The desired outcome is to increase forest health and landscape resiliency, provide for public and firefighter safety, reduce fire risk to communities, improve wildlife habitat, contribute to community viability with forest products and jobs - all while restoring fire to our fire dependent ecosystems.

The interdisciplinary team will utilize a suite of actions to fulfill the appropriate level of environmental analysis following the National Environmental Protection Act (NEPA) at the appropriate scale. The proposed action includes vegetation management and fuel reduction activities; road improvement and road management activities; recreation improvements, and wildlife habitat opportunities. Your input will help us identify potential issues and concerns that should be analyzed in the environmental assessment (EA) for this project. (Scoping Letter, p. 1)

Under **Request for scoping input and how to submit your feedback** is the following:

Project-specific feedback received during this 30-day scoping period will be reviewed for additional information to include in the purpose and need or proposed action, considerations of alternative means to achieve the project's purpose and need, and additional project-relevant information to include as we finalize the proposed action and begin the environmental analysis process. (Scoping Document, p. 1)

**Project Objectives** are listed as: (Scoping Document, pp. 4-5)

**1. Reduce Fuels:** Decrease the quantity, and modify the arrangement, of hazardous forest fuels to reduce the current and future wildfire risk to people, private lands, and resource values

- There is a need to reduce crown fire hazard potential within the wildland-urban interface, adjacent community protection zone, and low and moderate severity fire regimes.
- Removing ladder fuels reduces the potential for a surface fire to transition to the canopy. Desired tree spacing in ponderosa pine and Douglas-fir should minimize the potential for active crown fire in these fire resilient vegetation types. Prescribed fire decreases surface fuel loads. Many of these stands will require future prescribed fire to maintain the desired conditions in the high frequency, low severity fire regime.
- The pace and scale of historic current prescribed fire and hand mechanical treatments of vegetation is not sufficient to maintain ecosystem health or to mitigate wildfire hazard.

**2. Improve landscape resilience to disturbances (such as insects, diseases, and fire) by modifying forest structure, and composition.**

The departure from historic fire regimes within the project area has created forest stands characterized by high stem densities, hazardous fuels buildup, stressed tree conditions, and a loss of meadow habitat and quality. The result is forested stands with high levels of surface and ladder fuels with high susceptibility to uncharacteristic fire behavior, and stands at high risk to future insect outbreaks. Meadow habitats are experiencing a 'reduction in size through conifer encroachment and quality, due to the lack of fire necessary to stimulate growth of forbs and grasses.

- There is a need to reduce stand densities, increase age class diversity, and favor shade intolerant species to promote resilience to stressors (for example, drought, insects, and diseases).

### **3. Seek wildlife habitat improvement opportunities**

- The improvement cut, commercial thin and prescribed burn treatments on dry forest sites in the project area should help trend stands towards the desired conditions for certain forest species.
- The types of prescribed burning/managed natural fire planned will generate forage for elk and other big game animals. Reducing conifer encroachment in meadow habitats will restore and increase forage and nutritional value for big game species and important songbird breeding and rearing habitat.

### **4. Contribute to the local economy and forest products industry through fuels reduction activities and timber production**

- Providing timber products and fuels reduction-related jobs contributes to local economic value.
- There is a need to provide sawtimber and other wood products to help sustain a viable local economy in accordance with the Forest Plan goals (p. 11-3), desired future conditions (pp. 11-14 and II-16), and management area direction for MA 1, 2, 3a, 3c, and 5.

### **5. Other natural resource objectives we'd like to accomplish as opportunities become available:**

Recreation improvements  
Heritage resource management  
Fish, rare plants  
Grazing management  
Watershed management  
Transportation/road management

**The Bitterroot Front Project will negatively impact the human environment and requires an Environmental Impact Statement (EIS)**

Although the scoping documents are not explicit in this regard, the Forest Service (FS) proposes to execute a “condition-based” implementation of this project. (See 2019 Bitterroot Star article which included interview with Forest Supervisor, Matt Anderson)<sup>1</sup>

NEPA requires federal agencies to prepare a full EIS for “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). If “substantial questions are raised” as to whether a proposed federal agency action may have a significant effect on some human environmental factor, then the agency must prepare an EIS. *Klamath Siskiyou Wildlands Ctr. v. Boody*, 468 F.3d 549, 562 (9th Cir. 2006). “This is a low standard.” *Id.*

The Forest Service cannot credibly claim there will not be any significant impact here. The low standard for triggering the duty to prepare an EIS is easily met here, given the massive scale of the Project; the intensity and extent of logging and road construction; the many at-risk species at issue; the significant scientific controversy and uncertainty surrounding logging to reduce fire risk and otherwise address forest health; the cumulative effects of this Project considered together with logging projects and other actions in the area; and the many uncertainties surrounding the Project due to the proposed use of conditions based management. *See, e.g., Bark v. U.S. Forest Service*, 958 F.3d 865 (9th Cir. 2020) (requiring EIS for much smaller logging project due to significant scientific controversy surrounding logging and fire and due to significant cumulative effects).

Scoping documents identify management actions and “Opportunity Areas.” However, there is no indication of where management actions would be implemented. Implied, is that such decisions would be made at some undetermined point in the future, well after the NEPA process is completed. Because a list of site-specific management actions is not made public during the NEPA process, a condition-based procedure eliminates meaningful public input.

The project area is approximately 144,000 acres. (Scoping Letter, p. 1). That is almost 3 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 an Environment Analysis (EA) is questionable when a project a fraction of its size (Gold Butterfly) required an EIS.

The attempt by the Agency to conduct this gigantic, multi-year project using an EA indicates three things.

First, advertising that this proposed project will be conducted using an EA reveals the FS has already completed the scoping process. Exposed is what has long been suspected; asking for public input is nothing more than window dressing used to satisfy NEPA requirements.<sup>2</sup>

Second, the Agency has no interest in achieving broad public support for its actions. The use of an EA forces those segments of the public whose interests are being threatened with harm to petition the courts simply to be heard.

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<sup>1</sup> <https://bitterrootstar.com/2019/11/forest-supervisor-addresses-confusion-over-bitterroot-front-project/>

<sup>2</sup> Fleischman, F. et al. (2020) US Forest Service implementation of NEPA - fast, variable, rarely litigated and declining - <https://academic.oup.com/jof/article/118/4/403/5825558?login=true>

Three, the negative impact this multi-year project may have on the human environment is ignored in the scoping documentation. For example, logging/thinning trees, removing vegetation, and disturbing soil all have a negative effect on the ability of the forest to sequester carbon. Diminishing carbon sequestration means increased Greenhouse Gases (GHG) in the atmosphere and increased temperatures. In other words, a degraded human environment.

The correct NEPA process look like the flow chart in Figure 1 below. Clearly, use of the proper NEPA process is supposed to be decided AFTER scoping is completed, not before.

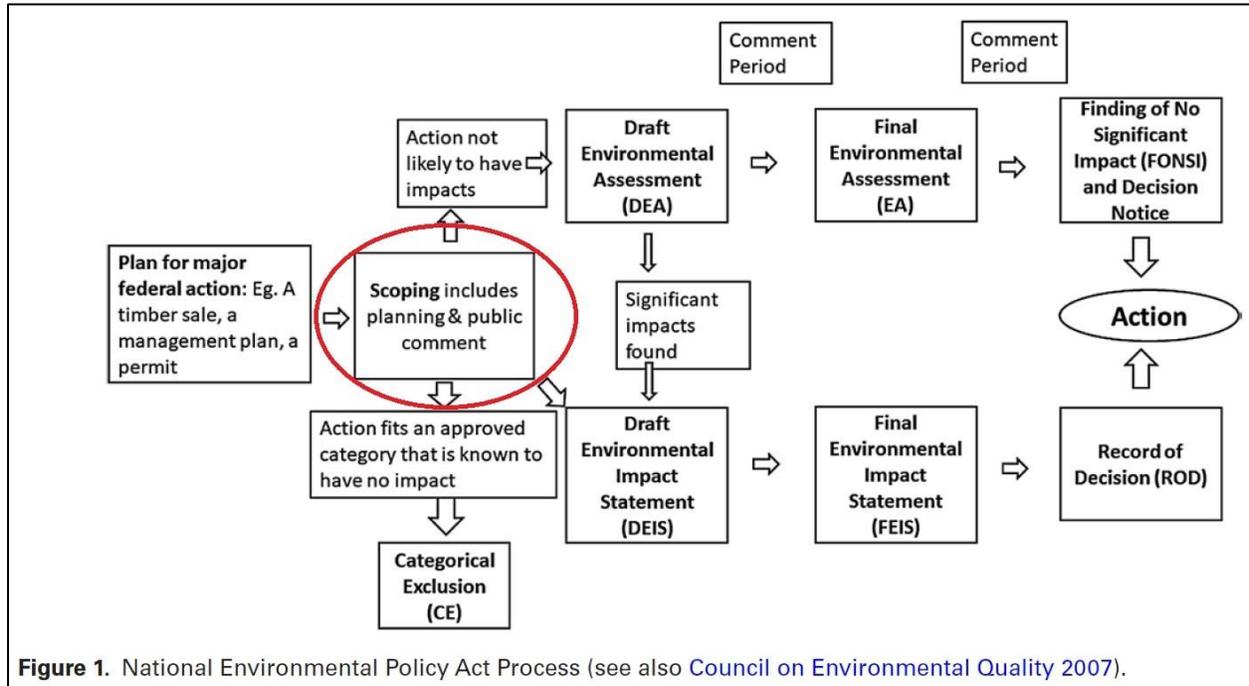


Figure 1. National Environmental Policy Act Process (see also Council on Environmental Quality 2007).

Figure 1 - The correct NEPA process<sup>3</sup>

Please explain how it was determined that this proposed project would proceed using an EA before the public comment portion of scoping has been completed.

Please publish the process by which the Interdisciplinary Team (IDT) determined that none of the site-specific management actions are likely to have adverse impacts to the environment.

**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 Management (CBM) approach that violates NEPA’s hard-look requirements, and is fundamentally flawed. True 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 an evaluation of

<sup>3</sup> A Citizen’s Guide to NEPA 2021 - <https://ceq.doe.gov/docs/get-involved/citizens-guide-to-nepa-2021.pdf>

site-specific conditions that informs detailed analysis regarding 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.

The Forest Service cannot approve the proposed actions without detailed analysis that discloses and discusses relevant information and applicable studies the agency uses to support the project’s purpose and need. We caution the agency against asserting the underlying science the agency relies upon, and cites, is settled. Rather, significant controversy and uncertainty exist regarding the efficacy of vegetation management as a tool to reduce high-intensity, high-severity wildfires, or to improve wildlife habitat or to increase forest resilience. As such, the agency must conduct a detailed analysis that addresses the significant effects that will result under the proposed action. NEPA regulations state that:

NEPA procedures must ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA. [40 C.F.R. § 1500.1(b) (1978)]

To ensure an Agency has taken the required “hard look,” courts hold that the Agency must utilize “public comment and the best available scientific information.”<sup>4</sup>

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 Condition-Based projects has been litigated and found to be outside current laws and regulations.<sup>5</sup>

Recently, 94 organizations sent a letter to CEQ requesting guidance or rule changes to address the unlawful use of conditions-based management, which identifies many ways conditions-based-management may be used to circumvent NEPA and other requirements.<sup>6</sup> We incorporate that letter in our comments.

Please conduct this project under a proper, non-condition-based process.

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

The April 20, 2022, Scoping Document states: (pp. 4-5)

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<sup>4</sup> Biodiversity Conservation Alliance v. Jiron et al., 762 F.3d 1036, 1086, 10th Cir. 2014

<sup>5</sup> Southeast Alaska Conservation Council, et al. v. U.S. Forest Service, 443 F.Supp.3d 995 (D. Alaska 2020).

<sup>6</sup> Exhibit 1 available at (<https://westernlaw.org/wp-content/uploads/2022/02/2022.02.03-Request-to-CEQ-re-CBM.pdf>)

1. **Reduce Fuels:** Decrease the quantity, and modify the arrangement, of hazardous forest fuels to reduce the current and future wildfire risk to people, private lands, and resource values
  - There is a need to reduce crown fire hazard potential within the wildland-urban interface, adjacent community protection zone, and low and moderate severity fire regimes.
2. **Improve landscape resilience to disturbances (such as insects, diseases, and fire) by modifying forest structure, and composition.**
  - There is a need to reduce stand densities, increase age class diversity, and favor shade intolerant species to promote resilience to stressors (for example, drought, insects, and diseases).
3. **Seek wildlife habitat improvement opportunities**
4. **Contribute to the local economy and forest products industry through fuels reduction activities and timber production**
  - There is a need to provide sawtimber and other wood products to help sustain a viable local economy in accordance with the Forest Plan goals (p. 11-3), desired future conditions (pp. 11-14 and II-16), and management area direction for MA 1, 2, 3a, 3c, and 5.
5. **Other natural resource objectives we'd like to accomplish as opportunities become available:**
  - Recreation improvements; Heritage resource management; Fish, rare plants; Grazing management; Watershed management; and Transportation/road management

And under **Project-Specific Forest Plan Amendments:**

Considering the purpose of the project is to improve landscape resilience to disturbances and reduce fuels, two of the likely directly related substantive requirements are found at 36 CFR 36 CFR 219.8(a)(I)(iv) and (v), which address ecological integrity through the requirement to maintain or restore structure, function, composition, and connectivity, taking into account: (iv) system drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change, and (v) wildland fire and opportunities to restore fire adapted ecosystems. (emphasis added) (Scoping Document, p.16)

CEQ's, A Citizens Guide to NEPA, p. 13, 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."<sup>7</sup> By including in the Purpose and Need the remedy "by modifying forest structure", you violate legal precedent and rule out all other remedies and alternatives for achieving the purpose. For example, the Purpose and Need to "Improve landscape resilience to disturbances (such as insects, diseases, and fire) by modifying forest structure and composition" narrows the alternatives to include only one remedy: to modify forest structure and composition. This prevents any other alternatives to be considered,

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<sup>7</sup> CEQ's A Citizens Guide to NEPA 2021 - <https://ceq.doe.gov/docs/get-involved/citizens-guide-to-nepa-2021.pdf>

even if other alternatives might be more effective at improving resilience. For example, concerning insects and disease, some research (Bailey et al, 2005; Christiansen et al, 1987; McNulty et al, 2014; Six et al, 2014, 2018, 2021; Sthulz et al 2009) suggests the best way to improve resilience to insects and disease is through passive management to let the forest adapt.

Please offer alternatives for achieving the Purpose and Need.

The scoping documents do not define “resilience” in any objective, measurable terms nor do they cite data which 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.

Expand project’s purpose to include the Forest Service’s duty to identify the minimum road system.

The Forest Service explains it conducted a “road analysis” to inform the project development. Scoping at 7. This suggests the Forest Service completed a Travel Analysis Process per FSH 7709.55 Ch. 20, which is the first step towards identifying the minimum road system and complying with the Travel Management Rule under Subpart A (subpart A). 36 C.F.R. 212.5. Yet, the Forest Service omits the need to fulfill its regulatory duties under this rule even though applicable statutory and regulatory requirements should shape a project’s statement of purpose and need. When the agency takes an action “pursuant to a specific statute, the statutory objectives of the project serve as a guide by which to determine the reasonableness of objectives outlined in an EIS.” *Westlands Water Dist. v. U.S. Dept. of Interior*, 376 F.3d 853, 866 (9th Cir. 2004).

Under subpart A, the Forest Service has a substantive duty to address its over-sized road system. Identifying a resilient future road system is one of the most important endeavors the Forest Service can undertake to restore aquatic systems and wildlife habitat, facilitate adaptation to climate change, ensure reliable recreational access, and operate within budgetary constraints. This underlying substantive duty must inform the scope of, and be included in, the agency’s NEPA analysis. After 20 years since finalizing the subpart A rules, the Forest Service can no longer delay in addressing this duty. Yet, the Forest Service fails to incorporate this duty within the project’s purpose and need, let alone implementing a minimum road system, thereby failing to ensure the road system provides for the protection of Forest Service System lands, reflects long-term funding expectations and minimizes adverse impacts. See 36 C.F.R. 212.5(b).

As such we urge the agency to include subpart A compliance as part of the project’s purpose, especially given the proposed action include unspecified road construction. Scoping at 11. Complying with subpart A is a win-win-win approach: (1) it’s a win for the Forest Service’s budget, closing the gap between large maintenance needs and inadequate (and declining) funding through congressional appropriations; (2) it’s a win for wildlife and natural resources because it reduces negative impacts from the forest road system; and (3) it’s a win for the public because removing unneeded roads from the landscape allows the agency to focus its

limited resources on the roads we all use, improving public access across the forest and helping ensure roads withstand strong storms.

### **The Forest Service must consider a wide range of alternatives**

Whether an agency prepares an EIS or an EA, NEPA requires an agency to “study, develop, and describe appropriate alternatives.” *N. Idaho Cmty. Action Network v. U.S. Dep’t of Transp.*, 545 F.3d 1147, 1153 (9th Cir. 2008). NEPA and Forest Service regulations require considering alternatives when there are unresolved conflicts concerning the resources at issue. 42 U.S.C. § 4332; 36 C.F.R. § 220.7(b)(2)(i). There are multiple unresolved conflicts surrounding the Project (as discussed throughout these comments) and many valid alternatives the Forest Service should consider, including:

- An alternative with no new road construction and no commercial logging.
- An alternative with no regeneration logging.
- An alternative with no project activities in IRAs, old growth, Recommended Wilderness, or Research Natural Areas.
- An alternative that does not use any project-specific amendments.
- A non-conditions-based-management alternative, which identifies specific timing, locations, and types of Project activities.

### **Project is so Inadequately Defined the Public cannot understand the Intent or Consequences**

- The Scoping documents do not define “resilience” in any objective, measurable terms nor do they cite 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 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.

If, as is likely to be the case for such a large scheme, implementation will take place over decades even while on-the-ground conditions undergo significant change. In effect, the Agency is expecting the public to accept the notion that the FS's implied assertion (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 the time frame this proposed project will require.

Please provide scientific evidence supporting the validity for the implied conclusion—based on current conditions—that "no significant change or 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.

- There is at least 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 scoping documentation offers no science, let alone recent research, which supports the statement, "The desired outcome is to increase forest health and landscape resiliency, provide for public and firefighter safety, reduce fire risk to communities, improve wildlife habitat, contribute to community viability with forest products and jobs - all while restoring fire to our fire dependent ecosystems." (Scoping Letter, p. 1)

Please supply recent scientific research which supports these multiple assertions.

Please reveal how the "desired outcome" was determined.

What exactly does a "desired outcome" look like and how is it measured?

- 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.

- This proposed project is directly adjacent to Wilderness and covers not only Inventoried Roadless Areas (IRA) but Recommended Wilderness Areas (RWA) and Research Natural Areas (RNA).

The management activities included in the proposal will have a direct impact on the Wilderness and its inhabitants.

Please perform a systematic and thorough analysis of the effects on each of the above listed areas and make the results public.

Analysis must show that project will not diminish the Wilderness quality of these areas.

- This proposed project includes no information regarding how the Proposed Wild and Scenic Rivers will be protected. Proposed Wild Rivers include Blodgett Creek and the North Fork of Lost Horse Creek. Lost Horse Creek is a Proposed Scenic River.

Please explain how those special water courses will be protected from degradation

- Scoping states project activities will be excluded from recent project areas. “the Horselick Timber Sale (Como Forest Health Protection Project EIS), Little Jumper Timber Sale (Westside Project), Larry-Bass Stewardship, Roaring Lion Salvage, and Westside Timber Sale. We also excluded all regeneration harvests completed since 1980 (scoping 9).” Please include a map of all regeneration harvests completed since 1980. Also list and explain why other recent timber sale areas completed in the last 30-40 years are not being considered for exclusion, for example: the Hayes Creek project.
- Scoping page 9 discusses a review of past harvesting and states that 54 previously harvested units experienced severe wildfire. Please include this review and a map of past harvests overlaid with previous burns and fire severity. Please include harvest methods and if prescribed burn or pile burning was completed.
- Please explain why areas previously burned at low and moderate severity are not excluded from proposed commercial logging.

### **The Agency Systematically Exempts Projects from Forest Plan Standards**

The scoping documentation states:

In order to achieve the Bitterroot Front project objectives, a project-specific amendment to remove or modify plan standards is needed. This includes plan content for Elk Habitat Objectives (elk habitat effectiveness, thermal cover, and hiding cover), old growth, coarse woody debris, and snag retention. This amendment applies to this project only and does not change the plan for other projects. The objection process at 36 CFR 218 will apply.

...

Based on the likely effects of the amendment, two additional requirements are likely directly related.

- Modification or removal of plan components for elk habitat effectiveness, thermal cover, and hiding cover are likely directly related to the requirements for the integrated resource management for multiple use considering habitat conditions for wildlife commonly enjoyed and used by the public at 36 CFR 219.1 O(a)(5).
- Modification or removal of plan components for old growth, coarse woody debris, and snags are likely directly related to the requirements to provide for habitat diversity by maintaining or restoring key characteristics associated with terrestrial ecosystem types at 36 CFR 219. 9(a)(2)(i). (Scoping Document, p. 16)

The FS asserts this group of Forest Plan amendments applies only to this project and does not change the plan for other projects; however, the Agency has a long history of using similar site-specific amendments to projects.

The term “Forest Plan Amendment” is a misleading use of the singular form. In fact, there are multiple Forest Plan standards that are proposed for amendment: EHE, thermal cover, snag retention, coarse woody debris (CWD) and old growth.

As Table 1 (below) shows, the BNF has a decades-long history of using site-specific amendments to allow it to ignore Forest Plan (1987) standards. The serial use of amendments that cumulatively include a large area is significant runs afoul of NFMA.

Project	Acres	Site-specific Amendments	District	Year
Burned Area Recovery Project	unknown	Snag Retention, EHE in Laird Creek, Thermal Cover in Skalkaho Rye	Darby, Sula, West Fork	2001
Slate/Hughes Watershed Restoration and Travel Management	unknown	EHE	West Fork	2002
Middle East Fork Hazardous Fuels Project	25,800	CWD, Snag Retention, Thermal Cover, Unsuitable Lands	Sula	2006
Hackey Claremont Fuels Reduction	3,131	EHE CWD	Stevensville	2008
Trapper Bunkhouse Land Stewardship Project	23,140	EHE CWD Thermal Cover	Darby	2008
Lower West Fork Project	38,400	EHE CWD Thermal Cover	West Fork	2010
Larry Bass Project	1,200	Thermal Cover CWD	Stevensville	2012
Three Saddle Vegetation Management	6,300	EHE CWD	Stevensville	2013
Darby Lumber Lands Watershed Improvement Travel Management Project	28,758	EHE	Darby	2015
Meadow Vapor	11,090	EHE CWD Thermal Cover	Sula	2017
Darby Lumber Lands Phase 2	27,453	EHE Thermal Cover	Darby	2018
Gold Butterfly	55,147	EHE Thermal Cover OG	Stevensville	2018 2022
Westside Vegetation Treatment	5,700	EHE CWD Visual Quality	Darby	2018
Mud Creek	48,486	EHE CWD Elk Thermal cover and road density OG	West Fork	2021 2022

*Table 1 - List of past BNF Projects that Include Site-Specific FP Amendments*

The Agency has not explained which characteristics of this proposed project area are different from other portions of the BNF. It is possible, if not likely, the reason for these amendments is not because the project area is different but that the Agency wishes to circumvent the existing Forest Plan requirements.

The serial use of project-specific amendments causes a “significant change” to the Forest Plan. Individual project-specific amendments in conjunction with previous and future site-specific amendments, effectively invalidate standards as seen with the EHE example below. Accounting from all from past, current, and foreseeable future project-specific amendments for cumulative effects should be performed and publicized.

In *League of Wilderness Defenders v. Connaughton* (Case No. 3:12-cv-02271-HZ), a U.S District Court (Oregon) declared:

“..., a close reading of *Lands Council v. Martin* indicates there must be at least some characteristics unique to a site to support a site-specific amendment. *Lands Council v. Martin*, 529 F.3d at 1228. Here, Defendants and Intervenors fail to point to any

characteristics unique to the Project area to support the site-specific amendment. Similarly, at oral argument, when asked specifically to explain what conditions existed within the Project area that supported the selection of a site-specific amendment, the parties were unable to provide any explanation other than the fact that the amendment was tailored and applicable only for the Project area.

Simply explaining the purpose of the Project, the desired conditions for the Forest, or stating that the amendment is site-specific because it was designed for a specific site, does not satisfy the rational connection between the facts found and the choice made required by Lands Council. Because the Forest Service failed to explain why it chose a site-specific amendment, the Court finds that the decision to enact a site-specific amendment was arbitrary and capricious and grants summary judgment to Plaintiffs on this claim.”

In a December 13, 2020, Court Order and Opinion by the U.S. District Court of Montana, the Judge found,

“While the Forest Service effectively shows a maintenance of elk populations, the Plan requires maintenance of habitat and cover. That tension is only made more apparent when one considers that the Forest Service has actively avoided complying with any metric related to elk habitat or cover.” (Alliance for the Wild Rockies, et al. v. Leanne Martin, et al. – Case 9:20-cv-000179-DWM)

Here, the judge found that the Forest Service did not conduct a cumulative-effects analysis which included “past, present, and reasonably foreseeable future actions” that are part of other projects.

“NEPA always requires that an environmental analysis for a single project consider the cumulative impacts of that project together with ‘past, present, and reasonably foreseeable future actions.’” Native Ecosystems Council, 304 F.3d at 895 (citing 40 CFR § 1508.7 (2019)). This applies to reasonably foreseeable forest plan amendments. Id. at 896. “Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7 (2019).

Therefore, the judge ruled:

..., it was arbitrary and capricious for the Forest Service to not consider the site-specific amendment in the Middleman Project in its cumulative effects analysis. (Alliance for the Wild Rockies, et al. vs. Leanne Martin, et al. – Case 9:20-cv-000179-DWM)

Please explain conclusively and in detail what differentiates this project area from the rest of the BNF.

Please analyze and report (to the public) the cumulative effects caused by past, present, and foreseeable future project-specific amendments.

### **After-Project Monitoring of Forest Service Projects is Missing or Inadequate**

- The stated objectives of this proposed project are to reduce fuels, improve landscape resilience to disturbance, improve wildlife habitat, contribute to the local economy, and a short list of other goals “if opportunities become available.” (Scoping Document, pp. 4-5)

According to the Agency, each of those goals can and will be met by using logging, thinning, and/or prescribed fire.

The Scoping document claims, without providing evidence, that there is a “need” for these management activities.

Although the same management activities have been implemented for decades on the Bitterroot National Forest (BNF), the Agency offers no proof that the suggested activities accomplish the asserted results. There have been ample opportunities for the FS to monitor the results of past projects. Unfortunately, the Agency has a history of not completing the monitoring it promised as part of those projects. The lack of project monitoring makes the FS’s projected results from management actions highly suspect.

Please provide monitoring results of past projects that “prove” the proposed management actions are effective.

- No monitoring records of past projects are offered to confirm that the proposed management actions included in the Bitterroot Front Project “would improve big game and other wildlife habitat quality.”<sup>8</sup>

No data is offered to indicate that habitat quality even needs improvement.

Please provide scientific studies and on-the-ground research that indicates habitat quality and quantity is lacking in the area being proposed for this project.

Please provide after-project records, generated by the monitoring of previous BNF projects, which confirm that habitat quality is improved by management actions.

- No monitoring of previous management actions is offered to confirm that, “Removing ladder fuels reduces the potential for a surface fire to transition to the canopy. Desired tree spacing in ponderosa pine and Douglas-fir should minimize the potential for active crown fire in these fire resilient vegetation types. Prescribed fire decreases surface fuel loads. Many of these stands will require future prescribed fire to maintain the desired conditions in the high frequency, low severity fire regime.” (Scoping Document, p. 4)

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

Please supply scientific evidence that “... increasing crown spacing, raising canopy base heights...” improves, not just “timber stands” but “overall forest ecosystem health, carbon sequestration, and biodiversity.”

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<sup>8</sup> The Biennial Monitoring Evaluation Report for the BNF (2022) consists only of forest-wide monitoring. No results of after-project monitoring are included - [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd1000570.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1000570.pdf)

- Scoping documentation, though limited, declares this project will “Improve landscape resilience to disturbances (such as insects, diseases, and fire) by modifying forest structure, and composition.” (Scoping Document, p. 4)

However, without monitoring records from past projects, this claim is without merit, especially given recent research which contradicts that assumption.<sup>9 10 11</sup>

Please provide the most recent scientific research and after-project monitoring (project-specific) records which support the Agency’s assertion that establishing historic stand structure characteristics improves resilience or the assertion that projects which modify forest structure and composition “improve landscape resilience.”

### **Proposed Project Does Not Include Adequate Protection for Old-Growth Stands**

The scoping documentation provides no information about how project-area old growth will be impacted by the proposed management actions nor does it indicate how old growth or the diverse ecosystems and species that depend on that increasingly rare habitat will be protected.<sup>12</sup>

On April 22, 2022, President Biden signed an Executive Order to strengthen American forests, boost wildfire resilience, and combat global deforestation. That order incorporates a commitment to safeguards mature and old-growth forests on federal lands.<sup>13</sup>

Please explain how this project will follow that and other Biden Administration directives to save our forest’s abilities to sequester carbon.

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

### **Proposed Project Does Not Include Adequate Protection for Soil or Water**

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

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<sup>9</sup> 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>

<sup>10</sup> 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>

<sup>11</sup> 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>

<sup>12</sup> Juel, J. (2021) Old Growth Management - [https://www.friendsoftheclearwater.org/wp-content/uploads/2021/11/Juel\\_2021-Old-Growth.pdf](https://www.friendsoftheclearwater.org/wp-content/uploads/2021/11/Juel_2021-Old-Growth.pdf)

<sup>13</sup> President Biden signed an Executive Order to strengthen American forests, boost wildfire resilience, and combat global deforestation - <https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/22/fact-sheet-president-biden-signs-executive-order-to-strengthen-americas-forests-boost-wildfire-resilience-and-combat-global-deforestation/>

During the second phase of the Darby Lumber Lands 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 Bitterroot Front Project.

Please explain how soils will be protected during the duration of this proposed long-term 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.

### **The Forest Service is knowingly intensifying global warming and reducing carbon sequestration**

Most management activities associated with Agency projects contribute to the increasing accumulation of Greenhouse Gases (GHG) in the atmosphere. For example, logging, thinning, prescribed fire, pile burning, travel to and from project sites, etc. all release GHG into the atmosphere.

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 Bitterroot Front 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 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.”<sup>14</sup>

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<sup>14</sup> Fed Reg. 10252 (Feb. 19, 2021) - <https://www.govinfo.gov/content/pkg/FR-2021-02-19/pdf/2021-03355.pdf>

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.<sup>15</sup>

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 unacceptable.

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.”<sup>16</sup>

“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.<sup>17</sup>

“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 negative impacts on soil properties and trees that may have an impact on the functioning of forest ecosystems.”<sup>18</sup>

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<sup>15</sup> Greenhouse Gas (GHG) Accounting Tools - <https://ceq.doe.gov/guidance/ghg-accounting-tools.html>

<sup>16</sup> 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>

<sup>17</sup> 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>

<sup>18</sup> Achat, D.L. et al.(2015) *ibid.*

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 theorizes forests looked pre-European influence, ignores the larger pattern of climate, climate change, and disregards 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 (completely unsuccessful) attempts to replicate pre-European forest conditions and how the resulting conditions are more resilient and healthier than current forest conditions.

Please explain how removing trees from the forest contributes to carbon sequestration.

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

### **Agency Makes Unsubstantiated Claims of Wildfire History**

- Your statement on p. 6 stating: "(Arno 1976) found an average fire-free interval of 11 to 16 years in ponderosa pine and Douglas fir-dominated sites" is a misrepresentation of Arno's work. His re-examination of this research (Arno and Peterson, 1983) revealed some important nuances. First, he determined that the larger the fire scar sample area, the shorter the fire-free interval. They postulated that this is because all fire scars in the study area are added together, but not all fires recorded spread through the entire study area, resulting in an apparent shorter fire-free interval than reality. Second, they divided the data into forest zones-habitat types. Valley edges showed the shortest fire-free intervals, presumably because they were subject to frequent Indian burning. For the montane slopes, lower to mid-elevation forests (4,200 to 6,200 ft) with seral ponderosa and potential climax Doug fir, that comprise the majority of the low-mid elevations of the Bitterroot Front project, they found fire free intervals to be 20-31 years for study areas of the grove (intermediate) size. Subsequently, Arno et al. (1995) found mean fire-free interval to be 50 years at all study plot sizes at another BNF site (Fales Flat, Ponderosa pine-dominated with some Doug fir; 5,400-5,900' elevation). Arno and Peterson (1983) and Fryer (2016) also pointed out problems with basing fire history solely on fire scar studies, particularly the difficulty of determining the extent of pre-historic high severity fires. Many fire history researchers have attempted to address these problems and concluded that mixed severity fires were historically common in Ponderosa-pine-dominated forests (Baker et al, 2006;

Odion et al, 2014; Lindbladh et al. 2013; Pierce and Meyer, 2008; Baker, 2017) .<sup>19 20 21 22</sup>. For example, Pierce and Meyer (2008) state: “our results support a natural regime of mixed-severity fire in ponderosa-dominated forests in Idaho, a fire model that only includes frequent, low-severity fire is not applicable to this region”.

In addition, much of the Bitterroot Front project is above the ponderosa pine-dominated area of frequent fire, in forest types that historically had infrequent, high-severity fires.

Please provide more recent scientific research than Arno 1976 which 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.”

Further, the Forest Service must demonstrate that historical fire regimes are applicable under current and future modeled climate conditions.

- This project proposal is based on the assumption that active forest management is required because “Over the past 129 years, only 7 percent of the acres that should have experienced multiple fires have even burned once. This departure from natural disturbance patterns has led to major changes in fuels and vegetation composition.” (Scoping Document, p. 6)

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.<sup>23</sup>

- In scoping document (p. 5) you state: “The Bitterroot Front project area is part of a priority area of over 300,000 acres that has been identified by the Montana Forest Action Plan (MFAP) and has 5 of the top 10 Firesheds facing the most wildfire risk in Montana.” The scoping CPZ map shows a similar high fire risk hazard, with most WUI-adjacent areas showing highest (>90%) risk. Both the MFAP and CPZ maps appear highly inaccurate and incomplete, although the WUI area shading on the CPZ map obscures the fire risk rating there. For example, on the MFAP map between Lost Horse and Roaring Lion Creeks, areas that have been recently logged in the Westside (2018) and Hayes Creek (2010) project, as well as areas burned in the 2016 Observation and Roaring Lion fires still show high to very high fire hazard. In fact, the 2016, 1,500-acre Observation Fire is not even shown on the MFAP Recent Fire History map. And none of the areas commercially logged in the Westside project (2018) were rated as high hazard by BNF even before they were logged! The

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<sup>19</sup> 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>

<sup>20</sup> 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>

<sup>21</sup> 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>

<sup>22</sup> 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>

<sup>23</sup> 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>

Bitterroot Front CPZ map shows a similar high fire hazard rating for this area. On the next page is the map released in the Westside project EA showing fire potential for this area following completion of the Westside project. Note that there is virtually no potential for active crown fire (there was little even before the project according to the Westside EA), with most areas having only potential for ground fire. Additionally, the Roaring Lion fire burned through the north half of this area, further lowering fire risk. So, why do the MFAP and CPZ maps show such high fire risk for this area? Similarly, why didn't the 2016 Roaring Lion and Observation Fires lower this risk? Are the data for all the Bitterroot Front areas as inaccurate and incomplete as they are for this one? We have to assume so. If the data are flawed, then the results are too.

- Please provide maps similar to those released on the Westside EA (Figure 2 )showing fire potential maps for ground, passive crown (torching), and active crown fire for the entire Bitterroot Front project so that we can accurately evaluate the fire risk for ourselves. Please justify the risk shown on your CPZ map with the data used to generate it. Please remove the WUI overlay so the fire risk is not obscured.

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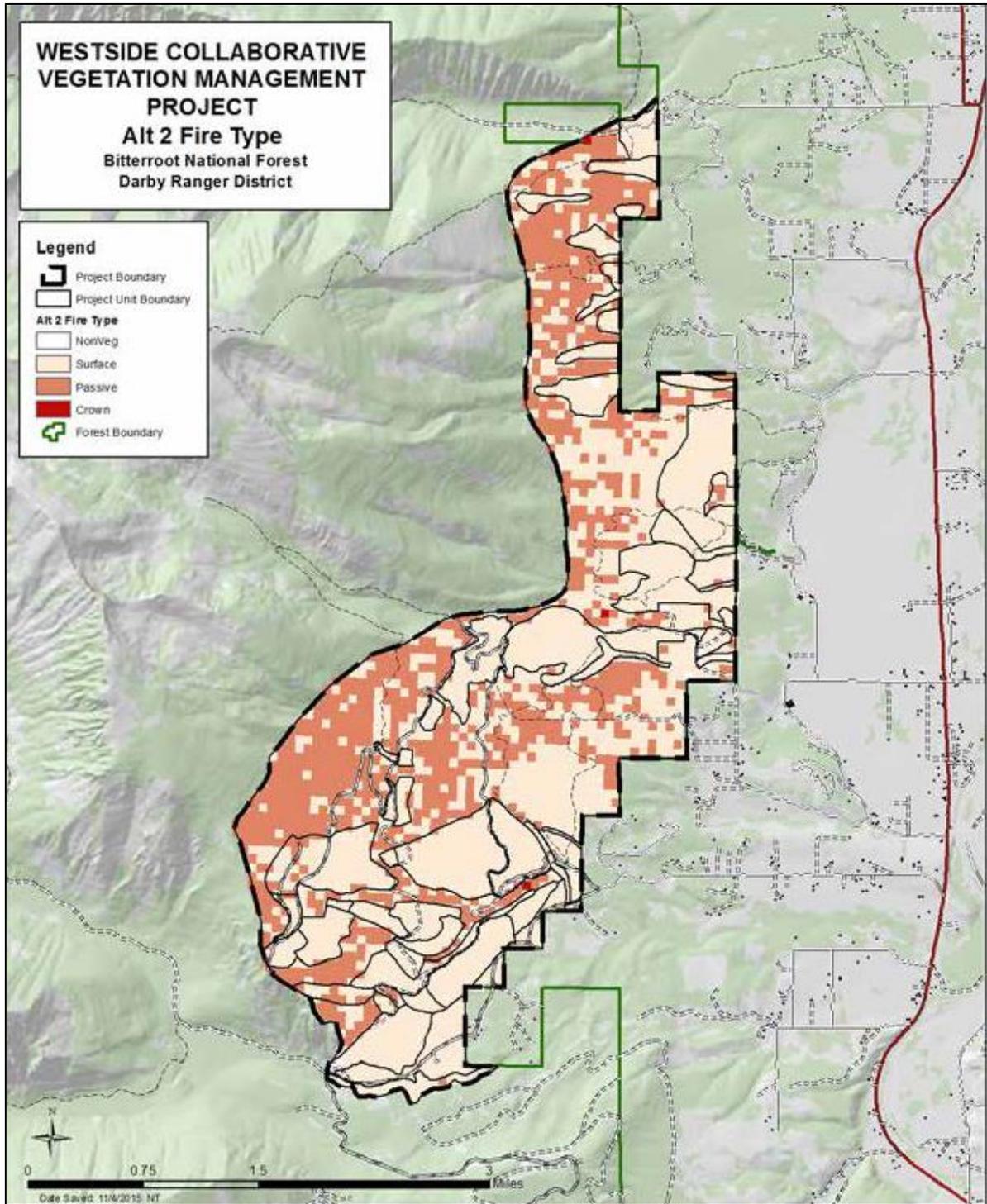


Figure 2

- Scoping documentation does not include adequate visuals for the public to fully understand the scope and possible consequences of this proposed project.

Please provide a wildfire history map for the area of this proposed project. Please include all wildfires that occurred after 1950.

Please provide a map of the proposed project area which shows each “opportunity area,” the WUI, and all private-property structures.

Please provide a map for this proposed project area which shows the community protection zone (CPZ).

Please provide a map showing areas that have already been logged/thinned (including treatment dates) for the area of this proposed project.

### **Project Lacks Adequate Protection for Wildlife and Wildlife Habitat**

- 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 unequivocally established that, federal agencies have the ultimate responsibility for managing and protecting wildlife.<sup>24</sup>

Please provide a list of species-specific measures which 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.

- Bull trout are listed as threatened under the Endangered Species Act (ESA), but they are not mentioned in scoping documents. The project area includes bull trout critical habitat (Figure 3). The BNF must take a hard look and fully analyze potential impacts to bull trout and their critical habitat.

{continued on next page}

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<sup>24</sup> 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](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2980807)

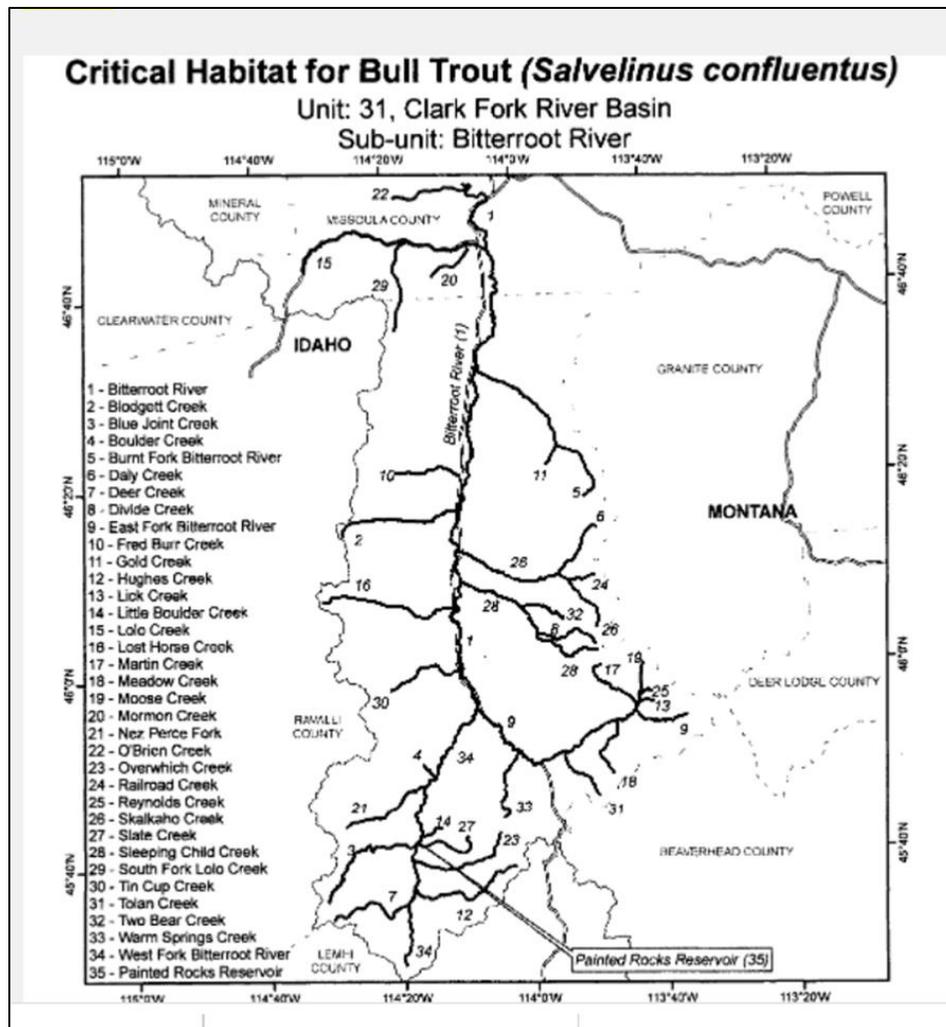


Figure 2 - Critical Bull Trout Habitat

Given the presence of bull trout critical habitat, along with areas of low elevation, there is a high likelihood of wetlands and floodplains in proposed treatment areas. Further, the project area contains 13,000 acres of Inventoried Roadless Areas, 49, 822 acres of roadless MA5, 3564 acres of Research Natural Areas, and 30, 737 acres of Recommended Wilderness. Figure 4 shows bull trout occupied streams on the Bitterroot National Forest. There are many in the project area. Forest Service must analyze effects to these areas.

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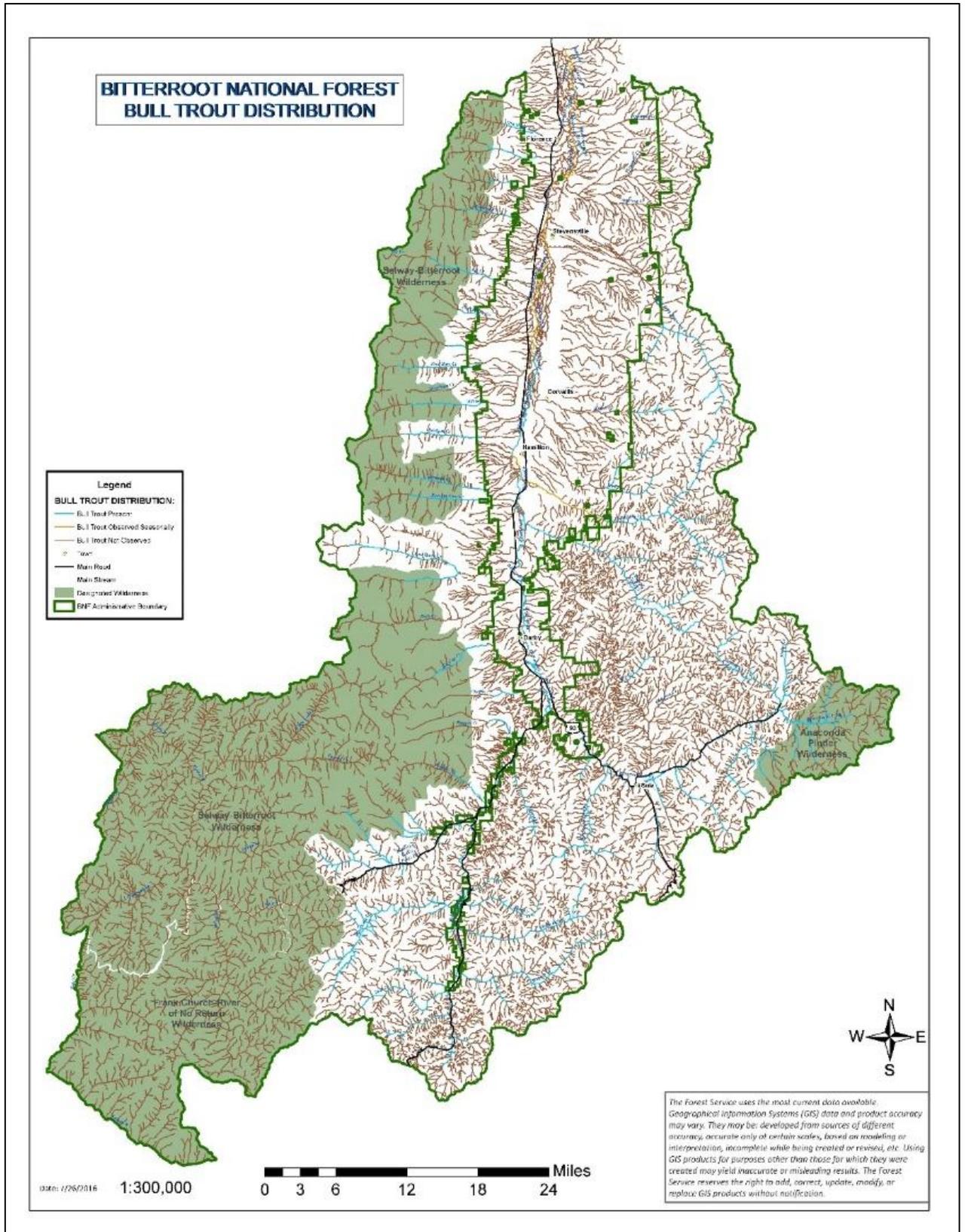


Figure 3 – Bull Trout Distribution

The Forest Service must disclose the cause-effect relationship between each proposed action and the potential effects on bull trout and their associated critical habitat. Such disclosure is necessary to demonstrate the cause-effect relationship does constitute extraordinary circumstances.

The Clark Fork Coalition recent Bitterroot Strategy 2017 recognized project area streams Kootenai Creek, Big Creek, Blodgett Creek, Canyon Creek, Sawtooth Creek, Lost Horse Creek, and Tin Cup Creek as restoration priorities (Figure 5). Please consider the Fish Creek Dam in your analysis. Fish Lake dam is non-functional. It should be removed and the area reclaimed using non-mechanical means as directed in the Wilderness Act.

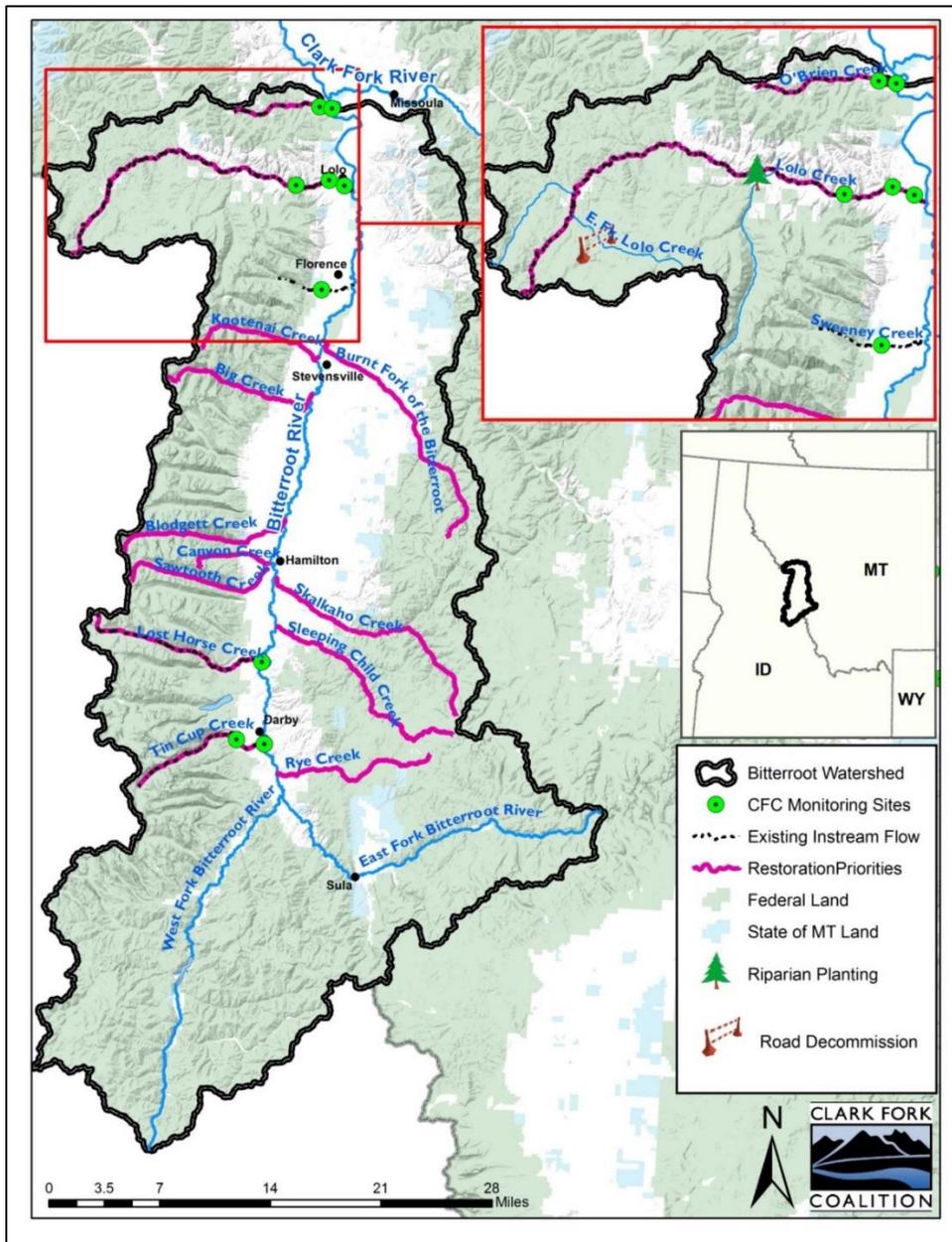


Figure 4

The Conservation Strategy for Bull Trout 2017 compares bull trout habitat conditions in Montana, “Most likely the reason the Flathead is in such good condition is the large amount of Wilderness ...Poor conditions on the Kootenai National Forest in the baseline assessment are likely the result of high road densities and steep topography (which has resulted in more roads near streams)” Pg 24. The Bitterroot Front project contains steep topography, but it also contains many acres of roadless areas and Recommended Wilderness. How will these areas be altered by project activities and how will that affect bull trout streams?

Frissell, 2014 states:

Roads are ecologically problematic in any environment because they affect biota, water quality, and a suite of biophysical processes through many physical, chemical, and biological pathways (Trombulak and Frissell 2000, Jones et al. 2000). The inherent contribution of forest roads to nonpoint source pollution (in particular sediment but also nutrients) to streams, coupled with the extensive occurrence of forest roads directly adjacent to streams through large portions of the range of bull trout in the coterminous US, adversely affects water quality in streams to a degree that is directly harmful to bull trout and their prey. This impairment occurs on a widespread and sustained basis; runoff from roads may be episodic and associated with annual high rainfall or snowmelt events, but once delivered to streams, sediment and associated pollutant deposited on the streambed causes sustained impairment of habitat for salmon and other sensitive aquatic and amphibian species. Current road design, management of road use and conditions, the locations of roads relative to slopes and water bodies, and the overall density of roads throughout most of the Pacific Northwest all contribute materially to this impairment. This effect is apart from, but contributes additively in effect to the point source pollution associated with road runoff that is entrained by culverts or ditches before being discharged to natural waters.

Analysis must demonstrate that project activities are in compliance with the Conservation Strategy Directives for bull trout 2017. We would suggest they also show compliance with the 2006 strategy since the 2017 strategy is currently under litigation in the 9<sup>th</sup> district court and a decision will most likely be made near the completion of project analysis.

When a listed or proposed species may be present in the action area, the agency must prepare a biological assessment to determine whether the species or their critical habitat may be affected by the action. If the agency determines that the proposed action may affect any listed species or critical habitat, it must engage in formal consultation with FWS. 50 C.F.R. § 402.14. For listed species such as bull trout, known to occur within the project area, Section 7 of the ESA imposes a duty to conserve those listed species and to act to achieve survival and recovery of the species (*Sierra Club v. Glickman*, 156 F3d 606 (5<sup>th</sup> Cir 1998)). Despite any recent ESA rule changes, the requirement to contribute to recovery is core to the ESA statute and necessary in order to achieve its stated goal to conserve species and the ecosystems upon which they depend.

Please consider the current science on fire and bull trout in your analysis. After the Bitterroot fires of 2000, debris flows immediately after the fire were troublesome but in the long term, the effects were positive. Studies done a decade after the fire showed native

fish populations increasing and non-native fish declining especially in areas of high intensity fire as soon as three years after the fire (Clancy et al 2012 presentation). Rieman and Clayton 1997 offer the following information:

a) Although wildfires may create important changes in watershed processes often considered harmful for fish or fish habitats, the spatial and temporal nature of disturbance is important. Fire and the associated hydrologic effects can be characterized as “pulsed” disturbances (*sensu* Yount and Niemi 1990) as opposed to the more chronic or “press” effects linked to permanent road networks. Species such as bull trout and redband trout appear to have been well adapted to such pulsed disturbance. The population characteristics that provide for resilience in the face of such events, however, likely depend on large, well-connected, and spatially complex habitats that can be lost through chronic effects of other management. Critical elements to resilience and persistence of many populations for these and similar species will be maintaining and restoring complex habitats across a network of streams and watersheds. Intensive land management could make that a difficult job.

A paper by the Western Montana Level 1 Bull trout Team (Riggers et al 2001) states:

- a) Habitat conditions are another factor that has changed significantly. In general, fish habitat quality is much less diverse and complex than historic, and native fish populations are therefore less fit and less resilient to watershed disturbances. Roads, more than any other factor, are responsible for the majority of stream habitat degradation on National Forest Lands in this area (USDA 1997). Historically roads were not present in watersheds and did not affect hydrologic or erosional patterns. Now, however, extensive road networks in many of our watersheds contribute chronic sediment inputs to stream systems and these effects are exacerbated when fires remove the vegetation that filters road runoff.
- b) ... the real risk to fisheries is not the direct effects of fire itself, but rather the existing condition of our watersheds, fish communities, and stream networks, and the impacts we impart as a result of fighting fires. There, attempting to reduce fire risk as a way to reduce risks to native fish populations is really subverting the issues. If we are sincere about wanting to reduce risks to fisheries associated with future fires, we ought to be removing barriers, reducing road densities, reducing exotic fish populations, and re-assessing how we fight fires. At the same time, we should recognize the vital role that fires play in stream systems and attempt to get to a point where we can let fire play a more natural role in these ecosystems.
- c) Salvage of burned trees is often proposed to reduce future fuel loading. While salvage can be accomplished with minimal impacts in some areas, many burned areas are already extremely sensitive to ground disturbance due to the loss of vegetation. Further disturbance can result in increased erosion, compacted soils and a loss of nutrients from these areas (USDA 2000, Beschta et al. 1995).
- d) ...we believe, in most cases, proposed projects that involve large-scale thinning, construction of large fuel breaks, or salvage logging as tools to reduce fuel loadings with

the intent of reducing negative effects to watersheds and the aquatic ecosystem are largely unsubstantiated. Post-fire activities such as these that increase the probability of chronic sediment inputs to aquatic systems pose far greater threats to both salmonid and amphibian populations and aquatic ecosystem integrity than do fires and other natural events that may be associated with undesired forest stand condition (Frissell and Bayles 1996).

Agencies are required to “use the best scientific and commercial data available” in assessing impacts to protected species during the consultation process. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(d). Therefore, we encourage the Forest Service to be transparent about the consultation process and affirmatively post all consultation documents, including any Forest Service Biological Evaluations or Assessments, any letters seeking concurrence, and any responses or Biological Opinions from the FWS.

Please use the best available science to analyze the effects of log hauling, prescribed burning, the loss of snags, lack of CWD standards, low canopy percentages and expected poor road maintenance based on past history and budget on bull trout.

Please analyze the effects of illegal offroad travel and user created roads and trails in the project area on bull trout and westslope cutthroat trout occupied streams.

Please also analyze the effects of erosion and water quantity from changes to flooding due to logging operations (Green and Alila 2012). Also consider temporary road construction, new road construction, and re-construction on the recovery of bull trout and water quality.

With the changed Elk Habitat Standards relaxing road densities and the construction of roads, temporary roads, and skid trails, how will BNF prevent debris flows like the one that occurred in Willow Creek in 2017. (Photo 1)

[continued on next page]



*Photo 1 Willow Creek road failure*

- No mention of lynx or their habitat is included in the scoping documentation.

Canada Lynx is listed as a threatened species with critical habitat designation under the ESA. The Forest Service has not provided the latest BNF lynx habitat model as part of scoping, or demonstrated how that model applies to the proposed action, or how those treatments may affect Canada lynx recovery.

The project must adhere to Northern Rockies Lynx Management Direction. More recent mapping of lynx habitat and forest structural stages were completed without NEPA and ESA

compliance. The 2013 Conservation Species Status Assessment (SSA) admits, “current status is unknown due to lack of recent surveys (p 3).”

During April 2022, a Montana Federal District Court (Judge Dana Christensen) accepted a settlement between the U.S. Fish and Wildlife Service (USFWS) and Friends of the Wild Swan et al. where the USFWS would reevaluate its 2014 critical lynx habitat rule and write a draft recovery plan for lynx by the end of 2023. Remapping of critical habitat is expected 2024.

USDA Forest Service 1999. The historical lynx habitat map (Figure 6) shows that the Bitterroot National Forest area has housed lynx in the past and the referenced link of currently occupied and unoccupied habitat shows the project area borders areas of current occupation.<sup>25</sup> There are core and peripheral or linkage areas. Ruggiero et al 1999 also discuss the effects of fragmentation on competition with lynx by other carnivores and the loss of connectivity. The linkage areas and peripheral areas of lynx habitat will be affected by the project. Projects that occur within matrix habitat must still be analyzed for potential effects to matrix habitat. The SSA also states, “FWS hypothesized that secondary areas and peripheral areas may contribute to lynx persistence by enabling successful dispersal and recolonization of core areas (P37).”

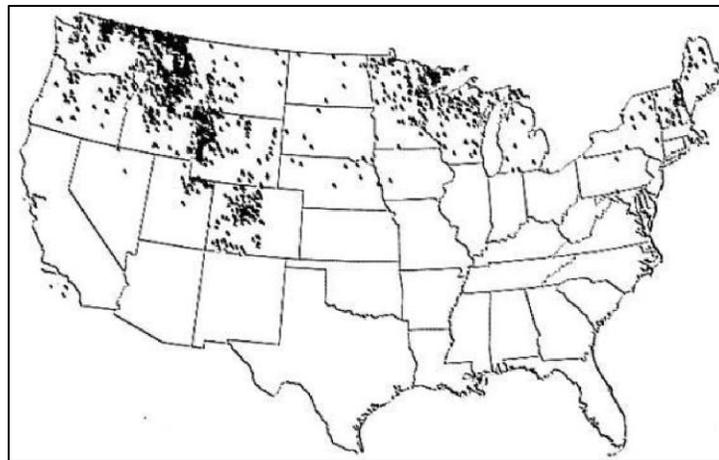


Figure 5 - Historical Lynx Habitat

Please provide both occupied and unoccupied lynx habitat maps for the project area, including their dates of publication. Please also supply surveys, methods used, and dates completed. And make available all consultation documents, including any Forest Service Biological Evaluations or Assessments, any letters seeking concurrence, and any responses or Biological Opinions from the FWS.

Please consider the relationship of lynx and coarse woody debris (CWD) (Ruggiero 1999 chapter 11). Please also consider the role of CWD in retaining moisture during drought conditions. “Down wood has a high pore volume and thus can serve as moisture reservoirs and provide persistent microsites that aid in forest recovery after prolonged drought or fire

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<sup>25</sup> [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5193020.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5193020.pdf)

(Amaranthus et al. 1989). For example, in one study in southwest Oregon, down logs provided considerable rooting and mycorrhizal activity, and mean moisture content (157 percent) was 25 times greater than mean soil moisture (6 percent) “ (Amaranthus et al. 1989). How will the amendment of CWD standards affect drought, and wildlife, plants, and seedlings dependent on CWD?

Please provide maps of snowshoe hare presence in the project area.

Please explain how lynx and lynx habitat and linkage zones will be protected during the execution of this proposed project.

- The scoping documentation does not include information about grizzly bear in the project area.

There is solid documentation of recent and ongoing grizzly bear occupancy in the Bitterroot National Forest.<sup>26</sup>

The area covered by the Bitterroot Front Project encompasses almost the entire Bitterroot 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.<sup>27</sup>

Please explain exactly how this proposed project will proceed without harming grizzly bear, their habitat, and demographic connectivity.

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

Disturbance of bears while denning has been shown to be detrimental, especially to females with cubs.<sup>28</sup>

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.

- Modeled fisher habitat predicts some habitat on the BNF, mostly within lower-elevation creek drainages (Olson et al. 2014). This was not included in scoping, nor are fisher mentioned. The Bitterroots are considered the stronghold for fisher in Montana (Vinkey 2003). These fishers are a remnant of a native Montana population that persisted in the Selway–Bitterroot Mountains near the Montana–Idaho border even after trapping extirpated fishers from other parts of Montana and Idaho (Vinkey et al. 2006, Schwartz 2007).

In a recent monitoring project by Defenders of Wildlife, Fishers were detected at three sites across the five years. Most detections were in the west side canyons contained in the

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<sup>26</sup> See newspaper articles “[Wandering grizzly leaves Bitterroot, returns to Idaho](#)” and “[Grizzly bear captured Saturday at golf course near Stevensville](#)”

<sup>27</sup> Bader, M. and Sieracki, P. (2022) Grizzly Bear Denning Habitat and Demographic Connectivity in Northern Idaho And Western Montana. *Northwestern Naturalist* 103(3)

<sup>28</sup> 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>

project area. Please analyze and disclose the direct, indirect and cumulative effects of the project on fisher. Please also analyze effects to all old growth dependent species.

- The status of wolverine is currently being litigated.

Please indicate how wolverine, wolverine habitat, and connectivity zones will be protected during the course of this proposed project.

Wolverine were found throughout the project area from 2015-2019 by Defenders of Wildlife in conjunction with MPG Ranch and from 2013-2019 by BNF (Figure 7). The figure shows maternal habitat and primary habitat in the project area.

[continued on next page]

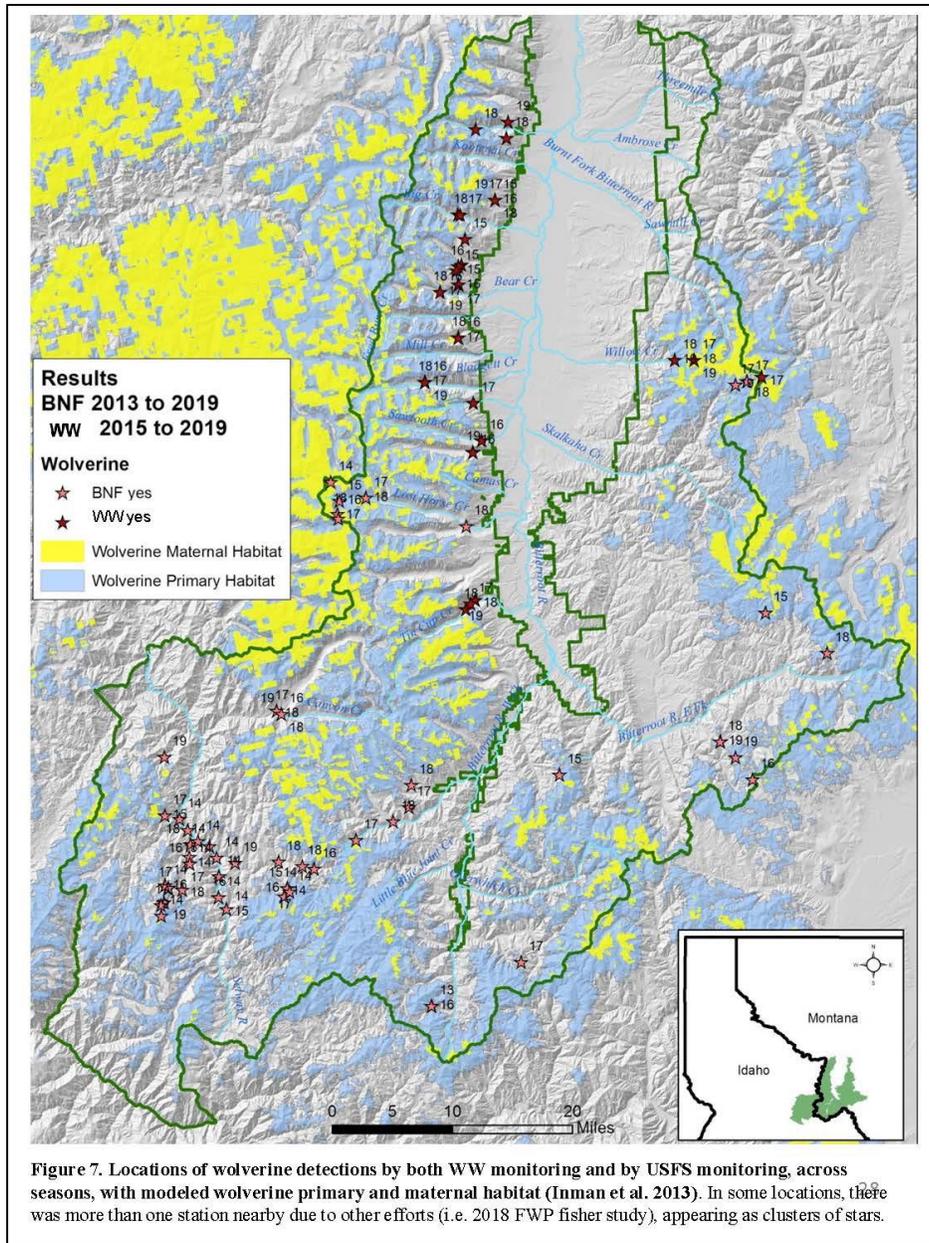


Figure 6 - Wolverine Detections

Recently, a US District Court ruling remanded the USFWS withdrawal of its Proposed Rule to list the distinct population segment of the North American wolverine occurring in the contiguous United States as a threatened species under the Endangered Species Act for further consideration. The ruling reviewed the science relating to the selection of denning sites in combination with snow presence during the natal period and recent analyses of potential climate change effects to snow pack that indicate a severe reduction in snow cover during this century with negative implications to wolverine populations. This factor alone should place greater emphasis on habitat integrity and restoration for corridors, connectivity for both lynx and wolverine.

The ruling also emphasized that populations in the US, which exist as meta-populations “require some level of regular or intermittent migration and gene flow among subpopulations, in which individual subpopulations support one-another by providing genetic and demographic enrichment through mutual exchange of individuals.” If connectivity is lost, “an entire meta-population may be jeopardized due to subpopulations becoming unable to persist in the face of inbreeding or demographic and environmental stochasticity.”

The study by Copeland, 2010 cited in the ruling, analyzed spring snow cover to determine overlap with known den sites, finding 97.9% overlap. They concluded that if reductions in snow cover continue to occur, “habitat conditions for the wolverine along the southern extent of its circumboreal range will likely be diminished through reductions in the size of habitat patches and an associated loss of connectivity, leading to a reduction of occupied habitat in a significant portion of the species range.” A second analysis by McKelvey, 2011 used Global Climate Models to predict the change in distribution of persistent spring snow cover so that “for conservation planning, predicting the future extent and distribution of persistent spring snow cover can help identify likely areas of range loss and persistence, and resulting patterns of connectivity.” McKelvey concluded that they expect, “the geographic extent and connective(ity) of suitable wolverine habitat in western North America to decline with continued global warming” and that “conservation efforts should focus on maintaining wolverine populations in the largest remaining areas of contiguous habitat and, to the extent possible, facilitating connectivity among habitat patches.”

The map of the FWS modeled wolverine habitat (Figure 8) shows wolverine habitat areas in Montana, Idaho, Utah and Wyoming but provides no indication of travel corridors that wolverine might use to connect these.

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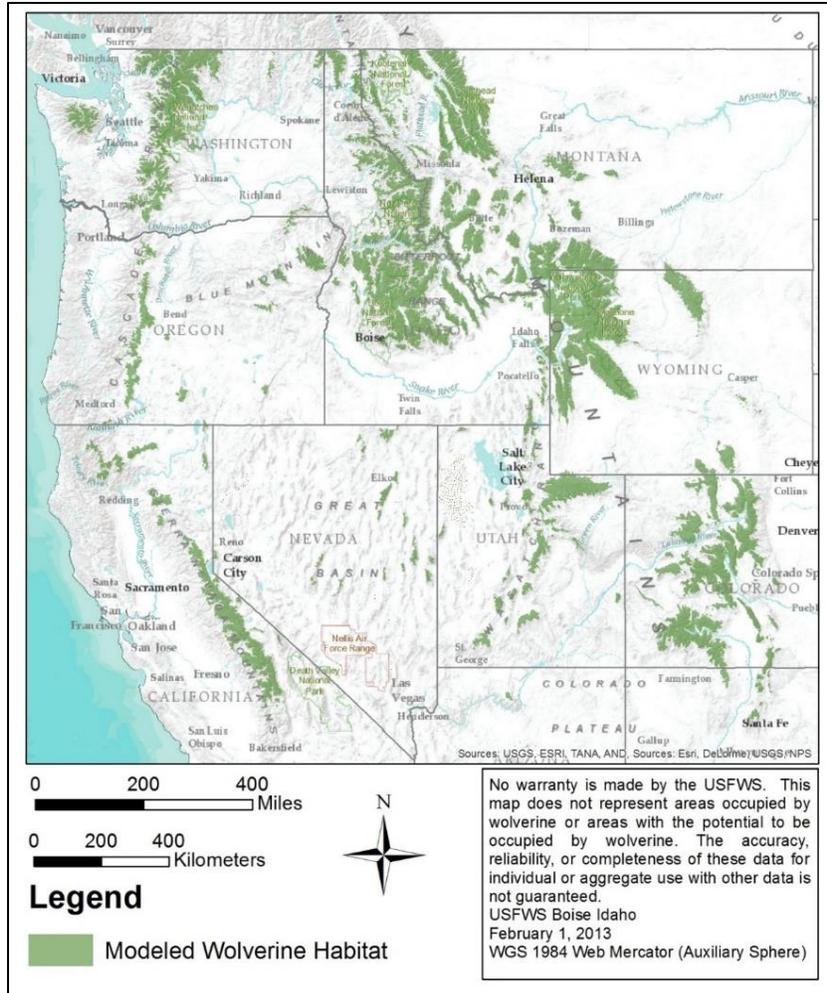


Figure 7 - Fish & Wildlife Service Modeled Wolverine Habitat Map

The wolverine is under litigation for proposed listing as a threatened species under the ESA and decision will be made in the near future. FS should err on the side of caution and in deference to preserving wildlife habitat by consulting with USFWS. The Horsefly ruling states, "If there is any doubt on this claim, institutionalized caution must be applied, and "the benefit of the doubt [must be given] to the species." *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988); see also *Swan View Coal. v. Barbouletos*, 2008 WL 5682094, at \*15 (D. Mont. 2008)."

Please make available all consultation documents, including any Forest Service Biological Evaluations or Assessments, any letters seeking concurrence, and any responses or Biological Opinions from the FWS.

Please provide the wolverine habitat maps BNF is using for analysis, including their dates of publication. Please also supply population surveys, methods used, and dates completed.

- Boreal toads, flammulated owls, grey wolves, Coeur d' Alene salamanders , and numerous other Sensitive Species are known to live and breed in the project area.

Please provide a list of the exact measures that will be taken to assure project activities will not disturb sensitive species or destroy the habitat on which they currently depend. Please include in the project file, all monitoring of sensitive species in the project area.

- Pileated woodpeckers, Pine marten, Westslope cutthroat trout, and elk are indicator species.

Please analyze how these species and their habitat will be protected during this multi-year project. Please include all project area monitoring of these species in the project file.

- Prescribed fire has recently been shown to be less effective than wildfire at maintaining highly nutritious ungulate forage.<sup>29</sup>

Given that one of the project's advertised objectives is the desire to "restore and increase forage and nutritional value ..." the proposed project's focus on the use of prescribed fire is especially concerning. (Scoping Document, p. 4)

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

- There is a long record of cattle trespassing (illegal grazing) into some portions of the BNF.

Please provide a map showing places within the project area that are available for grazing.

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

To the extent that the proposed treatments would fall within active and vacant livestock grazing allotments, the Forest Service must disclose this information. Currently, the scoping notice only mentions livestock grazing as something that will be "emphasized" in management area one and will be managed for "moderate" levels in management area 3a and "low" levels in 3c. Anywhere that vacant or active grazing allotments overlap with proposed treatment areas must be fully analyzed for cumulative effects. For example, big game forage is also listed as a focus in management areas 1, 2, 3a, and 5. How will the proposed treatments benefit both livestock and big game?

Is there overlap in areas that the Forest Service claims will benefit both livestock and big game? It is well understood that livestock significantly displace certain native ungulates.<sup>30</sup> In fact, research has found that some deer species are known to avoid cattle.<sup>31</sup> Additional

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<sup>29</sup> 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>

<sup>30</sup>Wallace, Mark C. and Paul R. Krausman. 1987. Elk, Mule Deer, and Cattle Habitats in Central Arizona. Journal of Range Management, Vol. 40, No. 1 (Jan., 1987), pp. 80-83. Society for Range Management. Stable URL: <http://www.jstor.org/stable/3899367>.

<sup>31</sup> Krämer, August. 1973. Interspecific Behavior and Dispersion of Two Sympatric Deer Species The Journal of Wildlife Management, Vol. 37, No. 3 (Jul., 1973), pp. 288-300. Wiley on behalf of the Wildlife Society Stable URL: <http://www.jstor.org/stable/3800119>.

research has found that elk and deer densities can decline by as much as 92 percent in response to the introduction of livestock.<sup>32</sup> A southwestern Montana study found that “elk generally avoided pastures being grazed, making relatively greater use of rested pastures and grazed pastures before and after grazing. Elk also used steeper slopes than cattle, apparently as a response to the presence of cattle. Elk avoided meadow sites heavily used by cattle during the previous year during the early summer. Elk were rarely observed in close proximity to cattle.”<sup>33</sup> All of this describes the social displacement of elk by cattle, a likelihood that must be analyzed in upcoming NEPA documents.

Cattle impacts on streams are well documented and therefore a potential expansion of the species in areas where streams hold sensitive and important native trout species must be thoroughly analyzed. Although riparian areas account for less than 2% of the West’s total land area, they provide habitat for approximately one-third of the plant species. In the arid Southwest and similarly arid regions approximately 60% of vertebrate species and 70% of threatened and endangered species are riparian obligates.<sup>34</sup> Yet these are the areas most impacted by livestock grazing, largely due to the fact that as much as 81% of the forage in an allotment can come from 2% of the area occupied by a riparian zone.<sup>35</sup>

These impacts must be analyzed cumulatively with any additional riparian area impacts expected from the proposed treatments. In addition, drought is increasing across the west and must be considered. Drought and climate change are expected to decrease populations of bull trout and cutthroat trout through several mechanisms<sup>36</sup> and because of the presence of these species on the Forest and within several streams crossing active and vacant grazing allotments in the project area, the impacts of expanded grazing on these species and their habitats must be thoroughly considered in upcoming NEPA documents.

The Forest Service must also analyze the cumulative impacts of expanded livestock grazing on bighorn sheep. While the only allotment that borders bighorn sheep habitat is currently vacant, if it were to be restocked due to an increase in forage provided by the project, what impact would this have on those sheep? Cattle have been implicated in pneumonia-related die-offs of bighorn sheep as well as in outbreaks of Bovine Viral Diarrhea and other diseases impacting wild sheep.<sup>37</sup> Bovine respiratory syncytial virus (BRV) and bovine parainfluenza

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<sup>32</sup> Clegg, Kenneth, "Density and Feeding Habits of Elk and Deer in Relation to Livestock Disturbance." 1994. All Graduate Theses and Dissertations. 969. <https://digitalcommons.usu.edu/etd/969>

<sup>33</sup> Gniadek, Steve; 1987. Elk and cattle relationships on summer range in southwestern Montana. Master’s Thesis U of Montana.

<sup>34</sup> Poff, Boris; Koestner, Karen A.; Neary, Daniel G.; Merritt, David. 2012. Threats to western United States riparian ecosystems: A bibliography. Gen. Tech. Rep. RMRS-GTR-269. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 78 p.

<sup>35</sup> Kauffman, Boone. 2002. Lifeblood of the West—Riparian Zones, Biodiversity, and Degradation by Livestock. In *Welfare Ranching: The Subsidized Destruction of the American West* Edited by George Wuerthner and Mollie Matteson.

<sup>36</sup> Bell, D. A., Kovach, R. P., Muhlfeld, C. C., Al-Chokhachy, R., Cline, T. J., Whited, D. C., ... & Whiteley, A. R. (2021). Climate change and expanding invasive species drive widespread declines of native trout in the northern Rocky Mountains, USA. *Science advances*, 7(52), eabj5471.

<sup>37</sup> Spraker, T., Collins, J., Adrian, W., Otterman, J. (1986). Isolation and serologic evidence of a Respiratory Syncytial Virus in bighorn sheep from Colorado. *Journal of Wildlife Diseases*, 22(3), 416-418

virus 3 have been identified as co-agents in pneumonia outbreaks in bighorn sheep populations, affecting bighorn herds exposed to primary agents *Mycoplasma ovipneumoniae* and *Mannheimia haemolytica*.<sup>38</sup> *Mannheimia haemolytica* originating in cattle is believed to have been a primary respiratory disease agent in at least one bighorn sheep pneumonia outbreak.<sup>39</sup> In addition to the potential for transmission of pneumonia-causing bacteria and other pathogens to bighorn sheep, cattle may displace bighorn sheep through habitat degradation or direct competition for resources, and they may spread noxious weeds that deteriorate native plant communities on which bighorn sheep depend. Do the management areas focused on improving livestock forage fall within the currently vacant Trapper Peak allotment? These impacts must be disclosed and analyzed.

Finally, the potential expansion of livestock grazing due to increased forage availability might have impacts on grizzly bears that are returning to the Bitterroot ecosystem. These impacts must be analyzed as conflicts with livestock is a leading cause of mortality for grizzly bears.

Increased forage that is likely to result from these treatments will mean more cows in more places, which must be analyzed in upcoming NEPA documents not only because of the potential impact of this livestock expansion on big game, but also the impacts on other species of wildlife in the area. The Forest Service must consider whether the potential for livestock to use new and different areas as a result of this project will impact bull trout, westslope cutthroat trout, Canada lynx, bighorn sheep, and potential grizzly bear denning habitat.

- Most on-the-ground management activities have been shown to spread invasive plants and weeds into previously uninfected areas.<sup>40</sup>

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 (by post-project monitoring) as successful in the past.

- The scoping document states, “Meadow habitats are experiencing a reduction in size through conifer encroachment and quality, due to the lack of fire necessary to stimulate growth of forbs and grasses.” (Scoping Document, p. 4)

The scoping documentation offers no data to show that conifer encroachment is occurring in the proposed project area or that such encroachment is not a naturally occurring process.

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<sup>38</sup> Dassanayakea, R., Shanthalingam, S., Herndon, C., Subramaniam, R. Paulraj K. Lawrence, Bavananthasivam, J., Cassirer, F., Haldorson, G., Foreyt, W., Rurangirwaa, F., Knowles, D., Besser, T., Srikumaran, S. (2010). *Mycoplasma ovipneumoniae* can predispose bighorn sheep to fatal *Mannheimia haemolytica* pneumonia. *Veterinary Microbiology*, 145, 354–359.

<sup>39</sup> Wolfe, L. Diamond, B., Spraker, T., Sirochman, M., Walsh, D., Machin, C., Bade, D., Miller, M. (2010). A bighorn sheep die-off in southern Colorado involving a Pasteurellaceae strain that may have originated from syntopic cattle. *Journal of Wildlife Diseases*, 46(4), 1262-8.

<sup>40</sup> 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 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.<sup>41</sup>

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

- The short list of References attached to the scoping documentation includes, “Cook, J. G., L. L. Irwin, L. D. Bryant, R. A. Riggs, and J. W. Thomas. 1998. Relations of forest cover and condition of elk: a test of the thermal cover hypothesis in summer and winter. *Wildlife Monographs* 141:1-61.”

This study stands alone among many thermal cover studies that have been completed. Unlike most of the scientific research establishing the importance of thermal cover for elk and other big game, Cook, et al. 1998 asserts their study of captive elk shows a conflicting result.

Please explain why the FS relies on this singular study as a reason for ignoring the Forest Plan’s requirements.

- No mention of protection for bird species is included in the scoping documentation. The Migratory Bird Act (1918) prohibits the “taking” of migratory birds. Several listed species are known to nest in the area of this proposed project. Courts have determined that “taking” does not have to be intentional. Therefore, destruction of migratory bird habitat, though unintended, is illegal.

Many wildlife species will be impacted by management activities during the project’s very lengthy duration and very large area. A few of the avian species that will be impacted are the Flammulated Owl, Pileated Woodpecker, and Northern Goshawk. All are Montana Species of Concern, “native animals breeding in the state that are considered to be ‘at risk’ due to declining population trends, threats to their habitats, and/or restricted distribution” (“Montana’s Species of Interest”). The Flammulated Owl is priority Level I on the Montana Priority Bird Species List, based on the Partners in Flight prioritization process. Level I species are those that “generally exhibit declining population trends and warrant immediate conservation action” (Marks et al. 4). In addition, the owls are listed by the USFWS as BCC10, which means they “are likely to become candidates under the Endangered Species Act” unless more conservation actions are undertaken (“Flammulated”). Pileated Woodpecker and Northern Goshawks are priority Level II, species that are “not thought to be at as high a risk as those at Level I but nonetheless are in need of monitoring to assess population status” (Marks et al. 4).

Have surveys of these three species been conducted in the recent past? If so, please provide the survey results including times and dates. If not, please conduct surveys before

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<sup>41</sup> 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>

implementation planning, before implementation public comment, and before starting treatments.

The species discussed above will be impacted if the Forest logs mature, large, and/or old-growth trees. President Biden has made a commitment to safeguarding them. Here the focus is on the importance of old growth and other large trees to avian and other species.

### Flammulated Owls and Old Growth

Both the Montana Field Guide and Cornell Lab of Ornithology suggest that Flammulated Owls may suffer from any logging that occurs in old-growth stands in the Bitterroot Front Project. The Montana Field Guide says, “No specific management activities for Flammulated Owls are currently occurring in Montana, however, management for old-growth ponderosa pine habitats is ongoing by a number of land management agencies. Management for the maintenance of this habitat type will be beneficial for Flammulated Owls in Montana.” According to Cornell Lab of Ornithology, the “Flammulated Owl has a low reproductive rate and is found mostly in older forests, which can be under pressure for logging” (“Conservation”).

In response to commenters on the Mud Creek Project, the Forest suggested that an article by Linkhart and Reynolds on the territories used by Flammulated Owls does not tie breeding success to numbers of old-growth trees but to mature and over-mature stands. The article does identify a forest type it calls “old” consisting of ponderosa pine and Douglas-fir from 200 to 400 years old. Linkhart and Reynolds find that territories occupied 12 or more years (out of 16 years in the study) had “more than 75 percent old ponderosa pine/Douglas-fir.” Yes, Linkhart and Reynolds use “old” and not “old growth,” but is that a difference that really matters here? Ponderosa pine and Douglas-fir ranging from 200-400 years old will, most likely, be considered old growth. Indeed, like the commenters, The Montana Field Guide interprets Linkhart and Reynolds’ use of “old” trees to mean old-growth trees: “Territories consistently occupied by breeding pairs were those containing the largest portion (more than 75 percent) of *old-growth* [emphasis added] (200 to 400 years), whereas territories occupied by unpaired males and rarely by breeding pairs contained 27 to 68 percent *old-growth* [emphasis added] (Linkhart and Reynolds 1997 cited in “Flammulated Owl”). Further, while Linkhart and Reynolds use the term “mature,” the term “over-mature” does not appear in the article. Linkhart and Reynolds should stand as a relevant source when the Forest is considering cuts in old-growth habitat. The Forest’s amendment on old growth uses the standard promoted by Green et al. In most circumstances, Green et al.’s minimum of eight old-growth trees per acre clashes with the needs of Flammulated Owls, particularly breeding pairs.

Please provide recent survey information on Flammulated Owls throughout the project area including dates, times, and moon phases. Avoid harvesting old growth, old, mature, or very large trees.

## Pileated Woodpeckers and Old Growth

Protections for Pileated Woodpeckers ripple across the forest, as these woodpeckers excavate a new nest hole every year. Aubry, K., and C. Raley point out that Pileated Woodpeckers function as important primary nest cavity excavators and have been fittingly labeled as “ecosystem engineers” by the United States Forest Service (Aubry & Raley 2003). Each season, pileated woodpeckers create new nests, leaving vacant cavities throughout the forest that many other species of animals use. This influence, combined with their creation of large foraging cavities, constitutes their placement as a keystone species throughout their range (Hartwig et al. 2004).

Included in the species that use the old nest cavities are the Flammulated Owl, Boreal Owl, Northern Saw-whet Owl, songbirds, bats, squirrels, and other small mammals. Kathy Martin, a professor in the Faculty of Forestry at the University of British Columbia, points out how often cavities are used, over and over, by various species: “Some of the tree cavities in Canada were used 17 times in 13 years by up to five different species,” says Martin. “One tree cavity can sustain a lot of wildlife over its lifetime” (qtd. in University of British Columbia). In his Ph.D. dissertation at the University of Montana, B.R. McClelland says, “The Pileated can be considered as key to the welfare of most hole-nesting species. If suitable habitat for its perpetuation is provided, most other hole-nesting species will be accommodated” (qtd. in Marks et al. 325).

Just as protections for Pileated Woodpeckers translate into protections for other species, forest management practices that negatively impact these birds harm other species as well. Marks et al. explains that the Pileated Woodpecker is categorized as Level II Priority and a Species of Concern “because of its reliance on large tracts of mature and old-growth forest” (324). According to the Montana Field Guide, “Timber harvest has the most significant impact on habitat and populations. Removal of large-diameter live and dead trees, downed woody material, and of canopy closure eliminates nest and roost sites, foraging habitat, and cover” (“Pileated”). Kathy Martin, of the University of British Columbia also points to forest management that cuts too many old trees and therefore threatens woodpeckers and other species: “Most forest policies help protect younger trees but promote the harvest of older, larger, living trees -- the very trees needed by cavity-nesting animals” (qtd. in University of British Columbia).

In addition to relying on large, mature, and/or old-growth trees, the Montana Field Guide, in referencing important work by McClelland and McClelland (1999), says, “The Pileated Woodpecker in western larch forests of Montana is closely associated with forest values (fire, insects, and heartwood decay) often considered characteristic of ‘unhealthy’ forest conditions....Forest management that benefits Pileated Woodpeckers will need to recognize these components as important parts of a truly [sic] healthy forest ecosystem (“Pileated”). And as we’ve seen, management that benefits Pileated Woodpeckers benefits many other species.

Please avoid harvesting old growth, old, mature, or very large trees.

## Northern Goshawks and Old Growth

The dependence of Northern Goshawks on old growth does not appear to be as strong as that of Flammulated Owls and Pileated Woodpeckers. Goshawks do favor “mature and old-growth stands, and they are classified as a Species of Concern and a Level II Priority on the Montana Priority Bird Species List “because of its selective use of mature and old-growth forest in some parts of its range” (Marks et al. 166). In a literature review on habitat use by Northern Goshawks, R.T. Reynolds finds: “Despite the wide diversity of habitats occupied by goshawks, the reports reviewed showed that mature and older forests (including but not limited to, old growth) consistently comprised the habitat in goshawk areas” (2). However, Marks et al. says, “On balance, more information is needed on population trends and habitat relations, especially with regard to how forestry practices influence these issues” (166). If the Forest avoids old growth harvesting to benefit Flammulated Owls, Pileated Woodpeckers, and the ecosystem as a whole, Northern Goshawks will benefit as they will have more access to their preferred nesting habitat.

The Bald and Golden Eagle Protection Act (1940) offers similar protection for eagles. Both Bald and Golden Eagles are known to nest in the area covered by this proposed project.

Please explain how the drastic changes to the existing habitat for bird species proposed by this project do not conflict with the Migratory Bird and Bald and Golden Eagle Protection Acts.

**The Forest Service must disclose and analyze the environmental consequences to grizzly bears including connectivity and recovery.**

Grizzly bears (*Ursus arctos*) once ranged throughout most of western North America, from the high Arctic to the Sierra Madre Occidental of Mexico, and from the coast of California across most of the Great Plains. Prior to European settlement, scientists believed that approximately 50,000 grizzly bears occupied the western United States between Canada and Mexico. With European settlement of the American West and a federally funded bounty program aimed at eradication, grizzly bears were shot, trapped, and poisoned, reducing the population to just 2 percent of their historic range. Mattson, 2021.<sup>42</sup> As a result of its precipitous decline, FWS listed the grizzly bear as a threatened species in the lower 48 states under the Endangered Species Act in 1975. Today scientists estimate there are approximately 1,800 grizzly bears left in the lower 48 states, occupying five isolated populations. The Grizzly Bear was listed partially due to isolation and populations in the contiguous U.S. remain isolated (USFWS 2021). None of the Recovery Areas are large enough to independently support a viable population so that linkage of the isolated grizzly bear populations into a genetically-diverse metapopulation (as defined by Hanski and Gilpin 1991) would increase the probability of long-term survival (Allendorf and others 2019; Boyce and others 2001; Servheen and others 2001; Craighead and Vyse 1996).

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<sup>42</sup> Mattson, D. 2021. The Grizzly Bear Promised Land: Past, Present & Future of Grizzly Bears in the Bitterroot, Clearwater, Salmon & Selway Country. Livingston, MT.

The Selway-Bitterroot Wilderness borders the project area. This area was designated as part of the Bitterroot Grizzly Bear Recovery Area by the U.S. Fish & Wildlife Service as part of the Grizzly Bear Recovery Plan. This is the largest Recovery Area but has very few verified grizzly bear observations. To reach viable population numbers, the Bitterroot Ecosystem must be occupied by resident grizzly bears. That is, grizzly bear recovery in the lower 48 states is not possible without a sustainable grizzly bear population in the Bitterroot Ecosystem. Commercial logging and other vegetative management actions, along with connected activities (such as road use in the project area's nearly 50,000 acres of roadless terrain), will fragment grizzly bear habitat, reduce connectivity opportunities, degrade denning areas, and encourage human access. Thus, the Bitterroot Front Project is likely to harm grizzly bear survival and recovery in the area, which in turn harms overall grizzly bear recovery goals for the lower 48 states.

The recent history of verified and likely observations of grizzly bears within and near the Project Area requires in depth analysis. Recent verified observations have been confirmed in the eastern and northern sections of the Bitterroot National Forest and in adjacent areas including Lolo, Lolo Hot Springs, Lolo Pass and many within the Sapphire Mountains within known dispersal distances to the Bitterroot Face for female grizzly bears (Jonkel 2022; Bader and Sieracki 2022<sup>43</sup>). Likely visual observations from qualified observers including a former Forest Service District Ranger have come from St. Mary Peak and the head of Bass Creek. Moreover, these are just the verified and likely observations, which certainly underrepresent actual presence. No DNA hair traps or wildlife camera surveys have been done in this area so the information on residential occupancy is incomplete (Fortin-Noreus 2022). The Bitterroot National Forest through its capacity as a member of the IGBC Bitterroot Subcommittee has made an erroneous assumption that these bears either have all died or left the area resulting in no resident grizzly bears. This faulty assumption cannot be part of the analysis. The assumption must be that grizzly bears are present on the Bitterroot Face and adjacent areas and that more are likely in the near future.

The BNF must take a hard look and fully analyze potential impacts to grizzly bears, both resident and transient. This includes temporary displacement that could hinder or prevent natural recolonization. It also includes a hard look at impacts on grizzly bear landscape level connectivity of the project.

The Action Area, as defined by the Endangered Species Act, is the entire area to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. The Forest Service must consider the cumulative effects of past, present and reasonably foreseeable federal actions that in sum will lower the probability of female grizzly bear immigration into the Bitterroot Ecosystem. This is an important aspect of the issue before the agency required by the APA, NEPA, and the ESA.

The BNF must also fully analyze impacts on grizzly bear denning habitat based on the best available scientific information accepted and scheduled for publication in a scientific journal through a peer-review process (Bader and Sieracki 2022a), Exhibit 2. Please also see Exhibit 3,

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<sup>43</sup> Bader M, Sieracki, P. 2022a. Grizzly bear denning habitat and demographic connectivity in northern Idaho and western Montana. *Northwestern Naturalist* 103(3), 33p.

for denning habitat on the BNF. To facilitate this detailed analysis, grizzly bear proponents contracted with experts to develop proposed Grizzly Bear Management Units (BMUs) that we urge the Forest Service to utilize in evaluating the proposed action and a reasonable range of alternatives. Our proposed BMUs will enable the Forest Service to assess the existing baseline condition and changes under the proposed actions for grizzly bear habitat within the project area, including calculating baselines for roads, secure core, habitat productivity, denning habitat and other resources. See Bader and Sieracki, 2022b.<sup>44</sup> See also, Exhibit 4 (Map of Proposed Grizzly Bear BMUs, South Half).

One need look no further than the proposed timber harvest to see the need for analyzing potential impacts to grizzly bear denning habitat as the broad scale, artificial manipulation of the project area is likely to negatively impact grizzly bears in the short-term and long-term. Areas that receive the regeneration harvest treatment will appear as openings in the forest and will “not likely provide sufficient hiding cover until the vegetation regrows to a point that would conceal a bear (about 15 years).” Redd-Bull EA at 87. Grizzly bears are likely to avoid these areas in the long-term because grizzly bears select regenerating cut-blocks significantly less often than other habitats during all seasons (McLellan & Hovey 2001). And when grizzlies do use these areas, they may be more susceptible to poaching because they will not be easily concealed. The Forest Service must analyze the increased risk of poaching on new roads or on areas where timber and hiding cover will be removed. This project as proposed will degrade grizzly bear use and movement, and the Forest Service must fully analyze how this project is likely to impede and significantly delay grizzly bear recovery.

These complex issues, combined with the immense Action Area can only be properly addressed through completion of a full Environmental Impact Statement and substantive Section 7 consultation with the U.S. Fish & Wildlife Service.

In addition, the project area includes a major predicted linkage zone from the Greater Yellowstone Ecosystem (GYE) population to the Bitterroot Recovery Area and to the Northern Continental Divide Ecosystem to the North (Figure 1). The courts have found that connectivity of the GYE population to other populations is necessary for recovery of the grizzly bear under the Endangered Species Act *Crow Indian Tribe v. United States of America*, No. 18-36079 (9<sup>th</sup> Cir, 2020).

Recent studies authored by Interagency Grizzly Bear Study Team scientists indicate that major portions of the project area could function as a linkage area with the Greater Yellowstone Ecosystem- a key element of grizzly bear recovery across the Northern US Rockies. The van

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<sup>44</sup> Bader, M. and Sieracki, P. 2022b. Proposed Grizzly Bear Management Units on the Lolo, Bitterroot and Select Portions of the Beaverhead-Deerlodge National Forests, Montana, USA. Exhibit 3.



an obligation to plan the project and do the analysis necessary to support maintenance of the connectivity value mapped by government scientists and others.

**The Forest Service must disclose and analyze the environmental consequences of roads in the project area.**

The best available science shows that roads cause significant adverse impacts to National Forest resources. WildEarth Guardians issued a 2020 report (Exhibit 5) that provides a scientific literature review — including the Forest Service’s General Technical Report synthesizing the scientific information on forest roads (Gucinski 2001) — on a wide range of road-related impacts to ecosystem processes and integrity on National Forest lands. Erosion, compaction, and other alterations in forest geomorphology and hydrology associated with roads seriously impair water quality and aquatic species viability. Roads disturb and fragment wildlife habitat, altering species distribution, interfering with critical life functions such as feeding, breeding, and nesting, and resulting in loss of biodiversity. Roads facilitate increased human intrusion into sensitive areas, resulting in poaching of rare plants and animals, human-ignited wildfires, introduction of exotic species, and damage to archaeological resources. Here, the Forest Service must consider how the proposed actions may cause direct, indirect and further exacerbate cumulative impacts within the planning area as it relates to road maintenance, reconstruction and use, particularly in regards to unauthorized and closed roads.

The Forest Service explains that it conducted a “roads analysis” to evaluate the existing system and identify necessary changes. Scoping at 7. Properly called “travel analysis” under the Forest Service Handbook (FSH) 7709.55 Chapter 20. Through this process the agency “evaluated 424 .6 miles of mapped road prisms within the project area.” *Id.* We applaud the Forest Service for conducting travel analysis on its road system and including known unauthorized roads, which should be fully obliterated under this project. The FSH details the six-step process for conducting travel analysis, starting with Step 1 dedicated to setting up the analysis. Here the FSH directs forest officials to “[c]onsider factors that affect the timeframe for analysis, such as the need for expertise, **public input**, and coordination with other agencies.” FSH 7709.55 Ch. 21.11(4), emphasis added. Had the agency informed and invited the public to participate in this phase of the travel analysis process, we would have gladly provided input, particularly in regards to the issues and methods for assessing risks and benefits. For example, often the Forest Service only considers roads as a benefit for wildfire suppression, and rarely identifies access as a risk factor for human-caused wildfire ignitions. The need to address this and other road/access related impacts in a detailed environmental analysis is further evidenced by the agency’s own acknowledgement:

In some areas of the project, it has been multiple decades since the last administrative entry and many roads have current conditions that need attention. Improved surface drainage , re-establishment of a native surface, road prism reconditioning, brushing, improved surfacing at drainage crossings and installing Aquatic Organism Passage (AOP) structures are treatments that may be implemented on routes used for vegetation and fuels reduction activities. (Scoping at 8)

The Forest Service must disclose the status of road segments in subsequent environmental analysis, along with the current environmental consequences from under-maintained or abandoned roads. In addition, the agency must disclose how many “road prisms” are in fact unauthorized roads such as remnants of temporary roads, user-created roads or even untreated decommissioned roads. The Forest Service must also disclose the road management objectives for each system road within the project area. Such disclosure are necessary to provide a baseline for proper analysis, and to determine the potential environmental consequences of future road construction and road use. The agency explains that “[b]ased on opportunity areas in the project area, there is potential need to build temporary or new roads to meet the project objectives. Scoping at 11. The Forest Service must identify where such construction will occur and carefully evaluate the direct, indirect and cumulative impacts associated with road construction and use, especially the increased traffic associated with timber hauling activities. Further, we caution against relying on BMPs or design features as a rationale for not conducting the hard-look analysis NEPA requires, or for arbitrarily asserting that potential environmental impacts are not significant.

### **Consider the role of mycorrhizal fungi in maintaining ecological integrity**

Mycorrhizal networks play important roles in mitigating the impacts of climate disruption to forest ecosystems. They facilitate regeneration of migrant species that are better adapted to warmer climates and primed for resistance against insect attacks. Song et al. 2015. To achieve these benefits all of the parts and processes of highly interconnected forest ecosystems must be preserved and protected.

Mycorrhizal fungi distribute photosynthetic carbon by connecting the roots of the same or different tree species in a network allowing each to acquire and share resources. Large mature trees become the hubs of the network and younger trees the satellite nodes.

Mycorrhizal networks transmit water, carbon, macronutrients, micronutrients, biochemical signals and allelochemicals from one tree to another, usually from a sufficient tree to a tree in need. This type of source-sink transfer has been associated with improved survivorship, growth and health of the needy recipient trees in the network.

Recognition of kin is also evident between established large hub trees and their seedlings and saplings. Hub trees shuttle their kin more micro-elements and support more robust mycorrhizal networks providing them with a competitive advantage. However, hub trees also share resources with strangers, suggesting these evolutionary mechanisms exist not just for individual species but also at the community level.

Injury to a tree from defoliation by an insect herbivore or by physically removing foliage results in the transmission of defense signals through the connecting mycorrhizal mycelium to neighboring trees. These neighbors respond with increased defense-gene expression and defense-enzyme activity, resulting in increased pest resistance.

In Douglas-fir, sudden injury to a hub tree not only increases defense enzymes of healthy neighbors but elicits a rapid transfer of photosynthate carbon to a healthy neighbor. This suggests that the exchange of biochemicals between trees elicits meaningful changes in the senders' and receivers' behavior that enables the community to achieve greater stability in the face of a changing climate. *Id.*

While much of the science demonstrating the importance of mycorrhizal networks is recent, the concepts are not new. For example, the FS's own scientists (Harvey et al., 1994) invoked the relationship between chemical properties and biological properties: "Productivity of forest and rangeland soils is based on a combination of diverse physical, chemical and biological properties." Harvey et al., 1994 further expands on this stating:

Traditionally, some have viewed soil as inert and inanimate, and soil properties have often been perceived as distinctive but relatively unchanging—except for plant nutrients—and based on mineral constituents. The organic horizons have, until recently, been largely ignored. Soil microbes have also been ignored, except for a few high-profile organisms (such as soil-borne pathogens and mycorrhizal fungi). Predictions by forest growth models have keyed almost exclusively on vegetation, gross land form, and site characteristics—the aboveground characteristics of the last rotation were assumed to be the best indicator for predicting growth, ignoring soil and related soil-borne processes. If soil potential was reduced, the assumption was that fertilizing could offset any damage. This approach has fostered a significantly overoptimistic view of the health and productivity potential for second generation forests (Gast and others 1991, Powers 1991).

Contemporary studies indicate that **soil quite literally resembles a complex living entity, living and breathing through a complex mix of interacting organisms—from viruses and bacteria, fungi, nematodes, and arthropods to groundhogs and badgers. In concert, these organisms are responsible for developing the most critical properties that underlie basic soil fertility, health, and productivity** (Amaranthus and others 1989, Harvey and others 1987, Jurgensen and others 1990, Molina and Amaranthus 1991, Perry and others 1987). **Biologically driven properties resulting from such complex interactions require time lines from a few to several hundreds of years to develop, and no quick fixes are available if extensive damages occur (Harvey and others 1987).** (Emphases added.)

Harvey et al., 1994 asked this question over 25 years ago: "Can individuals (or groups) parasitize one another, that is to say, move nutrients or photosynthate around within a stand to balance temporary shortfalls? Such movement has yet to be widely demonstrated, except in simple microcosms (Read and others 1985), but it seems likely, particularly on highly variable sites that include harsh or infertile environments (ferry and others 1989)." More recent research answers that question with a resounding **yes**. (*E.g.* Simard et al., 2015; Gorzelak et al., 2015).

In regards to the profound **biological properties** of forest soil, Simard et al., 2015 conclude from their research on relationships between fungi and plants (how nutrient transfers are facilitated by fungal networks) state, "resource fluxes through ectomycorrhizal (EM) networks are sufficiently large in some cases to facilitate plant establishment and growth. Resource fluxes through EM networks may thus serve as a method for interactions and cross-scale feedbacks for development of communities, consistent with complex adaptive system theory." Simard et

al., 2013 state, “Disrupting network links by reducing diversity of mycorrhizal fungi... can reduce tree seedling survivorship or growth (Simard et al, 1997a; Teste et al., 2009), ultimately affecting recruitment of old-growth trees that provide habitat for cavity nesting birds and mammals and thus dispersed seed for future generations of trees.” Also, Gorzelak et al., 2015:

...found that the behavioural changes in ectomycorrhizal plants depend on environmental cues, the identity of the plant neighbour and the characteristics of the (mycorrhizal network). The hierarchical integration of this phenomenon with other biological networks at broader scales in forest ecosystems, and the consequences we have observed when it is interrupted, indicate that underground “tree talk” is a foundational process in the complex adaptive nature of forest ecosystems.

The relationships between soil fungi and plant nutrients should not be anything new to the FS. For example, Amaranthus, Trappe, and Molina (in Perry, et al., 1989a) recognized “mycorrhizal fungus populations may serve as indicators of the health and vigor of other associated beneficial organisms. Mycorrhizae provide a biological substrate for other microbial processes.”

The dynamics of this mycorrhizal network extends well beyond an exchange of nutrients, into the essential nature and functioning of the ecosystem itself. The news blog *Return to Now* published an interview with ecologist Suzanne Simard (Trees Talk to Each Other in a Language We Can Learn, Ecologist Claims) based upon her research. The blog states:

What she discovered was a vast tangled web of hair-like mushroom roots — an information super highway allowing trees to communicate important messages to other members of their species and related species, such that the forest behaves as “a single organism.” ... (Trees) communicate by sending mysterious chemical and hormonal signals to each other via the mycelium, to determine which trees need more carbon, nitrogen, phosphorus and carbon, and which trees have some to spare, sending the elements back and forth to each other until the entire forest is balanced. “The web is so dense there can be hundreds of kilometers of mycelium under a single foot step,” Simard says.”

The science magazine *Nautilus* featured Simard in an article, “Never Underestimate the Intelligence of Trees.” Therein she states:

I’ve come to think that root systems and the mycorrhizal networks that link those systems are designed like neural networks, and behave like neural networks, and a neural network is the seeding of intelligence in our brains. ...All networks have links and nodes. In the example of a forest, trees are nodes and fungal linkages are links. Scale-free means that there are a few large nodes and a lot of smaller ones. And that is true in forests in many different ways: You’ve got a few large trees and then a lot of little trees. A few large patches of old-growth forest, and then more of these smaller patches. This kind of scale-free phenomenon happens across many scales.

I made these discoveries about these networks below ground, how trees can be connected by these fungal networks and communicate. But if you go back to and listen to some of the early teachings of the Coast Salish and the indigenous people along the western coast of North America, they knew that already. It’s in the writings and in the oral history. The idea of the mother tree has long been there. The fungal networks, the below-ground networks

that keep the whole forest healthy and alive, that's also there. That these plants interact and communicate with each other, that's all there. They used to call the trees the tree people. The strawberries were the strawberry people. Western science shut that down for a while and now we're getting back to it. ... I think this work on trees, on how they connect and communicate, people understand it right away. It's wired into us to understand this. And I don't think it's going to be hard for us to relearn it.

Also see the phenomenon documented in the film "[Intelligent Trees](https://www.intelligent-trees.com/)",<sup>47</sup> in the TED Talk "[How trees talk to each other](https://www.ted.com/talks/suzanne_simard_how_trees_talk_to_each_other?language=en)"<sup>48</sup> and in the YouTube video "Mother Tree" embedded within the Suzanne Simard "[Trees Communicate](https://www.youtube.com/watch?v=-8SORM4dYG8&feature=youtu.be)" webpage.<sup>49</sup> See also Simard et al. 1997, 2009, 2012 & 2018.<sup>50</sup>

What Dr. Simard and the expanding body of research show is that we can no longer view forest ecosystems as competing systems vying for limited resources, but rather as cooperative entity that exhibit what can be called Forest Wisdom with the following core elements:

- Cooperation and Connection: Forests are complex adaptive systems that cooperate and care for trees and other life forms by creating favorable conditions, resisting stress and fostering long life. Sharing for the greater good gives cooperating networks evolutionary advantages over competing individuals.
- Mother Trees: Trees communicate through vast underground fungal networks of hubs and links, sharing nutrients and water, resisting insects and disease and nourishing their progeny until they reach the light. Mother Trees (a term coined by Dr. Simard), the most linked hub in this network, recognize and care for their young.
- Mindless Mastery: Tree intelligence is decentralized and underground. Thousands of root tips gather and assess data from the environment and respond in coordinated ways that benefit the entire forest. Forests achieve a "mindless mastery" through cooperation allowing them to respond in optimal ways to environmental challenges.
- Nature's Phoenix: Forests arise renewed like the mythological phoenix from patches of high-intensity fire to create snag forests as diverse as old-growth. Forests also successfully regenerate in heterogeneous and ecologically beneficial ways following large high-intensity fires.

Understanding Forest Wisdom means changing our perception of how forests function and abandoning the entire "Forest Health" framework. Our forests are not sick, they do not need any chainsaw medicine. In fact, forests are cooperative systems that are essential for helping mitigate global climate disruption and addressing the biodiversity crisis we currently face.

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<sup>47</sup> <https://www.intelligent-trees.com/>

<sup>48</sup> [https://www.ted.com/talks/suzanne\\_simard\\_how\\_trees\\_talk\\_to\\_each\\_other?language=en](https://www.ted.com/talks/suzanne_simard_how_trees_talk_to_each_other?language=en)

<sup>49</sup> <https://www.youtube.com/watch?v=-8SORM4dYG8&feature=youtu.be>

<sup>50</sup> See also, Simard, S. W. (2017). "The mother tree," in Anna-Sophie Springer & Etienne Turpin. *The Word for World is Still Forest*, ed K. Verlag (Berlin: Haus der Kulturen derWelt). Exhibit 6.

As the Forest Service works to develop projects, and analyze the Bitterroot Front Project, it must recognize and consider the role of shared mycorrhizal networks and disclose how project activities will affect their function.

### **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.” (FP at II-20)

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.<sup>51 52 53 54 55</sup>

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.

Please explain the Agency’s lack of efforts to introduce beavers into the many suitable riparian habitats in the area covered by this proposed project.

Please explain why the introduction of beavers is not included as part of this proposed project.

### **The Agency Ignores Cumulative Impacts from Multiple Projects**

- 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 no mention of the project’s cumulative impact.

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<sup>51</sup> 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>

<sup>52</sup> Goldfarb, B. (2020) How beavers became North America's best firefighter - <https://www.nationalgeographic.com/animals/article/beavers-firefighters-wildfires-california-oregon>

<sup>53</sup> Thomson environmental consultants (2020) The biodiversity benefits of beavers - <https://www.thomsonec.com/news/biodiversity-benefits-beavers/>

<sup>54</sup> 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>

<sup>55</sup> Davey, C. (2020) Flood and pollution reduction, biodiversity boost - The ecological benefits of beavers - <https://earth.org/ecological-benefits-of-beavers/>

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)

On October 7, 2021, the Federal Register published CEQ’s intent to restore regulatory provisions which were in effect for decades before being modified in 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 or ignoring that impact should be acceptable to the public.

### **The Agency Asserts the Bitterroot Front Project Will Protect the Area from Natural Disturbance**

The Agency’s assumes, without confirmation, 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 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.<sup>56</sup>

Other research by Hart, S.J. et al. (2015) revealed that widespread and severe insect infestation restrict subsequent invasions.<sup>57</sup> This conclusion conflicts with current FS claims.

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.<sup>58</sup>

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<sup>56</sup> 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>

<sup>57</sup> 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>

<sup>58</sup> 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>

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 thinning prescriptions aimed at increasing tree growth in whitebark pine should be applied with considerable caution.”<sup>59</sup>

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.<sup>60 61</sup>

Weather, not insects, is what determines wildfire behavior.<sup>62</sup>

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.”<sup>63</sup>

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.”<sup>64</sup>

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.<sup>65</sup>

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.

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<sup>59</sup> 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>

<sup>60</sup> Meigs, G. W. et al. (2016) Ibid.

<sup>61</sup> 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>

<sup>62</sup> 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>

<sup>63</sup> 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>

<sup>64</sup> Hadfield, J.S. (2000) Ibid.

<sup>65</sup> Watson, D.M. and Herring, M. (2012) Mistletoe as a keystone resource - an experimental test - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3415901/>

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

Third, wildfire. In project after project, the FS claims 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 45 years ago. That study focused on an extremely small portion of the Bitterroot Forest and findings 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.<sup>66</sup>

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 a larger percentage of the BNF “should have burned one or more times” during that period is subjective and not based upon the body of research which reached a different conclusion.

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.<sup>67 68</sup>

It is not logical to presume that thinning will reduce the possibility of catastrophic wildfire.<sup>69</sup> Nor is the assertion by the scoping documents that the thinning proposed as part of this project will produce a more desirable forest. That belief is outdated and not based upon the latest research.<sup>70 71 72</sup>

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 reduction of wildfire of any intensity is better for forest health and resilience than allowing nature to take its course.

### **Inventoried Roadless Areas (IRA)**

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<sup>66</sup> 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](https://forest.moscowfsl.wsu.edu/smp/solo/documents/RPs/Arno_RP-INT-187_1976.pdf)

<sup>67</sup> Hart, S.J. et al. (2015) *ibid.*

<sup>68</sup> 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>

<sup>69</sup> 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>

<sup>70</sup> Harris, N.L. (2016) Attribution of net carbon change by disturbance type across forest lands in conterminous US - <https://cbmjournals.biomedcentral.com/track/pdf/10.1186/s13021-016-0066-5.pdf>

<sup>71</sup> 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>

<sup>72</sup> 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](https://www.srs.fs.usda.gov/pubs/ja/2014/ja_2014_mcnulty_001.pdf)

The Roadless Rule (36 CFR Part 294), published on January 12, 2001, states:

The Department of Agriculture is adopting this final rule to establish prohibitions on road construction, road reconstruction, and timber harvesting in inventoried roadless areas on National Forest System lands. The intent of this final rule is to provide lasting protection for inventoried roadless areas within the National Forest System in the context of multiple-use management. (emphasis added)

This final rule prohibits road construction, reconstruction, and timber harvest in inventoried roadless areas because they have the greatest likelihood of altering and fragmenting landscapes, resulting in immediate, long-term loss of roadless area values and characteristics. (Federal Register, Vol. 66, No. 9, p. 3244)

At the national level, Forest Service officials have the responsibility to consider the “whole picture” regarding the management of the National Forest System, including inventoried roadless areas. Local land management planning efforts may not always recognize the national significance of inventoried roadless areas and the values they represent in an increasingly developed landscape. If management decisions for these areas were made on a case-by-case basis at a forest or regional level, inventoried roadless areas and their ecological characteristics and social values could be incrementally reduced through road construction and certain forms of timber harvest. Added together, the nation-wide results of these reductions could be a substantial loss of quality and quantity of roadless area values and characteristics over time. (Federal Register, Vol. 66, No. 9, p. 3246)

The scoping document for this proposed project states:

Of the 55,133 acres of commercial harvesting across the project area, just over 13,000 acres falls in inventoried roadless areas. Commercial harvesting in roadless areas focuses on thinning small diameter timber and vegetation to maintain or restore desirable forest species composition and stand structure while reducing risks of uncharacteristic wildfire effects. These activities would mimic what would be expected under natural disturbance regimes of the current climatic period. Please note that this proposal does not include any road construction or reconstruction in inventoried roadless area. (Scoping Document, p. 9)

Given the clearly stated “intent” of the roadless rule and the limitations it imposes on roads, timber harvesting, and other activities, it is difficult to imagine how commercial harvesting in an Inventoried Roadless Area (IRA) can occur without running afoul of the Roadless Rule.

For example, will existing roads that are overgrown with trees and shrubs be “bladed” to allow for the passage of logging traffic? If so, that could easily be determined to be “road reconstruction.”

Please explain how commercial harvesting will be restricted so that it does not disregard the Roadless Rule.

Please explain why non-commercial activities were not assigned to the IRAs within the project area.

Please explain how any treatment in IRAs will not be detrimental to roadless characteristics to such an extent that the areas will no longer qualify as IRAs.

## **Management Activities**

There is no suggestion in the scoping documentation for the possibility that performing no management activities in the current forest and allowing natural forest succession to occur is likely to produce a more natural forest.<sup>73</sup> 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 management activities will disrupt naturally occurring processes and certainly cause unwished-for and unintended consequences.<sup>74</sup> 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 produce positive results. Assuming that “this time will be different” is presumptuous, short sighted, and displays an amazingly high level of hubris.

Given the preponderance 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 covered by 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.”<sup>75</sup> Although focused on microbial biodiversity, the article points out that humans lack insight into the impact of their actions on the planet’s ecosystems. That insight is certainly 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.

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<sup>73</sup> Pearce, F. (2020) *ibid*.

<sup>74</sup> For example, the FS now claims that a century of fire suppression has resulted in unanticipated and unintended overgrown forests.

<sup>75</sup> 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>

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.<sup>76</sup> The authors 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.
- 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.

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<sup>76</sup> Beschta, R.L. et al. (1995) Wildfire and Salvage Logging - [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fsm91\\_050057.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsm91_050057.pdf)

- 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 its own experts. Forest Service management remains stuck in the distant 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.

Please explain in detail why Agency management continues to ignore the best available science, much of it produced by FS specialists, as it proposes this project which is likely to cause harm on many levels.

We note that the following references are not included in scoping. Please consider these recent reports in analysis. DiMarco et al 2019, Wilderness areas halve the extinction risk of terrestrial diversity, Law et al 2022, Creating Strategic Reserves to Protect Forest Carbon and Reduce Biodiversity Losses in the United States, and Miller et al 2022, Miller et al 2022, Can landscape fuel treatments enhance both protection and resource management objectives. If you are unable to access these or any other references cited, please contact us and we will happily supply them.

### **The Forest Service Must Provide Additional Opportunities for Public Comment**

A central tenet of NEPA is the requirement to include the public as part of the process. 42 U.S.C. § 4331(a). “Informed public participation in reviewing environmental impacts is essential to the proper functioning of NEPA.” *League of Wilderness Defenders v. Connaughton*, 752 F.3d 755, 761 (9th Cir. 2014). “[A]gencies shall to the fullest extent possible . . . [e]ncourage and facilitate public involvement in decisions which affect the quality of the human environment.” 40 C.F.R. § 1500.2.

Whether the Forest Service proceeds with an EA or an EIS for the Project, it should hold additional public comment periods, including at a minimum by taking public comment on a Draft EA or Draft EIS. This is particularly important for such a large Project, in such a sensitive area, with so many issues of public concern, and when so few specific details have been provided at the scoping stage. It is entirely possible to do this, as the Forest Service and

other federal agencies regularly take public comment on Draft NEPA documents. Skipping any further public comment will prevent the public from being meaningfully involved.

### **General Forest Plan Compliance**

According to the Forest Plan, “Elk population status will be used as an indicator of commonly hunted ungulate species and the status of their habitat.” (FP at II-17) The Bitterroot Front scoping documents do not analyze or mention elk population status which meet or are above Fish Wildlife and Parks (FWP) objectives throughout the project area. It is clear the elk population has not been used to determine the need for habitat improvement as specified in the FP. The Forest Plan also states, “(t)he habitat need of sensitive species, as listed by the Regional Forester, will be considered in all project planning.” (FP at II-21) It cannot be discerned from scoping whether sensitive species were considered. There is no analysis that shows the reopening of roads, road construction and reconstruction, and mechanical procedures used to thin and burn will follow management goals to “(p)rovide habitat to support viable populations of native and desirable non-native wildlife and fish.” (FP at II-3). Endangered bull trout are present in the area as well as sensitive cutthroat trout.

Project analysis should demonstrate to the public that the project and project activities comply with Forest Plan standards and objectives in accordance with NFMA.

The Forest Service must clearly commit to following the 1987 forest plan criteria for old growth in this project as you modify the forest structure. The definition of old growth in the FP is 15 trees greater than 20 inch dbh (6 inches in lodgepole), 75% of site potential canopy closure, multistoried or uneven age, 1.5 snags/acre greater than 6 dbh, .5 snags 20dbh/acre, 25 tons per acre of down material greater than 6dbh. The standard criteria for identifying old growth is large trees, generally 15 per acre greater than 20 inches dbh for species other than lodgepole pine and 6 inches for lodgepole pine, canopy closure at 75 percent of site potential, stand structure usually uneven-aged or multistoried; snags, generally 1.5 per acre greater than 6 inches dbh and .5 per acre greater than 20 inches; more than 25 tons per acre of down material greater than 6 inches diameter. heart rot and broken tops in large trees are common; and mosses and lichens are present.

Insufficient scoping information makes it unclear what, if any old growth trees/stands of any species will be impacted. In order to comply with the forest plan, current old growth status should be mapped using stand exams and quantitative data and overlaid with proposed action areas in high resolution and in a form that the public can access. Old growth should be mapped using both Forest Plan criteria as stated in Forest Plan standards and the proposed amended criteria, ground truthed and compared in project documentation. All methods and criteria used should be explained in detail.

The impact of removing or restructuring old growth stands of any tree species on nesting sites and home range habitat for Bald Eagle, Boreal Owl, Flammulated Owl, Great Grey Owl and Northern Goshawk must be included in the project analysis. What is the potential impact on other wildlife species associated with old growth forests such as Northern Fisher, Pine Martin, Brown Creeper, Snowshoe Hare, and Moose?

Forest Plan standard 10 under wildlife and fish states, “[b]eaver **will** be introduced to suitable riparian habitat” (emphasis added, FP at II-20). We are not aware that any beaver introduction plan has been implemented. A map of suitable riparian habitat for beavers should be created as part of any BNF project, especially one that proposes to “seek” habitat improvement opportunities. Given the number of streams in the project area listed as impaired due to sediment, and low water flows and high temperatures in late summer, the introduction of beaver should be a priority for habitat improvement. The cost of beaver introduction compared to the value gained makes it very efficient.

**Cost of the project is not disclosed.**

Please include detailed accounting of project costs in project analysis. What will be the costs of this large project and how will it be funded? How also will the costs of repairing damage to county roads from log hauling be funded?

**Conclusion**

The initial documentation for this proposed project consisted of a two-page scoping letter plus documentation dated April 20, 2022, and 10 project-area maps which included limited explanations or definitions for the abbreviations used in the legends.

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

Although the available documentation contains a short list of 9 references, it mentions no recent scientific research to justify a need for the proposed project.

Despite its extremely large size, the proposed project is intended to move forward using a conditions-based analysis under an Environmental Analysis (EA).

The possible, even likely, negative impacts to the forest, its many interconnected ecosystems, and to the human environment 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) including adequate documentation, site-specific information, and the support of recent scientific research.

Respectfully,

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6 Exhibits are included as separate attachments

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