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Forest Service

District Ranger

Beartooth Ranger District

6811 Highway 212

Red Lodge, Montana 59068

RE: Comments on the proposed Burnt Mountain Project

Hello,

Native Ecosystems Council, the Alliance for the Wild Rockies, and the Council on Wildlife and Fish would like to submit the following comments on the proposed Burnt Mountain Project. Please note these comments include one attachment, Attachment #1, that has copies of 63 reports and documents cited in these comments.

These comments are divided into 2 sections: background and legal violations.

A. Background

1. North American Landbirds

There are an estimated 67 western forest landbirds of which 64% are currently in decline (Rosenberg et al. 2019). These include various forest birds that have an identified conservation need. For example, the U.S. Fish and Wildlife Service (2021) has identified 9 Birds of Conservation Concern (BCC) in the Northern Rockies Bioregion, including:

> Calliope Hummingbird, Rufous Hummingbird, Broad-tailed Hummingbird, Flammulated Owl, Lewis's Woodpecker, Williamson's Sapsucker, Olive-sided Flycatcher, Evening Grosbeak, and Cassin's Finch.

The Montana Natural Heritage Program also identified numerous western forest birds as animal species of concern (SOC). Species that likely occur on the Custer-Gallatin National Forest (CGNF), Bearlodge Ranger District, include:

> Northern Goshawk, Great Gray Owl, Lewis's Woodpecker, Black-backed Woodpecker, Cassin's Finch, Varied Thrush, Veery, Brown Creeper, Evening Grosbeak, and Golden Eagle.

There are also many forest birds identified as having various priority levels by the Montana Partners in Flight Program (2000). Priority level I species, species that have a clear conservation need, include the following:

> Black-backed Woodpecker, Olive-sided Flycatcher, and Brown Creeper.

Montana Partners in Flight (2000) have identified the following western forest birds that are a Priority II for management; these are species that appear to be at a lesser threat for declining populations, however monitoring of their population status is important, as they are poorly sampled by bird survey methods; these include the following birds:

> Northern Goshawk, Vaux's Swift, Calliope Hummingbird, Lewis's Woodpecker, Red- naped Sapsucker, Williamson's Sapsucker, Three-toed Woodpecker, Hammond's Flycatcher, Winter Wren, Veery, and Cordilleran Flycatcher.

Montana Partners in Flight (2000) have identified the following western forest birds as a Priority III for management; these are species of local concern with a lower rank, are not in imminent risk, or are near-obligates for high priority habitat; these include the following:

> Sharp-shinned Hawk, Great Gray Owl, Boreal Owl, Rufous Hummingbird, Downy Woodpecker, Least Flycatcher, Clark's Nutcracker, Golden-crowned Kinglet, Townsend's Solitaire, Varied Thrush, Townsend's Warbler, Chipping Sparrow, Cassin's Finch, Warbling Vireo, and Red Crossbill.

Many of these western forest birds are associated with old growth forests at some point in their life cycle. Two reports, USDA 2018, and USDA 1990, have identified the following 23 bird species as associated with old growth forests that likely occur on the Beartooth Ranger District:

> Black-backed Woodpecker, Boreal Owl, Brown Creeper, Golden-crowned Kinglet, Hairy Woodpecker, Hammond's Flycatcher, Hermit Thrush, Lewis's Woodpecker, Northern Goshawk, Pine Grosbeak, Pygmy Nuthatch, Red-breasted Nuthatch, Swainson's Thrush, Three-toed Woodpecker,

Townsend's Warbler, Varied Thrush, Vaux's Swift, White-breasted Nuthatch, Winter Wren, Great Gray Owl, Northern Saw-whet Owl, Northern Pygmy Owl, and Williamson's Sapsucker.

The current recommendations for western forest landbird old growth habitat ranges from 20-25% (Montana Partners in Flight 2000). For specific species, old growth recommendations include 25% for the Pileated Woodpecker (Bull and Holthausen 1993) and 20% for the Northern Goshawk (Reynolds et al. 1992).

A report developed in Region 1 of the Forest Service has identified at least 25 western forest birds that depend upon snags as breeding/roosting habitat, species that likely occur on the Beartooth Ranger District, including:

American Kestrel, Black-backed Woodpecker, Black-capped Chickadee, Boreal Owl, Brown Creeper, Downy Woodpecker, Hairy Woodpecker, House Finch, House Sparrow, House Wren, Lewis's Woodpecker, Mountain Bluebird, Mountain Chickadee, Northern Flicker, Pygmy Nuthatch, Northern Pygmy Owl, Red-breasted Nuthatch, Red-naped Sapsucker, Northern Saw-whet Owl, Three-toed Woodpecker, Tree Swallow, Violet-green Swallow, Western Bluebird, White-breasted Nuthatch, and Williamson's Sapsucker.

In addition to western forest birds use of snags, the Montana Department of Fish, Wildlife and Parks has identified up to 60 species of wildlife that use snags for denning, nesting, and drumming sites (Horowitz 2023).

There are many western forest birds (at least 23) that depend extensively upon conifer seeds as forage, potentially during all seasons. These include at least the following species identified by Smith and Aldous (1947), Smith and Balda (1979), and Dobkin (1992):

Hairy Woodpecker, Pinyon Jay, Clark's Nutcracker, Stellar's Jay, Mountain Chickadee, Red-breasted Nuthatch, White-breasted Nuthatch, Red Crossbill, Pine Siskin, Lewis Woodpecker, Northern Flicker, Gray Jay, Winter Wren, American Robin, English Sparrow, Evening Grosbeak, Slate-colored Junco, Oregon Junco, Chipping Sparrow, Blue Grosbeak, Pine Grosbeak, Purple Finch, and Cassin's Finch.

Conifer seed abundance is highest and most consistent in older and more dense forest stands (Benkman 1996); optimum age for cone production generally exceeds 100 years in age (Id); thus clearcutting will trigger severe reductions in bird conifer seed forage for many decades, while commercial thinning will provide much lower conifer seed production than unthinned stands due to a reduction in both tree age and tree density.

The forage provided by natural forests not only includes abundant and persistent production of conifer seeds over time, but also a high variety of insects that feed on green trees, and dead standing and downed trees. Diseases that kill trees include Larch dwarf mistletoe, larch needle blight, larch needle cast, red ring rot, Indian paint fungus, cedar brown pocket rot, pouch fungus, white pine blister rust, and western gall rust. Insects that kill trees include the fir engraver beetle, ambrosia beetle, Douglas-fir secondary insects, western pine beetle, pine engraver beetle, woodbores (Ceramycidae and Buprestidae), Douglas-fir needle midge, larch looper, larch casebearer, pine needle scale, and pine aphids (USDA 2024). The ecosystem function these various "forest pests," that kill trees has been reported as essential over relatively large landscapes (500-1,000 acres) to provide suitable habitat for the Black-backed and Three-toed Woodpeckers. Both these insect pests and tree diseases also are essential to create snag habitat for the 60 species of wildlife that use snags in the Northern Rockies (Horowitz 2023; USDA 2018).

Mistletoe berries also provide forage for various forest birds (Watson and Rawsthorne 2013). Birds also feed on various types of insects, or detritivores, that consume dead wood, along with other critters that have habitat in dead downed wood, such as centipedes, millipedes, sow bugs, slugs, snails, earthworms, earwigs, ground beetles, and spring-tails (Horowitz 2023). Ants are important as forage for birds and bears. Prescribed fire not only burns up downed logs and the insects associated with these, but burning also chars this downed wood and makes it unsuitable for carpenter ants (Bull et a. 1995).

2. Migratory Bird Treaty Act

The MBTA requires the agency to define "beneficial practices" for limiting the taking of neotropical migratory birds (USFWS 2020, 2021). There are no beneficial practices identified for reducing take of birds in the Katkee Fuels Project. Taking of migratory birds will include direct destruction of nests and nestlings during logging operations, direct destruction of nests and nestlings during prescribed burning operations, direct killing of young fledged forest birds, including raptors, by logging machinery, direct killing of nestling and newly fledged birds, including forest raptors, due to prescribed burning and associated smoke toxicity (Defiance Canyon Raptor Rescue 2022), and indirect mortality of young and mature forest birds due to reduced fitness from smoke toxicity (Id).

3. Climate Change, Forest thinning, and Landbirds

The impact of expansive forest thinning in the landscape of the Burnt Mountain project will be expansive. These impacts include past activities on adjacent DNRC lands (over 700 acres), past fuels treatments on Forest Service lands (600 acres), the planned thinning for the Red Lodge Mountain Fuels Project (2,612 acres), and the planned thinning for the Burnt Mountain Project (1,807 acres). These thinned acres come to roughly 5,719 acres of forest thinning by various means, from logging to fuels understory treatments, including burning. This is roughly 9 square miles of ongoing and planned forest thinning in this landscape, which is roughly 23,000 acres in size (the project area for the Greater Red Lodge Project was stated to be 21,871 acres, which did not include the DNRC lands). This is roughly 36 square miles, of which approximately 25% will have forest thinning completed. In addition, the Burnt Mountain comment letter indicates that planned treatment areas will be "retreated" every 15 years, in order to maintain thinned conditions. So in effect, the thinning effects will be somewhat permanent, except possibly on DNRC lands.

The increase of temperatures of the landscape due to agency activities will likely be substantial. Clearcuts alone may be up to 18 degrees Fahrenheit (Knoss 2016). Due to vegetation breeze, temperatures within forests and clearcuts will equalize, as cooler moist air in adjacent forests are drawn out into clearcut areas (Lawrence et al. 2022). As a result temperatures within adjacent forests will also increase. The loss of forests, including dense forests, will exacerbate temperatures increases overall due to the loss of the cooling effect forests have on landscape heating due to the transpiration of water by trees (Milman 2024).

The impact of landscape heating on forest birds will be adverse. As was noted in the Idaho Panhandle Final Environmental Impact Statement (2013), climate change is a contributing factor to the decline of multiple bird species across the United States, and is likely to continue impacting birds into the future; as the climate warms, breeding seasons and migrations are altered; these activities may become out of sync with prey abundance, and climate change may also impact where and when those food items are available. The triggering of critical thresholds for heat tolerance of many birds is a potential significant adverse impact as well. For example, two forest owl species, the Great Gray Owl and Boreal Owl, are known to be sensitive to heat stress, so higher forest temperatures in thinned forests may render these sites unsuitable for nesting (Koshmrl 2013; Hayward 1997). Also, the reduction of thermal cover provided by dense forests will expose birds more heavily to extreme precipitation events and higher wind speeds, with possible direct mortality, especially to nestlings and newly fledged young birds, including forest raptors. In August of 2025, The Week reported that in early July, the U.S. experienced at least 1-in-1000-year downpours in less than a week.

4. Stand Replacement Fire and Landbirds

Hutto (1995) reported that 15 species of western forest birds were more abundant in burned than unburned forests. Hutto and Patterson (2016) provided an extensive review of the benefits of stand-replacement and lower severity fires to forest birds. Response pattern 1 was an abrupt increase in woodpeckers (Black-backed and Three-toed Woodpeckers, Northern Flicker, Hairy Woodpecker) who foraged on insect populations associated with newly-killed trees. Other bird species, such as the Cassin's Finch, Clark's Nutcracker, Red- Crossbill, and Pine Siskin, moved into burned forests to forage on conifer cones that opened from the fire. The Olive-sided Flycatcher was a species that selected edges between burned and unburned forests, areas that provided nest sites adjacent to open foraging areas. Also, some ground-nesting birds, such as the Townsend's Solitaire and Dark-eyed Junco, moved into burned forests due to open ground nesting sites.

Hutto and Patterson (2016) also define a second pattern of bird use within stand replacement fires. These were species that were responding to an increase in open grassy habitats, or more shrubs and conifer seedlings; these included species as the Lazuli Bunting, Dusky Grouse, Orange-crowned Warbler, and Vesper Sparrow. Other delayed response patterns included birds that were using the increased availability of snags for nesting, such as the House Wren, Lewis's Woodpecker, Tree Swallow, and Williamson's Sapsucker. The Williamson's Sapsucker was also selecting edges between burned and unburned forest patches, as burned areas providing nesting snags, while unburned areas provided green trees and sap.

Hutto and Patterson (2016) also defined a third response pattern after stand-replacement fire. Some species maintained an elevated population level in areas that burned at lower severity, such as the Red Crossbill, Western Tanager , Ruby-crowned Kinglet, and Red-breasted Nuthatch. It was noted that a predominately green forest with some level of fire may be creating optimal conditions for species as these, as compared to an unburned forest with few to no dead trees. For some other species, such as the Pileated Woodpecker, Evening Grosbeak, Yellow-rumped Warbler, and Hammond's Flycatcher, they may be using lightly burned forests simply making the best of a bad situation.

Hutto and Patterson (2016) also defined a 4^{th} response pattern to fire by birds. These were 6 species, the Stellar's Jay, Golden-crowned Kinglet, Black-capped Chickadee, Townsend's Warbler, Swainson's Thrush, and Townsend's Warbler. These species apparently did not benefit in any manner from fire in the short term, but ultimately may benefit from the habitat diversity created from fire.

It should be noted that many of the forest birds that benefit from stand-replacement fire have an identified conservation emphasis, such as the Williamson's Sapsucker, Olive-sided Flycatcher, Black-backed Woodpecker, and Lewis's Woodpecker. The CGNF has no conservation strategy for any of these fire-associated species.

5. Grizzly Bears

The effects of open motorized routes on grizzly bears has been defined as survival rates and population growth rates by Bader and Sieracki (2022). Table 6 of this document shows that at 0.6 miles per square km (approximately one mile per square mile), grizzly bear survival rate is 95% and the population growth rate is static. At 1.2 km per square km (1.2 miles per section) survival rate declines to 85% and growth rate is negative. At 1.4 km per square km (2.3 miles per section), survival rate is 75% and there is a rapid decline in growth rate. At 1.6 km per square km (2.6 miles per section), survival rate is lower than 75%, and growth rate continues as rapid decline. At 2.0 km per square km (3 miles per section) survival continues to decline along with continued rapid decline of the growth rate. This analysis by Bader and Sieracki (2022) are consistent with both Proctor et al.

(2019) and Proctor et al. (2023) that an open road density of one mile per section or less is necessary for a grizzly bear population to be maintained.

The static growth rate and 95% survival rate of grizzly bears with open road densities are at or below a mile per section is based on 2 recent research articles. Proctor et al. (2019) and Proctor et al. (2023) recommend that in order to maintain current populations, open road densities in occupied grizzly bear habitat should be 1 mile or less.

The impact of traffic volume on open roads also affects grizzly bears. As traffic volume increases, displacement effects on grizzly bears also increases. Northrupt et al. (2012) reported that bears selected areas near roads traveled by fewer than 20 vehicles per day and were more likely to cross these roads; bears avoided roads receiving moderate traffic (20-100 vehicles per day) and strongly avoided high-use roads (over 100 vehicles per day) at all times. Mace et al. (1996) reported that most grizzly bears exhibited either neutral or positive selection for buffers surrounding closed roads and roads receiving less than 10 vehicle trips per day, but avoided buffers surrounding roads having more than 10 vehicles per day.

The most recent scientific recommendations for grizzly bear security habitat (core) is for these areas to be at least 2,500 acres in size, and cover at least 60% of a Bear Management Unit (Proctor et al. 2019; Proctor et al. 2023). The Executive Summary of the Draft Conservation Strategy for the Grizzly Bear in the Yellowstone Area (2000) reported that a secure habitat for grizzly bears must be in place for a minimum of 10 years, and no helicopter resource extraction should occur between 3/1 and 11/30; no high-use hiking trails should be located within secure habitat; loss of existing secure habitat should be compensated with an equivalent area and block size. The size of secure core areas is important as larger blocks reduce the number of times bears are required to cross open roads in their daily foraging activities (Proctor et al. 2019). Schwartz et al. (2010) noted that the density of open roads between secure areas is important for grizzly bear mortality; high open road densities between secure habitat areas increase the mortality risk of bears as access to secure areas requires crossing roads.

6. Wolverine

The wolverine is known to be sensitive to the "human footprint," which includes both harvest units and roads which are human-impacted areas (Stewart et al. 2016; Fisher et al. 2013; Scrafford et al. 2018). This sensitivity to roads appears to occur regardless of traffic volume (Scrafford et al. 2018). Sensitivity to roads was recognized by the USFS in 1992, when Region 1 of the Forest Service recommended that open roads in wolverine habitat be no greater than one mile per section (USDA 1992). Effective management of wolverine requires managing landscape development (Fisher et al. 2013). Documented "robust" wolverine populations are found in areas with less than a mile of open road per section (Scrafford et al. 2018). Wolverine are also highly sensitive to climate change, as they experience heat stress at higher summer temperatures (Copeland et al. 2010; Parks 2009). Based on this sensitivity to heat stress, wolverine's habitat use is tightly tied to temperatures, with avoidance of warmer portions of the landscape (Id.).

7. Snowshoe Hares

Snowshoe hare habitat has been defined in the Northern Rockies as forest stands with at least a 40% canopy (Holbrook et al. 2017b). An inventory of hares in that study found that hare were present in 67% of plots sampled, with average of 1.1 hares per hectare; hares were strongly associated with more dense horizontal cover, along with associations with lodgepole pine, the most nutritious conifer species for hares; mixtures of lodgepole, subalpine fir and spruce habitat provide optimal hare habitat by interspersing forage with cover. Precommercial thinning of young conifer stands will eliminate or severely reduce snowshoe hare numbers (Griffin and Mills 2007; Squires et al. 2010). Landscape connectivity of hare habitat is important to persistence hare populations, as predation increases as movement of hares across landscapes, especially areas without good cover, changing source habitat into sink habitat (Lewis et al. 2012). An average hare home range varies from 1.2-4 acres (Olson et al. 2023).

8. Canada Lynx

The current best science has demonstrated that productive lynx habitat, with successful breeding, includes landscapes with at least 50% mature forest habitat and 20% regenerating forest; openings consist of no more than 4-5% of the landscape (Holbrook et al. 2019; Kosterman et al. 2018). Mature forest habitat is defined by Holbrook et al. (2017a) as per Table 2 as follows: mid-seral stands of over 40 years in age with a mixed species composition, including spruce/fir species; a median basal area of trees 10 inches or larger; have a median canopy cover of 56%; have a median tree height of 65 feet; have a median basal area of 140 square feet per acre; tree density of trees over 5 inches dbh is 217 per acre; tree density for trees less than 5 inches dbh is 1500 trees per acre

Connectivity within optimal lynx breeding habitat would be at least 70%, including 50% mature forest and 20% regenerating forest (Holbrook et al. 2019; Kosterman et al. 2018). Holbrook et al. (2018) has demonstrated that almost all vegetation treatments that reduce cover for lynx are significantly avoided as compared to pre-treatment levels, for up to 43 years; significant avoidance is less than 50% use of pre-treatment levels. Squires et al. (2010) noted that lynx avoid crossing openings in the winter, with an average crossing distance of 383 feet. Squires et al. (2010) also reported that lynx did not avoid roads with low volumes of traffic, which were defined as 8 vehicle trips per day.

All of the current best science recommendations on lynx habitat include the entire landscape (Holbrook et al. 2019; Kosterman et al. 2018). Also, all openings are included in the measurements of openings, not just areas defined as "lynx habitat" in the Northern Rockies

9. Whitebark Pine

The USFWS has completed a Standing Analysis for effects to Whitebark Pine (Pinus albicaulis) from Low Effect Projects and Whitebark Pine Restoration and Recovery Activities within Montana and Wyoming (2023). In this analysis, they noted that seedling whitebark pine are generally 3-4 inches tall, up to 4.5 feet in height, and between 1-29 years of age; whitebark pine saplings, over 4.5 feet in height, and range from 29-40 years in age. They also noted that whitebark pine more commonly occurs in mixed conifer stands in a variety of forest communities; they are capable of surviving long periods of suppressed growth and areable to release upon reaching the main canopy after more than 150 years of low growth rates; this species may be more shade tolerant and resilient to suppression than previously suggested. It was also noted that thinning of mature whitebark pine stands may increase susceptibility to mountain pine beetle. This effect of thinning has been noted by Six et al. (2021); growth rate was the best predictor of survivorship with survivors growing significantly slower than beetle-killed whitebark pine trees over their lifetimes. Cooper et al. (2018) also noted that thinning of lodgepole pine stands, which increased growth rates of remaining trees, also increased their vulnerability to attack by mountain pine beetles post-thinning.

Forest thinning projects, including understory thinning and prescribed burning, will kill whitebark pine seedlings and saplings, and thus remove the 40 years of genetic diversity provided by this ongoing recruitment. In addition, there will be 40-year gap in the ongoing recruitment for whitebark pine stands impacted by this destruction of recruitment. Continued recruitment is important to maintain stand persistence.

The Shoshone National Forest measured how the Green Union Project would affect whitebark pine recruitment. Table 6 of the Green Union Project Draft Environmental Assessment (2024) noted that the project would likely kill 1,310,082 seedlings, 351,892 saplings, and 12,433 mature trees.

Thinning of forest stands that contain whitebark pine will directly reduce forage for the grizzly bear. As was noted by Reinhardt and Mattson (1990), whitebark pine in mixed conifer stands provides important habitat for red squirrels, who in turn harvest whitebark pine nuts and make them available to grizzly bears; optimal red squirrel habitat for grizzly bears in the Yellowstone whitebark pine habitats have high tree species diversity, and high basal area, with a threshold basal area of at least 90 square feet per acre to retain red squirrels; pure whitebark pine stands have little red squirrel activity due to the lack of tree species diversity.

10. Big Game Species

Logging and understory thinning will eliminate moose winter range. Tyers (2003) studied moose winter range in the Yellowstone Ecosystem, and reported that mature and old growth lodgepole pine and other conifer stands with a dense understory of subalpine fir were critical winter range as snow depths increased; moose foraged heavily on subalpine fir in these stands, as well as benefited from the thermal cover provided which reduced snow depths and crusting, and also allowed moose to travel through the forest. Thermal cover has been defined by Black et al. (1976) as forest stands at least 40 acres in size and having a canopy cover of 70% or greater. This species also depends upon dense forest habitat in the summer to reduce heat stress; this species develops heat stress when temperatures exceed 59 degrees (Dickson 2000 2012).

The Custer-Gallatin and Helena-Lewis and Clark National Forests developed collaborative recommendations for elk with the Montana Department of Fish, Wildlife and Parks (USDA/MFWP 2013). Among other things, this document noted that roads that receive more than 2-4 vehicle trips per 12 hours displace elk, and that roads with consistent vehicle traffic need to be considered as open roads for elk. This is consistent with Christensen et al. (1993) which states that any vehicle activity on roads displaces elk. Road density effects on elk summer range is defined as "habitat effectiveness" which defines the percentage of the landscape adjacent to roads that is unavailable to elk (Christensen et al. 1993). Christensen et al. (1993) noted that about a mile of open roads reduces elk HE to 70%, while 2 miles of open roads reduces elk HE to only 50%; it was noted that HEs below 50% provide little contribution to elk summer habitat. This document noted that elk security is essential to maintaining elk on public lands during the fall hunting season, and that ongoing displacement of elk from public lands is a significant problem on these forests. Currently, elk security is defined by the Hillis Paradigm (Hillis et al. 1991), which calls for at least 30% of a given landscape to have blocks of contiguous hiding cover at least 250 acres in size. High elk numbers are an indicator of poor security, due to the difficulty of elk harvest on private lands (Byron 2017; Dickson 2015).

11. Migratory Bird Treaty Act

The USFWS requires the Forest Service to implement "beneficial practices" to reduce the incidental take of migratory birds (USFWS 2020; USFWS 2023). Beneficial practices include completing activities that would harm or kill birds during the nesting season, activities that include vegetation clearing and prescribed burning due to smoke toxicity (Defiance Canyon Raptor Rescue (2022). Beneficial practices are at least required for USFWS Birds of Conservation Concern identified by the USFWS as potentially present in the project area. In order to avoid unallowed incidental take, the Forest Service needs to apply beneficial practices to at least the minimum migratory bird nesting season, from April 1 to July 15. Otherwise, surveys are required to identify and protect migratory bird nests (Id.) to avoid illegal incidental take.

B. Concerns regarding Violations

1. Requirement to complete an Environmental Impact Statement (EIS).

The cumulative effects of the Burnt Mountain project with other past and ongoing or planned activities are extensive. The landscape impacted by these projects includes the 21,871 acres defined for the Greater Red Lodge Project, along with over a thousand acres of adjacent state lands that have been logged, comes to roughly 23,000 acres of impact, which is roughly 36 miles square. As noted previously, past and planned vegetation treatments will come to about 5,719 acres, or roughly 9 miles square. This is impact on 25% of this landscape. The Greater Red Lodge project was evaluated with an EIS, and this project is larger. The rationale for not doing an EIS is unclear. Add to this is the planned permanent treatment activities in this landscape with maintenance thinning every 15 years. Impacts to wildlife will be long term, not temporary.

2. Requirement to Evaluate Impacts of Roads

There will be a considerable cumulative construction of new roads for all these projects. Claims that these roads are "temporary" are false, and need to be corrected. With repeat treatments every 15 years, these roads will essentially be permanent. This permanent development of roads needs to be included in an EIS, as these are long term adverse impacts on wildlife.

3. Requirement to Correctly Define and Map WUI

The agency letter states that these projects are located in the WUI. However, there are no maps or definitions of the WUI. This statement appears to be false, and needs to be supported with actual data to the public. The delineation of the WUI is important for management of lynx habitat, so it must be defined correctly as per the HFRA.

4. **A Forest Plan Amendment is required to violate the NRLMD.**

The CGNF Forest Plan requires the agency to maintain habitat connectivity for the lynx. The individual and combined effects of these fuel treatments will create severe losses of lynx habitat connectivity, in violation of the Forest Plan. An Amendment is thus required to implement these projects. In addition, a valid analysis of project impacts on lynx habitat connectivity is required.

5. **NEPA Analysis of Revised Lynx Habitat Mapping is Required prior to Project Implementation.**

To date, the CGNF has failed to complete a NEPA analysis of the revised lynx habitat mapping, to include public involvement. Any projects in areas where lynx habitat has been remapped without public involvement, such as the current project, is a violation of the NEPA.

6. **A Forest Plan Amendment is Required to Update the NRLMD to the Current Best Science.**

The NRLMD is outdated as per the current best science, and does not meet the requirements of the NEPA, the ESA and the NFMA for conservation of the lynx. Before projects are completed in lynx habitat, including critical habitat, the NRLMD must be amended to include the current best science for lynx.

7. **A Forest Plan Amendment is Required to Address Conservation of Wildlife Associated with Old Growth Forests.**

The CGFP lacks any direction to conserve at least 23 bird species associated with old growth forests. These include 12 bird species where conservation issues have been identified. The CGFP needs to provide adequate amounts of old growth (20-25%) to ensure a diversity of bird species is being maintained, as is required by the NFMA. Any vegetation projects that are implemented prior to completion of this amendment triggers a risk of irretrievable impacts on these 23 bird species.

8. **A Forest Plan Amendment is Required to Address Conservation of Wildlife Dependent upon Forested Snag Habitat.**

The CGFP has an invalid strategy for snags, which directs that if 4 snags per acre are present within a treatment area, these snags need to be preserved; if they are not present, this lack of habitat is considered adherence to the Forest Plan. In essence, there is no requirement for any snags on any acres of the CGNF, in spite of the dependence of 25 bird species for forested snag habitat. There are at least 5 of these species that have an identified conservation concern. The general objective of having at least 4 snags per acre in treatment units is stale science by over 20 years. Bull et al. (1997) noted that wildlife associated with snags require snags within forests, not logging units. In addition, Vizcarra (2017) reported that only as few as 4% of snags are suitable for cavity trees. This means that an abundance of snags within forested stands is essential to maintain these 25 bird species. This lack of any valid conservation measures for these 25 bird species dependent upon snags means that the current CGFP is invalid, as it violates the NEPA, the NFMA, and the MIBTA. Before any additional logging and fuels treatment projects are implemented, the CGNF needs to complete an amendment to the Forest Plan to address this severe shortcoming. Without such an amendment, the population trends of these 25 bird species will continue to decline due to habitat loss. They are likely included in the 64% of 67 species of western forest birds that are in decline (Rosenberg et al. 2019).

9. **A Forest Plan Amendment is Required to Address Conservation of Wildlife Dependent upon Conifer Seeds.**

There are at least 23 species of western forest birds that depend upon conifer seeds as forage. This includes at least 4 species with a conservation recommendation. Clearcutting and forest thinning reduce the availability of conifer seeds to forest birds. Understory thinning vastly reduces recruitment of conifer trees into the canopy where they will also provide conifer seeds for birds. The CGFP has no requirements for any percentage of the landscape that must provide optimum conifer seed production for birds. These areas will be larger tracts of mid- to lower elevation forests where conifer seed production is relatively high and persistent. These areas would maintain maximum conifer seed production over time due to stand density and age (undisturbed). This Amendment needs to develop a conservation strategy for these large blocks of high conifer seed production based on the percentage of the landscape that is estimated based on the current best science to ensure persistence of associated bird species.

10. **A Forest Plan Amendment is Required to Address Conservation of Wildlife that Forage on Coarse Woody Debris.**

The CGFP does not include any conservation measures for the vast amounts of invertebrate prey present in downed logs of various sizes. As we noted, these downed logs contain large varieties of invertebrate prey for birds and other wildlife, including bears. This key food resource for wildlife is directly targeted with fuels reduction treatments, where downed logs are intentionally burned and charred, eliminating and/or reducing forage for wildlife, since charred logs generally become unsuitable for most invertebrates. Also, downed logs are essentially eliminated in forest logging treatments. This demonstrates that downed log habitat must be specifically delineated and preserved on the landscape, without any disturbances. The amount of this landscape to provide downed log habitat needs to be determined by the current best science.

11.Define how Raptor Surveys will be Conducted as per the Forest Plan.

The CGRF "technically" requires raptor surveys within project areas, and "if" nests are located, they will be protected from disturbance, although post-nesting only the nest tree itself is required for retention. The Forest Plan FEIS does not define how this strategy will ensure persistence of forest raptors, a is required by the NFMA. There are at least 10 forest raptors that may occur in the Burnt Mountain project area:

> Great Gray Owl, Boreal Owl, Great Horned Owl, Northern Pygmy Owl, Northern Saw-whet Owl, American Kestrel, Sharp-shinned Hawk, Cooper's Hawk, Northern Goshawk, and Golden Eagle.

Please define specifically the survey protocol for these 10 raptor species. Is there an emphasis for species that have been identified as Montana Species of Concern, including the Northern Goshawk, Great Gray Owl, and Golden Eagle? What is the expected detection probability for these 10 species? As a result, what number of nests are expected to go undetected, and likely be destroyed with vegetation treatment activity? What is the expected population impact based on nesting sites that will not be located, as well as nesting sites that will basically be destroyed by leaving only the nest tree? How have raptor surveys been used to design vegetation treatments in the Burnt Mountain Project? What is the status of the 2 goshawk nests that were affected by logging on adjacent state lands? Are these nest sites still active? If not, what revised mitigation measures are planned for other nest sites identified in treatment areas? For all raptor species, what are the mitigation measures that will be used if active nests are located? How have these mitigation measures worked in the past? Without valid surveys, what are the odds that a snag containing a Boreal Owl, Northern Saw-whet Owl, or Northern Pygmy Owl will be retained in a logging unit?

12.Snowshoe Hare Habitat Loss

The maximum average size of a snowshoe hare home range is 4 acres. With past and planned vegetation treatments on 5,719 acres, this means the direct loss of 1,430 snowshoe hare home ranges. This would be roughly a direct loss of 25% of potential hare home ranges in the project area CEA landscape. This direct loss does not include the additional adverse impact of habitat fragmentation in snowshoe hare matrix habitat (Lewis et al. 2012). How will this 25% or greater reduction in snowshoe hares affect habitat quality for the lynx in this critical habitat? Why isn't a long-term 25% or greater loss of snowshoe hare populations considered a significant adverse on lynx and lynx conservation, in violation of the NFMA and the ESA?

13. Open Road Densities Need to be Defined for the CEA.

A significant mileage of new roads have been constructed, and/or are planned for construction in the CEA of the Burnt Mountain Project. Please define the active motorized route density across this CEA during completion of all planned and past projects, with vehicle trips of 2-4 per 12 hours noted to displace elk, and vehicle traffic over 10 trips per day noted to displace grizzly bears. Please define the active road density within roaded lands, to avoid "washing out" roading impacts by including large acreages of unroaded lands. As has been noted by science, the density of roads within roaded lands is an important criteria for grizzly bear management, especially as bears need to travel through roaded lands to access secure habitat. Please define the expected annual active motorized route density that will occur across the CEA for the Burnt Mountain Project during each year when project activities will/are occurring. What is the estimated impact on grizzly bear survival rate and population growth rate from the planned active motorized route densities for all planned projects? What amount of active motorized route densities in roaded lands is considered a significant adverse impact to grizzly bears based on survival and population growth rates? How will these active road densities impact the wolverine as well?

14. Please map grizzly bear secure core areas in the Burnt Mountain CEA for past, ongoing and planned projects, including fuels maintenance activities that will occur after 15 years.

The public needs to know where grizzly bear secure core habitat will occur within the 36 square mile CEA area for the Burnt Mountain Project; this core needs to be defined by all past and planned projects, since core habitat is supposed to remain in place for at least 10 years. Loss of core habitat in planned activities needs to include helicopter logging. If the CEA does not meet the recommended 60% core habitat of areas at least 2,500 acres in size, what is the impact on grizzly bears? What level of grizzly bear management in this Bear Analysis Unit is considered necessary for a stable population trend? If a stable population trend is not a management objective, why isn't this a significant adverse impact on grizzly bears?

15. Please map moose winter range and define overlap with past and planned vegetation treatments in the Burnt Mountain CEA.

Both logging and fuels reduction treatments will eliminate thermal cover essential for moose winter range, as well as remove subalpine fir, a key winter food resource for moose. Thus treatments on moose winter range need to be fully defined, along with an estimate of how this loss of winter range will affect the local population trend of moose. What level of population reduction is estimated to be a significant adverse effect on moose?

16. Please map elk security areas based on the current best science, for the planned vegetation management both short- and long-term in the Burnt Mountain CEA, along with measurements of habitat effectiveness.

The public needs to know how the recommended 30% elk security, nonmotorized areas of contiguous forest cover at least 250 acres in size, will or won't be provided in the Burnt Mountain CEA landscape. If this level of security won't be provided, how are significant adverse impacts going to be avoided? Also, habitat effectiveness (HE) for the Burnt Mountain CEA needs to be defined, including for all past and planned projects. This assessment of HE needs to be limited to roaded lands, where the impact of roads actually occurs. If HE falls below 50% during some or more years, how will significant adverse impacts be avoided for elk?

17.Please define what level of adverse impacts to the wolverine are considered a significant adverse impact from cumulative activities.

The wolverine is noted to be sensitive to various land management activities, including both open and closed roads. Active motorized route densities of a mile or less have been recommended to promote wolverine conservation. It has also been noted in robust wolverine populations occur in areas with a mile or less of active motorized routes. Please provide the specific criteria by which the agency is measuring whether or not the cumulative activities planned in the Burnt Mountain CEA will adversely impact the wolverine due to road densities and land management activities that will occur both short- and long-term.

18. Please define the expected mortality to whitebark pine seedlings, saplings and mature trees from past and planned vegetation management activities in the Burnt Mountain CEA.

As was defined in the Green Union analysis on the Shoshone National Forest (USDA 2024), the CGNF needs to specifically define what the expected mortality to whitebark pine seedlings, saplings and mature trees will be in the Burnt Mountain CEA during all past and planned activities. What level of mortality and loss of recruitment within specific whitebark pine stands is considered a significant adverse effect on stand persistence and genetic diversity?

19. Please define the impact of past/planned activities in the Burnt Mountain CEA on local climate changes for wildlife.

The increased temperatures, which will reduce snow pack and increase landscape drying, along with reduced thermal cover to moderate extreme precipitation and wind events, that are being promoted by past and planned vegetation/fuels management activities in the Burnt Mountain CEA will reduce habitat suitability for essentially all wildlife, from forest birds to wolverine. The impacts of this degradation on wildlife population persistence need to be estimated based on the current best science. The long-term nature of these impacts also needs to be included in this analysis.

20. Please define the level of incidental take of migratory birds that is, or will be triggered, by various vegetation activities in the Burnt Mountain CEA.

AS per the MBTA, the agency is required to complete a NEPA analysis of project impacts on migratory birds. The level direct mortality from destruction of nests and nestlings, and direct and indirect mortality to birds from smoke toxicity, needs to be estimated as per the MBTA. And as per the NEPA, the agency is required to estimate the general level of population decline of western forest birds due to the cumulative planned loss of habitat, including snags, old growth, conifer seeds, downed logs, thermal cover, and hiding cover, needs to be estimated for the Burnt Mountain CEA. What level of mortality and population loss are considered a significant adverse impact, which would require an EIS?

Regards,

Sara Johnson

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