September 14 2023

Responsible official Matt Anderson, Forest Supervisor
District Ranger Abbie Josie

Bitterroot National Forest
1801 North 1st Street
Hamilton, MT 59840

Submitted via Bitterroot National Forest Website:
https://cara.fs2c.usda.gov/Public//CommentInput?Project=64728

Comments concerning the Sleeping Child Fuel Break Categorical Exclusion (CE) (Project)

Thank you for the opportunity to comment. Please accept these comments on behalf of Friends of the Bitterroot, Wild Earth Guardians, and Alliance for the Wild Rockies. The Project is located 10 miles SE of Hamilton, Montana. It proposes a 2,130-acre fuels break to address hazardous fuel conditions adjacent to roads in the Black Bear Point, Two Bear Creek, Sleeping Child Creek, and Blacktail Point areas and the nearby communities of Grantsdale, Ward, Charlos Heights, Como, and Darby. It is not in the Wildland Urban Interface (WUI).

The area is designated #475 South Hamilton in the Region 1 Statewide Fireshed Mapping ID. How was this determined? What methods were used to assess risk in these areas miles from communities. The town of Hamilton is more than 10 miles away.

The scoping letter at 1 identifies nearby communities of Charlos Heights, Como, and Ward which are across the valley, the Bitterroot River, and upwind of the proposed fuel break. Charlos Heights, Como, Grantsdale, and Ward are made up of sparsely scattered homes. Granstdale is a grouping of sparsely scattered homes and is upwind of and miles from the project area. Darby is also included, it is somewhat larger, but also upwind and across the Bitterroot River from the project area. Please be specific as to how this project will protect communities by providing fire models demonstrating their vulnerability to fire on the opposite side of the fuels break.

The purpose and need at 2 states, “Stands within the proposed fuel break range from planted and natural ponderosa pine stands to subalpine fir, lodgepole pine, Engelmann spruce, and some ponderosa pine/Douglas-fir. Most of the natural stands are ponderosa

pine, mixed lodgepole pine, aspen, Scouler's willow, and Douglas-fir." Subalpine fir and Engelmann spruce are not adapted to frequent fire. These forests are adapted to 100 year stand-replacing fires. How will the project with frequent prescribed burning (every 10 years) affect these stands?

The project incorrectly uses a CE. There are many extraordinary circumstances discussed in these comments that disqualify this project as a CE.

Purpose and need at 3 states, "This proposed action would get ahead of those active wildfires, so that Service can take a more environmentally sound approach than is allowed during the emergency of an actual wildfire." Using a Categorical Exclusion (CE), offering no site-specific information or effects assessments, and giving the public only 14 days to comment does not make this process any more environmentally sound than when done during a wildfire situation. Disclosing a full analysis of the area, project effects, and intended actions would be more environmentally sound and would give the public the ability to make substantive comments based on site-specific information and past monitoring of similar actions. It is a shot in the dark to predict where a wildfire might occur and when. Explain the choice of this area for a fuel break at this time. As many fire scientists have made clear, the best way to protect communities is to work from the home outward and to focus on the Home Ignition Zone (HIZ) just 100 feet from homes. The project area is miles from Darby and Hamilton.

There is no information as to whether this fuel break follows natural containment features that would be used as firelines in a wildfire. This fuel break follows switchback roads. It is not linear, this would be inefficient if not dangerous to firefighters if used as firelines.

Purpose and need at 1 states, "Fuel breaks (Figure 1) are needed to slow fire spread by providing an area of less extreme fire behavior from which firefighters can respond to wildfires, thus aiding in wildfire suppression. Proactive fuels management, such as implementing these fuel breaks, increases wildland firefighters' chances of success in controlling a wildfire that poses a threat to communities, private lands, and other values at risk." Monitoring on the Bitterroot National Forest (BNF) and project documentation do not demonstrate the efficacy of fuel breaks. Nor do they establish that the proposed, "[o]verstory tree retention would be variable but largely only scattered trees would remain in the overstory" increases the effectiveness of suppression efforts. Page 149 of the 2022 Biennial Monitoring Evaluation Report (BMER2022) states, "increasing shrub components quickly take over openings created by logging or fire reducing any short-term gains in grass forage." This discussed forage, but certainly increasing shrub components after logging would reduce fuelbreak effectiveness quickly. Where a fire may occur is not easy to predict and suppression efforts, including fuel breaks are planned based on fire location and natural containment features.

There is little discussion as to how many trees will remain, but project documentation says they will be "sparse (See figure 1)." Will this be a 2130 acre large opening? An opening that large would mandate a 60 day notice to the public and permission from the Regional office. Sparse trees will create wide open spaces regardless. A recent study by Atchley et al 2021,

shows that large openings can affect wind entrainment speeding up localized and mean wind speeds resulting in "faster fire spread" (Atchley et al 2021 at 9). And "turbulent wind conditions in large openings resulted in a disproportional increase in TKE [Turbulence Kinetic Energy] and crosswinds that maintain fire line width (id at 9)". Faster and wider fires threaten communities and firefighters.

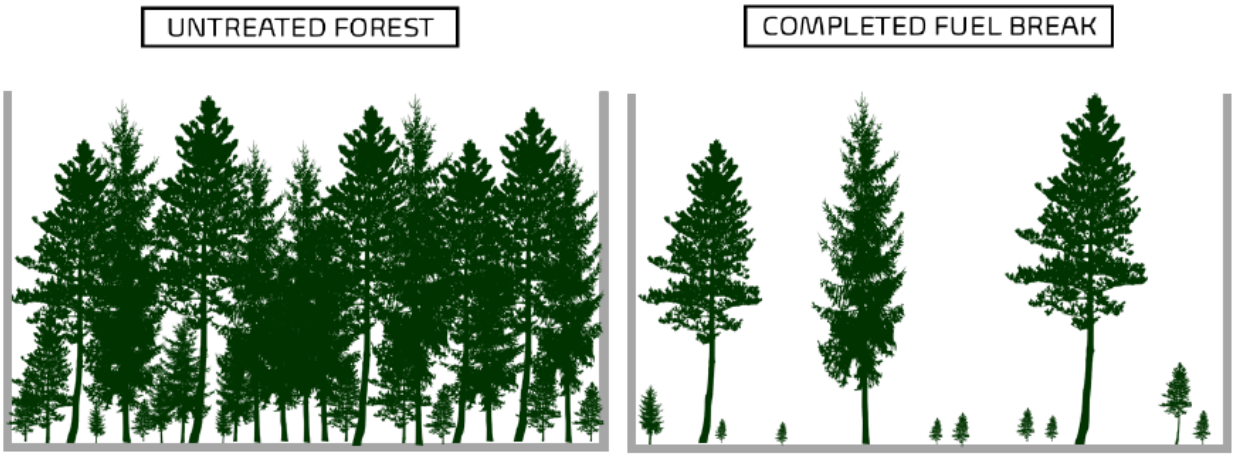

Figure 2: (Left) A depiction of a typical fuels condition prior to fuel break installation. (Right) A depiction of a completed fuel break with well-spaced large trees and a decrease in ladder fuels.

Figure 1: Graphic showing the result of a completed fuel break from Purpose and Need Statement

Monitoring on the BNF has been sparse at best in the last 5-6 years and the recent administrative changes (August 2016) to the BNF monitoring program do not provide sufficient information to assess efficacy of project design features and measures on the forest to mitigate effects to wildlife, riparian areas, and old growth to name a few.

Project documentation does not analyze effects to migratory birds and compliance with the migratory bird act.

Project documentation does not analyze effects to eagles and compliance with the Eagle protection act.

Project does not demonstrate compliance with National Heritage Trail and Management area 9 and 10 standards.

Reducing the canopy to "sparse trees" in a 2130 acre connected area will affect elk and other big game. Will this project comply with forest plan big game hiding cover standards and the eastside assessment?

The Programmatic Amendment for Elk Habitat, Old Growth, Snags and Coarse Woody Debris Objectives (Programmatic Amendment) removes old growth retention standards and eliminates protections for mature forests that the 1987 forest plan standards for old growth preserved. The Programmatic Amendment utilizes a BNF modified chart rather than the whole of Green et al to identify old growth and allows old growth to be regenerated. Old growth and mature forests are important to the public. This project must identify the current

old growth and mature forests in the project area and disclose to the public how they will be treated and what will remain after the project is completed before decision.
Project documentation does not analyze effects to Management Indicator Species MIS. In fact, no surveys for Pileated woodpeckers have been completed for many years. "Lack of personnel to run the transects limited our ability to collect this data in 2018-2020. (see biennial monitoring evaluation report for the BNF 2022 (BMER2022) page 35)." For pine marten, the last survey was completed three years ago. The BNF did not complete the promised survey for 2021 (ibid p 30).

The Programmatic Amendment will adversely affect sensitive species, Management Indicator Species (MIS), Endangered, and proposed species.

Boreal toads, flammulated owls, grey wolves, pearlshell mussels, 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 including old growth stands. Please include in the Project file all monitoring of sensitive species in the Project area. Surveys of sensitive species must be completed and shared with the public before Decision.

The project area drains into Skalkaho Creek which is Westslope Cutthroat Trout spawning areas (see figure 2). How will project activities affect sensitive Westslope Cutthroat Trout an indicator species in the Bitterroot National Forest (BNF) Forest Plan.

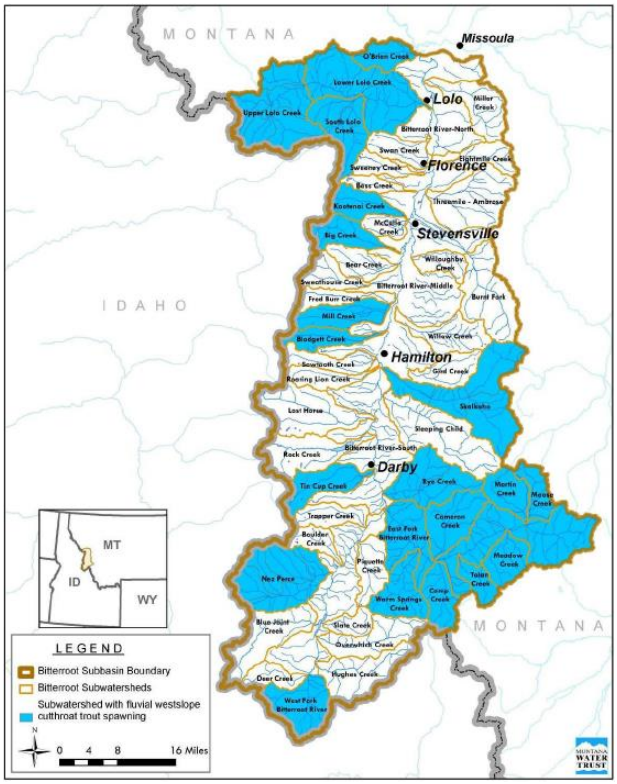

Figure 2: Westslope Cutthroat Trout Spawning areas

According to the BMER2022, bull trout are on a steady decline on the forest and 54% of fish bearing culverts are known or suspected fish barriers in the West Fork and Sula Districts and 73% in Stevensville and Darby Districts (p 47). Project documentation does not disclose effects to bull trout and bull trout recovery. How will opening up the forest adjacent to roads, reducing shade on roads, and creating access for illegal use both summer and winter effect bull trout and bull trout streams?

Sleeping Child Creek is bull trout critical habitat and most streams in the project area flow into Sleeping Child and the Bitterroot River which is also bull trout critical habitat (see figure 3). There are several bull trout occupied streams in the area (see figure 4). Project documentation does not analyze effects of project actions to bull trout and bull trout recovery. Does the project comply with INFISH?

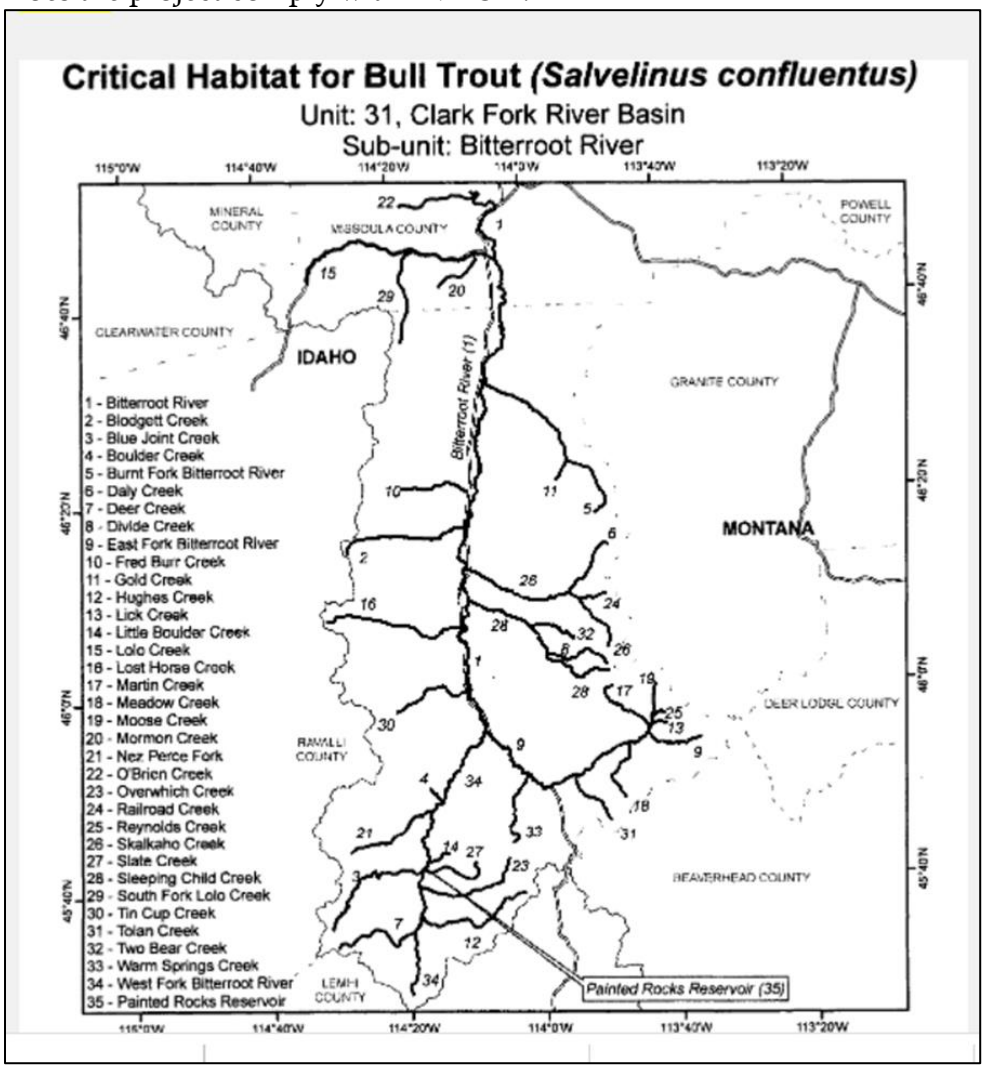

Figure 3: Critical Bull Trout Habitat on the BNF

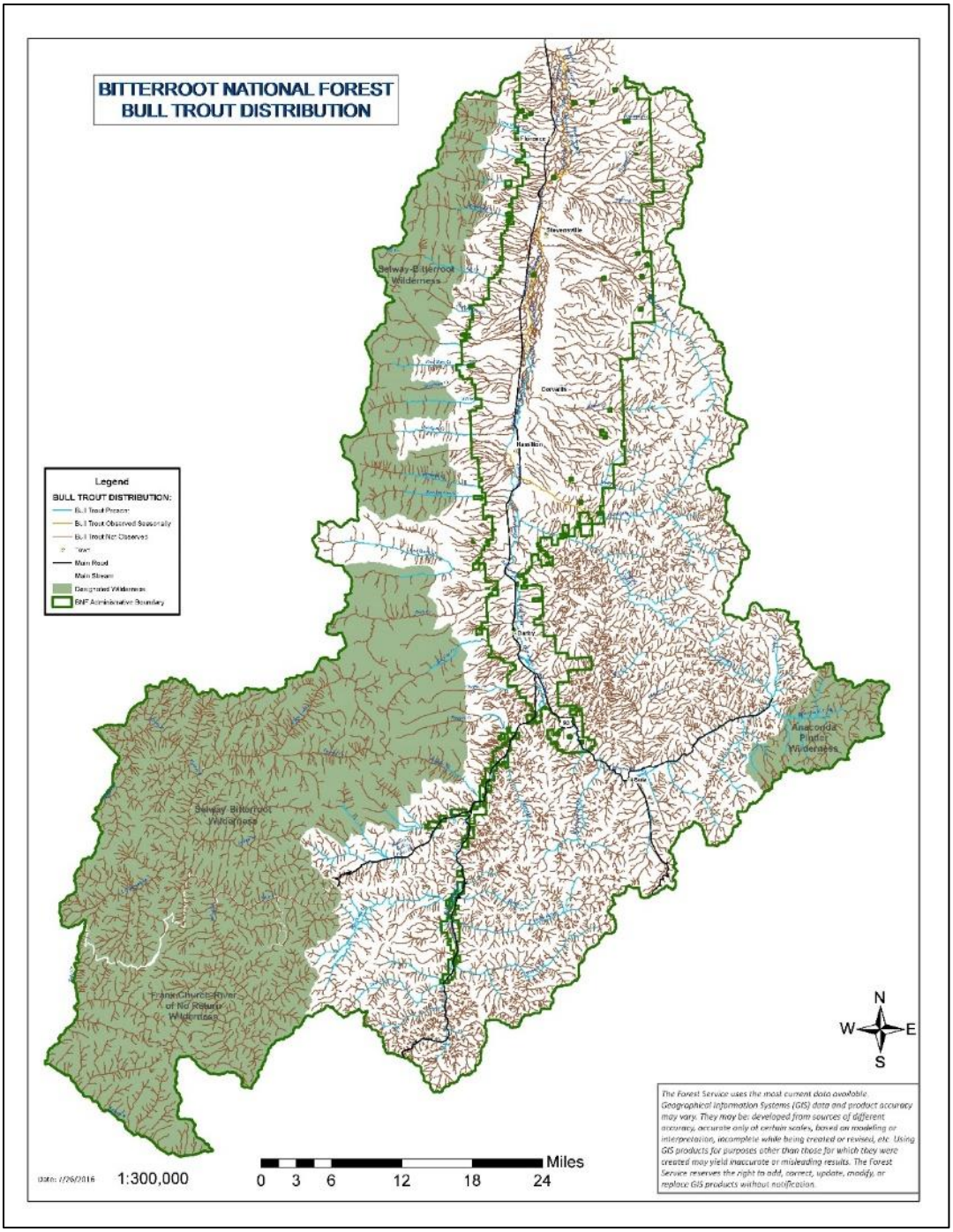

Figure 4: Bull trout occupied streams in the BNF

Sleeping Child Creek is bull trout rearing and spawning habitat (See figure 5). How will this be affected by project activities?

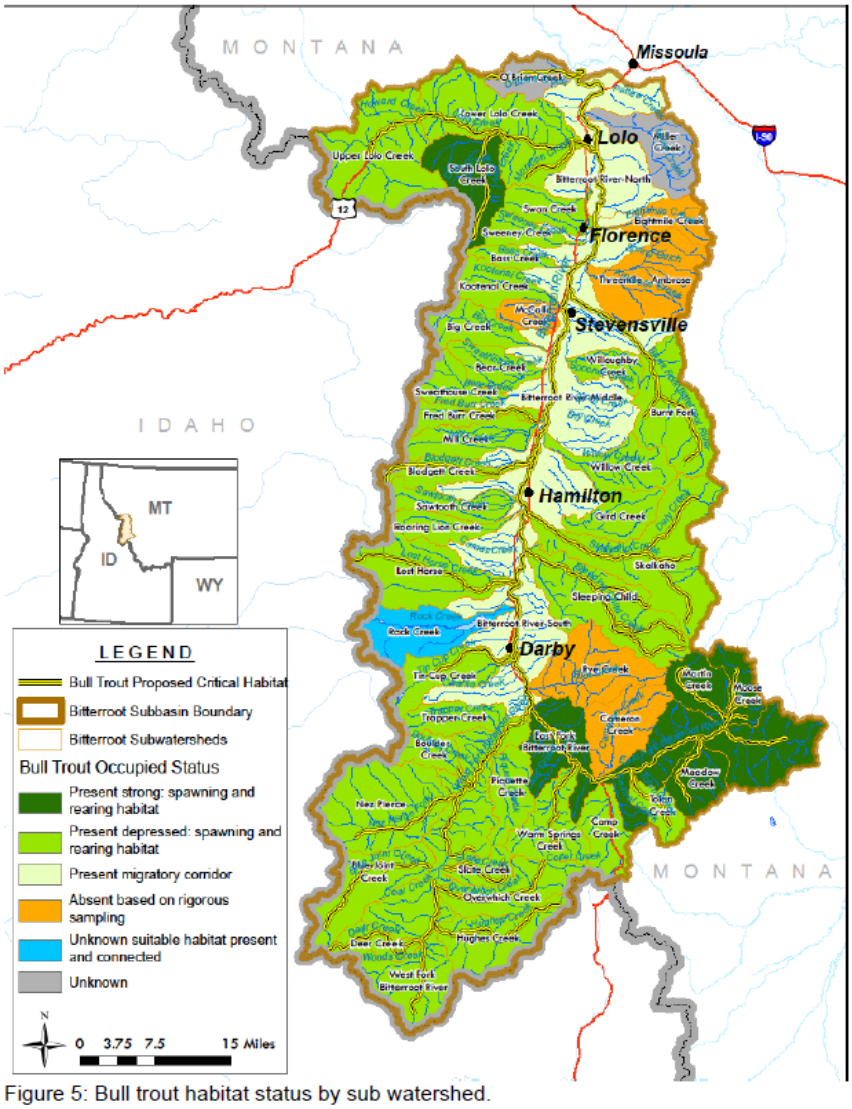

Figure 5: Bull trout habitat status by sub watershed.

Figure 5: Bull trout habitat status by watershed

The Clarkfork Coalition's 2017 Strategy to Restore the Bitterroot (see exhibit 1) designated Sleeping Child Creek and Skalkaho Creek priorities for restoration (see figure 6). How will project activities impede restoration work in these valuable watersheds and habitat for bull trout and westslope cutthroat trout?

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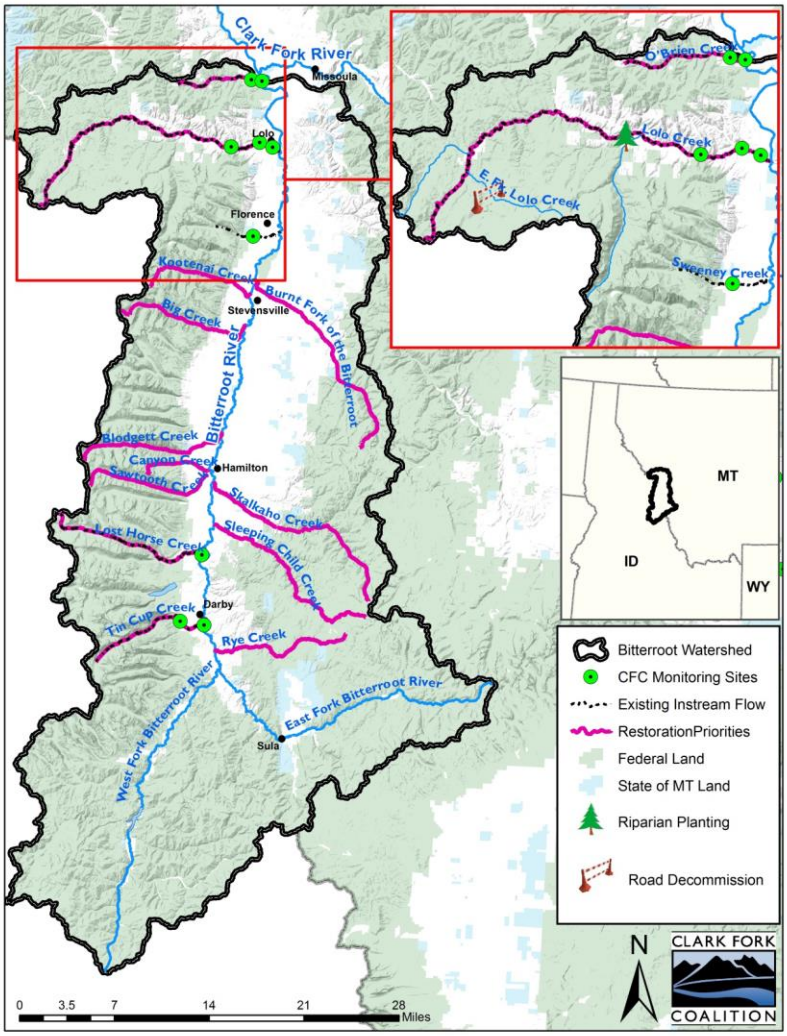


Figure 6: Restoration Priorities in Bitterroot Restoration Plan

Fenns, wetlands and seeps are present in the project area. How will wetlands and aquatic hydrology be protected? Is this in compliance with Forest Plan Standards and objectives? How will ground disturbance affect these wetlands, hydrology, and the watersheds? 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.

Roads, even temporary, are harmful to bull trout and other species. 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.

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 emphasis added).

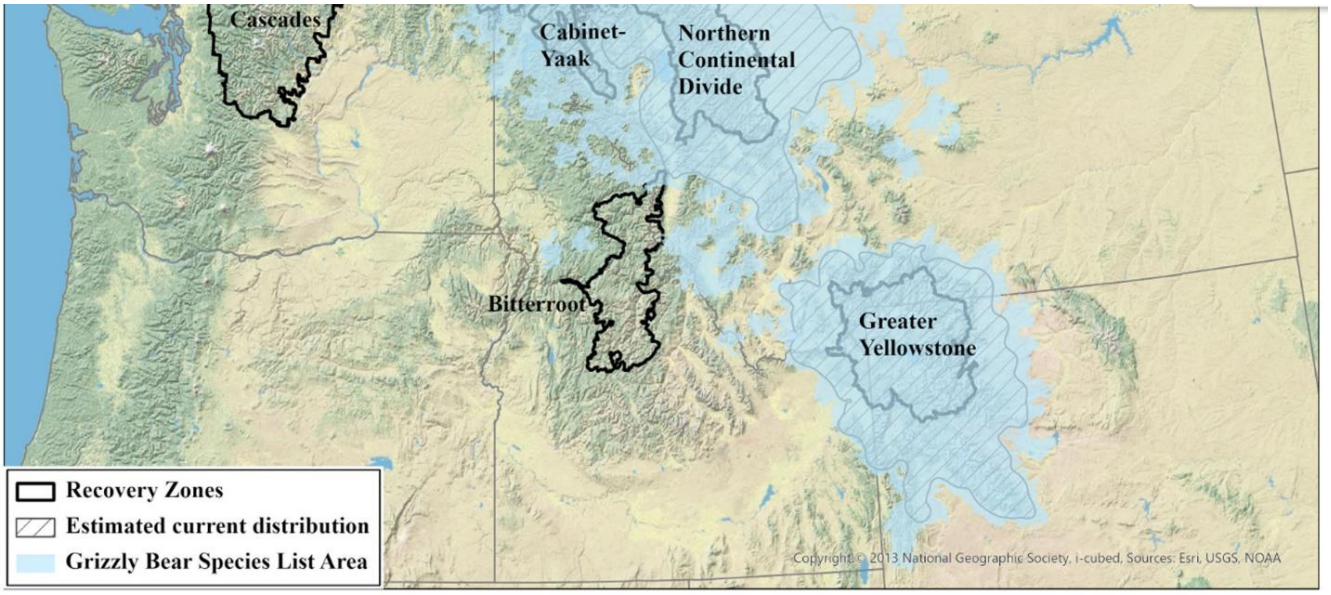
Agencies are required to "use the best scientific and commercial data available" in assessing impacts to protected species during the consultation process. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(d). When a listed or proposed species may be present in the action area, the agency must prepare a biological 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 (5th 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.

A biological assessment for bull trout is not available in project documentation. It should be made available to the public as soon as it is available and the final Biological Opinion (BO) from the USFWS should be made available to the public before the Decision is signed.

BMER 2022 does not include monitoring of riparian habitat. The report merely discusses mitigation measures taken and promised but not yet taken. It does not include monitoring of the results of mitigation measures to show efficacy. It does admit to a gross infraction of the

SMZ rules in Roan Gulch in the Darby Lumber Lands II project. This was brought up by Friends of the Bitterroot before the decision was signed. It was ignored and the result was deleterious to the watershed. Scoping does not discuss an implementation plan or public input after site analysis is completed. This will exclude the public from the process and lose the wealth of knowledge from people who have lived here for years and know the territory. The revolving door of specialists and BNF employees makes it irresponsible and inexcusable to leave the public that is familiar with the area out of the process

The project area is in and near grizzly bear may be present areas (see figures 7). How will project activities affect grizzly bears and grizzly bear recovery. The project area is within the highly probable routes to the Bitterroot Recovery Zone to achieve connectivity between currently occupied recovery zones according to Sells et al 2023 (see figure 8). It is well documented that grizzly bears avoid roads and open areas. How will these open areas on either side of roads affect these routes to the Bitterroot Ecosystem? The stars in figure 8 denote recent verified grizzly sightings. Some are quite close to the project area or in a trajectory towards the project area.



Species List Areas (or "may be present" map) help federal agencies determine where effects to listed species should be considered for consultation from actions they carry out, fund, or permit to meet requirements under Section7(a) of the Endangered Species Act (ESA). As grizzly bears expand their range, the SLA is intended to be spatially inclusive of all areas that meet the "may be present" methodology for grizzly bears. The "may be present" methodology is derived from current distributions and verified location data outside of current distributions; not all areas that are designated as "may be present" meet the criteria to be included in current distributions. Local evaluation is needed by federal Level 1 ESA Streamlining Teams to determine potential effects of agency actions where grizzly bears "may be present." Identifying locations where grizzly bears "may be present" will facilitate project planning activities that promote grizzly bear conservation and recovery. The grizzly bear SLA is updated with any new verified sightings every 90 days. Although we receive sighting infomation throughout the year, there can be a lag between receipt of the information, verification of grizzly bear, and updating the map. To provide the most up-to-date information for Section 7 consultation pending those updates, we will notify the relevant federal agency personnel when any new HUCs are added. We will continue to supply an updated verified map to all partners through PAC.Last updated July 26, 2022 with data from 2012 to July 26, 2022

Figure 7: US Fish & Wildlife Service Grizzly Bear Distribution and May Be Present map.

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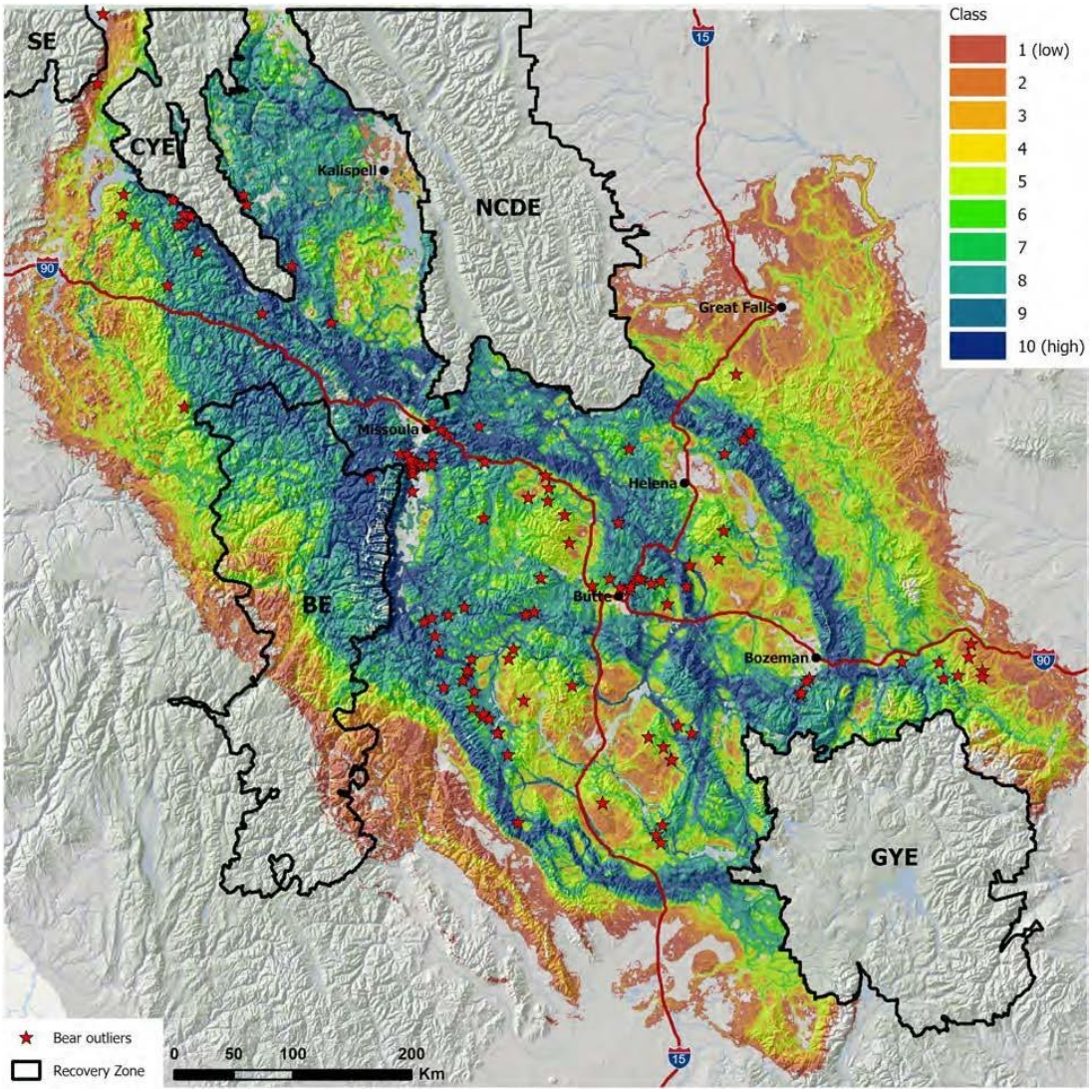

Figure 8 - "Predicted connectivity pathways between grizzly bear ecosystems in Western Montana." Sells et al., 2023. "Prediction of female grizzly bear connectivity pathways in western Montana, summarized from 5 sets of directed (randomized shortest path) movement simulations using start and end nodes associated with routes of NCDE-CYE, NCDE-BE, NCDE-GYE, CYE-BE, and GYE-BE (Fig. 1). Class 1 = lowest relative predicted use, whereas class 10 = highest relative predicted use. Simulations were based on 46 individual iSSFs for NCDE females. These simulations employed the lowest θ value of 0.0001, which resulted in the highest correlation with independent grizzly bear outlier observations (Table 1). Results from other θ values shown in the Appendix." Id.

A recent court case has made natural recovery in the Bitterroot a focus of the USFWS (see AWR vs Cooley). The case established the existence of grizzlies in the Bitterroot Ecosystem (BE) and mandated the USFWS to analyze and supplement the outdated plan for grizzly recovery in the Bitterroot. In Document 47 filed with the court in 2023, the USFWS promised to prepare a "supplemental EIS and if warranted, a new ROD and final rule" and to "file a notice proposing a detailed timeline for the completion of that process (p 2)." The

timeline promises a final decision by 2026. The EIS will pay close attention to Sells et al 2023, the grizzly may be present map, recent verified sightings, and ways for grizzlies to naturally recover in the BE.

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 area covered by the Project encompasses an area that has been shown to contain suitable grizzly bear denning habitat (See Exhibit 2) and provides an area of demographic connectivity, something necessary for the continued genetic health of the grizzly bear population.[1] The BNF must fully analyze the impacts on grizzly bear connectivity and denning habitat as described by the best available science in Bader and Sieracki 2022a.

Sieracki and Bader also created Bear Management Units (BMU) for the BNF (See figure 9). These proposed BMUs will enable the Forest Service to assess the existing baseline condition and changes under the proposed action for grizzly bear habitat within the project area and its surroundings, including calculating baselines for roads, secure core, habitat productivity, denning habitat and other resources. See Bader and Sieracki, 2022b.

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[1] Bader,M. and Sieracki, P. (2022) Grizzly Bear Denning Habitat and Demographic Connectivity in Northern Idaho And Western Montana. Northwestern Naturalist103(3)

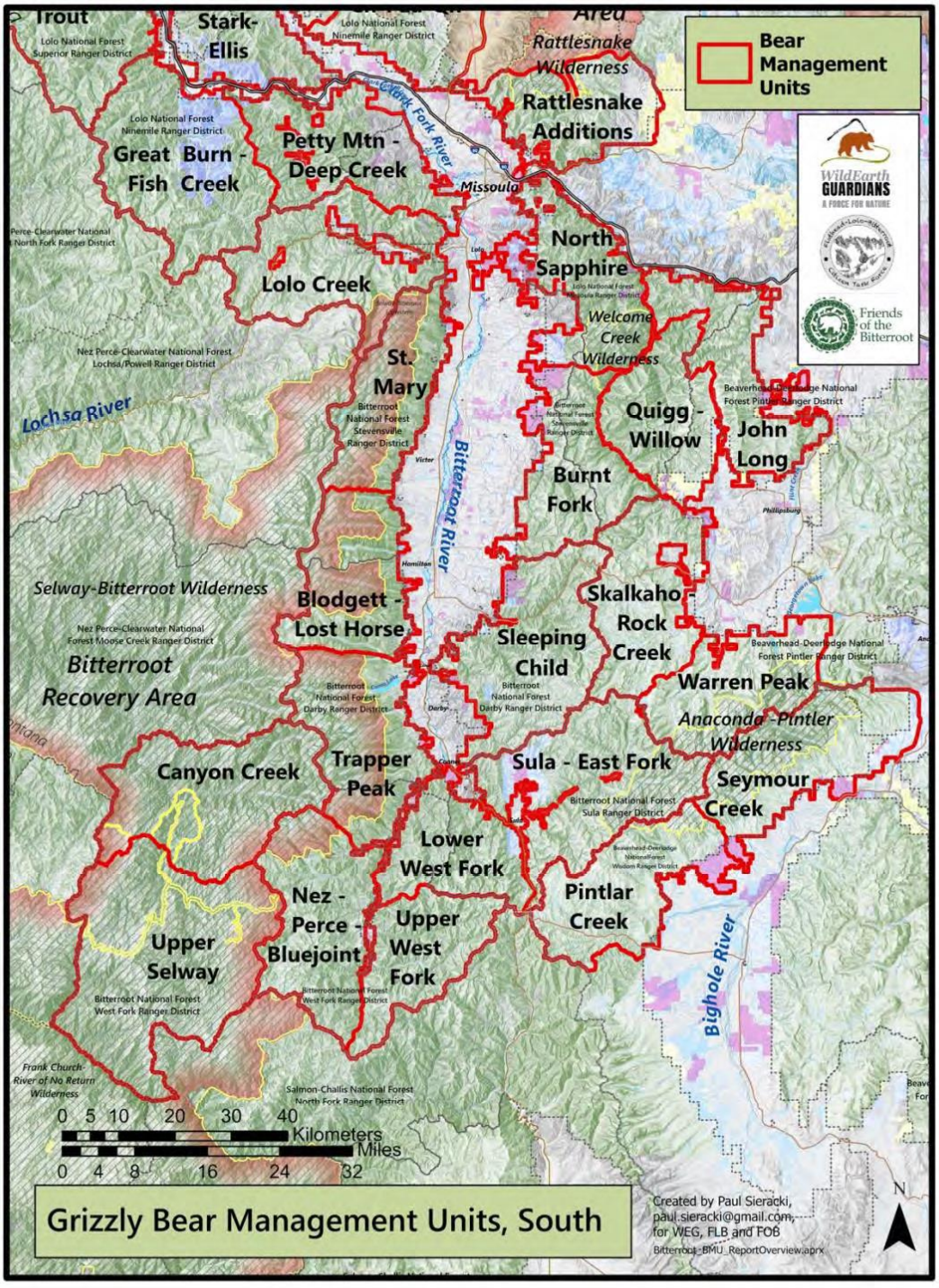

Figure 9: Proposed Grizzly Bear Management Units

The BNF must prepare a Biological Assessment (BA) of project effects on grizzly bears and their recovery. A finding of likely to affect mandates consultation with the USFWS. The BA is unavailable. It should be made available to the public as soon as it is available and the

final Biological Opinion (BO) from the USFWS should be made available to the public before the Decision is signed.)

Wolverine are present in the project area along with maternal, primary, and dispersal habitat (see figure 10).

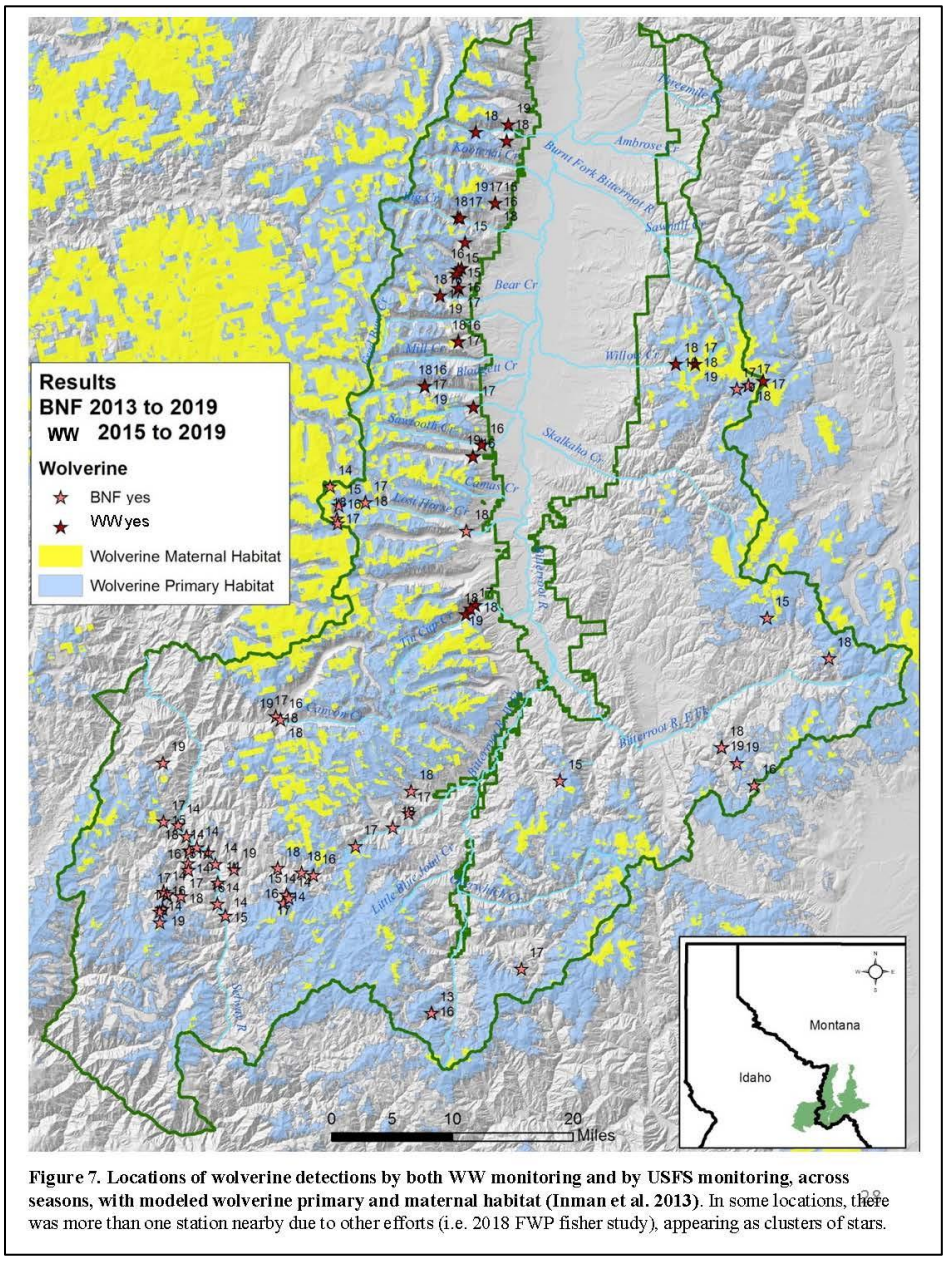

Figure 7. Locations of wolverine detections by both WW monitoring and by USFS monitoring, across seasons, with modeled wolverine primary and maternal habitat (Inman et al. 2013). In some locations, there was more than one station nearby due to other efforts (i.e. 2018 FWP fisher study), appearing as clusters of stars.

Figure 10: Wolverine detections and primary and maternal habitat

Wolverine are a species proposed for listing in the Endangered Species Act (ESA). Past monitoring is inadequate and effects of project activities have not been disclosed or analyzed in project documentation.

Scoping does not analyze the effects of widely spaced trees near roads and opening overgrown linear features on wolverine. Scrafford et al 2017 found "roads, regardless of traffic volume, reduce the quality of wolverine habitats (p 534)." The study discovered that roads scarcely used by vehicles were deleterious to wolverine habitat suitability. Barrueto 2022 found "detection [of wolverine] probability also decreased with human recreational activity (p 1)." Project activities will expand human access both motorized and non-motorized. Heinemeyer 2019 found "significant avoidance of areas used by backcountry winter recreationists and that this results in habitat degradation, particularly for female wolverines. Given the low density and fragmented nature of wolverines in the contiguous United States, impacts to the relatively few reproductive females should be of concern (p. 19)."

Illegal use has not been disclosed or analyzed. According to Scarpato 2013, even though most off road vehicle "users know and understand that staying on-trail is an important limit on their activity, a majority of users prefer breaking new trail, most do so from time to time, and as many as one-fifth do so on a regular basis (p 143)." How many enforcement officers are available, how many off-road citations have been written, and how many off-road violations have been reported in the last 10 years in the project area? Illegal motorized use is common in the BNF. One example is oversnow use in elk winter range near the non-motorized Coulee trail (see figure 11).

Figure 11: Illegal oversnow vehicle track along non-motorized trail and then veering off to a ridge. Photo 12/2022

Linear features have deleterious effects on wolverine. Fisher et al 2022 found, "Wolverines are vulnerable to multiple, widespread, increasing forms of human activity." And "In the Ontario boreal forest, Ray et al. (2018) suggested both road density and climate warming

(thawing degree days had a negative effect on the probability of wolverine occupancy (p. 9)."

Another effect of more access and more people in wolverine habitat was discovered by Chow-Fraser 2022. "Wolverines failed to successfully occupy areas with linear features as these entrain unsustainable competition via the coyotes that exploit them. Thus, landscape management aimed at minimizing linear feature density, decommissioning roads and trails, and restoring linear features (Tattersall et al 2020b) are likely needed to conserve wolverine (p. 7)." The study found that even snowshoe paths, backcountry ski tracks and snowmobile trails packed the snow enough to allow coyotes into areas where they would not normally venture due to deep snow. These are places where wolverine had the advantage but must now compete for prey with coyotes. Figure 12 shows the rate of species concurrence with linear feature densities.

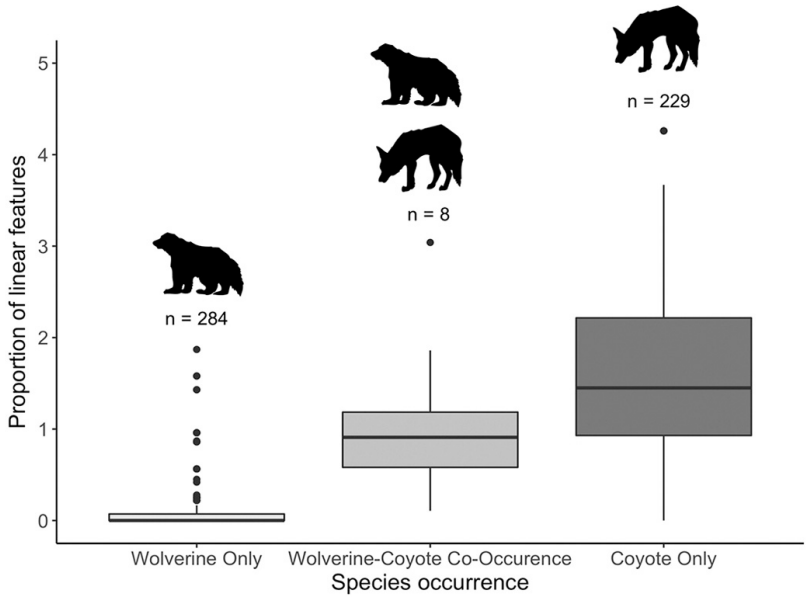

Figure 12: Chow-Fraser 2022 species occurrence vs proportion of linear features.

New technology is another factor not analyzed in scoping. Motorized recreation continues to evolve into highly powerful and maneuverable vehicles that access high elevation areas with deep snow, and wolverine maternal habitat. Snow motorcycles can weave through tight trees creating easy motorized access to remote areas and project activities will space trees and allow for snowmobile access as well. Project activities would space trees for easy travel into higher areas of untreated forests occupied by female wolverine. This video gives an idea of the capabilities https://www.youtube.com/watch?v=R_byTMZY0xw&t=89s . Motorized snow bikes are a new threat to wolverine persistence and should be analyzed. Heinemeyer 2019 found, "winter recreation should be considered when assessing wolverine habitat suitability, cumulative effects, and conservation (p 19)."

Increased trapping seasons in Montana will affect wolverine in the project area but are not mentioned in scoping. Though trapping of wolverine is not legal in the state, non-target

captures are common. Incidental capture in Montana included 5 wolverines over a 6-year period from 2012 -2017 (Incidental Captures of Wildlife and Domestic Dogs in Montana 2012-2017, June 2018). That count was before the trapping season was extended in 2021 and trapping regulations were made more liberal on private lands, one can assume that more wolverines will be inadvertently caught in the project area with increased access and checkerboard private lands. Montana does not have a 24-hour mandatory trap check, so it is highly probable that incidental captures will result in mortality.

Recent court proceedings showed that climate change and lack of regulatory mechanisms to curtail it is one of the greatest threats to wolverine. This proposal calls for cutting of mature and old growth forests. A recent letter to congress by hundreds of scientists stated, Logging in U.S. forests emits 617 million tons of CO2 annually (Harris et al. 2016). Further, logging involves transportation of trucks and machinery across long distances between the forest and the mill. For every ton of carbon emitted from logging, an additional 17.2% (106 million tons of CO2) is emitted from fossil fuel consumption to support transportation, extraction, and processing of wood (Ingerson 2007). In fact, annual CO2 emissions from logging in U.S. forests are comparable to yearly U.S. emissions from the residential and commercial sectors combined (https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks) (Moomaw 2020 p 1)." Scoping does not analyze these effects on wolverine and other sensitive species.

According to Ruggiero et al 2007, Wolverine persistence is "vitally dependent on regular, or at least intermittent, dispersal of individuals between habitat islands to facilitate gene flow between sub-populations. Carroll et al 2021 emphasizes the need for private land conservation to enhance wolverine dispersal, "for many species, such as wolverines (*Gulo gulo*), species persistence and continued recovery to historical range hinge on successful dispersers or migrants crossing low-elevation private lands (Cegelski et al., 2006) (p 1)." Carroll removes public lands from analysis assuming that they are better protected, but increased land management activities will fragment and affect wolverine in the project area.

With decreasing snowpack, McKelvey et al 2011 finds "By the late 21st century, dispersal modeling indicates that habitat isolation at or above levels associated with genetic isolation of wolverine populations (p.2882)." It is clear. Dispersal areas on public lands are vitally important to the persistence of the species.

Carroll 2021 found, "In the Rocky Mountain West (RMW), protected conservation areas and long-term wildlife conservation have historically focused on high-elevation systems with little economic or agricultural value (Scott et al., 2001; Joppa and Pfaff, 2009). This focus has resulted in conservation areas being unbalanced, with well-represented high-elevation ecosystems but less well-represented low-elevation ecosystems (Scott et al., 2001; Dietz and Czech, 2005; Aycrigg et al., 2013). Lower to mid-elevation public lands like those in the project area are as vital to wolverine as lower elevation private lands. Saura et al 2013 found "the loss of intermediate and sufficiently large stepping-stone habitat patches can cause a sharp decline in the distance that can be traversed by species (critical spatial thresholds) that cannot be effectively compensated by other factors previously regarded as crucial for long-distance dispersal (p 1)." And Fisher et al 2022 discussed the need for "increased flexibility

in wolverine selection during dispersal movements" because "it is important for metapopulation connectivity in this highly fragmented system. Unfortunately, there is some threshold at which wolverine dispersal movements are constrained that requires further investigation (p 11)." Without further investigation and evidence, it is irresponsible to assume that project activities do not create constraints on wolverine movement in dispersal areas. As Carroll emphasized, "Successful dispersal is critical for the species to continue occupying the available habitats and maintaining genetic diversity in the conterminous US (Kyle and Strobolseck, 2001; Cegelski et al., 2006) (p 2)."

Project activities create open spaces around linear features. Fisher 2022 found, "wolverine occurrence declined with density of anthropogenic landscape features, including roads, seismic lines, harvest cutblocks, and other industrial footprint (Heim et al., 2017) – with linear features the most pervasive feature driving wolverine occurrence (pp 10-11)." Project activities are not benign to wolverine survival because they enhance and open up areas around linear features.

Scoping does not disclose effects to lynx and lynx habitat. It does not consider the effects of leaving only sparse trees and removing the understory on snowshoe hare habitat and lynx. Project documentation does not include a map of snowshoe hare habitat in the project area. Lynx occupy areas surrounding the BNF and as Saura 2013 makes clear:

> The loss of intermediate and sufficiently large stepping-stone habitat patches can cause a sharp decline in the distance that can be traversed by species (critical spatial thresholds) that cannot be effectively compensated by other factors previously regarded as crucial for long-distance dispersal." And Fisher et al 2022 discussed the need for "increased flexibility in wolverine selection during dispersal movements" because "it is important for metapopulation connectivity in this highly fragmented system. Unfortunately, there is some threshold at which wolverine dispersal movements are constrained that requires further investigation." Without further investigation and evidence, it is irresponsible to assume that land management activities do not create constraints on wolverine movement in dispersal areas. As Carroll emphasized, "Successful dispersal is critical for the species to continue occupying the available habitats and maintaining genetic diversity in the conterminous US (Kyle and Strobeck, 2001; Cegelski et al., 2006) (p 171).

Will project activities comply with the Rocky Mountain Lynx Amendment?

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 near the project area. Scoping does not consider the direct, indirect, and cumulative effects to fisher which are present in the project area. 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).

White bark pine is a listed species and is present in the project area. Purpose and need at 2 states, "Whitebark pine is scattered within some of the units of the proposed fuel break." Why are these units not shared with the public? Whitebark pine is highly sensitive to fire due to thin bark. Scoping does not disclose where prescribed burning will kill whitebark pine trees including cone producing trees. The ESA will not exempt the destruction of seedlings nor of non-healthy and non-reproducing populations. The ESA requires that you fully analyze the effects of your activities on whitebark pines. Have you completed inventories and field surveys? Surveying for whitebark pine is required before Decision to adequately asses effects to whitebark pine.

Robert Keane, noted expert on whitebark pine stated (2021) that pro-active silvicultural work is unnecessary, and "to let wildfire do the work". He also added that mycorrhizal fungi are important to seedling survival. Mycorrhizal fungi are often negatively impacted by silvicultural activities and prescribed burning. Six et al. (2021) suggested "Where silvicultural practices are applied, they should be implemented with caution……Anthropogenic change is creating or enhancing a number of stressors on forests. To aid forests in adapting to these stressors, we need to move beyond traditional spacing and age class prescriptions and take into account the genetic variability within and among populations and the impact our actions may have on adaptive potential and forest trajectories." Pfister et al. (1977) noted that whitebark pine habitat types are very low in productivity, and recommended that they be left alone. Project activities could be deleterious to whitebark pine. To meet NEPA and ESA requirements, thorough site-specific analysis is required and this information should be made available to the public before the decision.

The Federal Register Whitebark Summary (2020) stated: *"the rate of decline appeared to be most sensitive to the rate of white pine blister rust spread, the presence of genetically resistant individuals (whether natural or due to conservation efforts), and the level of regeneration."*
While Project activities may not increase blister rust spread, they could affect whitebark genetics and the level of regeneration. It will not be known until a thorough analysis of the project is done, following NEPA and ESA guidelines.

The project will violate visual quality standards. The recent monitoring report admits that since no landscape architect has been employed by the forest recently, there has been no analysis of visual quality on recent projects. "The Bitterroot Forest does not have a landscape architect; this position is vacant at this time and therefore this monitoring item was not completed (BMER2022 p 162)."

Does the project area overlap with IRA's, WSA's or other sensitive areas? There is no information in scoping as to what management areas are affected by this project. IRA's are meant to be managed for future incorporation into the Wilderness system. Creating a tree plantation of sparse trees in an IRA would certainly violate this mandate.

Much of the project will be implemented on steep terrain. How will you eliminate the possibility of mass wasting and road failure like the Willow Creek Debris flow (see figure 13). Project documentation must show that leaving sparse trees, widely spaced will not reduce the stability of steep slopes. Will the subsequent blowdown contribute to a possible road failure like happened in Willow Creek in 2017 (see figure 13)?

Figure 13: Debris flow Willow Creek 2017

Scoping documents do not share any site specific information. It appears that this project will utilize condition based analysis. However, there is no discussion of an implementation period or opportunity for further public input once site specific analysis is complete. How does this involve the public as mandated in NEPA?

This project uses the CE for a linear fuel breaks to assist in suppressing fires, "Fuel breaks (Figure 1) are needed to slow fire spread by providing an area of less extreme fire behavior from which firefighters can respond to wildfires, thus aiding in wildfire suppression (purpose

and need at 1). Please provide proof that this has happened. Project documentation does not establish the efficacy of fuel breaks, how long they are affective, or what the odds are of a fire starting in an area where they can be utilized proficiently. The monitoring report only supplies anecdotal observations (BMER 2022 p 164) and does not compare these to non-treated areas. Studies have shown that very few treatments (less than 10%) actually experience a wildfire. Project documentation does not provide solid information that supports the efficacy of project actions.

The map of proposed action area runs right through riparian areas. How will they be handled?

Purpose and Need at 3 states, "Both commercial and non-commercial treatments may be part of any acre proposed to reduce surface fuels, ladder fuels, and/or tree densities up to 1,000 feet in width along an existing linear feature or features." Is it possible that forest service employees have not even bothered to drive the roads and look for commercial treatment areas before proposing this project? This is not a more environmentally sound way to approach these fuel breaks. How does this differ from just doing it on the fly during a fire except that, during a fire, the fuel break can be placed strategically?

Project documentation does not analyze carbon emissions that will be caused by the project. The Forest Service must provide detailed analysis for a project of this scope and scale which uses readily available methods and models that represent high quality information and accurate greenhouse gas accounting[2] when undertaking environmental reviews of logging projects on federal lands. Research, including studies done by the U.S. government,[3] indicates that logging on federal forests is a substantial source of carbon dioxide emissions to the atmosphere.[4] Notably, logging emissions—unlike emissions from natural disturbances—are directly controllable. Models and methods exist that allow agencies to accurately report and quantify logging emissions for avoidance purposes at national, regional, and project-specific scales. As such, the Forest Service has the ability and responsibility to disclose estimates of such greenhouse gas emissions using published accounting methods with the express purpose of avoiding or reducing the greenhouse gas associated with logging, and acknowledge the substantial carbon debt created by logging mature and old-growth trees and forests on federal lands.[5]

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[2] Hudiburg, T.W. et al (2011) Regional carbon dioxide implications of forest bioenergy production. Nature Climate Change 1:419-423 https://www.nature.com/articles/nclimate1264 Hudiburg, T.W. et al (2019) Meeting GHG reduction targets requires accounting for all forest sector emissions. Environmental Research Letters 14 (2019) 095005 https://doi.org/10.1088/1748-9326/ab28bb

[3] Merrill, M.D. et al (2018) Federal lands greenhouse emissions and sequestration in the United States—Estimates for 2005–14, Scientific Investigations Report. https://doi.org/10.5066/F7KH0MK4

[4] Harris, N.L. et al (2016) Attribution of net carbon change by disturbance type across forest lands of the conterminous United States. Carbon Balance Manage:11-24 https://doi.org/10.1186/s13021-016-0066-5

[5] Hudiburg, Tara W., Beverly E. Law, William R. Moomaw, Mark E. Harmon and Jeffrey E. Stenzel. "Meeting GHG reduction targets requires accounting for all forest sector emissions." Environmental Research Letters (2019): n.pag. https://doi.org/10.1088/1748-9326/ab28bb Harmon et al. "Forest Carbon Emission Sources Are Not Equal: Putting Fire, Harvest, and Fossil Fuel Emissions in Context." Frontiers For. Glob. Change (2022) https://www.frontiersin.org/articles/10.3389/ffgc.2022.867112/full

Project must disclose its contribution to global warming from removing large trees, emissions from cutting and transporting logs, and emissions from prescribed burning. The BNF must use the best available science and recommendations from the Environmental Protection Agency (EPA) to assess carbon emissions (see exhibit 3 EPA comments on SPLAT) for this project.

How will dust and smoke generated from this project and project maintenance brushing and burning affect the health of local communities? This is not disclosed.

In conclusion, this project is not within the scope of the CE and does not provide adequate information to allow for meaningful comment from the public. Very little information is provided and no biological assessments for effects to wildlife are included. Please rethink this project and do it in an environmentally sound way by reducing the size of the project and taking the time necessary to analyze the area and provide stand analysis and effects analysis to the public before public comment and before the decision.

We hope you will consider these comments and rethink, or better yet, cancel this project.

Sincerely,

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3 Exhibits are attached.
PDFs of references will be hand delivered to the Supervisor's office.

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