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January 6, 2023

Forest Service

Butte Ranger District

Attn: Michelle Peterson

1820 Meadowlark

Butte, MT 59701

RE: SCOPING COMMENTS ON THE PROPOSED BASIN CREEK-BUTTE WATERSHED PROJECT

Hello,

Native Ecosystems Council (NEC), the Alliance for the Wild Rockies (AWR) and Yellowstone to Uintas Connection (Y2U) would like to provide the following scoping comments for the proposed Basin Creek-Butte Watershed Project. Please note we have attached Appendix A, which includes relevant portions of literature and/or reports cited in these comments.

A. The proposed activities in the Basin Creek Inventoried Roadless Area (IRA) and Basin Creek Management Area violate Roadless Area and Revised Forest Plan (RFP) direction regarding new road construction.

The proposed project violates the RFP by creating an undisclosed mileage of new permanent roads within the Basin Creek IRA and Basin Creek MA. Construction of new permanent roads is prohibited by both the RFP and Roadless Area rules. The extensive mileage of shaded buffers that will be constructed through the heart of the Basin Creek IRA qualifies as new road construction, in order to allow

mechanized equipment, including logging equipment and for log hauling. Even the portions of this new road construction that include an existing motorized trail will require extensive construction in order to allow access for logging equipment. The initial fuels treatments will require high levels of motorized use of mechanized treatments throughout the many miles of new road construction in order to implement the initial fuels reduction treatments in this IRA. Over time, repeated treatments in order to maintain unnatural levels of fuels in this treated fuel break of 574 acres will require permanent use of this new road for management of fuels. Even during the periods when motorized use is restricted, the potential for illegal ATV use is likely high. The Basin Creek MA also shows that much of the location of the new road is located in a summer nonmotorized designation. This RFP direction will also be violated with the proposed project. These violations require a Forest Plan amendment.

B. The proposed Basin Creek-Butte Watershed Project logging activity violates a logging prohibition as per the Roadless Area Rule; logging will degrade, not restore, habitat for the threatened lynx and proposed wolverine.

The proposed logging activities within and adjacent to the Basin Creek IRA are a violation of the Roadless Area Rule because TES habitat will be degraded, not restored. Roughly 1,400 acres of logging are proposed for the Basin Creek IRA, even though the Roadless Area Rule prohibits timber production within an IRA. The agency claims that this extensive logging, along with new road construction, meets the requirements of the Roadless Area Rule because this logging will restore characteristics of the ecosystem composition and structure, as well as reduce the risk of uncharacteristic wildfire effects. What specific compelling need for what specific ecosystem function and/or structure has not been identified. It remains unclear as to why ecosystem restoration via logging will restore lynx and wolverine habitat. The specific research that has demonstrated the need to log lynx and wolverine habitat was not identified. To the contrary, there is science available to clearly identify that logging and road construction have adverse impacts on lynx and wolverine-occupied ecosystems. For example, as was noted

in the RFP, the Basin Creek IRA (No. 1-430) provides secure habitat for wildlife enhancing linkages and connectivity across the landscape between the GYA and forests to the west and north; habitat has been mapped for the Canada lynx. Units 10, 20, 290, 280, 200, 210, 60, 70, 130, 150, 230, 180, 270, and 220 will create a movement barrier over 3 miles long and totaling over 900 acres for lynx within this IRA. Research has demonstrated that radio-collared lynx significantly avoid all vegetation treatment areas for the first 10 years, and for some units, up to 43 years (Holbrook et al. 2019). These 900 acres will have lynx foraging habitat removed also for up to 43 years. When combined with planned treatments immediately adjacent to the IRA in units 30, 40, 50, 80, 90, 100, 110, 120, 140, 250 and 260, which total 755 acres, there will be a combined movement barrier of 1655 acres, or 2.6 square miles along with a combined 2.6 square miles of a loss of lynx foraging habitat for up to 43 years. These activities do not constitute "restoration" of lynx habitat.

The adverse impact of this 2.6 square mile travel barrier is known for the lynx, but impacts to the proposed wolverine will also be negative. The Forest Service Rocky Mountain Research Station (Ruggiero et al. 1994) noted that until more specific conservation strategies are developed for the wolverine, management for lynx habitat should be followed. This would include maintaining habitat connectivity in lynx habitat. In addition, there is recent science that has identified the adverse impacts on wolverine from habitat fragmentation that is caused from human activities, from logging to roads (Fisher et al. 2013; Scrafford et al. 2018; Stewart et al. 2016). In particular, the new road to be constructed through the center of the Basin Creek IRA, along with almost 600 acres of logging along this new road, will clearly fragment wolverine habitat and thus disrupt current habitat use patterns (Id.). Existing habitat for wolverine will also be reduced by avoidance effects of the road/logging corridor (Id.). These activities do not constitute "restoration" of wolverine habitat.

The agency suggests that management of lynx and wolverine habitat in the Basin Creek IRA is required to protect these species from catastrophic/uncharacteristic fire. This IRA contains 9,190 acres. No fire protection plan was defined for this IRA

for lynx and wolverine. Without a specific fire plan for TES species, one can assume that fuels reduction activities are instead being planned for timber production. A fire management plan for TES requires the agency to map and identify all forested acres in this IRA that will have uncharacteristic fire, including defining the criteria that were used to identify these areas. A fire plan for this IRA for lynx and wolverine also needs to define how treatment of these uncharacteristic fuel loads can occur without degrading habitat for wolverine and lynx (e.g., creation of motorized routes, open forests and openings avoided by wolverine and lynx for travel and foraging), which would be a violation of the Roadless Area Rule.

C. The proposed logging in the Basin Creek IRA violates the Roadless Area Rule that requires maintaining natural-appearing landscapes.

It is not clear how large tree stumps, a huge number of skid trails, and an expansive development of permanent roads in order to do initial and long-term fuels management activities can maintain a natural appearing landscape in the Basin Creek IRA.

D. The proposed logging and road construction program within the Basin Creek IRA will violate the Roadless Area Rule because these activities will remove and/or degrade habitat for forest birds, instead of restoring currently-absent habitat.

Many western forest birds are currently in decline (64% of 67 estimated species as per Rosenberg et al. 2019). Many of these species of western forest birds have also been identified as species of conservation concern either by the Montana Natural Heritage Program (Montana Species of Concern) or the U.S. Fish and Wildlife Service (Birds of Conservation Concern). Thinning existing forests in the Basin Creek IRA would not be consistent with the purpose of IRAs to promote ecosystems, which include wildlife and thus western forest birds.

Logging in the Basin Creek IRA will eliminate 3 keys forest conditions for forest birds, including old growth forests, relatively undisturbed older forest habitats, and forests that through natural processes have pulses of snag creation. There are **an estimated 27 species of western forest birds that are associated with old growth forests** (USDA 2018; USDA 1990). These include the black-backed woodpecker, boreal owl, brown creeper, chestnut-backed chickadee, flammulated owl, golden-crowned kinglet, hairy woodpecker, Hammonds' flycatcher, hermit thrush, Lewis woodpecker, northern goshawk, pileated woodpecker, pine grosbeak, pygmy nuthatch, red-breasted nuthatch, Swainson's thrush, three-toed woodpecker, Townsend's solitaire, varied thrush, white-breasted nuthatch, vaux's swift, winter wren, great gray owl, pygmy owl, saw-whet owl, red-naped sapsucker, and Williamson's sapsucker. This is roughly 40% of the total 67 species of western forest birds.

Of the 27 species of western forest birds associated with old growth, 8 are classified as Montana SOC: black-backed woodpecker, brown creeper, flammulated owl, Lewis woodpecker, pileated woodpecker, northern goshawk, varied thrush and great gray owl. An additional species, the Williamson's sapsucker, is also classified as a BCC, along with the Lewis woodpecker. This means 9 of the old growth-associated western forest birds are identified as species of conservation concern.

An additional 5 western forest birds, not directly associated with old growth forests, are also classified as species of conservation concern in either Montana or by the USFWS for the Northern Rockies Bioregion. These include the Clark's nutcracker, Cassin's finch, evening grosbeak, veery, and olive-sided flycatcher. Logging will reduce the ability of forest stands to provide conifer seeds for species as the Clark's nutcracker, Cassin's finch, and evening grosbeak.

Logging and burning forests will have adverse impacts on all western forest birds by reducing hiding cover from predators, reducing thermal cover needed to moderate weather extremes, and increase nest parasitism from cowbirds. An

unidentified number of western forest birds will be killed directly by logging activities due to destruction of nests, and an unidentified number of western forest birds will be directly killed by toxic smoke created from prescribed burning needed to reduce activity fuels (Defiance Canyon Raptor Rescue 2022), and/or have their fitness reduced due to smoke toxicity.

Thinning of old growth forest with logging and understory fuels treatments will severely degrade habitat for at least 12 old growth-associated species: brown creeper, chestnut-backed chickadee, Hammond's flycatcher, hermit thrush, pine grosbeak, pileated woodpecker, red-breasted nuthatch, Townsend's warbler, varied thrush, winter wren, boreal owl, and northern goshawk (USDA 2018; Hutto 1995a). This is roughly 44% of all western forest birds associated with old growth. This is a minimum estimate, as it is likely that forest thinning will have adverse impacts on most western forest birds due to (a) loss of conifer seed sources, (b) loss of thermal cover (increased exposure to weather conditions, including heat, cold and wind) , (c) loss of hiding cover, (d) loss of nesting sites in both green canopies and snags, and (e) loss of insects needed as forage resources.

Thinning of forests with logging will severely degrade habitat for at least another 5 species of western forest birds, in addition to those associated with old growth forests, that require relatively dense, undisturbed forests as habitat, including the golden-crowned kinglet, gray jay, Stellar's jay, solitary vireo, and mountain chickadee (Hutto 1995a).

Logging will also remove forested snag habitat for up to 28 species of western forest birds that use forested snag habitat for nesting and foraging (USDA 2018). These include 11 species not directly associated with old growth forests already identified above. These include the American kestrel, black-capped chickadee, downy woodpecker, house wren, house finch, mountain bluebird, mountain chickadee, northern flicker, tree swallow, violet-green swallow, and western screech owl.

These habitat requirements for western forest birds, as defined above, include 28 species associated with old growth forests, 11 additional species that require forested snags but not necessarily old growth, and 4 other species that require relatively dense undisturbed forests, but not necessarily old growth (Stellar's jay, solitary vireo, golden-crowned kinglet, and gray jay) brings the total number of western forest birds impacted by forest logging and thinning to roughly 43 species, which is almost 2/3rds of all species that occupy these forests. Add to this total those 5 western forest birds identified as species of conservation concern that use general forest habitats (olive-sided flycatcher, Clark's nutcracker, veery, Cassin's finch, and evening grosbeak), brings the potential adverse impacts of logging to 48 forest birds, or 72% of all western forest birds. As a result, suggestions that logging and burning will "restore" ecosystems for western forest birds is clearly false.

E. The agency has not identified a fire management plan for forest birds in the Basin Creek IRA to determine how uncharacteristic fire risks can be addressed while maintaining existing values for western forest birds.

There is no apparent management strategy for western forest birds associated with old growth forests in the Basin Creek IRA. Minimum levels of old growth forests recommended for forest birds is 20-25% (Montana Partners in Flight). This is the very low end of historical levels of old growth in the Northern Rockies, which is 20-50% (Lesica 1996). These historical levels of old growth are deficient in the Upper Clark Fork Landscape, at only 11.1%; this is only 15% Douglas-fir old growth, and 10% lodgepole pine old growth. The BDNF average for Douglas-fir and lodgepole pine old growth is 20.4% and 17%, respectively. It is unclear how logging can "restore" old growth to historic levels, or to increase levels to those needed by western forest birds, in the Basin Creek IRA. Logging both Douglas-fir and lodgepole pine old growth will destroy their value to most species of western forest birds that require relatively dense, undisturbed forests. These include the brown creeper, pileated woodpecker, goshawk, chestnut-backed chickadee, Hammond's flycatcher, hermit thrush, pine grosbeak, red-breasted nuthatch,

Townsend's warbler, varied thrush, boreal owl, and winter wren (USDA 2018; Hutto 1995a).

Logging will also remove habitat for almost all western forest birds that require snags in forests as nesting and foraging habitat. The current management direction for these species in the BDNF RFP is outdated by almost 30 years. The strategy of leaving a few snags in harvest units was identified in 1988 by Goggans et al. (1988) as invalid for maintaining habitat for forest woodpeckers, including the black-backed woodpecker, a Montana SOC, and the three-toed woodpecker. In 1997, a Forest Service research document by Bull et al. (1997) also reported that most forest birds that use snags required snags within a forest stand. As a recent example, research on the Helena-Lewis and Clark National Forest found that the three-toed woodpecker selected pine beetle-impacted forest stands that had up to 70 or more large snags (over 9 inches dbh). Leaving snags as nesting sites also does not address the need for insect-infested trees as forage for woodpeckers and other birds. Management of habitat for the black-backed woodpecker, a Montana SOC, requires the provision of large undisturbed tracts of forests up to roughly 1,000 acres in size (Goggans et al. 1988). Roughly 500 acres of undisturbed forests are also recommended for each pair of three-toed woodpeckers. If forested snag habitat is not provided for these and other woodpeckers, the remaining forest bird species that require snags for nesting will be absent as well, since they mostly rely on woodpeckers to create the nesting cavities.

In conclusion, there is no valid rationale that can be provided to support a contention that logging IRA forests will "restore" habitat for most species of western forest birds, and as a result, increase their numbers.

F. Logging in IRAs will not improve elk security.

There are 2 current recommendations for management of elk security. Hillis et al. (1991) was developed by 7 elk biologists (individuals who had published research articles on elk management), and has been accepted as a standard measure of elk security by Region 1 of the Forest Service (Christensen et al. 1993). A second method for measuring elk security has been published by Lowrey et al. (2020). This method uses canopy cover instead of ground-level cover as per the Hillis Paradigm as a measure of hiding cover. Since canopy cover levels provide lower levels of ground-level hiding cover, the distance elk avoided roads was up to double or greater by the Lowrey et al- 2020 security measures. Either method is a suitable measure of elk security habitat. Use of either method to measure logging impacts on elk security in the Basin Creek IRA will demonstrate security will be reduced, not increased, with logging. A reduction in security will also likely reduce fall elk habitat use, not increase it within this IRA. Over time, this displacement may become permanent. Logging will also displace elk in the summer season due to active motorized routes within the IRA (Christensen et all. 1993). Logging will also reduce the availability of succulent elk forage in late summer and fall, due to the reduction of forest shade. And it appears that there may be permanent displacement effects of elk due to a lack of security in a given landscape. As a result, it is highly unlikely that logging in the Basin Creek IRA will improve and/or restore elk summer/fall habitat and security.

G. Interrupting natural succession of forests within the Basin Creek IRA is not restoration of ecosystems.

All of the proposed logging within the Basin Creek IRA will interrupt the natural forest succession. As has been noted by a publication of the Rocky Mountain Research Station of the Forest Service, Malcolm (2012) reported that natural succession in lodgepole pine forests will create high quality old growth forests for species as the lynx, as species as subalpine fir slowly grow on site. This mixture of lodgepole pine and subalpine fir and spruce, has also been reported in published science to create optimum habitat for snowshoe hares, because lodgepole pine saplings provide high quality nutrition to hares, while subalpine fir and spruce provide high quality hiding cover. These mixed conifer forests will not generally

be created with clearcutting of lodgepole pine, because subalpine fir regeneration is very limited (Collins et al. 2011).

H. Logging within the Basin Creek IRA will create unnatural forest habitats for wildlife.

The proposed logging to reduce forest densities will remove a large percentage of trees in the unit, with a target basal area around 40-60 square feet per acre. As a result, forest density will not resemble natural conditions in the Basin Creek IRA. Pfister et al. (1977) identifies in appendix E-1 what the typical basal area (stand density) is for almost all forest habitat types in Montana. There are 14 Douglas-fir habitat types identified at E-1, with a range of basal areas of 128 to 210 square feet per acre, up to 5 times more dense than the proposed density with logging. For the 19 subalpine fir habitat types included at E-1, which would include lodgepole pine seral stands, the basal area ranges from 175 to 268 square feet per acre, up to over 6 times the target basal area for treated lodgepole pine stands with thinning. The proposed logging will create unnatural stand densities, not restore historical stand densities.

I. Fire is a natural ecological process.

The objective of the proposed project within the Basin Creek IRA is to prevent "catastrophic" or "uncharacteristic" fire. The glossary of the BDNF RFP defines uncharacteristic wildfire effects as an increase in wildfire size, severity and resistance to control, and the associated impact to people and property, compared to that which occurred in the native system. It does not refer to effects on wildlife. The glossary also states that catastrophic and uncharacteristic fire are "unwanted wildfire," thereby fundamentally degrading the ecosystems or destroying communities or rare or threatened species/habitat. The RFP FEIS does not define why wildfire will destroy and/or degrade wildlife habitat. As has been noted by Hutto (1995b) and Hutto et al. (2016), wildfire is an essential process for

wildlife by creating snag forests, which have as high a level of biodiversity as old growth forests. These research publications note that many plant and animal species use, and have sometimes evolved to depend on severely burned forest conditions for their persistence; also, evidence from fire history studies also suggests that a complex mosaic of severely burned conifer patches was common historically in the west; in order to maintain ecological integrity in forests born of mixed-severity fire, land managers will have to accep0t some severe fire and maintain the integrity of its aftermath (Hutto et al. 2016). Hutto (1995b) reported that stand-replacement fires may be necessary for long-term maintenance of many bird species; Table 7 in this publication identified 47 western forest bird species that used burned forest habitats; 15 of these species were more frequently observed in recently burned forests than in any other cover type available in the northern Rockies. Hutto (1995a) identified the following bird species typical of post-fire forests, including the black-backed woodpecker, Cassin's finch, Clark's nutcracker, hairy woodpecker, house wren, Lincolns' sparrow, mountain bluebird, olive-sided flycatcher, pine siskin, ruby-crowned kinglet, tree swallow, three-toed woodpecker, and western wood-pewee. Four of these species, the black-backed woodpecker, Cassin's finch, Clark's nutcracker, and olive-sided flycatcher are Montana SOC.

It is clear that mixed severity fire is an important ecological process within the Rocky Mountains, and claims that fires must be reduced to protect ecosystems within IRAs is clearly false.

J. Claims that logging will increase forest "resilience" from fire within the Basin Creek IRA have never been substantiated to the public.

The BDNF RFP defines resilience as the capacity of forests to return to prior conditions after disturbance; resilient forests are those than not only accommodate gradual changes related to climate but tend to return toward prior conditions after disturbance either naturally or with management assistance; within the BDNF, maintaining a diversity of tree species or dominance types, age

or size class diversity within dominance types, and forest density similar to what historic disturbance regimes produced, are considered underpinnings of a resilient forest. There are no actual criteria ever defined in the BDNF RFP or associated FEIS as to how specifically resilience is measured.

Logging forests will supposedly increase forest resilience in the Basin Creek IRA, but specifically how this will occur is unclear. The ability to recover from disturbances is likely associated with the survival of cone-producing trees after the disturbance. The rationale for increased resilience, or ability to recover, after a logged forest is also burned appears to be based on a requirement that there will be more cone-producing trees remaining in a burned forest that has been logged as opposed to a burned forest that has not been previously logged. These cone-producing trees will allow new regeneration to develop. It is unclear how the survival of cone-producing trees has been determined to be greater in logged then burned forests, than in unlogged burned forests. There must be some "hypothetical" forest on the BDNF where the 4 categories of burn severity (unburned, burned at low severity, burned at moderate severity, and burned at high severity) has been generally averaged and estimated, along with an average number of cone-producing trees that remain in these burn categories in both logged/burned forests and unlogged/burned forests. The total average number of cone-producing trees in these 2 separate scenarios must have been measured as considerably greater across the burn area in logged/burned forests than unlogged/burned forests. Since this analysis has never been made available to the public in the RFP FEIS, the public has no ability to evaluate this analysis or question the results. Before the BDNF can claim logging/burning will allow forests to have a higher seedling regeneration rate that unlogged/burned forests will have, the actual analysis and data needs to be provided as is essential to comply with the National Environmental Protection Act (NEPA). One example of why the public needs to be provided the complete data on which the claimed superior resilience of logged versus unlogged forests is the fact that a clearcut lacks any cone-producing trees, either before or after it is burned in a fire. Where will the conifer seed source come from after a plantation has been burned, a seed source for regeneration (recovery) that will apparently be much greater than what would be present in an unlogged burned forest?

K. Claims that the logging will protect the Butte Watershed from damage from fire are false; logging will also exacerbate climate change, which in turn will increase the adverse impacts on forest fires, instead of reducing climate change effects.

We have included a review of over 40 studies on the effects of logging and fuels reduction projects on fire intensity and spread (John Muir Project 2022). This significant literature resource does not support the Forest Service claims, including those made for the Basin Creek-Butte Watershed project, that logging is essential in order to prevent severe fire damage to the watershed from severe erosion that will be caused from inevitable catastrophic fires. In fact, logging may actually increase the potential for high-intensity fires in the basin, especially in the planned clearcuts. The agency needs to support claims that extensive logging in the watershed is essential in order to prevent severe fire and severe erosion that would result afterwards, since this is inconsistent with the current best science. In particular, the very large clearcuts being proposed with greatly increase the potential for severe fire, once tree plantations develop. The agency needs to provide the science the demonstrates that in fact, clearcuts and young tree plantations that are to be created in this watershed will have a significantly lower potential for severe fire than the current forest conditions.

We have also provided other examples of the current best science information on fire management. In a book authored by DellaSala and Hanson (2015), a treasure trove of information was provided on fire management. Examples include:

Usage of missed fire cycles connotes a consistency and degree of equilibrium in the historical fire regime that is not supported by actual fire history evidence.

Many factors modulate fire severity even though fuels accumulate as forest stands age.

Increasing shade in forest understories create cooler temperatures and slow wind speeds and thus rate of fire spread; severe fire events are largely driven by weather and often have relatively little to do with fuels.

Most areas have not experience trends in high-severity fire.

Historical fire retimes in mixed-conifer forests of western North American were far more variable than current management regimes assume.

Mixed- and high-severity fires are a natural and ecologically beneficial part of many forests.

Researchers have documented a current high-severity fire deficit rather than a surplus, as often surmised.

Most studies have found no increase in fire severity in most forested region of the western US.

The structure and landscape heterogeneity created by fire events is not re-created by management.

Managers wishing to maintain fire-dependent biodiversity should plan for these areas in reserve design and treat them on part with the more celebrated old growth forests, given the comparability of biodiversity and rarity.

Governments need to prepare for megafires because these events will always be with us and may increase with climate changes.

Effects of bark beetles on fuels are complex; studies suggest that bark beetles do not substantially increase, and may actually decrease, the risk of high severity fire.

Research has thus far consistently indicates that weather and climate are more important than the effects of bark beetle outbreaks in determining fire risk and outbreaks in subalpine forests of the Rocky Mountains.

While additional questions remain, the best available science indicates that outbreaks of bark beetles do not increase the risk of high-severity fires in lodgepole pine and spruce-fir forests of the Rocky Mountains; the effects of outbreaks are much less important than weather and climate; the current state of knowledge does not support the assumption that increases in bark beetle activity have resulted in increased wildfire activity.

Forest thinning that removes removal of overstory trees (biomass) are the most inefficient method of reducing wildfire-related carbon losses because they

remove large amounts of carbon for only a marginal reduction in expected fire severity.

There is a current deficit of high-severity fire in most forests.

Most long-unburned forests do not burn at significantly higher levels of higher-severity fire than more recently burned forests; long-unburned forests at times have the lowest levels of higher-severity fire; lower limbs of trees self thin, and understory vegetation is shaded out in these forests.

Studies of tree mortality in thinned areas following fire do not typically take into account the mortality of trees caused by thinning, leading to biased results that thinning reduced subsequent tree mortality by fire.

The area with the most clearcutting had the largest area of high-severity fire of any portion of the Rim Fire in the Sierra Nevada range; in other areas with large portions of the landscape in tree plantations from past clearcutting, fires have a tendency to burn uncharacteristically severe, presumably because of homogenized fuels loads.

In the book titled Smokescreen: debunking wildfire myths to save out forests and our climate, Chad Hanson included the following information:

Many will be surprised to learn that we currently have considerably less fire in our forests than we did historically, before fire suppression policies began; conservative studies estimate that there were about three times more mixed-intensity fires prior to fire suppression than there are now; other studies estimate an even larger fire deficit.

Logging causes ten times more CO2 emissions that the combined emissions from wildland fire and tree mortality from drought and native bark beetles.

Logging from US forests causes 617 million tons of CO emissions each year, with an additional 106 millions tons of indirect CO2 emissions due to transportation associated with logging; the overall impact of logging in US forests

is more than 1 billion tons of Cos each year, or about the same as the overall effect of coal production

Thinning from logging kills far more trees than it saves; a key factor in thinning is a key factor that only a tiny percentage of the tree biomass (1-4 percent) is consumed in forest fires.

98% of the biomass removed during logging is noncombustible; on that basis alone, thinning conducted under the guise of fire management is a sham.

Under the catastrophic wildfire paradigm, every tree in the forest is called fuel or hazardous fuel; this devalues trees and denies their importance to wildlife and climate change; it portrays trees a something dangerous – something to be feared; he suggests using the word "habitat" for trees instead of fuels.

Instead of calling fuels treatments restoration, or ecosystem management, he recommends these be called what they are -logging.

The phrase healthy forest describes the goal of controlling and suppressing natural processes such as fire, and fluctuations of native beetles, in order to facilitate the extraction of timber commodities; a 1993 Forest Service report defined forest health as the suppression and control of natural processes to ensure these do not threaten management objectives.

Resilience almost always refers to logging of some type; no one actually understands what this term means.

Ecological resilience is defined as natural processes of varying intensities and scales that create habitat heterogeneity and maintain the full range of native biodiversity across the landscape; this includes species that depend on natural events such as high-intensity fire.

Forests are not ecologically resilient in spite of mixed-intensity fires; they are resilient because of forest fires and other natural processes.

Forest health policies that proposed to control natural processes (bark beetles, mixed-severity fire) are implemented to further the agenda of commodity production and resource extraction.

There is no ecological or scientific meaning to the terms "uncharacteristic" and "catastrophic" fires; this term is used to define mixed intensity fires as "bad." He strongly recommends not using the term "catastrophic" or "uncharacteristic" wildfire and not characterizing fires as "good" or "bad." Uncharacteristic wildfire inaccurately implies tat an individual fire that my be somewhat more intense than average is somehow unnatural and harmful; this ignores everything we know about ecology and fire history, including the fact that there have always been fires of different sizes and intensities in all forest ecosystems; averages are by definition, calculated from lower and higher values; some wildlife species prefer conditions created by cooler burns, but many other like it hot; mixed-intensity fire provides the heterogenous habitat conditions that support the diversity of native wildlife in the forest.

L. Please evaluate why clearcutting is the best management approach for wildlife, as is required in the BDNF RFP; please also evaluate the effects of the proposed very large openings on elk security, lynx and wolverine habitat, and habitat for western forest birds, including both habitat availability and fragmentation impacts; please define the measures that will be used to determine when fragmentation and habitat loss impacts become significant; please define why the 30% opening allowance in the Northern Rockies Lynx Management Direction is consistent with the current best science and promotes conservation of lynx; please define what habitats were eliminated as lynx habitat in the project area, and provide public comment on this remapping in the project area, as is required by the NEPA.

Regards,

Sara Johnson

Sara Johnson, Director, Native Ecosystems Council, [redacted]

[redacted]

SJJ for

Mike Garrity, Director, Alliance for the Wild Rockies, [redacted]

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Jason Christensen, Director, Yellowstone to Uintas Connection, [redacted]