Objection against the Diamond Creek Forest Management Project.

To: Objection Reviewing Officer
USDA Forest Service
Intermountain Region
324 25th Street
Ogden, Utah 84401

Thank you for this opportunity to object to the Diamond Creek Forest Management Project. Please accept this attached objection in pdf format from me on behalf of the Alliance for the Wild Rockies, Native Ecosystem Council, Yellowstone to Uintas Connection, and Wildlands Defense.

1. Objector's Name and Address:

Lead Objector Mike Garrity, Director, Alliance for the Wild Rockies (Alliance), PO Box 505, Helena, MT 59624; phone 406-459-5936

And for

Sara Johnson, Director, Native Ecosystems Council (NEC), PO Box 125, Willow Creek, MT 59760; phone 406-459-3286

And for

Jason L. Christensen – Director Yellowstone to Uintas Connection (Y2U)
jason@yellowstoneuintas.org
435-881-6917

Signed this 4th day of September, 2023 for Objectors

/s/
Michael Garrity

2. Name of the Proposed Project

Diamond Creek Forest Management Project

3. Location of Project, Name and Title of Responsible Official

The project area is located in southeastern Idaho within the Webster Range, approximately 20 air miles east of Soda Springs, Idaho in portions of T7S R44E, Sections 13, 24-28, 33-36; T8S R44E, Sections 1-4, 11-14, 24, 25, 36; T7S R45E, Sections 7-9, 15-22, 27-34;

T8S R45E Sections 3-10, 14-24, 26-35; and T9S R45E, Sections 2-6, 8-10, 15-17, 19-22, 28 (Boise Meridian)., District: Soda Springs Ranger District, Montpelier Ranger District,

The Responsible Officials are the Soda Springs District Ranger, Bryan K. Fuell and Montpelier District Ranger, Mike Duncan. The Objection Reviewing Officer is the Caribou-Targhee Forest Supervisor. Mel Bolling,

4. Connection between previous comments and those raised in the Objection:

Alliance , Y2U, NEC, (hereafter Alliance) provided comments on the proposed project on March 6, 2022.

NOTICE IS HEREBY GIVEN that Alliance objects pursuant to 36 CFR section 218 to the Responsible Official's adoption of the selected Alternative. As discussed below, the Diamond Creek Forest management Project as proposed violates the National Environmental Policy Act (NEPA), the National Forest Management Act (NFMA), the Endangered Species Act (ESA), the Caribou Forest Plan and the Administrative Procedure Act (APA).

5. Specific Issues Related to the Proposed Projects, including how Objectors believes the Environmental Analysis and Draft Record of Decision specifically violates Law, Regulation, or Policy: We included this under number 8 below.

Thank you for the opportunity to object on the Diamond Creek Forest management Project. Please accept this objection from me on behalf of the Alliance for the Wild Rockies, Native Ecosystems Council, and Yellowstone to Uintas Connection, collectively (Alliance).

6. Suggested Remedies that would Resolve the Objection:

We recommend that the "No Action Alternative" be selected. We have also made specific recommendations after each problem.

7. Supporting Reasons for the Reviewing Office to Consider:

This landscape has very high wildlife values, including for the threatened grizzly bear, lynx, wolverine, whitebark pine, big game species, sage grouse, sagebrush and wildlife dependent upon unlogged forests. The project area will be concentrated within some of the best wildlife habitat in this landscape which is an important travel corridor for wildlife such as lynx, grizzly bears, and wolverine. The agency will also be exacerbating an ongoing problem of displacing elk to adjacent private lands in the hunting season due to a lack of security on public lands. The public interest is not being served by this project.

Suggested Remedies to Resolve the Objection:

We recommend that the “No Action Alternative” be selected. We have also made specific recommendations after each problem.

Thank you for the opportunity to object.

NOTICE IS HEREBY GIVEN that, pursuant to 36 CFR Part 218, Alliance objects to the Draft Decision Notice (DDN) and Finding of No Significant Impact (FONSI) with the legal notice published on August 4, 2023, including the Responsible Official's adoption of proposed or selected Alternative.

Alliance is objecting to this project on the grounds that implementation of the Selected Alternative is not in accordance with the laws governing management of the national forests such as the ESA, NEPA, NFMA,, the Caribou Targee National Forest (CTNF) Forest Plan and the APA, including the implementing regulations of these and other laws, and will result in additional degradation in already degraded watersheds and mountain slopes, further upsetting the wildlife habitat, ecosystem and human communities. Our objections are detailed below.

If the project is approved as proposed, individuals and members of the above-mentioned groups would be directly and significantly affected by the logging and associated activities. Objectors are conservation organizations working to ensure protection of biological diversity and ecosystem integrity in the Wild Rockies bioregion (including the CTNF). The individuals and members use the project area for recreation and other forest related activities. The selected alternative would also further degrade the water quality, wildlife and fish habitat. These activities, if implemented, would adversely impact and irreparably harm the natural qualities of the Project Area, the surrounding area, and would further degrade the watersheds and wildlife habitat.

Statements that Demonstrates Connection between Prior Specific Written Comments on the Particular Proposed Project and the Content of the Objection.

We wrote in our comments:

Disclose the impact of climate change on the efficacy of the proposed treatments;

Logging interests stand poised to profit, as they tell the public and Congress that our forests are overgrown from years of neglect. Chainsaws and bulldozers are their

remedy. Among these interests are agencies like the U.S. Forest Service that financially benefits from selling public timber to private logging companies.

In this fraught context, filled with a swirling admixture of panic, confusion, and opportunism, the truth and scientific evidence are all too often casualties. This, unfortunately, can lead to regressive policies that will only exacerbate the climate crisis and increase threats to communities from wildfire. We can no longer afford either outcome.

Many of the nation's top climate scientists and ecologists recently urged Congress to remove the logging subsidies from the Build Back Better bill. Scientists noted that logging now emits about as much carbon dioxide each year as does burning coal. They also noted that logging conducted under the guise of "forest thinning" does not stop large wildfires that are driven mainly by extreme fire-weather caused primarily by climate change. In fact, it can often make fires burn faster and more intensely toward vulnerable homes. Unprepared towns like Paradise and Grizzly Flats, Calif., unfortunately burned to the ground as fires raced through heavily logged surroundings.

Nature prepares older forests and large trees for wildfires. As trees age, they develop thick impenetrable bark and drop their lower limbs, making it difficult for fire to climb into the tree crowns. Older, dense forests used by the imperiled spotted owl burn in mixed intensities that is

good for the owl and hundreds of species that depend on these forests for survival. Our national parks and wilderness areas also burn in lower fire intensities compared to heavily logged areas.

Occasionally even some of the largest trees will succumb to a severe fire but their progeny are born again to rapidly colonize the largest and most severe burn patches. Dozens of cavity-nesting birds and small mammals make their homes in the fire-killed trees. Soon after fire in these forests, nature regenerates, reminiscent of the mythical phoenix, aided by scores of pollinating insects and seed carrying birds and mammals.

Wildfires are highly variable, often depending on what a gust of wind does at a given moment, and even the biggest fires are primarily comprised of lightly and moderately-burned areas where most mature trees survive. By chance, in any large fire there will always be some areas that were thinned by loggers that burned less intense compared to unthinned areas. Before the smoke fully clears, logging interests find those locations and take journalists and politicians to promote their agenda. What they fail to disclose are the many examples where managed forests burned hotter while older, unmanaged forests did the opposite.

The NEPA requires a "hard look" at climate issues, including cumulative effects of the "treatments" in the proposed project when added to the heat, drought, wind and other impacts associated with in- creased climate risk. Regeneration/Restocking failure following wildfire, prescribed fire and/or mechanical tree-killing has not been analyzed or disclosed. There is a considerable body of science that suggests that regeneration following fire is increasingly problematic.

NEPA requires disclosure of impact on "the human environment." Climate risk presents important adverse impacts on cultural, economic, environmental, and social aspects of the human environment. – people, jobs, and the economy – adjacent to and near the project area. Challenges in predicting responses of individual tree species to climate are a result of species competing under a never-before-seen climate regime – one forests may not have experienced before either.

In an uncertain future of rapid change and abrupt, unforeseen transitions, adjustments in management approaches will be necessary and some actions will fail. However, it is increasingly evident that the greatest risk is posed by continuing to implement strategies inconsistent *with and not informed by current understanding of our novel future....*

Achievable future conditions as a framework for guiding forest conservation and management, Forest Ecology and Management 360 (2016) 80–96, S.W. Golladay et al. (Please, find attached)

Stands are at risk of going from forest to non-forest, even without the added risk of "management" as proposed in the project area. The project is currently is violation of NEPA, NFMA, and the APA.

Please analyze or disclose the body of science that implicates logging activities as a contributor to reduced carbon stocks in forests and increases in greenhouse gas emissions. Please provide estimates of the total amount of carbon dioxide (CO_2) or other greenhouse gas emissions caused by FS management actions and policies—forest-wide, regionally, or nationally. Agency policymakers seem comfortable maintaining a position that they need not take any leadership on this issue, and obfuscate via this EA to justify their failures.

The best scientific information strongly suggests that management that involves removal of trees and other biomass increases atmospheric CO_2.

The CTNF has not yet accepted that the effects of climate risk represent a significant issue, and eminent loss of forest resilience already, and a significant and growing risk into the "foreseeable future?"

It is now time to speak honestly about unrealistic expectations relating to desired future condition. Forest managers have failed to disclose that at least five common tree species, including aspen and four conifers, are at great risk unless atmospheric greenhouse gases and associated temperatures can be contained at today's levels of concentration in the atmosphere. (See attached map). This cumulative ("reasonably foreseeable") risk must not continue to be ignored at the project-level, or at the programmatic (Forest Plan) level.

Global warming and its consequences may also be effectively irreversible which implicates certain legal consequences under NEPA and NFMA and ESA (e.g., 40 CFR § 1502.16; 16 USC §1604(g); 36 CFR §219.12; ESA Section 7; 50 CFR §§402.9, 402.14). All net car- bon

emissions from logging represent "irretrievable and irreversible commitments of resources."

It is clear that the management of the planet's forests is a nexus for addressing this largest crisis ever facing humanity. Yet the scoping notice fails to even provide a minimal quantitative analysis of project- or agency-caused CO_2 emissions or consider the best available science on the topic. This is immensely unethical and immoral. Please provide detailed scientific discussions in the EA and Draft Decision Notice concerning climate change, because the consequences of unchecked climate change will be disastrous for food production, sea level rise, and water supplies, resulting in complete turmoil for all human societies. This is an issue as serious a nuclear annihilation (although at least with the latter we're not already pressing the button).

Please provide information on climate change effects on project area vegetation. Please provides an analysis as to the veracity of the project's Purpose and Need, the project's objectives, goals, or desired conditions. The FS has the responsibility to inform the public that climate change is and will be bringing forest change.

Please consider that the effects of climate change on the project area, including that the "desired" vegetation conditions will likely not be achievable or sustainable. The scoping notice fails to provide any credible analysis as to how realistic and achievable its desired conditions are in the context of a rapidly changing climate, along an un- predictable but changing trajectory.

The Forest Plan does not provide meaningful direction on climate change. Please acknowledge pertinent and highly relevant best available science on climate change.

Please analyze or disclose the body of science that implicates logging activities as a contributor to reduced carbon stocks in forests and increases in greenhouse gas emissions. Please provide estimates of the total amount of carbon dioxide (CO_2) or other greenhouse gas emissions caused by FS management actions and policies—forest-wide, regionally, or nationally. Agency policy-makers seem comfortable maintaining a position that they need not take any leadership on this issue, and obfuscate via this EA to justify their failures.

The best scientific information strongly suggests that management that involves removal of trees and other

biomass increases atmospheric CO_2. Unsurprisingly the FSEIS doesn't state that simple fact.

Plaease present any modeling of forest stands under different management scenarios. The FS should model the carbon flux over time for its proposed stand management scenarios and for the vari- ous types of vegetation cover found on the CTNF.

Please analyze how CO_2 and other greenhouse gas emissions from other common human activities related to forest management and recreational uses. These include emissions associated with machines used for logging and associated activities, vehicle use for administrative actions, and recreational motor vehicles. The FS is simply ignoring the climate impacts of these management and other authorized activities.

The Committee of Scientists, 1999 recognize the importance of forests for their contribution to global climate regulation. Also, the 2012 Planning Rule recognizes, in its definition of Ecosystem services, the "Benefits people obtain from ecosystems, including: (2) Regulating services, such as long term storage of carbon; climate regulation..."

We have no more time to prevaricate, and it's not a battle we can afford to lose. We each have a choice: submit to status quo for the profits of the greediest 1%, or empower ourselves to limit greenhouse gas emissions so not just a couple more generations might survive.

The District Court of Montana ruled in Case 4:17-cv-00030- BMM that the Federal government did have to evaluate the climate change impacts of the federal government coal pro- gram. Please find the order attached.

In March 2019, U.S. District Judge Rudolph Contreras in Washington, D.C., ruled that when the U.S. Bureau of Land Management (BLM) auctions public lands for oil and gas leas- ing, officials must consider emissions from past, present and foreseeable future oil and gas leases nationwide. The case was brought by WildEarth Guardians and Physicians for Social Responsibility.

In March of 2018 the Federal District Court of Montana found the Miles City (Montana) and Buffalo (Wyoming) Field Office's Resource Management Plans unlawfully overlooked climate impacts of coal mining and oil and gas drilling. The case was brought by Western Organization

of Resource Councils, Mon- tana Environmental Information Center, Powder River Basin

Resource Council, Northern Plains Resource Council, the Sier- ra Club, and the Natural Resources Defense Council.

The project is in violation of NEPA, NFMA, the APA, the ESA for not examining the impacts of the project on climate change. The project will eliminate the forest in the project area. Forests absorb carbon. The project will destroy soils in the project area. Soils are carbon sinks.

Please see the following article that ran in the Missoulian on March 11, 2019.

Fire study shows landscapes such as Bitterroot's Sapphire Range too hot, dry to restore trees

ROB CHANEY rchaney@missoulian.com Mar 11, 2019

Burned landscapes like this drainage in the Sapphire Mountains hasn't been able to grow new trees since the Valley Complex fire of 2000, due to lack of soil moisture, humidity and seed trees, as well as excess heat during the growing season. University of Montana students Erika

Berglund and Lacey Hankin helped gather samples for a study showing tree stands are getting replaced by grass and shrubs after fire across the western United States due to climate change.

Courtesy Kim Davis

Fire-scarred forests like the Sapphire Range of the Bitterroot Valley may become grasslands because the growing seasons have become

too hot and dry, according to new research from the University of Montana.

"The drier aspects aren't coming back, especially on north-facing slopes," said Kim Davis, a UM landscape ecologist and lead inves- tigator on the study. "It's not soil sterilization. Other vegetation like grasses are re-sprouting. It's too warm. There's not enough moisture for the trees."

Davis worked with landscape ecologist Solomon Dobrowski, fire pa- leoecologist Philip Higuera, biologist Anna Sala and geoscientist Marco Maneta at UM along with colleagues at the U.S. Forest Ser- vice and University of Colorado-Boulder to produce the study, which was released Monday in the Proceedings of the National Academy of Sciences journal.

"What's striking is if you asked scientists two decades ago how cli- mate warming would play out, this is what they expected we'd see," Higuera said. "And now we're starting to see those predictions on the impact to ecosystems play out."

The study concentrated on regrowth of Ponderosa pine and Douglas fir seedlings in Montana, Idaho, Colorado, New Mexico,

Arizona and northern California. Field workers collected trees from 90 sites, including 40 in the northern Rocky Mountains, scattered within 33 wildfires that had occurred within the past 20 years.

"We did over 4,000 miles of road-tripping across the West, as well as lots of miles hiking and backpacking," Davis said. The survey crews brought back everything from dead seedlings to 4-inch-diameter tree rings; nearly 3,000 samples in total. Then they analyzed how long

each tree had been growing and what conditions had been when it sprouted.

Before the 1990s, the test sites had enough soil moisture, humidity and other factors to recruit new seedlings after forest fires, Do- browski said.

"There used to be enough variability in seasonal conditions that seedlings could make it across these fixed thresholds," Dobrowski said. "After the mid-'90s, those windows have been closing more of- ten. We're worried

we'll lose these low-elevation forests to shrubs or grasslands. That's what the evidence points to."

After a fire, all kinds of grasses, shrubs and trees have a blank slate to recover. But trees, especially low-elevation species, need more soil moisture and humidity than their smaller plant cousins. Before the mid-90s, those good growing seasons rolled around every three to five years. The study shows such conditions have evaporated on virtually all sites since 2000.

"The six sites we looked at in the Bitterroots haven't been above the summer humidity threshold since 1997," Higuera said. "Soil moisture hasn't crossed the threshold since 2009."

The study overturns some common assumptions of post-fire recovery. Many historic analyses of mountain forests show the hillsides used to hold far fewer trees a century ago, and have become overstocked due to the efforts humans put at controlling fire in the woods. Higuera explained that some higher elevation forests are returning to their more sparse historical look due to increased fires.

“But at the lower fringes, those burn areas may transition to non- forest types,” Higuera said, “especially where climate conditions at the end of this century are different than what we had in the early 20th Century.”

The study also found that soil sterilization wasn’t a factor in tree re- growth, even in the most severely burned areas. For example, the 2000 Sula Complex of fires stripped forest cover in the southern end of the Bitterroot Valley. While the lodgepole pine stands near Lost Trail Pass have recovered, the lower- elevation Ponderosa pine and Douglas firs haven’t.

Another factor driving regeneration is the availability of surviving seed trees that can repopulate a burn zone. If one remains within 100 meters of the burned landscape, the area can at least start the process of reseeding. Unfortunately, the trend toward high-severity fires has reduced the once-common mosaic patterns that left some undamaged groves mixed into the burned areas.

Higuera said he hoped land managers could use small or prescribed fires to make landscapes more resilient, as well as restructure tree- planting efforts to boost the chances of heavily burned places.

Rob Chaney

Natural Resources & Environment Reporter

Natural Resources Reporter for The Missoulian.

The NFMA requires in the face of increasing climate risk, growing impacts of wildfire and insect activity, plus scientific research find- ings, the FS must disclose the significant trend in post-fire regeneration failure. The forest has already experienced considerable difficulty restocking on areas that have been subjected to prescribed fire, clear-cut logging, post- fire salvage logging and other even-aged management "systems."

NFMA (1982) regulation 36CFR 219.27(C)(3) implements the NFMA statute, which requires restocking in five years.

Forest managers must analyze and disclose the fact that the Caribou-Targhee National Forest can no longer "insure that timber will be harvested from the National Forest system lands only where...there is assurance that such lands can be restocked within five years of harvest?" (NFMA§6(g)(3)(E)(ii)).

The project goals and expectations are not consistent with NFMA's "adequate restocking" requirement. Scientific research can no longer be ignored.

"At dry sites across our study region, seasonal to annual climate conditions over the past 20 years have crossed these thresholds, such that conditions have become increasingly unsuitable for regenera- tion. High fire severity and low seed availability further reduced the probability of post-fire regeneration. Together, our results demon- strate that climate change combined with high severity fire is leading to increasingly fewer opportunities for seedlings to establish after wildfires and may lead to ecosystem transitions in low-elevation ponderosa pine and Douglas-fir forests across the western United States." Wildfires and climate change push low-elevation forests across a critical climate threshold for tree regeneration, PNAS (2018), Kimberley T. Davis, et al. (Please, find attached)

Forests are already experiencing emissions-driven deforestation on both the post-fire and post-logging acreage. Areas where the cumula- tive effects of wildfire, followed by salvage logging on the same piece of ground *are error upon error, with decades of a routine that can rightfully be described as willful ignorance and coverup.*

Where is the reference to restocking? Monitoring data and analysis? If monitoring has been done there is no disclosure documenting the scope and probability of post-fire regeneration failures in the project area. NFMA requires documentation and analysis that accurately estimates climate risks driving regeneration failure and deforestation – all characteristic of a less "resilient" forest.

"In the US Rocky Mountains, we documented a significant trend of post-fire tree regeneration, even over the relatively short period of 23 years covered in this analysis. Our findings are consistent with the expectation of reduced resilience of forest ecosystems to the combined impacts of climate warming and wildfire activity. Our results suggest that predicted shifts from forest to non-forested vegetation." Evidence for declining forest resilience to wildfires under climate change, Ecology Letters, (2018) 21: 243–252, Stevens-Ru- mens et al. (2018). (Please find attached)

The Forest Plan is based on assumptions largely drawn from our past. These assumptions must be challenged, and amended, where overwhelming evidence demonstrates a change of course is critically important. It is time to take a step back, assess the future and make the necessary adjustments, all in full public disclosure to the Congress and the American people.

Please acknowledge the likelihood that "...high seedling and sapling mortality rates due to water stress, competing vegetation, and repeat fires that burn young stands," which will likely lead to a dramatic increase in non- forest land acres. Many acres of (conifers) trees already fail to regenerate. (Emphasis added). A map of these areas is required. In many areas, conifers haven't shown "resilience" enough to spring back from disturbance.

Looking to the Future and Learning from the Past in our Na- tional Forests: Posted by Randy Johnson, U.S. Forest Service Research and Development Program, on November 1, 2016 at 11:00 AM http://blogs.usda.gov/2016/11/01/looking-to-the- future-and-learning-from-the-past-in-our-national-forests/

Excerpt:

“Forests are changing in ways they've never experienced before because today's growing conditions are different from anything in the past. The climate is changing at an unprecedented rate, exotic diseases and pests are present, and landscapes are fragmented by human activity often occurring at the same time and place.

When replanting a forest after disturbances, does it make sense to try to reestablish what was there before? Or, should we find re-plant material that might be more appropriate to current and future conditions of a changing environment?

Restoration efforts on U.S. Forest Service managed lands call for the use of locally adapted and appropriate native seed sources. The science-based process for selecting these seeds varies, but in the past, managers based decisions on the assumption that present site conditions are similar to those of the past.”

“This may no longer be the case.”

The selected scientific research presented above is only a sampling of the growing body of evidence that supports the need to disclose the consequences of the proposed

action in a proper context – a hotter forest environment, with more frequent drought cycles. This evidence brings into question the Purpose and Need for the project. It also requires the FS to reconsider the assumptions, goals and expected desired future condition expressed in the existing Forest Plan. Plan expectations must be amended at the programmatic level before proceeding with proposed project-level action(s). According to best available science, implementing the project will most likely accomplish the opposite of the de- sired future condition. We can adjust as we monitor and find out more. However, to willfully ignore what we do know and fail to disclose it to the public is a serious breach of public trust and an unconscionable act. Climate risk is upon us. A viable alternative to the proposal is not only reasonable and prudent, but it is the right thing to do.

Please see the attached article titled, "Fuel Reduction" Logging Increases Wildfire Intensity."

Please also see the attached paper by Della-Sala et al. 2022, titled, "Have western USA fire suppression and megafire active management approaches become a contemporary Sisyphus?"

The Diamond Creek project is in violation of NEPA, NFMA, the Clean Water Act, the ESA and the APA because the project will adversely affect biological diversity, is not following the best available since and the purpose and need will not work.

The NFMA requires in the face of increasing climate risk, growing impacts of wildfire and insect activity, plus scientific research findings, the FS must disclose the significant trend in post-fire regenera- tion failure. The forest has already experienced considerable difficul- ty restocking on areas that have been subjected to prescribed fire, clear-cut logging, post- fire salvage logging and other even-aged management "systems."

NFMA (1982) regulation 36CFR 219.27(C)(3) implements the NFMA statute, which requires restocking in five years.

Forest managers must analyze and disclose the fact that the Caribou-Targhee National Forest can no longer "insure that timber will be harvested from the National Forest system lands only where...there is assurance that such lands can be restocked within five years of harvest?" (NFMA§6(g)(3)(E)(ii)).

The project goals and expectations are not consistent with NFMA's "adequate restocking" requirement. Scientific research can no longer be ignored.

"At dry sites across our study region, seasonal to annual climate conditions over the past 20 years have crossed these thresholds, such that conditions have become increasingly unsuitable for regenera- tion. High fire severity and low seed availability further reduced the probability of post-fire regeneration. Together, our results demon- strate that climate change combined with high severity fire is leading to increasingly fewer opportunities for seedlings to establish after wildfires and may lead to ecosystem transitions in low-elevation ponderosa pine and Douglas-fir forests across the western United States." Wildfires and climate change push low-elevation forests across a critical climate threshold for tree regeneration,

PNAS (2018), Kimberley T. Davis, et al. (Please, find attached)

Both RPA and NFMA mandate long-range planning which impose numerous limitations on commodity production, including grazing, timber harvesting practices and the amount of timber sold annually.

These long-range plans are based on assumptions, which are based on data, expert opinion, public participation and other factors that all, well almost all, view from a historical perspective. Assumptions that drove forest planning guidance decades ago, when climate risk was not known as it is today, are obsolete today.

Present and future climate risk realities demand new assumptions and new guidance.

A proper reexamination of the assumptions relating to resilience and sustainability contained in the Forest Plan is necessary. Scientific re- search supporting our comments focus on important data and analy- sis. A full discussion and disclosure of the following is required: 1) trends in wildfires, insect activity and tree mortality, 2)

past regeneration success/failure in the project area, and 3) climate-risk science – some of which is cited below. Our comments, and supporting scientific re- search clearly "demonstrates connection between prior specific written comments on the particu- lar proposed project or activity and the content of the objection..."

The project is in violation of NEPA, NFMA, the Forest Plan and the APA.

Sec. 6. of the National Forest Management Act states:

(g) As soon as practicable, ... the Secretary shall ... promulgate reg- ulations, under the principles of the Multiple-Use, Sustained-Yield Act of 1960...

The regulations shall include, but not be limited to-

(3) specifying guidelines for land management plans developed to achieve the goals of the Program which-

(E) insure that timber will be harvested from National Forest System lands only where-

(i) soil, slope, or other watershed conditions will not be irreversibly damaged;

NFMA regulations at 36 C.F.R. § 219.27 (Management require- ments) state:

(a) Resource protection. All management prescriptions shall—

(1) Conserve soil and water resources and not allow significant or permanent impairment of the productivity of the land;

(b) Vegetative manipulation. Management prescriptions that involve vegetative manipulation of tree cover for any purpose shall--

(5) Avoid permanent impairment of site productivity and ensure con- servation of soil and water resources;

The project-level, and programmatic-level (Forest Plan) fail to publicly disclose the current and future impacts of climate risk to our national forests. NEPA requires cumulative effects analysis at the programmatic level, and at the project-level. The failure to assess and disclose all risks associated with vegetative-manipulation (slash and burn) units in the project area in the proper climate-risk context/scenario violates the NFMA, NEPA and the APA.

In the face of increasing climate risk, growing impacts of wildfire and insect activity, plus scientific research findings, NEPA analysis and disclosure must address the well-documented trend in post-fire regeneration failure. The project has already experienced difficulty restocking on areas that burned in the 1988 wildfire. NFMA (1982) regulation 36 CFR 219.27(c)(3) implements the NFMA statute, which requires adequate restocking in five years.

Given the forest's poor history of restocking success and its failure to employ the best available science, the adequacy of the site-specific and programmatic NEPA/ NFMA process begs for further analysis and disclosure of the reality of worsening climate conditions which threaten – directly and cumulatively – to turn forest into non-forest- ed vegetation, or worse. The desired future condition described in the Purpose and Need, or in the Forest Plan is not deforestation.

The Forest Plan is based on assumptions largely drawn from our past. These assumptions must be challenged, and amended, where overwhelming evidence demonstrates a change of course is critically important. It is time to take a step back, assess the future and make the *necessary adjust- ments, all in full public disclosure to the Congress and the American people.*

Please acknowledge the likelihood that "...high seedling and sapling mortality rates due to water stress, competing vegetation, and repeat fires that burn young stands," which will likely lead to a dramatic increase in non- forest land acres. Many acres of (conifers) trees already fail to regenerate. (Emphasis added). A map of these areas is required. In many areas, conifers haven't shown "re- silience" enough to spring back from disturbance.

Looking to the Future and Learning from the Past in our National Forests: Posted by Randy Johnson, U.S. Forest Service Research and Development Program, on November 1, 2016 at 11:00 AM http://blogs.usda.gov/ 2016/11/01/looking-to-the- future-and-learning-from-the-past-in-our-national-forests/

Excerpt:

"Forests are changing in ways they've never ex- perienced before because today's growing conditions are different from anything in the past. The climate is chang- ing at an unprecedented rate, exotic diseases and pests are

present, and landscapes are fragmented by human activity often occurring at the same time and place.

When replanting a forest after disturbances, does it make sense to try to reestablish what was there before? Or, should we find re-plant material that might be more appropriate to current and future conditions of a changing environment?

Restoration efforts on U.S. Forest Service managed lands call for the use of locally adapted and appropriate native seed sources. The science-based process for selecting these seeds varies, but in the past, managers based decisions on the assumption that present site conditions are similar to those of the past."

"This may no longer be the case."
Please amend the Forest Plan to establish standards and guidelines which acknowledge the significance of climate risk to other multiple-uses. Amendments must not only analyze forest-wide impacts, but the regional, national and global scope of expected environmental changes. Based on scientific research, the existing and projected irretrievable losses must be estimated. Impacts caused by

gathering cli- mate risk (heat, drought, wind) and its symptoms, including wildfire, insect activity, and regeneration failure and mature tree mortality must be analyzed cumulatively.

The selected scientific research presented above is only a sampling of the growing body of evidence that supports the need to disclose the consequences of the proposed action in a proper context – a hotter forest environment, with more frequent drought cycles. This evidence brings into question the Purpose and Need for the project. It also requires the FS to reconsider the assumptions, goals and expected desired future condition expressed in the existing Forest Plan. Plan expectations must be amended at the programmatic level before proceeding with proposed project-level action(s). According to best available science, implementing the project will most likely accomplish the opposite of the de- sired future condition. We can adjust as we monitor and find out more. However, to willfully ignore what we do know and fail to disclose it to the public is a serious breach of public trust and an unconscionable act. Climate risk is upon us.

A viable alternative to the proposal is not only reasonable and prudent, but it is the right thing to do.

The project will be a NFMA violation because it will promote the demise of aspen stands by burning out conifers without providing protection from livestock browsing.

To save aspen some national forests limit cattle utilization of aspen to 20%. What is the current cattle utilization of aspen?

The agency is violating the NEPA by claiming that conifer encroachment needs to be removed to promote aspen, when livestock grazing is almost always the problem with aspen failure to regenerate.

The agency is violating the NEPA by promoting fuel reduction projects as protection of the public from fire, when this is actually a very unlikely event; the probability of a given fuel break to actually have a fire in it before the fuels reduction benefits are lost with conifer regeneration are extremely remote; forest drying and increased wind speeds in thinned forests may increase, not reduce, the risk of fire.

The agency is violating the NEPA by providing false reasons for prescribed burning to the public by claiming that insects and disease in forest stands are detrimental to the forest by reducing stand vigor (health) and increasing fire risk. There is no current science that demonstrates

that insects and disease are bad for wildlife, including dwarf mistletoe, or that these increase the risk of fire once red needles have fallen.

The agency is violating the NEPA by claiming that prescribed burning is needed to create a diversity of stand structures and age classes.

The agency is violating the NEPA by using vague, unmeasureable terms to rationalize the proposed burning to the public. How can the public measure "resiliency?" What are the specific criteria used to define resiliency, and what are the ratings for each proposed logging unit before and after treatment? How is the risk of fire as affected by the project being measured so that the public can understand whether or not this will be effective? How is forest health to be measured so that the public can see that this is a valid management strategy? What specifically constitutes a diversity of age classes, how is this to be measured, and how are proposed changes measured as per diversity? How are diversity measures related to wildlife (why is diversity needed for what speciese)? If the reasons for logging cannot be clearly identified and measured for the public, the agency is not meeting the NEPA requirements for transparency.

The agency is violating the NEPA by claiming that prescribed burning will benefit wildlife; the scoping document does not identify what habitat objectives will be

addressed with burning, so the public is unable to understand how to comment on this claim.

The Forest Service did not respond to our comments in violation of NEPA and the Appeals Reform Act.

The federal district court of Montana recently ruled against the Kootenai National Forest for not considering the impact of climate change of a logging project, writing: Ultimately, greenhouse gas reduction must happen quickly, and removing carbon from forests in the form of logging, even if trees are going to grow back, will take decades to centuries to re-sequester. Put more simply, logging causes immediate carbon losses, while re-sequestration happens slowly over time, time that the planet may not have.

Please find the court’s order attached.

The Caribou Targhee National Forest has not yet accepted that the effects of climate risk represent a significant issue, and eminent loss of forest resilience already, and a significant and growing risk into the “foreseeable future?”

It is now time to speak honestly about unrealistic expectations relating to desired future condition. Forest managers have failed to dis- close that at least five common tree species, including aspens and four conifers, are at great risk unless atmospheric greenhouse gases and associated temperatures can be contained at today’s levels of concentration in the atmosphere. (See attached map). This cumulative (“reasonably foreseeable”) risk must not continue to be ignored at the project-level, or at the programmatic (Forest Plan) level.

Global warming and its consequences may also be effectively irreversible which implicates certain legal consequences under NEPA and NFMA and ESA (e.g., 40 CFR § 1502.16; 16 USC §1604(g); 36 CFR §219.12; ESA Section 7; 50 CFR §§402.9, 402.14). All net car- bon emissions from logging represent “irretrievable and irreversible commitments of resources.”

It is clear that the management of the planet's forests is a nexus for addressing this largest crisis ever facing humanity. Yet the EA and Draft Decision Notice fails to even provide a minimal quantitative analysis of project- or agency-caused CO_2 emissions or consider the best available science on the topic. This is immensely unethical and immoral. The lack of detailed scientific discussions in the EA and Draft Decision Notice concerning climate change is far more troubling than the document's failures on other topics, because the consequences of unchecked climate change will be disastrous for food production, sea level rise, and water supplies, resulting in complete turmoil for all human societies. This is an issue as serious a nuclear annihilation (although at least with the latter we're not already pressing the button).

The EA provided a pittance of information on climate change effects on project area vegetation. The EA provides no analysis as to the veracity of the project's Purpose and Need, the project's objectives, goals, or desired conditions. The FS has the responsibility to inform the public that climate change is and will be bringing forest change. For the Diamond Creek project, this did not happen, in violation of NEPA.

The EA fails to consider that the effects of climate change on the project area, including that the “desired” vegetation conditions will likely not be achievable or sustainable. The EA fails to provide any credible analysis as to how realistic and achievable its desired condi- tions are in the context of a rapidly changing climate, along an un- predictable but changing trajectory.

The Forest Plan does not provide meaningful direction on climate change. Nor does the EA acknowledge pertinent and highly relevant best available science on climate change. This project is in violation of NEPA.

The EA does not analyze or disclose the body of science that impli- cates logging activities as a contributor to reduced carbon stocks in forests and increases in greenhouse gas emissions. The EA fails to provide estimates of the total amount of carbon dioxide (CO_2) or other greenhouse gas emissions caused by FS management actions and policies—forest-wide, regionally, or nationally. Agency policy-makers seem comfortable maintaining a position that they need not take any leadership on this issue, and obfuscate via this EA to justify their failures.

The best scientific information strongly suggests that management that involves removal of trees and other biomass increases atmospheric CO_2. Unsurprisingly the FSEIS doesn't state that simple fact.

The EA fails to present any modeling of forest stands under different management scenarios. The FS should model the carbon flux over time for its proposed stand management scenarios and for the vari- ous types of vegetation cover found on the CGNF.

The EA also ignores CO_2 and other greenhouse gas emissions from other common human activities related to forest management and recreational uses. These include emissions associated with machines used for logging and associated activities, vehicle use for administrative actions, and recreational motor vehicles. The FS is simply ignoring the climate impacts of these management and other authorized activities.

The Committee of Scientists, 1999 recognize the importance of forests for their contribution to global climate regulation. Also, the 2012 Planning Rule recognizes, in its definition of Ecosystem services, the "Benefits people obtain from ecosystems, including: (2)

Regulating services, such as long term storage of carbon; climate regulation...”

We have no more time to prevaricate, and it’s not a battle we can afford to lose. We each have a choice: submit to status quo for the profits of the greediest 1%, or empower ourselves to limit greenhouse gas emissions so not just a couple more generations might survive.

The District Court of Montana ruled in Case 4:17-cv-00030- BMM that the Federal government did have to evaluate the change impacts of the federal government coal pro- gram. Please find the order attached.

In March 2019, U.S. District Judge Rudolph Contreras in Washington, D.C., ruled that when the U.S. Bureau of Land Management (BLM) auctions public lands for oil and gas leas- ing, officials must consider emissions from past, present and foreseeable future oil and gas leases nationwide. The case was brought by WildEarth Guardians and Physicians for Social Responsibility.

In March of 2018 the Federal District Court of Montana found the Miles City (Montana) and Buffalo (Wyoming) Field Office’s Resource Management Plans unlawfully overlooked climate impacts of coal mining and oil and gas drilling. The case was brought by Western Organization of Resource Councils, Mon- tana Environmental Information Center, Powder River Basin

Resource Council, Northern Plains Resource Council, the Sierra Club, and the Natural Resources Defense Council.

The project is in violation of NEPA, NFMA, the APA, the ESA for not examining the impacts of the project on climate change. The project will eliminate the forest in the project area. Forests absorb carbon. The project will destroy soils in the project area. Soils are carbon sinks.

Please see the following article that ran in the Missoulian on March 11, 2019.

Fire study shows landscapes such as Bitterroot's Sapphire Range too hot, dry to restore trees

ROB CHANEY rchaney@missoulian.com Mar 11, 2019

Burned landscapes like this drainage in the Sapphire Mountains hasn't been able to grow new trees since the Valley Complex fire *of 2000, due to lack of soil moisture, humidity and seed trees, as well as excess heat during the growing season. University of Montana students Erika Berglund and Lacey Hankin helped gather samples for a study showing tree stands are getting replaced by grass and shrubs after fire across the western United States due to climate change.*

Courtesy Kim Davis

Fire-scarred forests like the Sapphire Range of the Bitterroot Valley may become grasslands because the growing seasons have become *too hot and dry, according to new research from the University of Montana.*

"The drier aspects aren't coming back, especially on north-facing slopes," said Kim Davis, a UM landscape ecologist and lead inves- tigator on the study. "It's not soil sterilization. Other vegetation like grasses are re-sprouting. It's too warm. There's not enough moisture for the trees."

Davis worked with landscape ecologist Solomon Dobrowski, fire pa- leoecologist Philip Higuera, biologist Anna Sala and geoscientist Marco Maneta at UM along with colleagues at the U.S. Forest Ser- vice and University of Colorado-Boulder to produce the study, which was released Monday in the Proceedings of the National Academy of Sciences journal.

"What's striking is if you asked scientists two decades ago how cli- mate warming would play out, this is what they expected

we'd see," Higuera said. "And now we're starting to see those predictions on the impact to ecosystems play out."

The study concentrated on regrowth of Ponderosa pine and Douglas fir seedlings in Montana, Idaho, Colorado, New Mexico,

Arizona and northern California. Field workers collected trees from 90 sites, including 40 in the northern Rocky Mountains, scattered within 33 wildfires that had occurred within the past 20 years.

"We did over 4,000 miles of road-tripping across the West, as well as lots of miles hiking and backpacking," Davis said. The survey crews brought back everything from dead seedlings to 4-inch-diameter tree rings; nearly 3,000 samples in total. Then they analyzed how long

each tree had been growing and what conditions had been when it sprouted.

Before the 1990s, the test sites had enough soil moisture, humidity and other factors to recruit new seedlings after forest fires, Dobrowski said.

“There used to be enough variability in seasonal conditions that seedlings could make it across these fixed thresholds,” Dobrowski said. “After the mid-‘90s, those windows have been closing more of- ten. We’re worried we’ll lose these low-elevation forests to shrubs or grasslands. That’s what the evidence points to.”

After a fire, all kinds of grasses, shrubs and trees have a blank slate to recover. But trees, especially low-elevation species, need more soil moisture and humidity than their smaller plant cousins. Before the mid-90s, those good growing seasons rolled around every three to five years. The study shows such conditions have evaporated on virtually all sites since 2000.

“The six sites we looked at in the Bitterroots haven’t been above the summer humidity threshold since 1997,” Higuera said. “Soil moisture hasn’t crossed the threshold since 2009.”

The study overturns some common assumptions of post-fire recovery. Many historic analyses of mountain forests show the hillsides used to hold far fewer trees a century ago, and have become overstocked due to the efforts humans put at controlling fire in the woods. Higuera explained that some higher elevation forests are returning to their more sparse historical look due to increased fires.

“But at the lower fringes, those burn areas may transition to non- forest types,” Higuera said, “especially where climate conditions at the end of this century are different than what we had in the early 20th Century.”

The study also found that soil sterilization wasn't a factor in tree re- growth, even in the most severely burned areas. For example, the 2000 Sula Complex of fires stripped forest cover in the southern end of the Bitterroot Valley. While the lodgepole pine stands near Lost Trail Pass have recovered, the lower- elevation Ponderosa pine and Douglas firs haven't.

Another factor driving regeneration is the availability of surviving seed trees that can repopulate a burn zone. If one remains within 100 meters of the burned landscape, the area can at least start the process of reseeding. Unfortunately, the trend toward high-severity fires has reduced the once-common mosaic patterns that left some undamaged groves mixed into the burned areas.

Higuera said he hoped land managers could use small or prescribed fires to make *landscapes more resilient, as well as restructure tree- planting efforts to boost the chances of heavily burned places*.

Rob Chaney

Natural Resources & Environment Reporter

Natural Resources Reporter for The Missoulian.

Remedy: Choose the No Action Alternative. Revise the Forest Plan to take a hard look at the science of climate change. Alternatively, draft a new EIS for this project if the FS still wants to pursue it, which includes an analysis that examines climate change in the context of project activities and Desired Conditions.

The NFMA requires in the face of increasing climate risk, growing impacts of wildfire and insect activity, plus scientific research find- ings, the FS must disclose the significant trend in post-fire regeneration failure. The forest has already experienced considerable difficulty restocking on areas that have been subjected to prescribed fire, clearcut logging, post- fire salvage logging and other even-aged management "systems."

NFMA (1982) regulation 36CFR 219.27(C)(3) implements the NFMA statute, which requires restocking in five years.

Forest managers must analyze and disclose the fact that the Custer Gallatin National Forest can no longer "insure that timber will be harvested from the National Forest system lands only where...there is assurance that such lands can be restocked within five years of harvest?" (NFMA§6(g)(3)(E)(ii)).

The project goals and expectations are not consistent with NFMA's "adequate restocking" requirement. Scientific research can no longer be ignored.

"At dry sites across our study region, seasonal to annual climate conditions over the past 20 years have crossed these thresholds, such that conditions have become increasingly unsuitable for regenera- tion. High fire severity and low seed availability further reduced the probability of post-fire regeneration. Together, our results demon- strate that climate change combined with high severity fire is leading to increasingly fewer opportunities for seedlings to establish after wildfires and may lead to ecosystem transitions in low-elevation ponderosa pine and Douglas-fir forests across the western United States." Wildfires and climate change push low-elevation forests across a critical climate threshold for tree regeneration, PNAS (2018), Kimberley T. Davis, et al. (Please, find attached)

Forests are already experiencing emissions-driven deforestation on both the post-fire and post-logging acreage. Areas where the cumula- tive effects of wildfire, followed by salvage logging on the same piece of ground are error upon error, with decades of a routine that can rightfully be described as willful ignorance and coverup.

Where is the reference to restocking? Monitoring data and analysis? If monitoring has been done there is no disclosure documenting the scope and probability of post-fire regeneration failures in the project area. NFMA requires documentation and analysis that accurately estimates climate risks driving regeneration failure and deforestation – all characteristic of a less "resilient" forest.

"In the US Rocky Mountains, we documented a significant trend of post-fire tree regeneration, even over the relatively short period of 23 years covered in this analysis. Our findings are consistent with the expectation of reduced resilience of forest ecosystems to the combined impacts of climate warming and wildfire activity. Our results suggest that predicted shifts from forest to non-forested vegetation." Evidence for declining forest resilience to wildfires under climate change, Ecology Letters, (2018) 21: 243–252, Stevens-Ru- mens et al. (2018). (Please find attached)

The Forest Plan is based on assumptions largely drawn from our past that no longer hold true. These assumptions, made decades ago, must be challenged, and amended, where overwhelming evidence demon- strates a change of course is critical. It is time to take a step back, as- sess the present and future and make the necessary adjustments, all in full public disclosure to the Congress and the American people. Many acres of (conifers) In many areas, conifers haven't shown "re- silience" enough to spring back from disturbance. Regeneration is already a big problem. (Emphasis added).

Both RPA and NFMA mandate long-range planning which impose numerous limitations on commodity production, including grazing, timber harvesting practices and the amount of timber sold annually.

These long-range plans are based on assumptions, which are based on data, expert opinion, public participation and other factors that all, well almost all, view from a historical perspective. Assumptions that drove forest planning guidance decades ago, when climate risk was not known as it is today, are obsolete today.

Present and future climate risk realities demand new assumptions and new guidance.

A proper reexamination of the assumptions relating to resilience and sustainability contained in the Forest Plan is necessary. Scientific research supporting our comments focus on important data and analysis. A full discussion and disclosure of the following is required: 1) trends in wildfires, insect activity and tree mortality, 2) past regeneration success/failure in the project area, and 3) climate-risk science – some of which is cited below. Our comments, and supporting scientific re- search clearly "demonstrates connection between prior specific written comments on the particu- lar proposed project or activity and the content of the objection..."

The project is in violation of NEPA, NFMA, the Forest Plan and the APA.

Sec. 6. of the National Forest Management Act states:

(g) As soon as practicable, ... the Secretary shall ... promulgate regulations, under the principles of the Multiple-Use, Sustained-Yield Act of 1960...

The regulations shall include, but not be limited to-

(3) specifying guidelines for land management plans developed to achieve the goals of the Program which-

(E) insure that timber will be harvested from National Forest System lands only where-

(i) soil, slope, or other watershed conditions will not be irreversibly damaged;

NFMA regulations at 36 C.F.R. § 219.27 (Management requirements) state:

(a) Resource protection. All management prescriptions shall—

(1) Conserve soil and water resources and not allow significant or permanent impairment of the productivity of the land;

(b) Vegetative manipulation. Management prescriptions that involve vegetative manipulation of tree cover for any purpose shall--

(5) Avoid permanent impairment of site productivity and ensure conservation of soil and water resources;

The project-level, and programmatic-level (Forest Plan) fail to pub- licly disclose the current and future impacts of climate risk to our national forests. NEPA requires cumulative effects analysis at the programmatic level, and at the project-level. The failure to assess and disclose all risks associated with vegetative-manipulation (slash and burn) units in the project area in the proper climate-risk context/scenario violates the NFMA, NEPA and the APA.

In the face of increasing climate risk, growing impacts of wildfire and insect activity, plus scientific research findings, NEPA analysis and disclosure must address the well-documented trend in post-fire regeneration failure. The project has already experienced difficulty restocking on areas that burned in the 1988 wildfire. NFMA (1982) regulation 36 CFR 219.27(c)(3) implements the NFMA statute, which requires adequate restocking in five years.

Given the forest's poor history of restocking success and its failure to employ the best available science, the adequacy of the site-specific and programmatic NEPA/NFMA process begs for further analysis and disclosure of the reality of worsening climate conditions which threaten – directly and cumulatively – to turn forest into non-forested vegetation, or worse. The desired future condition described in the Purpose and Need, or in the Forest Plan is not deforestation.

The Forest Plan is based on assumptions largely drawn from our past. These assumptions must be challenged, and amended, where overwhelming evidence demonstrates a change of course is critically important. It is time to take a step back, assess the future and make the necessary adjustments, all in full public disclosure to the Congress and the American people.

The EA fails to acknowledge the likelihood that "...high seedling and sapling mortality rates due to water stress, competing vegetation, and repeat fires that burn young stands," which will likely lead to a dramatic increase in non- forest land acres. Many acres of (conifers) trees already fail to regenerate. (Emphasis added). A map of these areas is required. In many areas, conifers haven't shown "resilience" enough to spring back from disturbance.

Looking to the Future and Learning from the Past in our National Forests: Posted by Randy Johnson, U.S. Forest Service Research and Development Program, on November 1, 2016 at 11:00 AM http://blogs.usda.gov/2016/11/01/looking-to-the- future-and-learning-from-the-past-in-our-national-forests/

Excerpt:

"Forests are changing in ways they've never experienced before because today's growing conditions are different from anything in the past. The climate is changing at an unprecedented rate, exotic diseases and pests are present, and landscapes are fragmented by human activity often occurring at the same time and place.

When replanting a forest after disturbances, does it make sense to try to reestablish what was there before? Or, should we find re-plant material that might be more appropriate to current and future conditions of a changing environment?

Restoration efforts on U.S. Forest Service managed lands call for the use of locally adapted and appropriate native seed sources. The science-based process for selecting these seeds varies, but in the past, managers based decisions on the assumption that present site conditions are similar to those of the past."

"This may no longer be the case."

REMEDY

Suggested remedies: Choose the No Action Alternative or Forest Plan Amendments are needed to establish standards and guidelines which acknowledge the significance of climate risk to other multiple-uses. Amendments must not only analyze forest-wide impacts, but the regional, national and global scope of expected environmental changes. Based on scientific research, the existing and projected irretrievable losses must be estimated. Impacts caused by gathering cli- mate risk (heat, drought, wind) and its symptoms, including wildfire, insect activity, and regeneration failure and mature tree mortality must be analyzed cumulatively.

The selected scientific research presented above is only a sampling of the growing body of evidence that supports the need to disclose the consequences of the proposed action in a proper context – a hotter forest environment, with more frequent drought cycles. This evidence brings into question

the Purpose and Need for the project. It also requires the FS to reconsider the assumptions, goals and expected desired future condition expressed in the existing Forest Plan. Plan expectations must be amended at the programmatic level before proceeding with proposed project-level action(s). According to best available science, implementing the project will most likely accomplish the opposite of the desired future condition. We can adjust as we monitor and find out more. However, to willfully ignore what we do know and fail to disclose it to the public is a serious breach of public trust and an unconscionable act. Climate risk is upon us. A viable alternative to the proposal is not only reasonable and prudent, but it is the right thing to do.

The draft decision is in violation of NEPA, NFMA, the ESA and the APA because the project will adversely affect biological diversity, is not following the best available since and the purpose and need will not work.

The NEPA requires a “hard look” at climate issues, including cumulative effects of the “treatments” in the proposed project when added to the heat, drought, wind and other impacts associated with in- creased climate risk. Regeneration/Restocking failure following wildfire, prescribed fire and/or mechanical tree-killing has not been analyzed or disclosed. There is a considerable body of science that suggests that regeneration following fire is increasingly problematic.

NEPA requires disclosure of impact on “the human environment.” Climate risk presents important adverse impacts on cultural, eco- nomic, environmental, and social aspects of the human environment. – people, jobs, and the economy – adjacent to and near the project area. “Challenges in predicting responses of individual tree species to climate are a result of species competing under a never-before- seen climate regime – one forests may not have experienced before either.

In an uncertain future of rapid change and abrupt, unforeseen transitions, adjustments in management approaches will be necessary and some actions will fail. However, it is increasingly evident that the greatest risk is posed by continuing to implement strategies inconsistent with and not informed by current understanding of our novel future....

Achievable future conditions as a framework for guiding forest conservation and management, Forest Ecology and Management 360 (2016) 80–96, S.W. Golladay et al. (Please, find attached)

Stands are at risk of going from forest to non-forest, even without the added risk of "management" as proposed in the project area. The project is currently is violation of NEPA, NFMA, and the APA.

Remedy: Choose the No Action Alternative or write an EIS that fully complies with the law. Please follow NEPA and take a hard look at the impact of the project on climate change.

We wrote in our comments:

The Forest Service must complete a full environmental impact statement (EIS) for this Project because the scope of the Project will likely have a significant individual and cumulative impact on the environment. Alliance has reviewed the statutory and regulatory requirements governing National Forest

Management projects, as well as the relevant case law, and compiled a check-list of issues that must be included in the EIS for the Project in order for the Forest Service's analysis to comply with the law. Following the list of necessary elements, Alliance has also included a general narrative discussion on possible impacts of the Project, with accompanying citations to the relevant scientific literature. These references should be disclosed and discussed in the EIS for the Project.

I. NECESSARY ELEMENTS FOR PROJECT EIS:

A. ***Disclose all Caribou-Targhee National Forest Plan requirements for logging projects and explain how the Project complies with them;***
B. ***Disclose the acreages of past, current, and reasonably foreseeable logging, grazing, and road-building activities within the Project area;***
C. ***Solicit and disclose comments from the Idaho Department of Fish and Game and the U.S. Fish and Wildlife Service regarding the impact of the Project on fish and wildlife habitat;***

D. ***Solicit and disclose comments from the Idaho Department of Environmental Quality regarding the impact of the Project on water quality;***
E. ***Disclose the biological assessment for the candidate, threatened, or endangered species with potential and/or actual habitat in the Project area;***
F. ***Disclose the biological evaluation for the sensitive and management indicator species with potential and/or actual habitat in the Project area;***
G. ***Disclose the snag densities in the Project area, and the method used to determine those densities;***
H. ***Disclose the current, during-project, and post-project densities in the Project area;***
I. ***Disclose the number of road closure violations in the Montpelier and Soda Springs Ranger Districts in the last 5 years;***
J. ***Disclose the Caribou-Targhee National Forest's record of compliance with state best management practices regarding stream sedimentation from ground-disturbing management activities;***
K. ***Disclose the Caribou-Targhee National Forest's record of compliance with its monitoring requirements as set forth in its Forest Plan;***
L. ***Disclose the Caribou-Targhee National Forest's record of compliance with the additional monitoring requirements set forth in previous DN/FONSIs and RODs on the Caribou-Targhee National Forest;***
M. ***Disclose the results of the field surveys for threatened, endangered, proposed, sensitive, and***

rare plants and species, in each of the proposed units;

N. ***Disclose the number of acres and location of Lynx Analysis Units (LAU)s that were removed from the CTNF without going through NEPA;***

O. ***Disclose the level of current noxious weed infestations in the Project area and the cause of those infestations;***

P. ***Disclose the impact of the Project on noxious weed infestations and native plant communities;***

Q. ***Disclose the amount of detrimental soil disturbance that currently exists in each proposed unit from previous logging and grazing activities;***

R. ***Disclose the expected amount of detrimental soil disturbance in each unit after ground disturbance and prior to any proposed mitigation/remediation;***

S. ***Disclose the expected amount of detrimental soil disturbance in each unit after proposed mitigation/ remediation;***

T. ***Disclose the analytical data that supports proposed soil mitigation/remediation measures;***

U. ***Disclose how grazing affects aspen regeneration;***

V. ***Disclose the timeline for implementation;***

W. ***Disclose the funding source for non-commercial activities proposed;***

X. ***Disclose the current level of old growth forest in each third order drainage in the Project area;***

Y. ***Disclose the method used to quantify old growth forest acreages and its rate of error based upon field review of its predictions;***

Z. ***Disclose the historic levels of mature and old growth forest in the Project area;***
AA. ***Disclose the level of mature and old growth forest necessary to sustain viable populations of dependent wildlife species in the area;***
BB. ***Disclose the amount of mature and old growth forest that will remain after implementation;***
CC. ***Disclose the amount of current habitat for old growth and mature forest dependent species in the Project area;***
DD. ***Disclose the amount of habitat for old growth and mature forest dependent species that will remain after Project implementation;***
EE. ***Disclose the method used to model old growth and mature forest dependent wildlife habitat acreages and its rate of error based upon field review of its predictions;***
FF. ***Disclose the amount of big game (moose and elk) hiding cover, winter range, and security currently available in the area;***
GG. ***Have forest fires contributed to a diverse landscape?***
HH. ***Please disclose what is the best available science for restoration of whitebark pine.***
II. ***Disclose the level of current noxious weed infestations in the Project area and the cause of those infestations***
JJ. ***Disclose the amount of big game (moose and elk) hiding cover, winter range, and security during Project implementation;***

KK. ***Disclose the amount of big game (moose and elk) hiding cover, winter range, and security after implementation;***

LL. ***Disclose the method used to determine big game hiding cover, winter range, and security, and its rate of error as determined by field review;***

MM. ***Disclose and address the concerns expressed by the ID Team in the draft Five-Year Review of the Forest Plan regarding the failure to monitor population trends of MIS, the inadequacy of the Forest Plan old growth standard, and the failure to compile data to establish a reliable inventory of sensitive species on the Forest;***

NN. ***Disclose the actions being taken to reduce fuels on private lands adjacent to the Project area and how those activities/or lack thereof will impact the efficacy of the activities proposed for this Project;***

OO. ***Disclose the efficacy of the proposed activities at reducing wildfire risk and severity in the Project area in the future, including a two-year, five-year, ten-year, and 20-year projection;***

PP. ***Disclose when and how the Caribou-Targhee National Forest made the decision to suppress natural wildfire in the Project area and replace natural fire with logging and prescribed burning;***

QQ. ***Disclose the cumulative impacts on the Forest-wide level of the Caribou-Targhee National Forest's policy decision to replace natural fire with logging and prescribed burning;***

RR. ***Disclose how Project complies with the Roadless Rule;***

SS. ***Disclose the impact of climate change on the efficacy of the proposed treatments;***

TT. ***Disclose the impact of the proposed project on the carbon storage potential of the area;***

UU. ***Disclose the baseline condition, and expected sedimentation during and after activities, for all streams in the area;***

VV. ***Disclose maps of the area that show the following elements:***

WW. ***Disclose how will the project effect sage grouse;***

XX. ***What is the fire cycle of sagebrush;***

1. ***Past, current, and reasonably foreseeable logging units in the Project area;***
2. ***Past, current, and reasonably foreseeable grazing allotments in the Project area;***
3. ***Density of human residences within 1.5 miles from the Project unit boundaries;***
4. ***Hiding cover in the Project area according to the Forest Plan definition;***
5. ***Old growth forest in the Project area;***
6. ***Big game security areas;***
7. ***Moose winter range;***

We wrote in our comments:

Please see the attached University of Montana Thesis: Correlates of Canada Lynx Reproductive Success in Northwestern Montana by Megan K. Kosterman.

Kosterman finds that 50% of lynx habitat must be mature undisturbed forest for it to be optimal lynx habitat where lynx can have reproductive success and no more than 15% of lynx habitat should be young clearcuts, i.e. trees under 4 inched dbh. This contradicts the agency's assumption in the Lynx Amendment that 30% of lynx habitat can be clearcut, and that no specific amount of mature forest needs to be conserved. It is now the best available science out there that describes lynx habitat in the Northern Rockies related to lynx viability and recovery. Kosterman's study demonstrates that the Lynx Amendment standards are not adequate for lynx viability and recovery, as previously assumed by the Forest Service.

Since this is now the best available science we are hereby formally requesting that the Forest Service write a supplemental EIS for the Northern Rockies Lynx

Management Direction and reinitiate consultation with the FWS for the Lynx Amendment to publicly disclose and address the findings of this study, and to allow for further public comment on this important issue of lynx recovery.

The Forest Service responded:

Lynx are not known to occur in the area and are not expected to occur based on the dominant vegetation types and low numbers of snowshoe hares. That said, lynx are a mobile species, which are known to move long distances. The Webster Range where the project occurs is a linkage area for lynx movements between other existing habitat areas.

Therefore, there is a chance that a lynx could be moving through the project area during the time of project activities. If an individual Canada lynx was moving through the project area, especially during daylight hours when activities were under way, they would be likely displaced from the immediate area. This would be the case for all the mechanical treatments, prescribed fire, road relocation, and gravel pit activities (human/ equipment presence and noise) within the proposed action area.

The Forest Service violated the NEPA, NFMA, the APA, and the Endangered Species Act by failing to analyze potential effects on current lynx critical habitat in the

Project Biological Assessment.

The EA states that the Caribou National Forest is considered linkage habitat, citing the 2003 RFP direction for maintaining that linkage habitat. This direction includes "vegetation, wildlife, and lands goals, objectives and standards."
The EA fails to take a hard look at impacts, both direct and indirect of this project along with past and foreseeable actions and cumulative effects. The discussion of all forest types and habitats in the EA is flawed for the same reason. There is no real analysis and it does not reflect even the level of information provided in the Caribou NF includes in its own FEIS analysis for the 2003 RFP.

The Caribou RFP described a process for assessing connectivity (CNF FEIS Vol IV pD4 - D8). It is repeated here:

- Assess historic patterns in vegetation and relative connectivity.
- Assess current patterns in vegetation and relative connectivity, including the impacts of human disturbance or physical barriers.
- Compare historic and current patterns of relative connectivity to determine if animal movement opportunities have been significantly interrupted.

- Consider ecologically based measures to restore historic animal movement, referring to Table 1 provided therein.

The current state of this linkage area must be analyzed and reflect all human disturbances to habitat integrity and quality. This would include mines, roads, rail lines, pipelines, timber harvests, forest and vegetation treatments, livestock grazing and their effects on habitat continuity or fragmentation, understory plant communities and their condition as compared to potential. These all affect the ability of lynx and other species to inhabit the area or migrate through. It is insufficient to claim they will just move around the project area by using other habitat without specificity of the habitat features needed by each species as compared to that available. The current status of each of these for the species of interest must be quantified and used as a basis for analyzing impacts.

The EA describes the wildlife analysis area as unoccupied by Canada lynx based on the 1999 - 2003 National Lynx Survey and baseline snow-track surveys conducted by Tetra Tech (2014). This is a convenient deflection around historical lynx occurrence by citing data collected after much of the habitat fragmentation and degradation in the area had already occurred.

We request that the Caribou Targhee NF conduct an objective analysis of the habitat and historical occurrence of Canada lynx in Idaho and respond with a plan as to how it will proceed with the analysis. The analysis should document the Forest types and elevations where lynx have historically been observed or tracked in Colorado, Idaho, Montana, Wyoming, and Utah as these states have many similar forest and habitat types where lynx have historically occurred or now live and migrate after reintroduction, such as the Colorado reintroductions. It should also document migration corridors and habitat connections. A broad look such as this would likely capture the full range of habitats and connections historically used by lynx and allow an evaluation of their current capability and suitability for Canada lynx in the CTNF.

Once determined, these habitat types within the CTNF should be mapped and delineated as lynx habitat. That habitat should then be further analyzed to document the nature and extent of human alteration or fragmentation by roads, mines, pipelines, transmission lines, atv and snowmobile use, timber projects, fires (both natural and prescribed burns), livestock grazing, and other alterations. This analysis should be supplemented using recent published information on lynx habitat use.

Over the years we have commented on numerous projects in the CTNF. Most recently we have been addressing phosphate mines, timber-related projects, and the Crow Creek Pipeline. We are also aware of the change in Lynx Analysis Units (LAU) in the Targhee NF from 2001 to 2014, resulting in a decline in the number and area of LAUs and by implication, lynx habitat. We have seen no designation of LAUs in the Caribou NF and no analysis of historical or current lynx habitat in either Forest. The Caribou NF RFP FEIS Appendix D Map 1 depicts lynx linkage and provides for a process to assess connectivity (pD-4).[1] To date, we have seen no such analysis to provide for Canada lynx. This DEIS barely acknowledges the existence of the linkage in the Caribou NF and does no analysis of its condition.

The closest thing to an analysis we have seen is the 2018 Targhee National Forest Lynx Analysis Units FEIS (LAU FEIS).[2] The LAU FEIS describes the changes to LAUs between 2001, 2005, and 2014 and the rationale for the changes. Citing the Canada Lynx Conservation Assessment and Strategy (LCAS)[3] as its basis, the Forest Service and Fish and Wildlife Service delineated LAUs totaling 1,134,779 acres of lynx habitat (2001 map). These consisted of 645,049 acres of primary suitable habitat, 126,795 acres of secondary suitable habitat, 98,554 acres of primary unsuitable habitat and 8,565 acres of secondary unsuitable habitat (citing USDA FS 1999). (LAU FEIS p3). The overall acreage declined significantly in further modeling efforts that produced the 2005 and 2014 maps of LAUs.

We find that the LAU FEIS is flawed in its analysis. For example, the model painted black and white lines such as 70% subalpine fir as the demarcation between primary and secondary habitat. Also, the modeling seemed to be saying lynx habitat here in the Caribou Targhee NF had to be the same as in Alaska and Canada where much of the research used in the LCAS occurred. It's as if a lynx, which is moving through the forest, encounters a change in subalpine fir cover from 70% to 69% and then turns around. Or, a lynx, walking over the snow, encounters lodgepole pine or rhyolitic soils in Island Park, and turns around.

The LCAS acknowledges that lynx use many different habitat types across its range and as one moves from north to south in latitude, the forested types and food resources transition. Canada lynx eat rabbits, not just snowshoe hares, they eat grouse, red squirrels, beaver, mice, voles, and other available prey. What the models appear to miss is the concept of habitat functionality vs habitat structure and the concept of ecotones, or transitions. For example, the omission of winter range in the 2001 map was an arbitrary construct as if it doesn't snow on winter range, or there are no prey items there, or lynx would avoid winter range if moving across the landscape. Or by omitting habitat by considering lodgepole pine, or less than 50% subalpine fir, as dry habitat unusable by lynx in places like Island Park with the substantial snow and variety of prey that occur there.

Overriding much of this is the lack of observational data that could have documented a wider range of lynx in SE Idaho. Recent survey efforts are occurring in areas heavily altered by roads, mines, timber harvest, snowmobiles and atvs (note that snowmobile have access to 97% of the

Caribou NF). Then there is the grazing of cattle and sheep with the resulting depletion of herbaceous forage, loss of aspen habitats and riparian shrubs and grasses that snowshoe hares and other rabbits and lynx prey depend upon. All these combined factors are not addressed in the habitat evaluations, project NEPA analyses, or surveys we have seen. The result is a universal finding that no lynx are present and therefore there is no impact or effect. Yet these very activities may be the reason there are no lynx present.

In its Rule designating critical habitat for Canada lynx in 2014, the USFWS noted: "This rule also rescinds the existing State boundary-based definition of the lynx DPS and replaces it with a definition that extends the Act's protections to lynx ''where found'' in the contiguous United States. This change ensures that lynx, which are known for their long- distance dispersal capability and tendency to occur in places well outside of typical habitats, receive the Act's protections wherever they occur in the contiguous United States."[4] Lynx have been "found" in SE Idaho in recent years. In the recent Smoky Canyon DEIS Figure 3.8-1 a Canada lynx observation was recorded in the Stewart Canyon area.[5] That same figure showed a wolverine observation in Timber Canyon. A Canada lynx female with two young was observed 15 miles northwest of the Smoky Canyon mine study area. (Smoky Canyon DEIS p3-120). We also note that lynx critical habitat ends at the Wyoming-Idaho border at its southern extent.

Further, the USFWS in its Rule listing the lynx as Threatened said, "Because a substantial amount of lynx habitat in the contiguous United States occurs on federally managed lands, particularly in the West, we conclude that the factor threatening lynx in the contiguous United States is the lack of guidance in existing Federal land management plans for conservation of lynx and lynx habitat."[6] However, as was noted in October of 2017 by the FWS in their Species Status Assessment of lynx in the contiguous U.S., there has to date been no actual verification that the Northern Rockies Lynx Management Direction is conserving lynx.[7] [8] This needs to be corrected by amending the CTNF Forest Plan to include historical and potential lynx habitat and migration routes in SE Idaho.

Having lived and observed snowshoe hares and red squirrels over the years in Kiesha's Preserve in Paris Canyon, we have seen how they they prosper in the absence of livestock, as do beaver and other wildlife. Snowshoe hares occur in Douglas fir and mixed conifer stands with low to high canopy cover of conifers. They use the adjacent aspen as a foraging area and corridor to the riparian area where they forage at night finding plentiful twigs, buds, and other foods. They also will move through the sagebrush between conifer stands and the riparian area. Trail cameras find them on ridges, in mountain mahogany and other non-fir habitats.

In our comments on mines and timber projects, or the Crow Creek pipeline, we have consistently pointed out the habitat fragmentation from roads, mines, and other activities. We have pointed out the failure of the Forest Service to analyze the quality of lynx habitat as each project NEPA analysis tends to state that the animals will migrate around the periphery of the project area. But the quality of the habitat in that periphery is never analyzed relative to the habitat needs for lynx or the habitat fragmentation that may be precluding lynx from otherwise suitable habitat. There have been no reports of lynx presence in SE Idaho for over a decade. We do not see any analysis as to why this is so since the CTNF borders lynx Critical Habitat and lynx historically occurred here.

We have also described the Regionally Significant Wildlife Corridor connecting the Greater Yellowstone Ecosystem to the Uinta Mountains and Southern Rockies and how the higher elevation component occurs in SE Idaho and NE Utah. In our scoping comments, we provided figures showing the Regional Corridor, LAUs in the Forests in NE Utah, and maps generated from an analysis of lynx habitat requirements and habitat fragmentation.[9] These show areas which provide focus for Forest Service analysis to develop criteria to restore and maintain habitat functionality and connectivity for lynx and other species such as wolverine. We just need that analysis to happen, those criteria to be set in place and used, instead it is never done as each successive project is approved.

As Lewis and Wenger report, " Questions about the most basic habits of Canada lynx in Idaho, such as their prey base, remain unanswered. The lack of Canada lynx studies —none have been done in Idaho and very few in the adjacent states —only adds to the puzzling nature of the species." [10] They also note that comparing Idaho to data from Canada and extrapolating data is "not a perfect fit". The reports of lynx observations and food habits from the numerous interviews in their report should be incorporated into any analysis about lynx in Idaho and Utah. They indicated that lynx move in many different habitats. For example, lynx were found in places like Ashton and Island Park, near Soda Springs and Montpelier, and in sagebrush habitats where jackrabbits were plentiful. These places were likely excluded as habitat based on modeling in the Targhee LAU FEIS and apparently have never been analyzed in the Caribou NF.

Lewis and Wenger further describe the records of Canada lynx in Idaho between 1874 and 1998 as including 215 records at the Idaho Conservation Data Center which has since been phased out and replaced by integration into the Idaho Fish and Game website. The records are not accessible without paying a large fee and it is uncertain if the original records have been retained. Many records of lynx in SE Idaho were described by Lewis and Wenger and they noted that human activities such as timber harvest, snowmobile and atv use have negative impacts on lynx populations and those activities were increasing in these areas. They also describe the lynx population that existed in the Uinta Mountains in the 1950's as reported by Harold Wadley, who worked for the Forest Service there. Today, the Forest Service denies any populations ever existed there.[11]

Marble Mountain Audubon v. Rice[12] interprets NEPA to require the Forest Service to consider biological corridors and to ensure their functionality. The standard for such a review is the same "hard look" NEPA requires of other environmental effects. This means those corridors within the analysis area and linkages with areas adjacent to the analysis area need to be examined, plus the value of the entire analysis area, as part of a larger corridor within or between ecosystems. Friends of the Bitterroot, Inc. v. USFS[13], and Oregon Natural Resources Council v. John Lowe[14] also highlight the importance of including corridors as an element of consideration for an agency decision. Therefore, the Forest Service is required to address how the grazing and other management activities in SE Idaho compromise lynx habitat and connectivity to areas further north and south. This is needed to promote genetic diversity and population stability of lynxes among far flung populations in the Rocky Mountains. While the following paragraphs discuss habitat fragmentation by timber projects as related to lynx use, the principles should apply to mines and the fragmentation they produce, in effect, eliminating forested habitats - essentially mines are clearcuts that will never regenerate.

The NRLMD ROD and its standards and guidelines provided no standard for levels of mature forest habitat within LAUs and provided nothing for habitat not designated in LAUs. While it states that habitat connectivity will be maintained, there is no definition of what constitutes connected habitat, even though this can be defined by current science. The NRLMD ROD does not clearly define what qualifies as unsuitable lynx habitat, which is limited to no more than 30% of an LAU (VEG S1) with no more than 15% unsuitable habitat created in 10 years (VEG S2). The ROD glossary at 14 defines stand initiation habitat as generally developed after a stand-replacing disturbance by fire or regeneration timber harvest; a new single-story layer of shrubs, tree seedlings and saplings establish and develop, reoccupying the site; trees that need full sun are likely to dominate these even-aged stands. The glossary at 12 also defines lynx habitat in an unsuitable condition as the stand initiation structural stage, but notes that unsuitable habitat can also be created by shelterwood cuts and commercial thinning depending on the resulting stand composition and structure. The ROD at 9 defines lynx habitat in an unsuitable condition as those forests in a stand initiation structural stage that are too short to provide winter snowshoe hare habitat; these conditions are created by stand-replacing wildfires, prescribed burns that remove all vegetation, or regeneration timber harvest. And, of course, in the case of mines which completely remove forested habitat. The ROD at 10 states that the definition of VEG S2 was changed to clarify that it only applies to timber management practices that regenerate a forest, as clearcut, seed tree, shelterwood, and group selection. The VEG S2 standard applies to all timber management projects that regenerate forests, including clearcuts, seed tree, shelterwood and groups selective cuts. The NRLMD does not ensure persistence of lynx, since there are no restrictions on the amount of an LAU that can be converted to habitats that are avoided by lynx, and to habitats that reduce habitat connectivity via mature forests. Where is the analysis for these timber-related factors in the Husky Dry Ridge DEIS for its analysis and cumulative effects, or wildlife analysis areas.

The 30% clearcut standard for lynx habitat in the NRLMD is based on habitat recommendations published in 1989, while other key recommendations were ignored. Although these recommendations noted that monitoring was required to determine if they would be effective, no such monitoring was ever done before they were partially included in the LCAS and subsequently the NRLMD. Currently, the current best science demonstrates that the 33% opening level allowed by these recommendations are invalid, while the unused recommendations of maintaining a high level of forest cover of 69% has been validated. The 1989 Brittell recommendations for lynx habitat defined a level of habitat connectivity for lynx, which included denning, travel, and stalking habitat as 66% of each square mile of lynx habitat, not an entire LAU of many square miles with no guidance as to where within that LAU habitat should be maintained. [15] The lack of analysis or designation of LAUs in the Caribou NF has failed to take a hard look at historical lynx presence or the wide range of habitats and prey items used by lynx and the characteristics of those habitats needed as well as their current condition.

While clearcuts and sparse forests may receive some lynx use, their suitability for lynx is significantly reduced for a significant amount of time. It has been shown not only that clearcuts and sparse forest are strongly avoided by lynx but that restoration of lynx habitat use in these logging areas to 50% of previous use takes 20 years in forest thinnings, and 34-40 years for selection cuts and clearcuts. Also, all logging treatments are avoided by lynx for at least 10 years. [16] Predictors for lynx reproductive success within occupied female home ranges were the connectivity of mature forest, intermediate (10 - 15%) amounts of young regenerating forest, young regenerating forest patches with low perimeter - area ratios, and the adjacency of mature forest to young regenerating types. Female lynx home ranges with greater than 50% mature forest and 10 - 15% young regenerating forest appear to be the optimum.[17]

More recent work has characterized habitat quality of Canada lynx at their "range periphery".

> Our results indicated that the probability of a female producing kittens was most associated with the connectivity of mature, multistoried forests (composed of mostly spruce-fir). However, the variation among female lynx accounted for ≈62% of the total variation

explained in litter production, suggesting substantial individual-level variation. Thus, managers can contribute to increased reproductive success of female Canada lynx by facilitating the development of mature forests, but measuring that success will be difficult given the individual variation. In core areas of high quality females (i.e., produced kittens frequently), mature forest was 17% more abundant (i.e., ≈60% of the total core area), more connected, less clumpy, and exhibited 2.25-times larger patch sizes than the core areas of low quality females. At the home-range extent, patterns were less pronounced while the abundance of mature forests remained high (≈50%) for high quality females. Additionally, we demonstrated that the relative density of snowshoe hares was ≥2.8 times higher in advanced regenerating forests compared to all other structural classes, including mature forest. Advanced regenerating forests accounted for ≈18–19% of the core area and home range of high quality female lynx. Combined, our results suggest that a high quality mosaic for female Canada lynx contains ≈50–60% mature forest and ≈18–19% advanced regenerating forest. Furthermore, we used Forest Inventory and Analysis data to characterize the approximate age distribution of advanced regeneration and

> mature forest, which was relevant for rotation schedules of forest silviculture. Results indicated that advanced regeneration was ≈20 to 80 years old while mature forest was ≈50 to ≥200 years old.[18]

In addition, lynx spend a significant amount of time at the interface between mature and advanced regeneration forest. This is likely because advanced regeneration forest provides the most hares, but mature forest habitat makes these hares more accessible. This indicates that advanced regeneration forest subsidizes the occurrence of hares in adjacent mature forest where they are more accessible to lynx.[19] One must ask, what are forest conditions of old growth and mature forest in the Caribou NF? How about in the Analysis and Cumulative Effects, or Wildlife Analysis areas for the Husky Canyon Dry Ridge mine proposal?

Some other characteristics of habitat were laid out in the LCAS. Most lynx observations in the Western US were in conifer forest within the 4,920 - 6,560 foot elevation zone and in the southern Rockies the 8,000 to 11,500 foot zone. Elevations increased as one moves south. Snowshoe hares comprised 35 - 97% of the diet with red squirrels of increased importance during hare declines. Hares feed on accessible twigs and stems in winter and forbs, grasses, and small shrubs in summer. Livestock compete directly with hares for forage due to high similarity in diets. Red squirrel populations are highest in dense closed canopy conifer forest with large amounts of woody debris. Populations are higher in young un-thinned lodgepole pine stands than in thinned stands. Den sites need large woody debris, can be in older regenerating stands, or mature conifer or mixed conifer. Primary vegetation types are lodgepole, subalpine fir, and Engelmann spruce with Douglas fir, aspen and dense riparian willow stands among other types used. Home ranges vary between males and females and hare density and can range from between 4 - 47 square miles in the U.S. Home ranges in Canada are larger.

Mr. Bolling provided a response to our letter (September 13, 2021) that described the studies determining the current status of lynx in the CTNF, essentially relying on the LCAS revision from 2013, the Northern Rockies Lynx Management Direction (2007), and the National Lynx Survey that basically restated the status of lynx in the Caribou NF as unoccupied and not subject to the NRLMD. Therefore, no LAU's or lynx habitat were mapped on the Caribou NF. The letter noted that, "Since no non-transient Canada lynx have been detected on the Caribou, mapping of habitat is not required. If Canada lynx are detected in the future, lynx habitat would be mapped consistent with the procedures in the 2013 LCAS and the best available science concerning lynx would be considered in proposed projects." Now, lynx using the linkage are considered "transient" thus not qualifying for habitat analysis or establishment of LAUs.

A Summary of Canada lynx Status attached to Mr. Bolling's letter pointed out that new information on lynx habitat has been generated since listing of Canada lynx 20 years ago. The Caribou RFP is 20 years old as well. It is time to revisit mapping and characterization of lynx habitat in the Caribou NF using the research we have summarized above. While that summary attempts to further define downward the amount of lynx habitat by using too narrow criteria, even in this context, the primary source recommended is a 2021 paper which is a new species distribution model for lynx.[20]

This model was based on GPS data from lynx in Washington (2007 - 2013), Montana (2004 - 2015) and Wyoming (1996 - 2021). The Wyoming data included observations in Idaho as well. Sixteen climate, topographic, anthropogenic, and vegetative environmental predictors expected to be related to lynx distribution were correlated with the observations. A map (Figure 8 from the paper) of probability of lynx occurrence generated by the model clearly shows SE Idaho as predicted lynx habitat. It must be remembered that model included these recent observations of lynx in SE Idaho. It must also be considered that these observations were recorded in recent years after much habitat alteration has occurred and that areas otherwise suitable for lynx may be disqualified due to habitat fragmentation by roads, mines, timber projects and so forth. Thus, with active restoration such as road closure, protecting old growth, allowing forest regrowth, using this model could show a much larger potential habitat for lynx in SE Idaho.

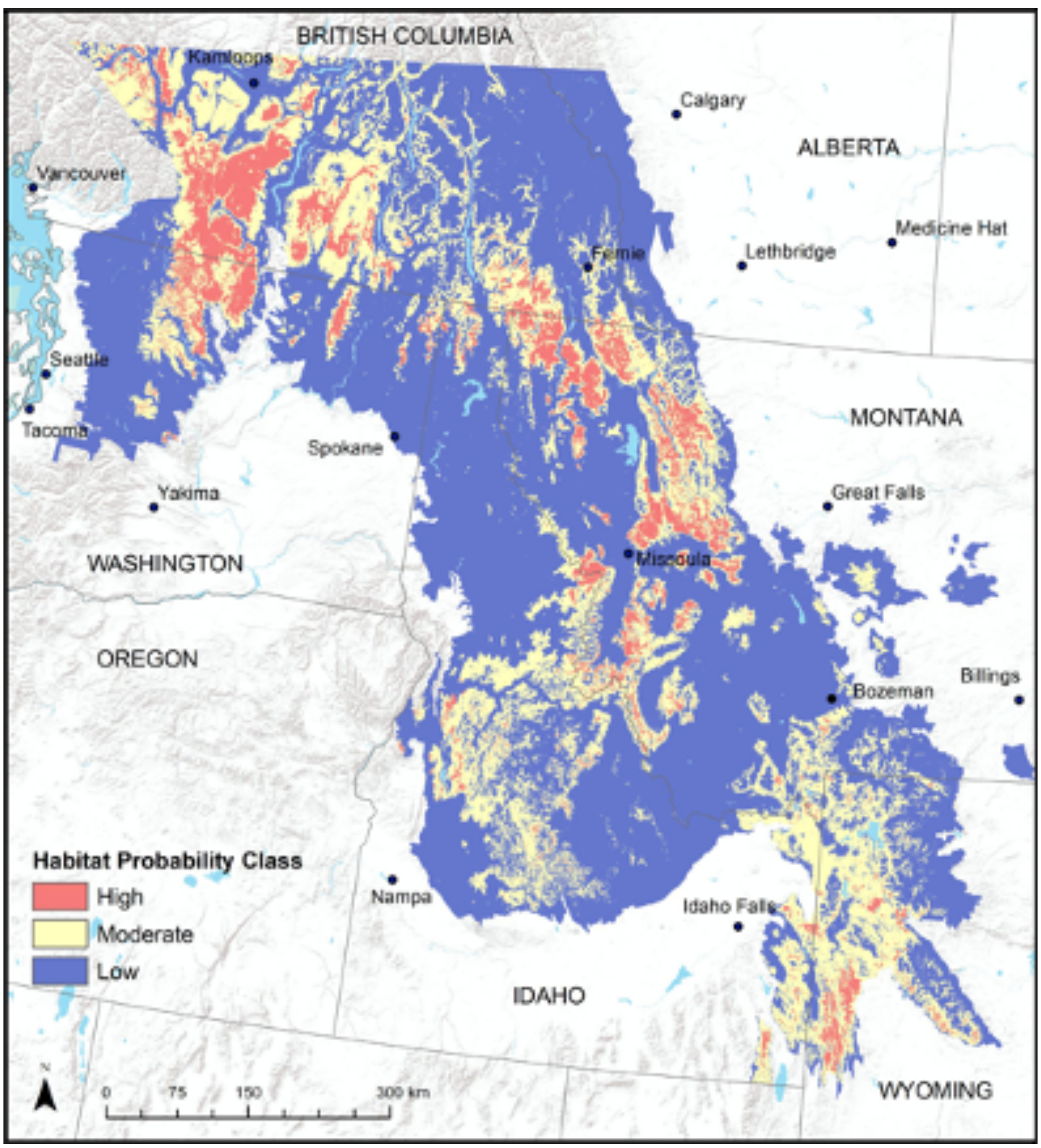

BRITISH COLUMBIA
Kamloops
Calgary
ALBERTA
Vancouver
Medicine Hat
Fernie
Lethbridge
Seattle
Tacoma
MONTANA
Spokane
Yakima
Great Falls
WASHINGTON
Missoula
OREGON
Billings
Bozeman
Habitat Probability Class
High
Moderate
Low
Nampa
Idaho Falls
IDAHO
0
75
150
300 km
WYOMING

Figure . Map of Modeled Canada lynx Habitat from Olson et al

This map projects high and moderate probability of lynx habitat occurring in the areas we have delineated in our scoping comments (Figure 4) as the Regional Corridor that includes the Caribou NF and Bear River Range to the south into Utah. We also note that road density in most of this area is excessive and is documented in the FEIS for the

Caribou RFP. The CTNF now needs to do the required analysis to identify lynx habitat and its condition in these Forests and do a detailed analysis of each project with the parameters we have identified herein.

[1] USDA Forest Service. 2003. Final Environmental Statement for the Caribou National Forest Revised Forest Plan.

[2] USDA Forest Service. 2018. Targhee National Forest Lynx Analysis Units Final Environmental Impact Statement.

[3] Ruediger, Bill, Jim Claar, Steve Gniadek, Bryon Holt, Lyle Lewis, Steve Mighton, Bob Naney, Gary Patton, Tony Rinaldi, Joel Trick, Anne Vandehey, Fred Wahl, Nancy Warren, Dick Wenger, and A1 Williamson. 2000. Canada Lynx Conservation Assessment and Strategy. USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Forest Service Publication #R1-00-53, Missoula, MT. 142 pp.

[4] U.S. Fish and Wildlife Service. 2014. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Contiguous United States Distinct Population Segment of the Canada Lynx and Revised Distinct Population Segment Boundary. Federal Register / Vol. 79, No. 177 / Friday, September 12, 2014

[5] USDA and BLM. 2014. Draft Environmental Impact Statement for the Proposed East Smoky Panel Mine Project at Smoky Canyon Mine.

[6] U.S. Fish and Wildlife Service. 2000. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Contiguous U.S. Distinct Population Segment of the Canada Lynx and Related Rule; Final Rule. Federal Register / Vol. 65, No. 58 / Friday, March 24, 2000
[7] USDA Forest Service. 2007. Record of Decision, Northern Rockies lynx management direction. March 2007.
[8] U.S. Fish and Wildlife Service. 2017. Species Status Assessment for the Canada lynx (Lynx canadensis) Continuous United States Distinct Population Segment. Version 1.0, October, 2017. Lakewood, Colorado.
[9] Bates, W., and Jones. A. 2007. Least-Cost Corridor Analysis for Evaluation of Lynx Habitat Connectivity in the Middle Rockies. Wild Utah Project, Salt Lake City, UT.
[10] Lewis, L., and Wenger, R. 1998. Idaho's Canada Lynx: Pieces of the Puzzle. Idaho Bureau of Land Management Technical Bulletin No. 98-11 and USDA Forest Service. 28pp.
[11] USDA Forest Service. 2021. Ashley National Forest Aspen Restoration Environmental Assessment.
[12] No. 90-15389, D.C. No. CV89-170-EJG, Sept. 13, 1990
[13] 900 F. Supp. 1368, 1372 (D. Mont 1994)
[14] 109 F.3d 521, 526 (9th Cir. 1997)
[15] Brittell, J.D., R.J. Poelker, S.J. Sweeney, G.M. Koehler. 1989. Native cats of Washington. Washington Department of Wildlife, Olympia.
[16] Holbrook, J.D., Squires, J.R., Bollenbacher, B., Graham, R., Olson, L.E., Hanvey, G., Jackson, S.,

Lawrence, R.L., 2018. Spatio-temporal responses of Canada lynx to silvicultural treatments within the Northern Rockies, U.S. For. Ecol. Manage. 422, 114–124.
[17] Kosterman, M.K. 2014. Correlates of Canada Lynx Reproductive Success in Northwestern Montana. Graduate Student Theses, Dissertations, & Professional Papers. 4363. https://scholarworks.umt.edu/etd/4363
[18] Holbrook, J.D., Squires, J. R., Bollenbacher, B., Graham, R. O., Lucretia E., Hanvey, G., J, S., Lawrence, R.L., Savage, S. L. 2019. Management of forests and forest carnivores: Relating landscape mosaics to habitat quality of Canada lynx at their range periphery. Forest Ecology and Management. 437: 411-425. https://doi.org/10.1016/j.foreco.2019.01.011
[19] Holbrook, J.D., Squires, J.S., Olson, L.E., Lawrence, R.L., Savage, S., 2017. Multi-scale habitat relationships of snowshoe hares (Lepus americanus) in the mixed conifer landscape of the Northern Rockies, USA: cross-scale effects of horizontal cover with implications for forest management. Ecol. Evol. 7, 125–144.
[20] Olson, L., N. Bjornlie, G. Hanvey, J. Holbrook, J. Ivan, S. Jackson, B. Kertson, T. King, M. Lucid, D. Murray, R. Naney, J. Rohrer, A. Scully, D. Thornton, Z. Walker, and J. Squires. 2021. Improved prediction of Canada lynx distribution through regional model transferability and data efficiency. Ecology and Evolution 11: 1667-1690.

The Forest Plan essentially assumes that persistent effects of vegetation manipulations other than regeneration logging and some intermediate treatments are essentially nil.

However, Holbrook, et al., 2018 “used univariate analyses and hurdle regression models to evaluate the spatio-temporal factors influencing lynx use of treatments.” Their analyses “indicated ...there was a consistent cost in that lynx use was low up to ~10 years after all silvicultural actions.” (Emphasis added.) From their conclusions:

First, we demonstrated that lynx clearly use silviculture treatments, but there is a ~10 year cost of implementing any treatment (thinning, selection cut, or regeneration cut) in terms of resource use by Canada lynx. This temporal cost is associated with lynx preferring advanced regenerating and mature structural stages (Squires et al., 2010; Holbrook et al., 2017a) and is consistent with previous work demonstrating a negative effect of precommercial thinning on snowshoe hare densities for ~10 years (Homyack et al., 2007). Second, if a treatment is implemented, Canada lynx used thinnings at a faster rate post- treatment (e.g.,~20 years posttreatment to reach 50% lynx use) than either selection or regeneration cuts (e.g., ~34–40 years post-treatment to reach 50% lynx use). Lynx appear to use regeneration and selection cuts similarly over time suggesting the difference in vegetation impact between these treatments made little difference concerning the potential impacts to lynx (Fig. 4c). Third, Canada lynx tend to avoid silvicultural treatments when a preferred structural stage (e.g., mature, multi-storied forest or advanced regeneration) is abundant in the surrounding landscape, which highlights the importance of considering landscape-level composition as well as recovery time. For instance, in an area with low amounts of mature forest in the neighborhood, lynx use of recovering silvicultural treatments would be higher versus treatments surrounded by an abundance of mature forest (e.g., Fig. 3b). This scenario captures the importance of post-treatment recovery for Canada lynx when the landscape context is generally composed of lower quality habitat. Overall, these three items emphasize that both the spatial arrangement and composition as well as recovery time are central to balancing silvicultural actions and Canada lynx conservation.

So Holbrook et al., 2018 fully contradict Forest Plan assumptions that clearcuts/regeneration can be considered useful lynx habitat as early as 20 years post-logging.

Results of a study by Vanbianchi et al., 2017 also conflict with Forest Plan/NRLMD assumptions: "Lynx used burned areas as early as 1 year postfire, which is much earlier than the 2–4 decades postfire previously thought for this predator." The NRLMD erroneously assumes clearcutting/regeneration logging have basically the same temporal effects as stand-replacing fire as far as lynx re-occupancy.

Kosterman, 2014, Vanbianchi et al., 2017 and Holbrook, et al., 2018, Holbrook 2019 (attached) demonstrate that Forest Plan direction is not adequate for lynx viability and recovery, as the FS assumes. Holbrook 2019 such all lynx habitat must be surveyed. You have not done this.

The Forest Plan/FEIS fail to describe the quantity and quality of habitat that is necessary to sustain the viability of the Canada lynx.

Why is the Forest Service ignoring the Kosterman threshold for clearcutting (no more than 15% per LAU) and the mature forest conservation requirement (conserve it all in- cluding at least 50% per LAU)?

Kosterman finds that 50% of lynx habitat must be mature undisturbed forest for it to be optimal lynx habitat where lynx can have reproductive success and no more than 15% of lynx habitat should be young clearcuts, i.e. trees under 4 inched dbh. This contradicts the agency's assumption in the Lynx Amendment that 30% of lynx habitat can be clearcut, and that no specific amount of mature forest needs to be conserved. It is now the best available science out there that describes lynx habitat in the Northern Rockies related to lynx viability and recovery. Kosterman's study demonstrates that the Lynx Amendment standards are not adequate for lynx viabili- ty and recovery, as previously assumed by the Forest Service.

Kosterman's Thesis says that clearcutting more than 10-15% of a lynx home range results in declines in reproduction. Many National Forests allows more clearcut- ting than this. The Lynx Amendment allows up to 30% clearcutting in a home range, which means that habitat has declined and is declining from the levels nec- essary for reproduction and therefore survival and recovery.

Kosterman’s Thesis recommends conserving mature/old growth forest and main- taining 50% mature/old growth in each lynx home range. No National Forest is complying with that due to past and current logging, which means that habitat has declined and is declining from the levels necessary for reproduction and therefore survival and recovery.

Squires says that lynx avoid clearcuts.

FWS has no idea what the population of lynx is because they don’t do lynx popula- tion monitoring. In light of the government’s failure to monitor lynx population trends, it would be disingenuous for FWS to argue that “there is no evidence of population decline” because the reason that "there is no evidence" is because the government refuses to conduct monitoring. In light of the government’s failure to monitor and document populations and population trends, the Forest Service and the FWS must apply the precautionary principle and assume that the effects of al- lowing logging that does not comply with Kosterman and Squires findings is re- sulting in population declines.

Since this is now the best available science we are hereby formally requesting that the Forest Service write a supplemental EIS for the Northern Rockies Lynx Man- agement Direction and reinitiate consultation with the FWS for the Lynx Amend- ment to publicly disclose and address the findings of this study, and to allow for further public comment on this important issue of lynx recovery.

Page 93 of the 2016 Fleecer EA states: “In July, 2013 the U.S. Fish and Wildlife Service updated the “Threatened, Endangered and Candidate Species for the Caribou-Targhee National Forest” and the Canada lynx was added to the CTNF list as “Transient; secondary/peripheral lynx habitat”; where it remains (USDI Fish and Wildlife Service 2016).”

The Forest straddles the mountains of the Continental Divide and contains nationally renowned trout streams, elk populations, and some of last wild refuges for many threatened, endangered, and sensitive fish and wildlife species.

In particular, the Forest and Project area provide habitat for grizzly bears, wolverines, Canada lynx, gray wolves, and westslope cutthroat trout.

Ruggiero et al (1999), the Forest Service’s General Technical Report “Ecology and Conservation of Lynx in the United States,” states that lynx are present in the Forest.

Ruediger et al (2000), the agencies’ “Canada lynx conservation assessment and strategy,” considers the Forest within the geographic extent of the strategy.

The Montana Department of Fish, Wildlife, and Parks has compiled a database of lynx occurrences and distribution throughout Montana from 1977 -1998. This information was mapped on pages 244 and 247 of Ruggiero et al (1999) and shows numerous occurrences in the Forest.

In Squires (2003), the Forest Service documents: “Discussions with local trappers and biologists indicate that lynx were present in the Pioneer Mountains prior to the late 1990’s, and had been detected during winter track surveys as recently as 2000 (Forkan 2000). This fact is substantiated by the number of trapped lynx from this area in the 1970s.” Elsewhere, the report notes “[f]rom 1977 to 1994, 39 lynx oc- currences were recorded in the Pioneer Mountains, including 13 harvested individ- uals (McKelvey et al. 2000). Snow-track surveys performed as recently as 2000 indicated that lynx were present along the Scenic Byway (Forkan 2000)."

In Squires (2003), the Forest Service documented the results of winter tracking surveys. The record indicates two (2) sets of lynx tracks were found in the Forest near the Project area, within the Big Hole landscape area

(which is the analysis area for wildlife security for the Project). The report con- cludes that “lynx were either absent or at very low densities during our study.” (emphasis added).

The U.S. Fish and Wildlife Service’s final map (2003) for lynx shows that the For- est is within the range of both resident and dispersing lynx.

Berger (2009) found one set of potential lynx tracks in the Forest during winter tracking surveys, as well as one set outside the Forest boundary that was heading towards the Forest boundary.

In Devineau (2010), the State of Colorado Division of Wildlife documented loca- tions of radio-collared lynx released in Colorado. The record shows

multiple lynx traveling in the Forest (approximately four (4) individuals), including at least two individual lynx traveling in the Project area. One of the individuals in-habited the Madison Range for approximately two weeks.

The Project analysis and impacts on ESA-listed Canada lynx violate the ESA, NEPA, and NFMA.

The Federal District Court of Montana recently ordered the USFWS to reconsult on lynx critical habitat because they did not base lynx critical habitat on where lynx were at the time of listing in 2000. Lynx were in the project area at the time of listing so the Forest Service needs to consult with the FWS to see if this project could effect lynx critical habitat.

The Forest Plan analysis and impacts on ESA-listed lynx violate ESA, NFMA, and NEPA.

The Forest Service’s failure to take a hard look at lynx presence and the Forest Plan’s potential impacts on lynx, using the best available science, including the agency's failure to assess the Forest Plan's impacts on lynx travel/ linkage corri- dors, violates NEPA. See Pacific Rivers Council v. U.S.

Forest Service, --- F.3d ----, 2012 WL 336133 (9th Cir. 2012).

The Forest Service's failure to include binding legal standards aimed at conserving and recovering ESA-listed lynx on the Forest in the Forest Plan violates NFMA.

The FS approval and implementation of the Lynx Management Direction is arbi- trary and capricious, violates NEPA's hard look requirement and scientific integrity mandate and fails to apply the best available science necessary to conserve lynx. The Lynx Direction contains no protection or standard for conservation of winter lynx habitat (old growth forests). This project allows the logging of thousands of acres of old growth without any analysis of whether that forest is necessary for conservation as winter lynx habitat. Please take a hard look at this factor. By failing to include a provision to protect winter lynx habitat, the Lynx Direction fails to apply the best available science and implement the measures necessary for lynx conservation, as required by the ESA. The Lynx

Direction also arbitrarily exempts WUI lands from lynx habitat protection. If this exemption did not exists, the project could not proceed because the logging autho- rized by the projects violates at least one of the protection for lynx habitat.

The Lynx Amendment and its Biological Opinion/ Incidental Take Statement allow unrestricted logging in the wildland urban interface, which the agencies estimate to compose approximately 6% of the lynx habitat on National Forests. Please explain where the WUI is in relation to the projects and the LAUs.

The current science demonstrates that lynx must travel between areas of high hare densities and resist traveling through low cover areas in winter. Please identify the amount of non or low cover areas that will be created from the project. The project fails to use the best available science in regard to lynx habitat. The best available science is now Kosterman's masters Thesis, "Correlates of Canada Lynx Reproductive Success in Northwestern Montana" and Holbrook 2019. Please find these papers attached.

These studies finds that 50% of lynx habitat must be mature undisturbed forest for it to be optimal lynx habitat where lynx can have reproductive success and no more than 5% of lynx habitat should be young clearcuts, i.e. trees under 4 inched dbh. This contradicts the agency's assumption in the Lynx Amendment that 30% of lynx habitat can be clearcut, and that no specific amount of mature forest needs to be conserved. It is now the best available science out there that describes lynx habitat in the Northern Rockies related to lynx viability and recovery. Kosterman's study demonstrates that the Lynx Amendment standards are not adequate for lynx viability and recovery, as assumed by the Forest Service

The current best science indicates that lynx winter foraging habitat is critical to lynx persistence (Squires et al. 2010), and that this habitat should be "abundant and well-distributed across lynx habitat." (Squires et al. 2010; Squires 2009.) Existing openings such as clearcuts not yet recovered are likely to be avoided by lynx in the winter. (Squires et al. 2010; Squires et al. 2006.)

Lynx winter habitat, provided only in older, multi-storied forests, is critical for lynx preservation. (Squires et al. 2010.) Winter is the most constraining season for lynx in terms of resource use; starvation mortality has been found to be the most com- mon during winter and early spring. (Squires et al. 2010.) Prey availability for lynx is highest in the summer. (Squires et al. 2013.)

Squires et al. (2013) noted in their research report that some lynx avoided crossing highways; in their own report, they noted that only 12 of 44 radio- tagged lynx with home ranges including 2- lane highways crossed them. Openings, whether

small in uneven-aged management, or large with clearcutting, remove lynx winter travel habitat on those affected acres, since lynx avoid openings in the winter. (Squires et al. 2010.)

Squires et al., 2010 reported that lynx winter habitat should be “abundant and spa- tially well- distributed across the landscape. Those authors also noted that in heavi- ly managed landscapes, retention and recruitment of lynx habitat should be a prior- ity.

The Northern Rockies Lynx Management Direction is inadequate to ensure con- servation and recovery of lynx. The amendments fail to use the best available sci- ence on necessary lynx habitat elements, including but not limited to, failing to in- clude standards that protect key winter habitat. The

Endangered Species Act requires the FS to insure that the project is not likely to result in the destruction or adverse modification of critical habitat. 16 U.S.C. §1536(a)(2). Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features to an extent that appreciably re- duces the conservation value of critical habitat for lynx. 74 Fed. Reg. 8644.

The Northern Rockies Lynx Management Direction (NRLMD) as applied in the project violates the ESA by failing to use the best available science to insure no adverse modification of critical habitat. The NRLMD carves out exemptions from Veg Standards S1, S2, S5, and S6. In particular, fuel treatment projects may occur in the WUI even though they will not meet standards Veg S1, S2, S5, or S6, pro- vided they do not occur on more than 6% of lynx habitat on each National Forest. See NRLMD ROD, Attachment 1, pages 2-3. Allowing the agency to destroy or adversely modify any lynx critical habitat has the potential to appreciably reduce the conservation value of such habitat. The agency cannot simply set a cap at 6% forest-wide without looking at the individual characteristics of each LAU to de- termine whether the project has the potential to appreciably reduce the conservation value. The ESA requires the use of the best available science at the site-specific level. It does not allow the agencies to make a gross determination that allow- ing lynx critical habitat to be destroyed forest-wide while not appreciably reduce the conservation value.

Standard S2 prohibits projects that do regenerate more than 15% of lynx habitat on NFS lands within an LAU in a 10-year period. Please provide the number of acres with in the LAU that have been harvested within the last 10-years and fails to take previous project in account in regards to Veg Standard S2.

The FS violated NEPA by applying the above-mentioned exception without analyz- ing the impacts to lynx in the individual LAUs. The Project violates the NFMA by failing to insure the viability of lynx. According to the 1982 NFMA regulations, fish and wildlife must be managed to maintain viable populations of Canada lynx in the planning area. 36 C.F.R. 219.19. The FS has not shown that lynx will be well-distributed in the planning area. The FS has not addressed how the project's adverse modification of denning and foraging habitat will impact distribution. This is important because the agency readily admits that the LAUs already contain a "relatively large percentage of un-suitable habitat." The NRLMD ROD at 40 states that: The national forests subject to this new direction will provide habitat to maintain a viable population of lynx in the northern Rockies by maintaining the current distribution of occupied lynx habitat, and maintaining or enhancing the quality of that habitat."

A big problem with the Forest Plan (including the NRLMD) is that it allows with few exceptions the same level of industrial forest management activities that oc-curred prior to Canada lynx ESA listing.

The Northern Rockies Lynx Management Direction appeal decision requires the FS to consult with the US Fish and Wildlife Service regarding lynx and lynx criti- cal habitat. The Wildlife Report, Frost 2017, states that the effects determination for lynx is "may affect, likely to adversely affect. This means that listed resources are likely to be exposed to the action or its environmental consequences and will respond in a negative manner to the exposure.

The project does not have a take permit from the USFWS and is in violation of the ESA, NFMA, the APA and NEPA. The ESA (Section 3) defines take as "to harass, harm, pursue, hunt, shoot, wound, trap, capture, collect or attempt to engage in any such conduct". The USFWS further defines "harm" as "significant habitat modifi- cation or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering", and "ha- rass" as "actions that create the likelihood of injury to listed species to such an ex- tent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering". The project will harm lynx.

Squires found that lynx avoid clearcuts for up to 50 years. A big problem with the Forest Plan and the NRLMD is that it allows with few exceptions the same level of industrial forest management activities that occurred prior to Canada lynx ESA listing. The FS approval and implementation of the NRLMD and the revised Caribou-TargheeNational Forest Forest Plan is arbitrary and capricious, violates NEPA's hard look requirement and scientific integrity mandate and fails to apply the best available science necessary to conserve lynx. The NRLMD or the revised CTNF Forest Plan contain no protection or standard for conservation of winter lynx habitat (old growth forests). Please disclose if the FS conducted lynx occurrence surveys of habitat in the LAUs.

Please disclose if surveys target snowshoe hare occurrence data in these stands newly considered unsuitable for lynx. Please indicate if the FS surveyed any areas (proposed for logging and/or burning or not) thought to not be lynx habitat based on mapping or stand data were surveyed to confirm unsuitable habitat conditions.

The current science demonstrates that lynx must travel between areas of high hare densities and resist traveling through low cover areas in winter. Please identify the amount of non-cover or low-cover areas that will be created from the project.

It appears the FS doesn't have a coherent strategy for recovering lynx from their Threatened status, including linking currently populated areas with each other through important linkages such as project area LAUs.

Please analyze and disclose cumulative impacts of recreational activities on lynx, such as snowmobiles. As the KNF's Galton FEIS states, "The temporal occurrence of forest uses such ... winter (skiing and snowmobiling) ... may result in a temporary displacement of lynx use of that area..."

Please quantify and disclose the cumulative effects on Canada lynx due to trapping or from use of the road and trail networks in the project area.

Please analyze and disclose how lynx habitat capacity for denning will be impaired by project activities.

The USFWS listed the Canada lynx as a threatened species under the Endangered Species Act in 2000 due to “lack of guidance for conservation of lynx and snowshoe hare habitat...” and subsequent authorization of actions that may cumulatively adversely affect the lynx. Relatively little is known about lynx in the contiguous United States. Historically, lynx inhabited states spanning from Maine to Washington, but it is unknown how many lynx remain.

Lynx are highly mobile and generally move long distances [greater than 60 mi. (100 km.)]; they disperse primarily when snowshoe hare populations decline; subadult lynx disperse even when prey is abundant, presumably to establish new home ranges; and lynx also make exploratory movements outside their home ranges. 74 Peg. Reg. at 8617. The contiguous United States is at the southern edge of the boreal forest range, resulting in limited and patchy forests that can support snowshoe hare and lynx populations.

Lynx subsist primarily on a prey base of snowshoe hare, and survival is highly dependent upon snowshoe hare habitat, forest habitat where young trees and shrubs grow densely. In North America, the distribution and range of lynx is nearly “coincident” with that of snowshoe hares, and protection of snowshoe hares and their habitat is critical in lynx conservation strategies.

Since more often than not when the FS conducts logging projects in LAUs surveys of stands for lynx habitat result in less suitable habitat than previously assumed, the FS needs to take a few steps backward and consider that its range-wide Canada lynx suitable habitat estimations were too high.

Squires et al. (2013) noted that long-term population recovery of lynx, as well as other species as the grizzly bear, require maintenance of short and long-distance connectivity. The importance of maintaining lynx linkage zones is also recognized by the FS's Lynx Conservation Assessment and Strategy (LCAS), as revised in 2013, which stresses that landscape connectivity should be maintained to allow for movement and dispersal of lynx.

Squires et al. (2013) noted in their research report that some lynx avoided crossing highways; in their own report, they noted that only 12 of 44 radio-tagged lynx with home ranges including 2- lane highways crossed them.

The current best science indicates that lynx winter foraging habitat is critical to lynx persistence (Squires et al. 2010), and that this habitat should be "abundant and well-distributed across lynx habitat." (Squires et al. 2010; Squires 2009.) Existing openings such as clearcuts not yet recovered are likely to be avoided by lynx in the winter. (Squires et al. 2010; Squires et al. 2006a.)

Lynx winter habitat, provided only in older, multi-storied forests, is critical for lynx preservation. (Squires et al. 2010.) Winter is the most constraining season for lynx in terms of resource use; starvation mortality has been found to be the most common during winter and early spring. (Squires et al. 2010.) Prey availability for lynx is highest in the summer. (Squires et al. 2013.)

Openings, whether small in uneven-aged management, or large with clearcutting, remove lynx winter travel habitat on those affected acres, since lynx avoid openings in the winter. (Squires et al. 2010.)

Squires et al., 2010 reported that lynx winter habitat should be “abundant and spatially well- distributed across the landscape.” Those authors also noted that in heavily managed landscapes, retention and recruitment of lynx habitat should be a priority.

The LCAS (Ruediger et al. 2000) recommends, until conclusive information is developed concerning lynx management, the agencies retain future options; that is, choose to err on the side of maintaining and restoring habitat for lynx and their prey. To err on the side of caution, the KNF would retain all remaining stem exclusion forests for recruitment into lynx winter habitat, so that this key habitat would more closely resemble historic conditions.

As early as 2000, the LCAS noted that lynx seem to prefer to move through continuous forest (1- 4); lynx have been observed to avoid large openings, either natural or created (1-4); opening and open forest areas wider than 650 feet may restrict lynx movement (2-3); large patches with low stem densities may be functionally similar to openings, and therefore lynx movement may be disrupted (2-4). Squires et al. 2006a reported that lynx tend to avoid sparse, open forests and forest stands dominated by small-diameter trees during the winter. Squires et al. 2010 again reported that lynx avoid crossing clearcuts in the winter; they generally avoid forests composed of small diameter saplings in the winter; and forests that were thinned as a silvicultural treatment were generally avoided in the winter.

Squires et al. 2010 show that the average width of openings crossed by lynx in the winter was 383 feet, while the maximum width of crossed openings was 1240 feet.

Recent scientific findings undermine the Forest Plan/ NRLMD direction for management of lynx habitat. This creates a scientific controversy the FS fails to resolve, and in fact it essentially ignores it.

For one, Kosterman, 2014 found that 50% of lynx habitat must be mature undisturbed forest for it to be optimal lynx habitat where lynx can have reproductive success and no more than 15% of lynx habitat should be young clearcuts, i.e. trees under 4 inched dbh. Young regenerating forest should occur only on 10-15% of a female lynx home range, i.e. 10-15% of an LAU. This renders inadequate the agency's assumption in the Forest Plan/NRLMD that 30% of lynx habitat can be open, and that no specific amount of mature forest needs to be conserved. Kosterman, 2014 demonstrates that Forest Plan/NRLMD standards are not adequate for lynx viability and recovery.

Also, the Forest Plan essentially assumes that persistent effects of vegetation manipulations other than regeneration logging and some intermediate treatments are essentially nil. However, Holbrook, et al., 2018 "used univariate analyses and hurdle regression models to evaluate the spatio-temporal factors influencing lynx use of treatments." Their analyses "indicated ...there was a consistent cost in that lynx use was low up to ~10 years after all silvicultural actions." (Emphasis added.) From their conclusions:

First, we demonstrated that lynx clearly use silviculture treatments, but there is a ~10 year cost of implementing any treatment (thinning, selection cut, or regeneration cut) in terms of resource use by Canada lynx. This temporal cost is associated with lynx preferring advanced regenerating and mature structural stages (Squires et al., 2010; Holbrook et al., 2017a) and is consistent with previous work demonstrating a negative effect of precommercial thinning on snowshoe hare densities for ~10 years (Homyack et al., 2007). Second, if a treatment is implemented, Canada lynx used thinnings at a faster rate post- treatment (e.g.,~20 years posttreatment to reach 50% lynx use) than either selection or regeneration cuts (e.g., ~34–40 years post-treatment to reach 50% lynx use). Lynx appear to use regeneration and selection cuts similarly over time suggesting the difference in vegetation impact between these treatments made little difference concerning the potential impacts to lynx (Fig. 4c). Third, Canada lynx tend to avoid silvicultural treatments when a preferred structural stage (e.g., mature, multi-storied forest or advanced regeneration) is abundant in the surrounding landscape, which highlights the importance of considering landscape-level composition as well as recovery time. For instance, in an area with low amounts of mature forest in the neighborhood, lynx use of recovering silvicultural treatments would be higher versus treatments surrounded by an abundance of mature forest (e.g., Fig. 3b). This scenario captures the importance of post-treatment recovery for Canada lynx when the landscape context is generally composed of lower quality habitat. Overall, these three items emphasize that both the spatial arrangement and composition as well as recovery time are central to balancing silvicultural actions and Canada lynx conservation.

So Holbrook et al., 2018 fully contradict Forest Plan assumptions that clearcuts/regeneration can be considered useful lynx habitat as early as 20 years post-logging.

Results of a study by Vanbianchi et al., 2017 also conflict with Forest Plan/NRLMD assumptions: "Lynx used burned areas as early as 1 year postfire, which is much earlier than the 2–4 decades postfire previously thought for this predator." The NRLMD erroneously assumes clearcutting/ regeneration logging have basically the same temporal effects as stand-replacing fire as far as lynx re-occupancy.

Kosterman, 2014, Vanbianchi et al., 2017 and Holbrook, et al., 2018, Holbrook 2019 demonstrate that Forest Plan direction is not adequate for lynx viability and recovery, as the FS assumes. Holbrook 2019 such all lynx habitat must be surveyed. You have not done this.

The Forest Plan/FEIS fail to describe the quantity and quality of habitat that is necessary to sustain the viability of the Canada lynx.

Significantly, in the 2018 order, this Court explained that consultation on the Northern Rockies Lynx Management Direction, commonly referred to as the "Lynx

Amendment," was not sufficient in part because the Lynx Amendment only applies to mapped "lynx habitat" on the Forest. Id. at 1070. Thus, areas on the Forest where lynx "may be present" that are not mapped as "lynx habitat" are not covered by the Lynx Amendment consultation. Id. Accordingly, the primary purpose of the 2018 remand was for the agencies to consult on the entire Forest, including areas of the Forest that are not mapped as "lynx habitat" but where lynx nonetheless "may be present." See id.

On August 24, 2021, the agencies filed a second motion to dissolve the injunction. The agencies provide the Court with a new 2021 Biological Assessment and Biological Opinion for the Forest Plan. Doc. 93-9 (Biological Assessment); Doc. 93-1 (Biological Opinion). However, this new consultation suffers from the same flaw that the Court found with the Lynx Amendment consultation in its 2018 order – the analysis is incomplete because it addresses mapped "lynx habitat" where the Lynx Amendment applies, instead of all areas where lynx "may be present" on the Forest. For this reason, the motion to dissolve the injunction should be denied. Alternatively, or in addition, dissolution is not equitable at this time because the agencies have unlawfully stripped legal protections for lynx from 1.1 million acres during the remand in this case. Accordingly, this Project should not move forward until the agencies comply with their legal obligations under the ESA, NEPA, and NFMA regarding this de facto Forest Plan amendment that removed lynx protections on almost one-third of the Forest.

As set forth below in more detail, this case is similar to Native Ecosystems in that the agencies engaged in a new ESA consultation on remand, but the consultation does not contain the analysis ordered by the Court in its 2018 remand order. Thus, in this case, as in Native Ecosystems, the motion to dissolve the injunction should be denied. Furthermore, during the remand for this case, the Forest Service has effectively issued a programmatic Forest Plan amendment with its decision to strip away protections for lynx from 1.1 million acres of the Forest. This removal of protections for lynx applies to the Fleecer Project. However, the agencies did not conduct any NEPA or NFMA analysis or ESA consultation for this de facto Forest Plan amendment. Thus, for this additional reason, dissolution of the injunction may be denied because the dissolution is not equitable under these circumstances.

The new Forest Plan consultation addresses effects to lynx within mapped "lynx habitat," but does not address the effects to lynx in areas that are not mapped "lynx habitat" but where lynx "may be present," which was the purpose of the remand.

As noted above, the agencies have determined that lynx "may be present" across the entire Forest. Krueger, 348 F.Supp.3d at 1068. Thus, while approximately 1.5 million acres of the Forest is mapped "lynx habitat," Doc. 93-9 at 17, another 1.9 million acres (more than half the Forest) is not mapped "lynx habitat," but still constitutes an area where lynx “may be present, ” see Doc. 93-9 at 10; Krueger, 348 F.Supp.3d at 1068.

In its 2018 remand order in this case, this Court held:

Because there are provisions of the Forest Plan other than the Lynx Amendment that “may affect” lynx outside of the areas protected by the Lynx Amendment, and because the FWS determined that lynx “may be present” throughout the forest, a plaintiff may still bring a section 7 consultation claim to the broader Forest Plan itself. See Native Ecosystems Council v. Marten, 334 F.Supp.3d 1124, 1131, 2018 WL 3831339, at *4 (D. Mont. Aug. 13, 2018) (stating that “the Lynx Amendment only applies to mapped lynx habitat on National Forest System land presently occupied by Canada lynx” and holding that a forest-wide determination that lynx “may be present” arguably requires consultation of an agency action that “may affect” lynx but where “compliance with the Lynx Amendment is not required.”) Such is the case here.

The Forest Service must complete an ESA consultation for the Forest Plan that includes an analysis of how lynx may be affected on areas of this Forest that are not mapped “lynx habitat” but nonetheless are areas where lynx “may be present.” Id. As noted above, that area is 1.9 million acres. The agencies have not complied with the remand order in this case because they have not yet provided this analysis.

In the January 4, 2021, Forest Plan Biological Assessment, the Forest Service uses “the 2020 updated lynx habitat model to disclose potential effects and set the current existing conditions."

As the agency summarizes: "Impacts to lynx and their habitat have been considered in the context of the modeled lynx habitat on the Forest, vegetation conditions, anticipated amount and distribution of forest activities (e.g., timber projects, recreation expansion), and guidance within the Forest Plan and the Northern Rockies Lynx Management Direction. Since all areas of modeled lynx habitat are considered occupied, lynx are presumed to be present, including both resident or dispersing." Furthermore, regarding cumulative impacts, the Forest Service discloses: "[f]or this analysis, the cumulative effects boundary consists of all 2020 modeled lynx habitat both within and outside of the [Caribou-Targhee National Forest]."

Similarly, the FWS's responsive 2021 Forest Plan Biological Opinion states: "In order to fully address effects of implementing the 2009 Revised Forest Plan, the Forest provided lynx habitat information. The information provided consists of a broad scale estimate of lynx habitat across the Forest intended to provide an overall picture of the current status of lynx habitat." Doc. 93-1 at 9 (emphases added). FWS then summarizes the analysis of effects to mapped lynx habitat set forth in the Forest Service Biological Assessment. FWS also provides an analysis of only those portions of existing projects that "occur within mapped lynx habitat . . . ." Doc. 93-1 at 29.

Both the Forest Plan Biological Assessment and Forest Plan Biological Opinion limit their analyses to effects to mapped lynx habitat, which is now considered to be "occupied." However, in the Fleecer case, the federal district court remanded to the agencies to address all potential effects to lynx across the entire Forest, specifically including those areas that are not mapped as "lynx habitat." As noted above, the areas that are not mapped as "lynx habitat" where lynx nonetheless "may be present" constitute approximately 1.9 million acres across the Forest.

The federal district court denied a motion to dissolve under similar circumstances in the Fleecer project. In that case, this Court "enjoined Defendants from proceeding with their project until Defendants conducted a site-specific biological opinion for both Canada lynx and grizzly bear." Subsequently, the Forest Service "submitted a new biological opinion for both grizzly bear and Canada lynx. . . [and sought] dissolution of the injunction." Id. This Court then held:

"The Court's order required the new biological opinion to analyze "all logging associated activities." . . . The new biological opinion fails to contemplate any effects on grizzly bear from the logging activity itself . . . . Defendants have failed to comply, therefore, with this Court's order to conduct a new biological opinion that analyzes the impacts to grizzly bears of "all logging associated activities.""

The Court further enjoined the Fleecer project until the Forest Service conducted a new biological opinion that analyzed project impacts on Canada lynx. The previous first-tier biological opinion required a site-specific biological opinion to consider whether assumptions made in the original biological opinion were valid. . . . The Forest Service failed to consider, however, whether these vegetation treatment projects are affecting lynx in the way anticipated by the 2007 Biological Opinion. Without that analysis, the second-tier Biological Opinion fails to perform the role anticipated in the first-tier biological opinion.

The same is true here. The Forest Service failed to conduct the biological opinion ordered by the Court in the Fleecer project. Thus, the motion to dissolve was denied. The agencies must prepare a consultation that analyzes potential effects on lynx on the entire 3.4 million acre Forest – not just mapped lynx habitat on less than half the Forest.

The Forest Service and the FWS have not yet analyzed effects on lynx across the entire Forest as required by the 2018 remand order; instead, their consultation addresses mapped lynx habitat. However, mapped lynx habitat is less than half of the Forest, and there are still another 1.9 million acres of Forest that are not mapped lynx habitat but nonetheless satisfy the “may be present” threshold. Thus, the agencies have not yet provided Plaintiffs with all of the relief they seek.

The agencies' decision to remap "lynx habitat" in order to remove Lynx Amendment protections from 1.1 million acres on the Forest is a Forest Plan amendment under NFMA, a major federal action under NEPA, and an agency action under the ESA. Thus, NEPA analysis and ESA consultation must occur for this change in management – and the Forest Service must issue a Forest Plan amendment that complies with the 2012 NFMA planning regulations – before the Diamond Creek Project may move forward.

The Forest Service unlawfully stripped legal protections from lynx across 1.1 million acres of the Forest without conducting the legally required analyses. Both the District of Idaho and District of Oregon hold that the remapping of lynx habitat requires analysis under NFMA, NEPA, and/or the ESA. Oregon Nat. Res. Council Fund v. Forsgren, 252 F.Supp.2d 1088, 1104 (D. Or. 2003)(addressing NFMA and NEPA); Native Ecosystems Council & All. for the Wild Rockies v. U.S. Forest Serv. ex rel. Davey, 866 F.Supp.2d 1209, 1231 (D. Id. 2012)(addressing ESA and NEPA).

Accordingly, this Project should not move forward until the agencies comply with their legal obligations under the ESA, NEPA, and NFMA regarding this de facto Forest Plan amendment that removed lynx protections on almost one-third of the Forest during the remand in this case. This Court may address this issue in its equitable discretion. However, if it declines to do so, Plaintiffs will file a new action and request injunctive relief in that action.

NEPA requires an agency to prepare an EIS for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. §4332(2)(C). Major federal actions include "new or revised agency . . . plans, policies, or procedures" including "official documents prepared or approved by Federal agencies which prescribe alternative uses of Federal resources, upon which future agency actions will be based." 40 C.F.R. §1508.1 (q)(2), (3)(ii).

The remapping of "lynx habitat" is a major federal action under NEPA that requires either an EIS or an EA. Oregon Nat. Res. Council Fund, 252 F.Supp.2d at 1104-07; Native Ecosystems Council, 866 F.Supp.2d at 1231.

Furthermore, ESA consultation is required for "any agency action" that "may affect" a listed species in an area where a listed species "may be present."
16 U.S.C. §1536(c). The ESA defines agency action as "any action authorized, funded, or carried out by [a federal] agency." 16 U.S.C. §1536(a)(2). In Karuk Tribe of California v USFS, the en banc Ninth Circuit held that "[t]here is 'little doubt' that Congress intended agency action to have a broad definition in the ESA . . . ." 681 F.3d 1006,1020-21 (9th Cir.2012)(citations omitted). Thus, the "'agency action' inquiry is two-fold. First, we ask whether a federal agency affirmatively authorized, funded, or carried out the underlying activity. Second, we determine whether the agency had some discretion to influence or change the activity for the benefit of a protected species." Id. The remapping of "lynx habitat" is an agency action

that requires ESA consultation. Native Ecosystems Council, 866 F.Supp.2d at 1232-33.

Finally, NFMA requires a forest plan amendment for any actions that "add, modify, or remove one or more [forest] plan components, or [] change how or where one or more plan components apply to all or part of the [forest] plan area (including management areas or geographic areas)." 36 C.F.R. §219.13(a). Remapping "lynx habitat" requires a forest plan amendment. Oregon Nat. Res. Council Fund, 252 F.Supp.2d at 1101-04.

Regardless of whether a forest plan amendment is deemed "significant" in the NFMA context, see 16 U.S.C. §1604 (f)(4), the Forest Service must provide for public participation, public notification, and NEPA compliance in conjunction with the amendment, 36 C.F.R. §219.13(b)(2)-(3). "The appropriate NEPA documentation for an amendment may be an [EIS], an environmental assessment, or a categorical exclusion, depending upon the scope and scale of the amendment and its likely effects." 36 C.F.R. §219.13(b)(3).

Furthermore, regardless of whether a forest plan amendment is "significant" under NFMA, any substantive protections in the 2012 NFMA planning regulations that are "directly relevant" to the forest plan amendment must be applied. 36 C.F.R. §219.13(b)(5); see Sierra Club, Inc. v. USFS, 897 F.3d 582, 601 (4th Cir. 2018)(remanding for application of substantive protections of the 2012 planning regulations to a non-significant forest plan amendment).

Finally, a de facto forest plan amendment cannot be lawfully categorized and dismissed as a mere "administrative change" unless it involves only "corrections of clerical errors to any part of the plan, conformance of the plan to new statutory or regulatory requirements, or changes to other content in the plan (§ 219.7(f))." 36 C.F.R. §219.13(c). "Changes to other content in the plan" is a term of art that includes only watershed identification, the plan's roles and contributions in the broader landscape, the monitoring program, proposed and possible actions, and potential management approaches or strategies and partnership opportunities or coordination activities." 36 C.F.R. §219.7(f).

During the remand in the Fleecer case, the agencies determined that the Caribou-Targhee National Forest is now "occupied" by lynx. This change in status means that compliance with the Lynx Amendment is now mandatory for all site-specific projects on the Forest, but only within the lands that are mapped as "lynx habitat."

Accordingly, in 2020, the agencies remapped "lynx habitat" on the Forest.

The result of the remapping was that the agencies removed approximately 1.1 million acres from the "lynx habitat" designation, and thereby removed the protections of the Lynx Amendment standards from those 1.1 million acres of Forest:

Table 4. Comparison of lynx habitat acres, number of lynx analysis units, and the range of habitat within lynx analysis units between mapping efforts.

Metric	2001 mapping effort	2020 mapping effort	Difference
Lynx habitat (acres)	2,711,422	1,625,806	-1,085,616
Lynx analysis units (number)	509	78	-431
Range of lynx habitat within LAUs (acres)	0-24,101	12,603 - 29,880	Minimum +12,603 Maximum +5,779

Additionally, the agencies reduced the number of "Lynx Analysis Units" from 509 to 78, and increased the size of individual Lynx Analysis Units so that more acres can be logged before the percentage limits for logging in each unit are reached..

The remapping of "lynx habitat" requires an EA or EIS under NEPA.

As both the District of Idaho and District of Oregon have already held, the remapping of "lynx habitat" constitutes a major federal action under NEPA, which requires either an EA or EIS. Oregon Nat. Res. Council Fund, 252 F.Supp.2d at 1104-07; Native Ecosystems, 866 F.Supp.2d at 1231. In the Diamond Creek Project as well, the new mapping recategorizes thousands of acres of "lynx habitat" out of existence and thereby paves the way for future projects to authorize logging and other activities in those areas, even if those activities would have been previously prohibited in those same areas under the Lynx Amendment. This is not a minor change: instead, this changes strips away Lynx Amendment protections from approximately 1.1 million acres across the Forest. \

This significant change in management of the Forest requires a complete analysis under NEPA. Native

Ecosystems, 866 F.Supp.2d at 1231. As the District of Idaho held:

"The 2005 map was a document officially approved by the Forest Service. . . .There also seems to be little room for debate over whether the 2005 map ultimately governs "uses of Federal resources, upon which future agency actions will be based." []. Without the adoption of the 2005 map—and the attendant elimination of nearly 400,000 acres of land within [Lynx Analysis Units] —the Project area would have been subject to the restrictions contained in the Lynx [Amendment] . . . . With the adoption of the 2005 map, the 390,900 acres of previously restricted land was opened for uses that were not available without the adoption of the map."

The 2005 map . . . eliminated almost 400,000 acres of land that was previously subject to greater environmental restrictions under the Lynx [Amendment]. . . . the map was never subjected to independent NEPA review, which would have required an analysis of the potential [e]ffects . . . on the lynx, its habitat, and the habitat of the snowshoe hare. Such analysis is absent in this case. The absence of such analysis violates NEPA's procedural requirements . . . .

Similarly in the CTNF,"[w]ith the adoption of the [2020] map, the [1.1 million] acres of previously restricted land was opened for uses that were not available without the adoption of the map.". " [T]he map was never subjected to independent NEPA review, which would have required an analysis of the potential [e]ffects . . . on the lynx, its habitat, and the habitat of the snowshoe hare. Such analysis is absent in this case. The absence of such analysis violates NEPA's procedural requirements . . . ."

And, as the District of Oregon similarly held:

"Defendants have substantially minimized the effects of the new mapping direction. The new mapping direction was far more than the result of day-to-day inventory-taking. It significantly changed the nature and the extent of lynx habitat, and the consequences to the lynx may be far-reaching. It has been used by the [Forest Service] to reduce the recognized primary lynx habitat within the Forest by thousands of acres . . . . The Court finds Defendants, at the least, were required under NEPA to prepare an Environmental Assessment with public involvement to determine whether the new mapping direction might significantly affect the lynx in the Forest and whether Defendants should prepare an EIS.

Oregon Nat. Res. Council Fund, 252 F.Supp.2d at 1105. The same result is required in this case."

The remapping of "lynx habitat" requires ESA consultation.

In addition to requiring NEPA analysis, the remapping of lynx habitat also requires ESA consultation. The remapping of lynx habitat on the Forest is an agency action under the ESA because it was "authorized, funded, or carried out by [a federal] agency." 16 U.S.C. §1536(a)(2). Additionally, "the agency had some discretion to influence or change the

activity for the benefit of a protected species." Karuk Tribe, 681 F.3d at 1021.
In Native Ecosystems, the District of Idaho found that ESA consultation was required to address the impacts on lynx from the remapping decision. 866 F.Supp.2d at 1231-33. The court held: "Defendants argue that, because a jeopardy determination was made for the standards contained in the Lynx [Amendment], and those standards were used in revising the [Lynx Analysis Unit] map in 2005, the agencies satisfied their obligations under the ESA. The Court does not agree." Id. at 1232. The court found that the Lynx Amendment "biological opinion from 2007 does not assess the validity of the 2005 map" and that the agencies should have evaluated whether "the elimination of 390,900 acres of land within the boundaries of [Lynx Analysis Unit]s in the 2005 map would adversely affect the lynx or its habitat." Id.

Similarly, in this case, the agencies must prepare an ESA consultation that the evaluates whether "the elimination of [1.1 million] acres of land within the boundaries of [Lynx Analysis Unit]s in the [2020] map would adversely affect the lynx or its habitat." See id.

The remapping of "lynx habitat" requires a Forest Plan amendment.

Finally, the remapping of "lynx habitat" is a Forest Plan amendment that requires analysis under NFMA. Removing Forest Plan Lynx Amendment protections from approximately 1.1 million acres, reducing the number of Lynx Analysis Units on the Forest from 509 to 78, and increasing the size of individual Lynx Analysis Units so that more acres can be logged before the Lynx Amendment percentage limits for logging in each unit are reached, are changes that "add, modify, or remove one or more [forest] plan components, or [] change how or where one or more plan components apply to all or part of the [forest] plan area (including management areas or geographic areas)." 36 C.F.R. §219.13(a).

More specifically, the remapping of lynx habitat "change[s] how or where" the Lynx Amendment protections apply to this Forest because these protections no longer apply to 1.1 million acres of the Forest. Furthermore, stripping Forest Plan protections from 1.1 million acres – approximately one-third of the Forest – could not be reasonably construed as a mere "administrative change" because such an action does not fall with the narrow regulatory definition of "administrative change." 36 C.F.R. §§219.13(c), 219.7(f).

The District of Oregon held that remapping lynx habitat requires a forest plan amendment:

"the revision of the [Lynx Conservation Assessment Strategy] and the new mapping direction were not merely part of the day-to-day operations of the FS like the less substantial actions taken by the FS and BLM in the cases on which Defendants primarily rely. The court's concerns in Prairie Woods Products regarding the absence of discernible limits to the discretion of the FS to forego or to forestall formal amendment procedures with their concomitant public involvement also are concerns in this case. . . . Whether based on a theory of a de facto

amendment or a failure to act to amend, therefore, the Court concludes an order compelling the public involvement required by NFMA is warranted as to these timber sales.
Oregon Nat. Res. Council Fund, 252 F.Supp.2d at 1101. The court further found that the Forest Service's action violated the substantive provisions of the NFMA planning regulations."

Similarly, in House v. USFS, the Eastern District of Kentucky found that changes to management direction for the Indiana bat constituted a forest plan amendment under NFMA. 974 F.Supp. 1022, 1034 (E.D. Ky. 1997). The court found: "these policies may not be implemented until the Forest Plan has been properly amended to include the same."

Likewise, in Klamath Siskiyou Wildlands Ctr. v. Boody, the Ninth Circuit found that changes to management direction for the red tree vole constituted an amendment of a Bureau of Land Management Resource Management Plan under the Federal Land Policy and Management Act. 468 F.3d 549, 558 (9th Cir. 2006). The court held: "if BLM can modify the protection afforded a species under a resource management plan as dramatically as it has here — without complying with [the amendment regulation] — BLM could ultimately remove all the Survey and Manage designations without ever conducting another EA or EIS, and without providing public disclosure. Such steps would undoubtedly run contrary to both the goals and language of [Federal Land Policy and Management Act.]" Id.

Here too, if the Forest Service "can modify the protection afforded [lynx] under a [forest] plan as dramatically as it has here—without complying with [the amendment regulation] — [the Forest Service] could ultimately remove all the [lynx habitat] designations without ever conducting another EA or EIS, and without providing public disclosure. Such steps would undoubtedly run contrary to both the goals and language of [NFMA]." The preparation of a Forest Plan amendment is not an empty procedural exercise because all relevant substantive protections from the 2012 NFMA planning regulations must be applied to a forest plan amendment. More specifically, for each amendment, the Forest Service must "[d]etermine which specific substantive requirement(s) within §§219.8 through 219.11 are directly related to the plan direction being added, modified, or removed by the amendment and apply such requirement(s) within the scope and scale of the amendment." 36 C.F.R. §219.13(b)(5); see Sierra Club, 897 F.3d at 601(remanding for application of substantive protections of the 2012 planning regulations to a non-significant forest plan amendment). The application of these substantive regulatory protections may ultimately result in a decision that alters – and is more protective of lynx – than the current 2020 remapping of "lynx habitat."

For all of these reasons, the agencies must complete NEPA, ESA, and NFMA analysis for the 2020 remapping of "lynx habitat" on the Forest. Until those analyses are completed in a lawful manner, the Diamond Creek Project can not go forward because the Project analysis is unlawfully premised upon the acceptance and implementation of the new map of lynx habitat “like a house of cards built on an unsound foundation.” Native Ecosystems, 866 F.

Remedy:

Withdraw the EA/FONSI and write an EIS that fully complies with the law and formally consult with the FWS on the impact of the project and the Forest Plan on lynx.

We wrote in our comments:

Please disclose the names of all other past projects (implemented during the life of the Forest Plan) whose analysis area(s) encompass the areas to be “treated” under this proposal. Please disclose if the FS has performed all of the monitoring and mitigation required or recommended in any NEPA documents, and the results of the monitoring.

For the proposal to be consistent with the Forest Plan, enough habitat for viable populations of old-growth dependent wildlife species is needed over the landscape. Considering potential difficulties of using population viability analysis at the project analysis area level

(Ruggiero, et. al., 1994), the cumulative effects of carrying out multiple projects simultaneously across the CTNF makes it imperative that population viability be assessed at least at the forestwide scale (Marcot and Murphy, 1992). Also, <u>temporal</u> considerations of the impacts on wildlife population viability from implementing something with such long duration as a Forest Plan must be considered (id.) but this has never been done by the CTNF. It is also of paramount importance to monitor population during the implementation of the Forest Plan in order to validate assumptions used about long-term species persistence i.e., population viability (Marcot and Murphy, 1992; Lacy and Clark, 1993).

Please demonstrate that this project will leave enough snags to follow the Forest Plan requirements and the requirements of sensitive old growth species such as flammulated owls and goshawks. Loggers are required to follow OSHA safety standards. Will these standards require snags to be cut down? After snags are cut down for safety for OSHA requirements will there still be enough snags left for old growth sensitive species?

Specifically how will the Diamond Creek Project affect Flammulated owls, cavity-nesters usually associated with

mature stands of ponderosa pine and Douglas-fir? Among other habitat characteristics, flammulated owls benefit from an abundance of large snags and a relatively dense under-story. The flammulated owl is a sensitive species in Region One, and is largely dependent on old ponderosa pine forests. According to a 2002 Region-wide assessment, not referenced in the 2003 FEIS for the Project, such forests only occur at 12-16% of their former, pre-fire suppression/pre-logging (that is, "historic") levels, and thus species viability has been determined to be at risk. The Northern Region also recognizes that its strategy for restoring habitat for the flammulated owl and found in the Island South project that "in no way guarantees that flammulated owls will be restored to viable levels."

Snag densities recommended by experts to support cavity-nesting birds range from 2.1 to 11 snags per acre of greater than 9" dbh. Please note that the fact that more recent science has called into question the lower snag densities cited in the earlier research, and the more recent science implies that about 4 snags per acre may be the minimum required to insure viability.

What surveys has the CTNF specifically designed to detect flammulated owls? The FS has not developed a *conservation strategy for the flammulated owl in the CTNF, or in the Northern Rockies. Absent an appropriate landscape management strategy for insuring their viability, based upon the best available science, it is arbitrary and capricious to dismiss potential impacts on the ground where the FS has failed to conduct the kind of comprehensive surveys that would reveal their presence. This convenient excuse for not protecting for a species that is becoming exceedingly rare, a strategy of managing for extinction (since protection premised on detection affords greatest protection to the species that least need it) has been condemned by the FS's own leading expert in the northern region, Mike Hillis:*

> *With the exception of the Spotted Owl…, the U.S. Forest Service has not given much emphasis to owl management. This is contrary to the National Forest Management Act of 1976 (NFMA) which mandates that all wildlife species be managed for viable populations. However, with over 500 vertebrate species this would be difficult for any organization. Recognizing the absence of detailed information on owl habitat, the apparent association of owls with snags, mature, and old-growth timber (both rapidly declining), it seems inconsistent that the U.S. Forest Service has placed little emphasis on owl management. One might conclude that the agency's painful experiences with the Spotted Owl in Oregon*

> ***and Washington have evolved into a 'hear no evil, see no evil' approach for other forest owls as well.***

The NPCNF's Lolo Insect & Disease DEIS states: "The nest tree is the most important variable to estimate breeding habitat use by the pileated woodpecker (Kirk and Naylor 1996, Giese and Cuthbert 2003) …The mean DBH of nest trees was 33 inches. …Nest trees averaged 28 inches DBH." (Emphases added.)

Bull et al., 2007 compare the effects of natural disturbance with large-scale logging on pileated woodpeckers. Also see Bull et al., 1992, Bull and Holthausen, 1993, and Bull et al., 1997 for biology of pileated woodpeckers and the habitats they share with cavity nesting wildlife.

Lorenz et al., 2015 state:

> ***Our findings suggest that higher densities of snags and other nest substrates should be provided for PCEs (primary cavity excavators) than generally recommended, because past research studies likely overestimated the abundance of suitable nest sites and underestimated the number of snags required to sustain PCE populations. Accordingly, the felling or removal of snags for any purpose, including commercial salvage logging and home firewood gathering, should not be permitted where conservation and management of PCEs or SCUs (secondary cavity users) is a concern (Scott 1978, Hutto 2006).***

The implication is clear: managers know little about how many snags per acre are needed to sustain populations of cavity nesting species. Only the birds themselves have the capability to decide if a tree is suitable for excavating. The Forest Plan fails to recognize this scientific finding.

On the same subject, Hutto 2006, notes from the scientific literature: "The most valuable wildlife snags in green-tree forests are relatively large, as evidenced by the disproportionate number of cavities in larger snags (Lehmkuhl et al. 2003), and are relatively deteriorated (Drapeau et al. 2002)."

Spiering and Knight (2005) examined the relationship between cavity-nesting birds and snag density in managed ponderosa pine stands and examined if cavity-nesting bird use of snags as nest sites was related to the following snag characteristics (DBH, snag height, state of decay, percent bark cover, and the presence of broken top), and if evidence of foraging on snags was related to the following snag characteristics: tree species, DBH, and state of decay. Spiering and Knight (2005) state:

> *"Many species of birds are dependent on snags for nest sites, including 85 species of cavity-nesting birds in North America (Scott et al. 1977). Therefore, information of how many and what types of snags are required by cavity-nesting bird species is critical for wildlife biologists, silviculturists, and forest managers."*

"Researchers across many forest types have found that cavity-nesting birds utilize snags with large DBH and tall height for nest trees (Scott, 1978; Cunningham et al., 1980; Mannan et al., 1980; Raphael and White, 1984; Reynolds et al., 1985; Zarnowitz and Manuwal, 1985; Schreiber and deCalesta, 1992)."

Spiering and Knight (2005) found the following.

Larger DBH and greater snag height were positively associated with the presence of a cavity, and advanced stages of decay and the presence of a broken top were negatively associated with the presence of a cavity. Snags in larger DBH size classes had more evidence of foraging than expected based on abundance.

Percent bark cover had little influence on the presence of a cavity. Therefore, larger and taller snags that are not heavily decayed are the most likely locations for cavity-nesting birds to excavate cavities.

The association of larger DBH and greater height of snags with cavities is consistent with other studies (Scott, 1978; Cunningham et al., 1980; Mannan et al., 1980; Raphael and White, 1984; Reynolds et al., 1985; Zarnowitz and Manuwal, 1985; Schreiber and deCalesta, 1992).

Spiering and Knight (2005) state that the "lack of large

snags for use as nest sites may be the main reason for the low densities of cavity-nesting birds found in managed stands on the Black Hills National Forest. ...The increased proportion of snags with evidence of foraging as DBH size class increased and the significant goodness-of-fit test indicate that large snags are the most important for foraging."

Tingley et al., 2016 note the diversity of habitats following a fire is related to <u>the diversity of burn severities:</u> "(W)ithin the decade following fire, different burn severities represent unique habitats whose bird communities show differentiation over time… Snags are also critical resources for many bird species after fire. Increasing densities of many bird species after fire—primarily wood excavators, aerial insectivores, and secondary cavity nesters—can be directly tied to snag densities…"

One issue that arises is the abundance of the large snags and down wood remaining from past logging, firewood gathering, and other management, following the proposed logging, and—<u>the nuance ignored in this EA</u>—through time as recruitment becomes practically nil after a few years in logged areas due to most or all of the large trees being removed and/or downed. Since the scoping notice suggests that beyond the analysis area (the entire Forest and to the Region) adequate habitat values would remain, the agency is obligated to provide the numbers and conduct a scientifically sound cumulative effects analysis

—including the impacts of past logging, firewood gathering, etc. The FS has not done this. The project area was logged in the past, which obviously has affected recruitment of large snags. As we discuss above, the nesting tree needs of the pileated woodpecker is of a larger size than the FS acknowledges or analyzes. And the scoping notice makes no commitment towards assuring retention of the largest tree habitat at the unit, project area, or any landscape scale.

Mealey, 1983 stated: "Well distributed habitat is the amount and location of required habitat which assure that individuals from demes, distributed throughout the population's existing range, can interact. Habitat should be located so that genetic exchange among all demes is possible." That document also provides guidance for pileated woodpecker habitat distribution.

<u>Northern goshawk</u>

Please include a cumulative effects analysis considering past and ongoing impacts in a logical cumulative effects analysis area for goshawks.

Crocker-Bedford (1990) investigated changes in northern goshawk habitat utilization following logging. He noted:

> ***After partial harvesting over extensive locales around nest buffers, reoccupancy decreased by an estimated 90% and nestling production decreased by an estimated 97%. Decreases were probably due to increased competition from open-forest raptors, as***

well as changes in hunting habitat and prey abundance.

Clough (2000) noted that in the absence of long-term monitoring data, a very conservative approach to allowing logging activities near active goshawk nest stands should be taken to ensure that goshawk distribution is not greatly altered. This indicates that the full 180-acre nest area management scheme recommended by Reynolds et al. (1992) should be used around any active goshawk nest on the Forest. Removal of any large trees in the 180-acre nesting area would contradict the Reynolds et al. (1992) guidelines.

Please explain how the FS would be managing in considerations of Reynolds et al. (1992) scientific recommendations. Reynolds, et al. 1992, calls for protecting northern goshawk nest areas around 3 nests and 3 alternative nests against adverse impacts in each home range. However, the scoping notice does not invoke best available science to maintain any nest areas, or accurately disclosed how the approved activities might impact such areas.

Reynolds et al. 1992 calls for ratios of (20%/20%/20%) each in the mid-aged forest, mature forest, and old forest Vegetative Structural Stage (VSS) classes for, in this case hypothetical post-fledging family areas (PFAs) and foraging areas.

In addition, Reynolds et al. 1992 calls for agency-created openings of no more than 2 acres in size or less in the PFAs, depending on forest type, and agency-created opening of no more than 1-4 acres or less in size in the foraging areas, depending on forest type.

Along with Reynolds et al., 1992, another conservation strategy for the goshawk is Graham, et al., 1999. Research suggests that it is essential to viability of goshawks that 20-50% of old growth within their nesting areas be maintained (Suring et al. 1993, Reynolds et al. 1992). USDA Forest Service (2000b) recommends that forest opening greater than 50-60 acres be avoided in the vicinity of goshawks. At least five years of monitoring is necessary to allow for effective estimates of habitat quality (USDA Forest Service, 2000b). Research suggests that a localized distribution of 50% old growth should be maintained to allow for viability of goshawks (Suring et al. 1993).

Moser and Garton (2009) reported that all goshawk nests examined in their study area were found in stands whose average diameter of overstory trees was over 12.2 inches and all nest stands had ≥ 70% overstory tree canopy. They described their findings as being similar to those described by Hayward and Escano (1989), who reported that nesting habitat "may be described as mature to overmature conifer forest with a closed canopy (75-85% cover)…."

Please recognize goshawk long-term fidelity to nest stands.

Also please consider Beier and Drennan (1997), Crocker-Bedford (1990), Greenwald et al. (2005), Hayward and Escano (1989), La Sorte, et al. (2004), USDA Forest Service (2000b) and Patla (1997) as best available science for northern goshawk biology.

Please disclose the frequency and geographic extent of goshawk nest searches during the past 10 years in the project area.

The FS did not utilize goshawk survey methodology consistent with the best available science. For example the recent and comprehensive protocol, "Northern Goshawk Inventory and Monitoring Technical Guide" by Woodbridge and Hargis, 2006. Also, USDA Forest Service 2000b state:

> *A common thread in the interviews was the lack of a landscape approach in providing goshawk habitat well distributed across the Forest (Squires, Reynolds, Boyce). Reynolds was deeply concerned that both alternatives focus only on 600 acres around known goshawk nests. He was concerned that this direction could be keeping the goshawk population artificially low. Because goshawks move around within their territories, they are very difficult to find (Reynolds). There might be more goshawks on the Forest than*

> ***currently known (Squires). One or two years of goshawk surveys is not enough (Reynolds). Some pairs may not lay eggs for five years (Reynolds). To get confidence in identifying nesting goshawk pairs, four to six years of surveys are needed (Reynolds). (Emphasis added.)***

The FS's Samson (2006a) reports says that 110 breeding individuals (i.e. 55 pairs) are necessary for a viable goshawk population in R1. Attachment 1 is a map showing the results from the 2005 R1 region-wide goshawk survey using their Woodbridge and Hargis goshawk monitoring protocol, which is published as a USFS technical report. The 2005 detection map says there were 40 detections in 2005 in Region 1. So the results of this survey essentially show that the population in Region 1 is not viable according to the agency's own science (only 40 instead of 55). And some of the detections may have been individuals using the same nest, so the number of nests (and therefore number of breeding pairs) could be even lower than 40.

<u>Elk and other Big game</u>
Please present an adequate quantitative or qualitative analysis of security and thermal cover.

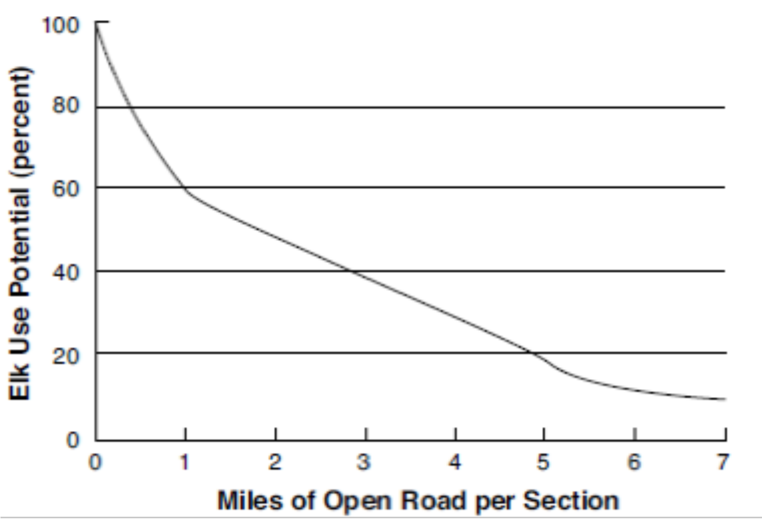
Please demonstrate consistency with all forest plan direction. Please present an analysis explaining how meeting the big game security direction in the Forest Plan assures that population viability is maintained, or

maintains quality hunting opportunities.

The science is clear that motorized access via trail, road, or oversnow adversely impact habitat for the elk. Servheen, et al., 1997 indicate that motorized trails increase elk vulnerability and reduce habitat effectiveness, and provide scientific management recommendations.

Christensen, et al. (1993) is a Region One publication on elk habitat effectiveness. Meeting a minimum of 70% translates to about 0.75 miles/sq. mi. in key elk habitat, as shown in their graph:

5. Levels of habitat effectiveness:



Carnefix and Frissell, 2009 make a very strong scientific rationale for including ecologically-based road density standards:

Roads have well-documented, significant and

widespread ecological impacts across multiple scales, often far beyond the area of the road "footprint". Such impacts often create large and extensive departures from the natural conditions to which organisms are adapted, which increase with the extent and/or density of the road network. Road density is a useful metric or indicator of human impact at all scales broader than a single local site because it integrates impacts of human disturbance from activities that are associated with roads and their use (e.g., timber harvest, mining, human wildfire ignitions, invasive species introduction and spread, etc.) with direct road impacts. Multiple, convergent lines of empirical evidence summarized herein support two robust conclusions: 1) no truly "safe" threshold road density exists, but rather negative impacts begin to accrue and be expressed with incursion of the very first road segment; and 2) highly significant impacts (e.g., threat of extirpation of sensitive species) are already apparent at road densities on the order of 0.6 km per square km (1 mile per square mile) or less. Therefore, restoration strategies prioritized to reduce road densities in areas of high aquatic resource value from low-to-moderately-low levels to zero-to-low densities (e.g., <1 mile per square mile, lower if attainable) are likely to be most efficient and effective in terms of both economic cost and ecological benefit. By strong inference from these empirical studies of systems and species sensitive to humans' environmental impact,

> ***with limited exceptions, investments that only reduce high road density to moderate road density are unlikely to produce any but small incremental improvements in abundance, and will not result in robust populations of sensitive species.***

<u>Black-backed woodpecker</u>
Please consider best available science for the Sensitive black-backed woodpecker analysis, and includes inadequate cumulative effects analysis.

The Sensitive species black-backed woodpecker is a primary cavity nester, and also the closest thing to an indicator for species depending upon the process of wildland fire in the ecosystem. Cherry (1997) states:

> ***The black-backed woodpecker appears to fill a niche that describes everything that foresters and fire fighters have attempted to eradicate. For about the last 50 years, disease and fire have been considered enemies of the 'healthy' forest and have been combated relatively successfully. We have recently (within the last 0 to 15 years) realized that disease and fire have their place on the landscape, but the landscape is badly out of balance with the fire suppression and insect and disease reduction activities (i.e. salvage logging) of the last 50 years. Therefore, the black-backed woodpecker is likely not to be abundant as it once was, and continued fire suppression and insect eradication is likely to cause further decline.***

The FS manages against severely burned forests. The viability of black-backed woodpeckers is threatened by the FS's fire suppression and other "forest health" policies which specifically attempt to prevent its habitat from developing. "Insect infestations and recent wildfire provide key nesting and foraging habitats" for the black-backed woodpecker and "populations are eruptive in response to these occurrences" (Wisdom et al. 2000). The timber sale would reduce habitat the black-backed woodpecker biologically relies on. Viability of a species cannot be assured, if habitat suppression is a forestwide policy.

Cherry (1997) notes:

> *Woodpeckers play critical roles in the forest ecosystem. Woodpeckers are primary cavity nesters that excavate at least one cavity per year, thus making these sites available to secondary cavity nesters (which include many species of both birds and mammals). Black-backed and three-toed woodpeckers can play a large role in potential insect control. The functional roles of these two woodpecker species could easily place them in the 'keystone' species category—a species on which other species depend for their existence.*
>
> *Wickman (1965) calculated that woodpeckers may eat up to 50 larvae per day that were each about 50 mm in length. The predation on these larvae is significant. It*

has been estimated that individual three-toed woodpeckers may consume thousands of beetle larvae per day, and insect outbreaks may attract a many-fold increase in woodpecker densities (Steeger et al. 1996). The ability of woodpeckers in to help control insect outbreaks may have previously been underestimated.

Black-backed woodpeckers preferred foraging in trees of 34 cm (16.5 in) diameters breast height and (63 ft) 19 m height (Bull et al. 1986). Goggans et al. (1987) found the mean dbh of trees used for foraging was 37.5 cm (15 in) and the mean dbh of trees in the lodgepole pine stands used for foraging was 35 cm (14 in). Steeger et al. (1996) found that both (black-backed and three-toed) woodpecker species fed in trees from 20-50 cm (8-20 in) dbh.

Black-backed woodpeckers excavate their own cavities in trees for nesting. Therefore, they are referred to as primary cavity nesters, and they play a critical role in excavating cavities that are later used by many other species of birds and mammals that do not excavate their own cavity (secondary cavity nesters). Black-backed woodpeckers peel bark away from the entrance hole and excavate a new cavity every year. Other woodpeckers sometimes take over their cavities (Goggans et al. 1987).

Also, FS biologists Goggans et al., 1989 studied black-backed woodpecker use of unburned stands in the

Deschutes NF in Oregon. They discovered that the black-backed woodpeckers used unlogged forests more than cut stands. In other words, effects to the black-backed woodpecker accrue from logging forest habitat that has not been recently burned.

FS biologists Hillis et al., 2002 note that "In northern Idaho, where burns have been largely absent for the last 60 years, black-backed woodpeckers are found amid bark beetle outbreaks, although not at the densities found in post-burn conditions in Montana." Those researchers also state, "The greatest concerns for this species, however, are decades of successful fire suppression and salvage logging targeted at recent bark beetle outbreaks." Hillis et al., 2002 also state:

> ***Black-backed woodpeckers occupy forested habitats that contain high densities of recently dead or dying trees that have been colonized by bark beetles and woodborer beetles (Buprestidae, Cerambycidae, and Scolytidae). These beetles and their larvae are most abundant within burned forests. In unburned forests, bark beetle and woodborer infested trees are found primarily in areas that have undergone natural disturbances, such as wind-throw, and within structurally diverse old-growth forests (Steeger and Dulisse in press, Bull et al. 1986, Goggans et al. 1987, Villard 1994, Hoffman 1997, Weinhagen 1998).***

Hutto, 1995 states: "Fires are clearly beneficial to numerous bird species, and are apparently necessary for

some." (Emphasis added.) Hutto, 1995 whose study keyed on forests burned in 1988, noted:

> *Contrary to what one might expect to find immediately after a major disturbance event, I detected a large number of species in forests that had undergone stand-replacement fires. Huff et al. (1985) also noted that the density and diversity of bird species in one- to two-year-old burned forests in the Olympic Mountains, Washington, were as great as adjacent old-growth forests…*
>
> *…Several bird species seem to be relatively restricted in distribution to early post-fire conditions… I believe it would be difficult to find a forest-bird species more restricted to a single vegetation cover type in the northern Rockies than the Black-backed Woodpecker is to early [first 6 years] post-fire conditions. (Emphases added.)*

USDA Forest Service 2011c states:

> *Hutto (2008), in a study of bird use of habitats burned in the 2003 fires in northwest Montana, found that within burned forests, there was one variable that exerts an influence that outstrips the influence of any other variable on the distribution of birds, and that is fire severity. Some species, including the black-backed woodpecker, were relatively abundant only in the high-severity patches. Hutto's preliminary results also suggested burned forests that were harvested fairly intensively (seed tree cuts, shelterwood cuts) within a*

> *decade or two prior to the fires of 2003 were much less suitable as post-fire forests to the black-backed woodpecker and other fire dependent bird species. Even forests that were harvested more selectively within a decade or two prior to fire were less likely to be occupied by black-backed woodpeckers.*

Also see the agency's Fire Science Brief, 2009, which states, "Hutto found that Black-backed Woodpeckers fared best on sites unharvested before fire and poorest in the heavily harvested sites."

How will the Diamond Creek project effect black-backed woodpeckers?

Hutto, 2008 states, "severely burned forest conditions have probably occurred naturally across a broad range of forest types for millennia. These findings highlight the fact that severe fire provides an important ecological backdrop for fire specialists like the Black-backed Woodpecker, and that the presence and importance of severe fire may be much broader than commonly appreciated."

Hutto, 2006 states:

> ***The profound failure of many decision makers to appreciate the ecological value of burned forests stems from their taking too narrow a view of what forests provide. …Land managers, politicians, and the public-at-large need to gain a better appreciation of***

> *the unique nature of burned forests as ecological communities, …and how important the legacy of standing deadwood is to the natural development of forests (Franklin et al. 2000).*

Bond et al., 2012a explain the need for a conservation strategy for the black-backed woodpecker:
In California, the Black-backed Woodpecker's strong association with recently burned forest, a habitat that is ephemeral, spatially restricted, and often greatly modified by post-fire logging, as well as the species' relative rarity, may make the woodpecker vulnerable to declines in the state. Additionally, Black-backed Woodpeckers in California are affected by the management of unburned forests – both because pre-fire stand conditions affect the suitability of post-fire habitat for the species, and because a substantial proportion of California's Black-backed Woodpeckers nest and forage at a low population density in unburned forests. Conserving the Black-backed Woodpecker in California likely requires appropriate management and stewardship of the habitat where this species reaches its highest density – recently burned forest – as well as appropriate management of 'green' forests that have not burned recently

Holt and Hillis, "Current Status and Habitat Associations of Forest Owls in Western Montana" (1987).

State-of-the-art conservation biology and the principles that underlie the agency's policy of "ecosystem management" dictate an increasing focus on the landscape-scale concept and design of large biological reserves accompanied by buffer zones and habitat connectors as the most effective (and perhaps only) way to preserve wildlife diversity and viability (Noss, 1993).

The FS has stated: "Well distributed habitat is the amount and location of required habitat which assure that individuals from demes, distributed throughout the population's existing range, can interact. Habitat should be located so that genetic exchange among all demes is possible." (Mealey 1983.)

The FS has acknowledged that viability is not merely a project area consideration, that the scale of analysis must be broader:

> ***Population viability analysis is not plausible or logical at the project level such as the scale of the Dry Fork Vegetation and Recreation Restoration EA. Distributions of common wildlife species as well as species at risk encompass much larger areas than typical project areas and in most cases larger than National Forest boundaries. No wildlife species that presently occupy the project area are at such low numbers that potential effects to***

> ***individuals would jeopardize species viability. No actions proposed under the preferred alternative would conceivably lead to loss of population viability. (Lewis and Clark NF, Dry Fork EA Appendix D at p. 9.)***

The FS should firmly establish that the species that exist, or historically are believed to have been present in the analysis area are still part of viable populations. Since Forest Plan monitoring efforts have failed in this regard, it must be a priority for project analyses. Identification of viable populations is something that must be done at a specific geographic scale. The analysis must cover a large enough area to include a cumulative effects analysis area that would include truly viable populations. Analysis must identify viable populations of MIS, TES, at-risk, focal, and demand species of which the individuals in the analysis area are members in order to sustain viable populations.

Unfortunately, region-wide the FS has failed to meet Forest Plan old-growth standards, does not keep accurate old-growth inventories, and has not monitored population trends in response to management activities as required by Forest Plans and NFMA (Juel, 2003).

Please disclose how stands to be treated compare to Forest Plan or Regional old-growth criteria. In order to disclose such information, please provide all the details, in plain language, of these areas' forest characteristics (the various tree components' species, age and diameter of the various tree components, canopy closure, snag density by size class, amounts of down logs, understory composition, etc.).

The Forest Service did not respond in violation of NEPA and the Appeals Reform Act.

The Forest Service did write on page 13 of the EA:

Old Growth & Large Tree Retention

☒ ***The project is carried out "in a manner that maximizes the retention of old-growth and large trees, as appropriate for the forest type, to the extent that the trees promote stands that are resilient to insects and disease."***

Dr. John Craighead believed the Pfister vegetation classification was the basis for the study of ecosystems. It takes people on the ground with good plots that aren't manipulated or added to. The Craighead team had hundreds of plots throughout central Idaho they used to ground truth the satellite images. If you want good data there are no shortcuts. The Forest Service should no evidence that they used plots on the ground to ground truth the data.

Please do not dismiss the importance of the following information relating to Pfister, et al. (1977) cited in the EA. See: EA, at page 15.

Quote from Pfister et al. (1977):
RESEARCH SUMMARY

A land-classification system based upon potential natural vegetation is presented for the forests of Montana. It is based on an intensive 4-year study and reconnaissance sampling of about 1,500 stands. A hierarchical classification of forest sites was developed using the habitat type
concept. A total of 9 climax series, 64 habitat types, and 37 additional phases of habitat types are defined. A diagnostic key is provided for field identification of the types based on indicator species used in development of the classification. In addition to site classification, descriptions of mature forest communities are provided with tables to portray the ecological distribution of all species. Potential productivity for timber, climatic characteristics, and surface soil characteristics are also described for each type. Preliminary implications for natural resource management are provided, based on field observations and current information.

FOREST HABITAT TYPES OF MONTANA, Robert D. Pfister, Bernard L. Kovalchik,
Stephen F. Amo, and Richard C. Presby
INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION
Forest Service-U. S. Department of Agriculture
Ogden, Utah 84401 (hereafter, Pfister, et al. (1977), or Pfister)

Pfister et al. (1977) established a new, and vastly improved, forest classification system which further developed the application of habitat type classification to forest ecosystem classification. A better classification system for forest communities and the characteristics of the specific site locations upon which forest vegetation develop and depend.

The habitat type approach to classification of forest sites was developed more than 20 years ago by Daubenmire (1952) for forests of northern Idaho and eastern Washington. His original classification, and a subsequent revision and J. Daubenmire 1961, have proven useful in forest management and research

(Laysex 1974; Pfister 1976). Id. p.1
In 2022, Pfister et al. is considered the "best available science" in this field (old growth and old-growth habitat) of study. It is often, to this day, spoken fondly of as "The Bible" for habitat-type classification, a detailed expression

of the overall environment, ie. an ecological classification. There is, quite simply, no better system in existence being used for interpreting the ecological potential of the forested landscapes of Montana and the Northern Rockies. Federal land managers attempting to make intelligent prescriptions for managing/manipulating forest vegetation should, and must use Pfister's habitat type classifications as the foundation of forest ecosystem analysis.

Pfister is foundational; it is the ground upon which forest ecology and ecosystem science rests. There is no substitute, and any and all attempts to truncate, or compartmentalize elements within Phister's holistic, habitat-type classification system, represents a most objectionable form of "scientism" that reeks of a hidden agenda that has little to do with interpreting the forest's ecological potential.

ESA - As a foundational ecosystem analysis and interpretation tool, Pfister et al. is linked directly to specific language, unambiguously articulated by Congress, to describe the Purposes of ESA (Endangered Species Act).

(b) PURPOSES
The purposes of this chapter are to provide a means whereby the ecosystems upon which endangered species and the threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes

of the treaties and conventions set forth in subsection (a) of this section. Page one, 16 USC, Chapter 35, §1531(b)

We urge the Forest Service to simply comply with the clear intent of Congress, and its own (government funded) research to properly identify the habitat type in the project area using Pfister, et al. and arrive at an intelligent decision based on the best available science, and the intent and purposes of the federal laws which govern these types of project-level management actions. Emphasis added.
….end of project/EA analysis which references Pfister, and then proceeds to depart into
a lengthy narrative, not about habitat type, but some typing using inadequate date, insufficient field examination and data and computer modelling that fails to follow
Pfister's habitat typing methodology.

We suggest that HABITAT TYPE, NOT "...Vegetation condition class (VCC; formally known as fire regime condition class)..." is the foundation and best available science to determine characteristics of ecosystem composition and structure. (Pfister, et al. (1977). All this "vegetative" mumbo-jumbo is used to avoid Pfister and proper, foundational identification of the habitat type. The Forest Service is looking at the Greenhorn project as "tree farmers" not scientists studying natural forest succession/ evolution.

We also wrote in our comments:

Our goals for the area include fully functioning stream ecosystems that include healthy, resilient populations of native trout. The highest priority management actions in the project area are those that remove impediments to natural recovery. We request the FS design a restoration/ access management plan for project area streams that will achieve recovery goals. The task of management should be the reversal of artificial legacies to allow restoration of natural, self-sustaining ecosystem processes. If natural disturbance patterns are the best way to maintain or restore desired ecosystem values, then nature should be able to accomplish this task very well without human intervention (Frissell and Bayles, 1996).

This is big game winter range as per the Forest Plan. Please define what the specific habitat objectives are for this winter range, including hiding and thermal cover, as well as forage. Juniper and sagebrush are key forage plants for big game on winter ranges. What are the objectives for these forage species? The Forest Plan direction for this management area is binding. If the agency is going to claim that the Forest Plan is being implemented, you need to specifically define how this is

being done, instead of simply claiming that juniper and shrub removal is improvement on big game winter range. Also, the science and monitoring behind this claim need to be provided. Currently mule deer populations have been in decline across the western U.S.. We haven't seen any science that reported increases of mule deer populations following removal of juniper and shrubs on their winter ranges.

One issue that is generally ignored in the scoping document is what shrubs are present, and will be targeted for masticating and burning. Do these control efforts include sagebrush? There is extensive documentation that sagebrush is highly valuable to both elk and deer on winter ranges (Wambolt 1998, Petersen 1993). Removing trees and sagebrush to increase grasses on winter range does not promote mule deer and elk. Sagebrush has a high protein content of almost 13% in the winter, while dormant grasses have a protein content of less than 4% (Peterson 1993). There can be no valid reason to remove sagebrush and replace it with grasses for big game winter forage. The actual replacement species the agency claims are going to be managed for are never identified. But at a minimum, the rationale for removing shrubs and replacing them with grasses on winter range needs to be documented, as is required by the NEPA.

The claim that this project will increase diversity is pure unsupported rhetoric. There is no definition as to what constitutes diversity. What criteria are being used to measure diversity, and why isn't this information provided *to the public? For example, what is the criteria for a diversity of age classes in juniper woodlands or sagebrush, and what is this based on? The NEPA requires that the agency provide reliable, valid information to the public on projects. This claim that removing juniper and shrubs will improve diversity is a clear violation of the NEPA, as there is no actual basis for it. Worse, it is not clear why eliminating trees and shrubs increases diversity as per the standard definitions. What science claims that a grassland has higher habitat diversity than a woodland or forest, or shrubland? One likely factor driving the proposed project is not promotion of big game species and wildlife, but instead is being done for livestock. This may be why there is no actual discussion in the scoping notice of current livestock grazing practices in this landscape.*

The claim that thinning and removing juniper will increase resiliency of this area is highly questionable. First, these forests are not highly flammable as per the current science. Second, thinning will likely increase flammability by increasing wind speeds and vegetation drying due to a reduction of shade. Third, flammability will surely be increased over current conditions due to an increase of grasses, including exotic species as cheatgrass. The scoping notice did not provide any actual science to indicate that thinning will reduce fires, and thereby increase "resiliency" of this winter range.

Please provide any monitoring data on the effect of the fire on adjacent areas for use by big game as winter range, or how this fire affected the extent of exotic *vegetation, such as cheatgrass and other weeds. Since the proposed actions will be somewhat similar in effect, it would seem to be important for the agency to provide this information to the public.*

Please provides any monitoring data, or references any current science, as to what the specific problems are in this landscape for wildlife. How did the agency determine that the current conditions are causing problems for wildlife? In general, one would not expect trees to be a problem for wildlife, especially juniper which is a highly valuable resource for wildlife, not just for forage, including berries, but as hiding and thermal cover. How has the agency determined that hiding cover are too high in this winter range? What are the objectives for hiding and thermal cover which are the target for management intervention?

The proposed action is very extensive for conclusions that it will not significantly change and degrade conditions for wildlife. It is not clear how this was determined.

What species of shrubs are going to be slashed and burned. Why aren't these shrubs being used by wildlife? There is no formation as to what these plant species are, and why they will have more value to wildlife than the existing shrubs and juniper that are to be removed.

Please provide information as to why this project will benefit wildlife. At a minimum, the agency needs to demonstrate to the public that this is in fact the case. The scoping notice also did not provide any information as to *how the resource specialists determined that the project will not lead to any significant effects on wildlife. These conclusions need to be documented for the public, including criteria that were used and evaluated to measure levels of significant impact. As just one question, if the Forest Plan standard to manage this area to promote big game species on their winter range is not being followed, this would most likely trigger significant impacts. It seems like that this is Forest Plan violation to promote livestock grazing over wildlife in this landscape. Juniper removal has been a long- standing practice to promote livestock grazing, not wildlife. The scoping notice did not discuss the current grazing use of this area by livestock. This information needs to be included as important information to the public.*

Please show how this project enhances wildlife habitat, or is needed to maintain natural ecosystem processes within an IRA. Iff juniper is so flammable, it is not clear why it has to be slashed before it can be burned. It is clear that this project requires much more information to be provided to the public, and much more documentation to justify vegetation management within the Elkhorn Mountain IRA. And as previously noted, the criteria which the resource specialists used to estimate the level of impact needs to be provided, as well, to the public. It seems readily apparent that this project requires at a minimum an environmental assessment in order to comply with the NEPA, including the provision of valid, reliable information to the public when the Forest Service is planning resource management activities.

Please see the attached paper by Dr. William Baker titled: "Are High-Severity Fires Burning at Much Higher Rates Recently than Historically in Dry-Forest Landscapes of the Western USA?"

Dr. Baker writes: "Programs to generally reduce fire severity in dry forests are not supported and have significant adverse ecological impacts, including reducing habitat for native species dependent on early-successional burned patches and decreasing landscape heterogeneity that confers resilience to climatic change."

Dr. Baker concluded: "Dry forests were historically renewed, and will continue to be renewed, by sudden, dramatic, high-intensity fires after centuries of stability and lower-intensity fires."

The purpose of this project is to improve big game and grouse habitat and to make the forest more resilient and plan for a more historic fire regime. Based on Dr. Baker's paper, the proposed action will not meet the purpose and need of the project.

Dr. Baker's paper is the best available science. Please explain why this project is not following the best available science.

Please explain include a discussion of the following:

1. Baker and Shinneman. 2004. Fire rotation for high-severity fire in juniper is estimated at 400-480 years.

2. Floyd and others. 2004. Stand replacing fires in juniper 400 years or longer.

3. Bauer and Weisberg. 2009. The fire cycle in pinyon-juniper was estimated at 427 years.

What evidence do you have that shows fire has been suppressed in the area?

Baker and Shinneman (2004), Bauer and Weisberg (2009), and Floyd et al. 2004) that demonstrate that the fire cycle in juniper woodlands is very long, up to 400 years or longer, and has not been impacted by any fire suppression actions since settlement. In addition, Coop and Magee (Undated) noted that low-severity fire is not generally considered to have played an important role in shaping patterns of pre- settlement pinyon-juniper woodland structure, where fire regimes were mostly characterized by rare stand-replacing fire; as a result, they noted that direct management interventions such as thinning or fuel reductions may not represent ecological restoration.

The Forest Service also did not respond to this in violation of NEPA.

REMEDY:

Withdraw the EA and FONSI and write an EIS that fully complies with the law and meets the purpose and need of the project. Currently the project is involution of NEPA, NFMA, the Migratory Bird Treaty Act, and the APA.

Please find attached Baker et al. 2023 and DellaSala 2022 which calls into question the project's purpose and need

We wrote in our comments:

Please examine how this project could affect grizzly bears, lynx and other species listed under the Endangered Species Act. Are you complying with lynx critical habitat requirements? Please examine how this project will affect all MIS and sensitive species.

The current best science indicates that connectivity between the Yellowstone and Glacier ecosystems are necessary for the long term genetic health of both populations, especially bears in the Yellowstone ecosystem. The project area lies within an identified linkage zone for grizzly bears as well as lynx. However, there are no management standards for either species to ensure connectivity is maintained, based on the current best science as required by the ESA. This requires limits on open road densities, limits on travel barriers, and retention of at least 50% dense, older forest habitats for lynx. The NRLMD (2007) does not require any specific features for connectivity for lynx, and the RFP does not require any minimum im- pacts from open roads to grizzly bears. Grizzly bears are known to be expanding into this

landscape, and it is also historic habitat for lynx. Since lynx occupied this area at the time of listing as a threatened species, this landscape may qualify as critical habitat. It's suitability for lynx must therefore be retained until a final deci- sion is made on critical habitat. And suitability for grizzly bear use must also be retained/ restored.

The Forest Plan analysis and impacts on ESA-listed grizzly bear violate ESA, NFMA, and NEPA.

The Forest Service did not prepare a biological assessment and consult with

U.S. Fish and Wildlife Service regarding the impact of the Revised Forest Plan on the threatened grizzly bear in all areas across the Forest where grizzly bears may be present.

The biological opinion for the Revised Forest Plan apparently is based on grizzly bear distribution in 2004, which is eight year old data that no longer represents the best available science on where grizzly bears may be present on the Forest.

There is no scientifically sound incidental take statement for the Revised Forest Plan for the threatened grizzly bear that includes reasonable and prudent measures for all areas where grizzly bears may be present across the Forest.

The agencies' failure to promulgate an adequate biological assessment, Biological Opinion, and Incidental Take Statement for the Revised Forest Plan that addresses all grizzly bears across the Forest violates the ESA.

The Forest Service's failure to take a hard look and include appropriate standards for ESA-listed grizzly bears within the Forest Plan, in a supplemental NEPA process, violates NEPA. See Pacific Rivers Council v.

supplemental NEPA analysis for the Forest Plan.

The Forest Service's failure to amend the Forest Plan to include binding legal stan- dards aimed at recovering and conserving the ESA-listed grizzly bear on the Forest violates NFMA.

The Forest Service must complete a biological assessment for grizzly bears

for the Project because the U.S. Fish and Wildlife Service states that both resident and transient grizzly bears may be present on the Forest.

Grizzly bears are present on the Forest. Because there are endangered species present and will be effect, the Forest Service must complete and EIS. The Project EIS and BA/ BiOp must disclose and apply the best available science on recommended open

motorized route density, total motorized route density, and core habitat thresholds for NCDE grizzly bears.

The best available science on NCDE grizzly bears requires no more than 19% open motorized route density over 1.0 mi./sq.mi. and 19% total motorized route density

over 2.0 mi./sq.mi., and no less than 68% core habitat for NCDE grizzly bears (19/19/68).

The following article in the November 3, 2017 NY Times mentions the importance of corridors between the Northern Continental Divide population and the Yellow-stone grizzly population. It also mentions that grizzly bears from the Northern Continental Divide population have almost connected with the Yellowstone popu- lation since there is a grizzly bear in the mountains near Butte, 70 miles from the Yellowstone population.

Yellowstone Grizzlies May Soon Commingle With Northern Cousins

https://www.nytimes.com/2017/11/03/science/grizzly-bears-yellowstone- genes.html?_r=0

HELENA, Mont. — To make the plains and mountains safe for the great herds of cattle that were brought to the West at the end of the 19th century, grizzly bears were routinely shot as predators by bounty hunters and ranchers.

Ever since, the bears in Yellowstone National Park, protected from hunting, have been cut off from the rest of *their kind. Their closest kin prowl the mountains some 70 miles north, in and around Glacier National Park.*

In a new paper, biologists say that as grizzly populations increase in both Glacier and Yellowstone, more adventurous males from both parks are journeying farther to stake out territory, winding up in places where they have not been seen in a cen- tury or more.

If they keep roaming and expanding, the two populations will likely reconnect, perhaps as soon as five or 10 years from now.

"It's very encouraging for the long-term future of the bear," said Frank van Manen, leader of the Interagency Grizzly Bear Study Team in Bozeman, Mont., which oversees research into Yellowstone's bears.

A mingling of the separate populations would go a long way toward bolstering the genetics of the isolated Yellowstone grizzlies.

The bears in the Greater Yellowstone ecosystem, in and around the park, are healthy now, and they have increased to at least 700 today from fewer than 150 in 1975, when they were listed as endangered.

But a genetic lifeline from Glacier bears, which are also related to the grizzlies of Canada, will mean a good deal more diversity to help assure the bears' future. It's so *important that researchers have talked about trucking grizzly bears from the north to add to the Yellowstone gene pool.*

“Because Yellowstone is a bit lower in genetic diversity, hundreds of years from now they might be less able to adapt to changing conditions — changing climate, changing food sources and disease resistance,” Dr. van Manen said.

While no one knows what advantageous traits the Glacier grizzlies might have in their genes, increasing diversity is the best way to assure resilience against those types of hazards.

Currently, the nearest interloper from the Northern Continental Divide Ecosystem has bridged the 70-mile gap by working his way south. That grizzly is in the moun- tains near Butte, Mont., some 50 miles from the perimeter of the Yellowstone ecosystem.

!!
Biologists and conservationists are rooting for a natural reunion between the two

largest populations of grizzlies in the country, Dr. van Manen said.

In a study published in Ecosphere, researchers tracked grizzly bears from the northern and southern populations as they moved through western Montana, in- cluding the *rugged Big Belt mountains near this city, which sits between the two national parks.*

Photo !!

!
A grizzly on a road near Mammoth, Wyo. Scientists say if bears keep roaming

from Yellowstone and Glacier National Park, the two populations will likely re- connect. Credit David Grubs/ The Billings Gazette, via Associated Press

The effort to follow these nomadic bears was aided by satellite data collars and new, more powerful data analysis techniques. Some 124 males were monitored from 2000 to 2015, some for more than one year.

GPS collars can track a bear almost in real time, providing richly detailed informa- tion on the corridors and habitats they use that need to be protected.

While much of the land between the two parks is publicly owned and wild, it be- comes a gauntlet in some places as bears migrate into towns, cities, ranches and farms.

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The bears are likely to seek out dog food, beehives, garbage, chickens and even apple trees, getting into trouble that may require trapping and relocating them. Highway crossings, especially on I-90 and I-15, pose a serious risk.

Conservation groups and biologists say it's a race against time to protect some of the open land between the two parks and to assure permanent transit routes for wildlife through land purchases or conservation easement.

Residential housing development north of Yellowstone around Bozeman, for ex- ample, is soaring.

"Even one house per square mile can be a problem for bears," said Jodi Hilty, a wildlife biologist in Canmore, Canada. "At the same time, this is one of the most intact mountain ecosystems in the world."

Dr. Hilty heads the group Yellowstone to Yukon, which seeks to link bears and oth- er Yellowstone wildlife with populations in Glacier National Park and in vast tracts of wilderness in Canada. Protecting migration corridors between Yellowstone, Glacier and Canada would benefit not just bears, she said, but cougars, wolverines and other animals.

The Fish and Wildlife Service has removed the protections afforded under the En- dangered Species Act from the Yellowstone grizzly because the population has grown so large. Dr. van Manen said that the number of grizzlies may exceed 1,000.

Environmentalists have sued the agency over its decision. They argue that climate change is a wild card that might someday cause the Yellowstone bear population to collapse.

!
With the bears delisted, some are concerned about plans by Montana officials to

allow the hunting of Yellowstone grizzlies. Dr. David Mattson, a retired wildlife biologist, said that there is a good chance that "Montana will institute a more lethal regime, whether by sport hunting or by other means, that will compromise these prospects."

The state has said it would not allow hunting in areas where the two populations might reconnect.

As bears explore far beyond their core habitats, people not accustomed to grizzlies need to be educated about bear-proofing garbage cans and sealing off beehives and chicken coops with electric fencing, Dr. van Manen said.

Carrying pepper spray has already become indispensable for hikers, hunters and others in many parts of Montana, Idaho and Wyoming.

In 2016, four grizzlies were killed after confronting hunters in "defense of life" scenarios. Recently, a game warden near Cody, Wyo., shot and killed a female grizzly when it charged at him, leaving her cubs orphans.

Generally, though, the news for the big bear is good, said Dr. van Manen.

"There is strong scientific evidence that the recovery process that was put into place starting in the mid 1970s has paid off," he said. "It's an extraordinary effort

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for recovery of a species that has ability to kill people. For the American people to support it is a remarkable achievement."

The project FEIS does not address what the level of security, OMARD, and TMARD are recommended for grizzly bears in the NCDE, and how these compare to those available in the project area. This comparison would demonstrate compat- ibility of existing and planned management of grizzly bears to the general public.

There is no analysis of TMARD before or after project completion. Decommissioning of roads will reduce OMARD, but will not reduce TMARD. The road would have to be completely obliterated, and no future use can be planned (IGBC 1998). The claim that all new temporary roads will be obliterated, and thus no add to TMARD after the projects are completed, is never actually verified in the project FEIS. There is no actual identification of the individual new temporary roads to be constructed, how long they will be left in place, the timeline for obliteration, as well as thes for obliteration. The project FEIS does not define why future management activities will not be required on these new roads in harvest units, such as future harvests in partial logging units, and precommercial thinning of the vast clearcut acreage that will be created by the project.

There is no analysis on how the project as to how the clearcutting existing cover, including openings up to large clearcuts, will affect grizzly bear movement through this landscape.

In a project analysis, the Forest Service must apply the best available science.

The BiOp for the CTNF revised Forest Plan, and the scoping notice for the Diamond Creek project, also do not use the current best science by identifying limits to TMARD or security. Security is the key factor that is *proposed for management outside the Recovery Zones for grizzly bears (RFP Appendix G at 48).*

The suggestion by the USFWS that the RFP OMRTD direction will prevent undue impacts on grizzly bears is meaningless as well. The RFP direction does not have to be met within any specific project area, including the project, but rather within huge landscape areas. The key linkage zone in the Diamond Creek project could increase roads by over 60 miles and still meet the RFP "goal" for OMARD "after" the project is completed. This goal does not apply to activities during project im- plementation (RFP glossary at corrected 295).

The incidental take allowed on the CTNF and in the project for current as well as planned levels of disturbance are illegal because there is no actual means of mea- suring take by the allowed construction of up to 70 miles of new roads across the entire CTNF, which consists of 3, 380,000 acres (RFP 2).

The Diamond Creek project violates existing conservation direction for grizzly bears because habitat connectivity is not being managed to contribute to wildlife linkage zones (RFP at 45); secure habitat needed to facilitate grizzly bear habitat will be decreased for over 10 years, during which bear movements will be reduced.

The Forest Service and the USFWS will violate the ESA, the NEPA, and the NFMA if the project is implemented, due to the following:

-the CTNF has no conservation strategy for grizzly bears on the Pintler portion of the Forest, including within the project area.

-the CTNF is not maintain habitat connectivity for grizzly bears in the Diamond Creek project area.

-the analysis of direct impacts for the project area do not use the current best sci- ence for grizzly bear security areas in the NDDE.

-the ability of grizzly bears to traverse through the project area is never evaluated.

-the current best science, including levels of grizzly bear security, open and total road densities, was not used in evaluating project impacts on grizzly bear during as well as after implementation.

-mitigation measures cited by both the Forest Service and the USFWS for grizzly bears as per landscape levels of OMRTD are invalid as direct effects are washed out.

-mitigation measures as per OMRTD at the landscape level do not apply to project implementation, and do therefore no mitigate disturbance impacts to grizzly bears from motorized routes during project activities.

-the cumulative effects of proposed activities on the Helena National Forest are not evaluated.

-the conclusions as to project effects as per the ESA of the proposed project on grizzly bears is never identified in the draft ROD or FEIS.

-the report provided by the USFWS in regards to project impacts on grizzly bears, and terms and conditions of the project, were never provided to the public in the draft ROD or FEIS.

-the conclusions regarding project impacts on grizzly bears in the project FEIS were invalid due to a lack of supporting documentation.

-there is no analysis of the loss of extensive, large blocks of hiding cover on grizzly bear movement through the project area.

-there was no action alternative that would restore grizzly bear habitat in the project area to improve habitat connectivity.

-the FS and the USFWS provided invalid, unsupported definitions of "temporary impacts".

Openings Greater than 40 acres.

The Forest Service has not published a legal notice as require by law.

This is a violation of NEPA, NFMA, the APA, the Forest Plan and the ESA.

Please publish a legal notice asking for public comment on opening over 40 acres and the write an EIS that fully complies with the law.

The Forest Service responded on page 20 of the EA:

The direct effect on an individual grizzly bear moving through the action area, especially during daylight hours while project activities were under way, is that it would likely be displaced from the immediate area due to the human/equipment presence and noise. This would be the case for all the mechanical treatments, prescribed fire, road relocation, and gravel pit operations (human/ equipment presence and noise) within the proposed action area. The direct and indirect effects to grizzly bear would be insignificant because of the extremely low likelihood of grizzly bear residing in the area and relying on it for habitat and food support, since they currently do not. The closest 'may be present' locations containing unoccupied

and suitable habitat where the probability of grizzly bear occurring is 11 miles east of the project area in Lincoln County, Wyoming, and approximately 18 miles north of the project area on the Soda Springs Ranger District.

The project is in violation of NEPA, NFMA, the APA and the ESA.

The Forest Service received an official species list from the Wyoming FWS office, and the list includes three species: grizzly bears, yellow-billed cuckoo (a bird species), and Ute Ladies'-tresses (a plant species). The FWS species list states: "Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species." Despite the findings and directions in the FWS species list, the Forest Service's Biological Assessment for the Project does not include grizzly bears, yellow-billed cuckoo, or Ute Ladies'-tresses, USFS Doc. 106:FS-005033. Instead, the Project Biological Assessment the Forest Service's failure to prepare a biological assessment for the three species on the FWS species list violates the ESA. "A failure to prepare a biological assessment for a project in an area in which it has been determined that an endangered species may be present cannot be considered a de minimis violation of the ESA.

REMEDY:

Formally consult with the FWS on the impact of the project on grizzly bears. With draw the EA and Draft Decision Notice and write an EIS that fully complies with the law.

Thank you for your consideration of our concerns.

Sincerely yours,
Mike Garrity
/s/
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And for
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