April 23, 2019

Objection Reviewing Officer
USDA Forest Service
Northern Region
P.O. Box 7669
Missoula, MT 59807

This letter is an objection, pursuant to 36 CFR section 218, to the Red Rocks Vegetation Project Draft Decision Notice and Finding of No Significant Impact on behalf of the Alliance for the Wild Rockies and Native Ecosystems Council, collectively, "AWR.". The Responsible Official is Beaverhead-Deerlodge National Forest Supervisor Cheri Ford. The Red Rocks Vegetation Project is planned for the Butte Ranger District of the Beaverhead-Deerlodge National Forest in Jefferson County, Montana.

NOTICE IS HEREBY GIVEN that AWR objects pursuant to 36 CFR section 218 to the Responsible Official's adoption of the Alternative 2, modified which includes logging and/or burning on 6673 acres and building 15.5 miles of temporary roads.

AWR is objecting to this project on the grounds that implementation of the Selected Alternative would not be fully in accordance with the laws governing management of the

national forests such as Clean Water Act, the ESA, NEPA, NFMA, the Beaverhead-Deerlodge Revised Forest Plan and the APA, 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.

As a result of the Draft DN, individuals and members of the above-mentioned groups would be directly and significantly affected by the logging and associated activities. Appellants are conservation organizations working to ensure protection of biological diversity and ecosystem integrity in the Wild Rockies bioregion (including the BDNF). 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.

1. Objectors names and addresses:

Lead Objector Mike Garrity, Executive Director, Alliance

for the Wild Rockies

P.O. Box 505; Helena, MT 59624

Phone 406 459-5936

Objector Sara Jane Johnson

Director, Native Ecosystems Council,

P.O. Box 125

Willow Creek, MT;

2. Signature of Lead Objector:

Signed this____23rd__day of April, 2019 by Lead Objector,

/s/ Michael Garrity

3. Lead Objector: Michael Garrity, Alliance for the Wild Rockies

4. Name of the Proposed Project, Responsible Official,

National Forest and Ranger District where Project is:

Red Rocks Vegetation Project;

Cheri Ford, Forest Supervisor, Beaverhead-Deerlodge National Forest is the Responsible Official; The project is in the Butte Ranger District of the Beaverhead-Deerlodge Na-

tional Forest. Supervisor Ford chose Alternative 2 in the Draft Decision Notice and FONSI with minor adjustments.

NOTICE IS HEREBY GIVEN that AWR and Native Ecosystems Council (NEC) object pursuant to 36 CFR section 218 to the Responsible Official's adoption of the Alternative 2. As discussed below, the Red Rocks Vegetation Project as proposed violates the National Environmental Policy Act (NEPA), the National Forest Management Act (NFMA), the Endangered Species Act (ESA), the Beaverhead-Deerlodge Revised Forest Plan and the Administrative Procedure Act (APA).

Location

This Draft Decision Notice calls for: logging and or prescribed burning on 6673 acres, and building 15.5 miles of temporary roads of Beaverhead-Deerlodge National Forest (BDNF) in Jefferson County. The project is located primarily northwest of the I-15 Corridor between Butte and Boulder near the communities of Bernice and Basin, MT.

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

Thank you for the opportunity to object on the Red Rocks Vegetation Project. Please accept this objection from me on behalf of the Alliance for the Wild Rockies, and Native Ecosystems Council.

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, big game species, and wildlife dependent upon unlogged. 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:

The agency can choose the No Action Alternative and the agency needs to complete the surveys for lynx required by the 2007 BiOp for the NRLMD. The BDNF must also consult with the Fish and Wildlife Service forest wide on Revised Forest Plan and the impact of logging on lynx. Without these corrective actions, implementation of the RFP, as is demonstrated by the Red Rocks Vegetation project, will lead to severe, irretrievable impacts on almost all wildlife species on the Forest. These impacts, if continued across the BDNF for other projects, will erode the viability of a huge number of wildlife species across this landscape.

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

We wrote in our March 15, 2018 comments:

(EA,p. 270.) Comment #5-1 : ***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.***

Response: We prepared this environmental assessment to determine whether effects of the proposed activities may be significant enough to prepare an environmental impact statement. By preparing this environmental assessment, we are fulfilling agency policy and direction to comply with the National Environmental Policy Act and other relevant Federal and State laws and regulations. It was prepared according to the format recommended by the Council on Environmental Quality. The impacts of the proposed action, including cumulative effects, are fully analyzed and disclosed in the specialist reports (available on the project website) and summarized in this environmental assessment. As documented in the draft decision notice for this project, none of these effects were determined to be significant. As such, an environmental impact statement is not required.

Because of the project is in lynx, grizzly bear and wolverine habitat and of the cumulative effects of all of the logging the Forest Service is doing or has done in this area the law requires that an EIS be written for this project. The Red Rocks EA at page 312 lists the following roadside salvage: Bernice Salvage, Deer Lodge salvage, Labelle salvage, Lockhard Meadows; North Butte Salvage, https://www.fs.usda.gov/nfs/11558/www/nepa/49294_FSPLT2_027975.pdf and Red Rocks salvage. There

also has also been East Deerlodge Project, https://www.fs.usda.gov/nfs/11558/www/nepa/50890_FSPLT3_2428172.pdf and the Boulder Lowlands Project, https://www.fs.usda.gov/nfs/11558/www/nepa/101719_FSPLT3_2581924.pdf . Bordering the BDNF on the north, the Lewis and Clark National Forest has the Telegraph, https://www.fs.usda.gov/nfs/11558/www/nepa/62989_FSPLT3_3913298.pdf , and the Ten Mile projects https://www.fs.usda.gov/nfs/11558/www/nepa/100262_FSPLT3_4527548.pdf , not far from the project area

The proposed action MAY AFFECT, LIKELY TO ADVERSELY AFFECT (LAA) the threatened grizzly bear. This is yet another reason that an EIS needs to be written.

The best available science still says that the best protection for grizzly bears is the 19/19/68 standard. The EA needs to explain why you are not following the best available science. Please follow the best available science or explain in an EIS why you are not following the best available science.

Another reason an EIS should be written is because wolverine are a candidate species the Forest Service is requires to consult with the FWS on the effect of the project on wolverines and consult effect of the revised forest plan on wolverines.

Remedy, choose the No Action Alternative or withdraw the draft decision notice and write an Environmental Impact Statement.

Grizzly Bears:

We wrote in our comments:

"The area is now known grizzly bear habitat and it is a violation of NEPA to not disclose this. It is also a violation of NFMA to not ensure a viable population of grizzly bears in the project area and is a violation of the ESA to not consult with the US FWS to see if this project or the revised forest plan will adversely affect grizzly bears."

Response: A biological assessment has been prepared for threatened and endangered wildlife species within the project area, including lynx and grizzly bears. Formal consultation has been initiated with the U.S. Fish and Wildlife Service, and will be completed prior to signing a decision for this project. See the Agencies and Persons Consulted section of this environmental assessment for more details.

Research has shown that secure habitat (areas that are free of motorized traffic) is an important component of grizzly bear habitat (Interagency Grizzly Bear Committee, 1998).
(BA, p.12).

The BA on page 13-15 continues:
The BDNF does manage for specific open motorized road and trail densities (OMRTD) at the landscape scale to provide for wildlife (general season) security, including grizzly bears. The Red Rocks VegetationProject is within the Boulder River Landscape where the Forest Plan OMRTD goal is 1.9 mi/mi2. Secure

Red Rocks Vegetation Project Biological Assessment14 habitat for this project was calculated following the BDNF Forest Plan definition and using the secure habitat definition following the Forest Plan Grizzly Bear Amendment (USDA Forest Service 2009). The Grizzly Bear Management Plan for Western Montana (MTFWP 2006) contains specific recommendations for public lands. The reports states: "Of particular importance on public lands is food storage to minimize conflicts with wildlife, maintain visual cover along riparian areas for travel and to not increase road densities on the landscape". These recommendations are incorporated into the project as riparian areas are buffered from treatment, unless detailed in a riparian restoration activity for aquatic resource restoration, food storage is required and overall, road densities will decrease. ***Biological Opinion on the Effects of the BDNF Forest Plan to the Grizzly Bear****The biological opinion from the USFWS (USDI Fish and Wildlife Service,*

2013) was received on May 28, 2013 and the service concurred that the Revised Forest Plan with its incorporated objectives, goals and standards, adequately reduces the potential for and minimizes the effect of any incidental take to the grizzly bear that may result. The USFWS determined that the level of take anticipated is not likely to result in jeopardy to the species. Terms and conditions were not provided, however reporting requirements were included to demonstrate that the Revised Forest Plan is adequately reducing the potential for and minimizing the effect of any incidental take that may result. Reporting requirements that could be affected by the proposed action include: •location and length of new permanent and temporary roads constructed and roads decommissioned on the Forest and •grizzly bear-human conflict and/or the management removal of a grizzly bear resulting from improper storage of food or attractants or livestock depredation. This project proposes building temporary roads, decommissioning/closing roads and through project implementation, increases the potential for a human/bear conflict in the action area. **Grizzly Bear Secure Habitat in the Action Area** *General and fall season secure area and security are the individual resource elements utilized to describe grizzly bear secure habitat. Managing human use levels through access route management has been documented as one of the most powerful tools available to balance the needs of grizzly bears and humans (Interagency Grizzly Bear*

Committee, 1998).Secure areas are defined in the Forest Plan as areas larger than 10 acres that are more than 1/3 mile from a route open to motorized vehicles, (FP, pg. 302). The timeframe for measuring secure area during the general season is December 2 - October 14 and fall season is October 15 - December 1. Secure area is measured at the action area scale and based on open road buffers synthesized from the Grizzly Bear Amendment definition, recreation buffers and Wisdom et al. (2004). Secure area is only identified for National Forest System lands, as it is assumed that private land is not secure. Effects to general and fall secure area will be analyzed for both the short (during implementation) and long term (post-implementation).

Wildlife (general season) and elk (fall season) security is measured in the Forest Plan by the openmotorized road and trail densities (OMRTD) at the landscape (general season) and hunt unit (fall season) scales. The timeframe for measuring OMRTD during the general season is December 2 - October 14 and fall season is October 15 - December 1. As temporary roads are not utilized in OMRTD calculations (per Forest Plan direction), effects to general and fall season security will be analyzed only long term (post-implementation).

 General Season Secure Area (December 2 - October

14) *There are currently approximately 70,821 acres (29 percent) of general secure area in the grizzly bear action area (Table 6). Secure habitat in the action area is mapped in multiple blocks of habitat, with the largest secure area block in the north end of the action area that boarders the Continental Divide and iswithin the Electric Peak Roadless Area. The Electric Peak roadless expanse includes the Electric Peak inventoried roadless area (IRA). This area encompasses the northeastern portion of the Pintler Ranger District the northern part of the Butte Ranger District and into the Helena National Forest. This large secure area block is approximately 35,785 acres. This area also corresponds to the spot where the photos of a grizzly bear were taken in 2012 (Electric Peak). Due to the high road densities in the southern part of the action area, secure area blocks are smaller and more fragmented there, but they still meet the Forest Plan secure area definition. Figure 12 displays existing general season secure area in the action area.*

Fall Season Secure Area (October 15 - December 1)

With seasonal road closures in place, f all secure area is increased to approximately 111,476 acres or approximately 46 percent of the grizzly bear action area (Table 6). The largest secure area block discussed above, increases to approximately 61,254 acres while secure area blocks in the south and east part of the action area increase in size as well. Figure 13 displays existing fall season secure area in the action area.Table 6: Secure Area

in the Grizzly Bear Action AreaRed Rocks Action AreaTotal Acres Secure HabitatPercent of Action AreaSecure Area SeasonExistingExistingGeneral 70,82129Fall 111,54946 **General Season Security (December 2 - October 14)***The Interagency Grizzly Bear Committee observed that management of motorized use has been primarily accomplished through restriction of certain types of motorized use on established access routes, i.e. management of open motorized route densities. The Forest Plan established open motorized road and trail density goals during the general season by landscape to provide wildlife security for ungulates and large carnivores, including grizzly bears. The project area is within the Boulder River Landscape which currently does not meet the Forest Plan open motorized road and trail density goal of 1.9 mi/mi2 as it is currently at 2.2 mi/mi2. See Table 7 for Forest Plan open motorized road and trail density goals and existing condition by landscape (Corrected Forest Plan p. 45).* **Fall Season Security (October 15 - December 1)***The Forest Plan also includes direction to manage open motorized road and trail density by hunting unit during the fall hunting season to provide additional elk security. Although grizzly bears are not the focus, large carnivores such as grizzly bears will benefit. Neither of the hunt units in the action area meet the Forest Plan goals. Hunt Unit 318, which covers almost all of the project area has an existing open motorized road and trail density of 2.0 mi/mi2 with the Forest Plan*

goal at 1.8 mi/mi2. Hunt Unit 350, which covers the southern eastern tip of the project area has an existing open motorized road and trail density of 1.5 mi/mi2 with the Forest Plan goal at 1.3 mi/mi2. See Table 7 for Forest Plan open motorized road and trail density goals and existing condition (Corrected Forest Plan p. 45-47).”

The proposed action MAY AFFECT, LIKELY TO ADVERSELY AFFECT (LAA) the threatened grizzly bear. The Beaverhead-Deerlodge National Forest would be well advised to revisit the finding of the attached paper by Mace and Manley (1993, P: 25-26) regarding averaging road densities across broad landscapes: “Techniques for calculating road densities that average over large blocks of land(e.g. a BMA), inclusive of both high and low elevations, result in inadequate assessments of grizzly bear response to road densities . . . For example, our entire analysis area has an average open road density of 0.63 mi/mi2 and meets current road density standards. Our precise [“moving window” GIS] open road density technique produces the same average open road density. However, from our method we know that 26% of the analysis area (70 mi2 of habitat) exceeds the 1.0mi/mi2 standard. When all roads are included in calculations for ouranalysis area, the average total road density is 1.13 mi/mi2 with 22% (58 mi2) of the area having >2 mi/mi2. This 58 mi2 of habitat was used less than expected by radio-instrumented bears . . .Apparently, grizzly bears adjust their habitat use

patterns in part to both precise open road densities and precise total road densities. Unless a road has completely revegetated, managers should assume that some level of human use is occurring along closed roads, and grizzly bears will respond to that use . . . The preponderance of adult females in the population suggests that survival of individual bears is directly related to their selection for unroaded areas. To date, the data suggest that if unroaded habitats are reduced in quantity and size, the number of adult females will eventually decline."We remind the Forest that theInteragency Grizzly Bear Task Force (1998) recommended that the percentages of OMRD, TMRD, and Core be evaluated using a "Moving Windows" analysis method – not linear miles, not averaged miles, and definitely not 1.9 miles/ sq.mi. Rather than "research shopping" for weaker standards in a foreign country, the Forest Service must use the NCDE specific standards of Amendment 19 (The best available science) including TMRD and motorized trails.

Resident and/or traveling grizzly bears may be present throughout the entire Project area.

"In occupied grizzly habitat, to minimize man-caused mortality the open road density will not exceed the 1980 density of 0.55 miles per square mile, which was determined to have little effecton habitat capability." These need to be followed.

1. The Project violates NEPA because USFS fails to provide sufficient analysis of the grizzly bear open road density standard in the Project EA.

"NEPA's purpose is twofold: (1) to ensure that agencies carefully consider information about significant environmental impacts and (2) to guarantee relevant information is available to the public." N.Plains Res. Council, Inc. v. Surface Transp. Bd., 668 F.3d 1067,1072 (9th Cir.2011). "Informed public participation in reviewing environmental impacts is essential to the proper functioning of NEPA." League of Wilderness Defenders v. Connaughton, 752 F.3d 755,761 (9th Cir.2014). If "the data is not available during the EIS process and is noavailable to the public for comment . . . the EIS process cannot serve its larger informational role, and the public is deprived of their opportunity to play a role in the decision-making process." N.Plains, 668 F.3d at1085.

"To fulfill NEPA's public disclosure requirements, the agency must provide the public with 'the underlying environmental data' from which the Forest Service develops its opinions and arrives at its decision."

WildEarth Guardians, 790 F.3d at 925.

The 1982 NFMA regulations state: Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. In order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area.

(a) Each alternative shall establish objectives for the maintenance and improvement of habitat for management indicator species selected under paragraph (g)(1) of this section, to the degree consistent with overall multiple use objectives of the alternative. To meet this goal, management planning for the fish and wildlife resource shall meet the re- quirements set forth in paragraphs (a)(1) through (a)(7) of this section.
(1) . . . On the basis of available scientific information, the interdisciplinary team shall estimate the effects of changes in . . .year-long suitability of habitat related to mobility of management indicator species. Where appropriate, measures to mitigate adverse effects shall be prescribed.

(2) Planning alternatives shall be stated and evaluated in terms of both amount and quality of habitat and of animal population trends of the management indicator species.
(3) Biologists from State fish and wildlife agencies and other Federal agencies shall be consulted in order to coordinate planning for fish and wildlife, including opportunities for the reintroduction of extirpated species.

(4) Access and dispersal problems of hunt-ing, fishing, and other visitor uses shall be considered.

The project violated NEPA, NEPA, the ESA and the APA. Remedy: Choose the No Action Alternative or withdraw the draft decision and write an EIS that complies with the law and amend the Revised Forest Plan to include these 19/19/68 road density standards. The EIS needs to take into account the best available science on grizzly bears and roads which are the NCDE grizzly bear 19/19/68 road density requirements. Also find attached Mace et al 1996.

We wrote in our March 15, 2018 comments:

"The wolverine was recently determined to be warranted for listing under the ESA. 75 Fed. Reg.78030 (Dec. 14, 2010). It is currently a candidate species, waiting for work to be completed on other species before it is officially list-

ed. The USFWS found that "[s]ources of human disturbance to wolverines include . . . road corridors, and extractive industry such as logging . . .." .The Forest Service admits that the wolverine and/or its habitat are present within the project area and would be impacted by the project. The Forest Service must go through ESA consultation for the wolverine for this project."

"Response: As a proposed species, consultation with the Fish and Wildlife Service is not required. However in 2014, the Northern Region of the Forest Service completed a programmatic biological assessment for the wolverine as a proposed species. It covered the National Forests known to have wolverine, including the Beaverhead-Deerlodge National Forest. This biological assessment covered all types of Forest Service activities, including those proposed in the Red Rocks Vegetation project. The U.S. Fish and Wildlife Service concurred with the "no jeopardy" determination. The biological assessment and biological opinion can be found in the project record." **(EA, p. 282.)**

In its Order dated 4/4/16, the U.S. District Court of Montana ruled: "The United States Fish & Wildlife Service's Withdrawal of its Proposed Rule to list the distinct population segment of the North American wolverine occurring in the contiguous United States as a threatened species under the Endangered Species Act, 79 Fed. Reg. 47,522 (Aug. 13, 2014), is hereby VACATED." Therefore the status of the wolverine is Proposed for listing under the ESA, and the FS

must undergo formal consultation with the U.S. Fish & Wildlife Service.

Wolverines use habitat ranging from Douglas-fir and lodgepole pine forest to subalpine whitebark pine forest (Copeland et al., 2007). Lofroth (1997) in a study in British Columbia, found that wolverines use habitats as diverse as tundra and old-growth forest. Wolverines are also known to use mid- to low-elevation Douglas-fir forests in the winter (USDA Forest Service, 1993).

Aubry, et al. 2007 note that wolverine range in the U.S. had contracted substantially by the mid- 1900s and that extirpations are likely due to human-caused mortality and low to nonexistent immigration rates.

May et al. (2006) cite: “Increased human development (e.g. houses, cabins, settlements and roads) and activity (e.g. recreation and husbandry) in once remote areas may thus cause reduced ability of wolverines to perform their daily activities unimpeded, making the habitat less optimal or causing wolverines to avoid the disturbed area (Landa & Skogland 1995, Landa et al. 2000a).”

Ruggiero, et al. (2007) state: “Many wolverine populations appear to be relatively small and isolated. Accordingly, empirical information on the landscape features that facilitate or impede immigration and emigration is critical for the conservation of this species.”

Roads result in direct mortality to wolverines by providing access for trappers (Krebs et al., 2007). Trapping was identified as the dominant factor affecting wolverine survival in a Montana study (Squires et al. 2007). Female wolverines avoid roads and recently logged areas, and respond negatively to human activities (Krebs et al., 2007)

Ruggiero et al. (1994b) recognized that "Over most of its distribution, the primary mortality factor for the wolverines is trapping." Those authors also state, "Transient wolverines likely play a key role in the maintenance of spatial organization and the colonization of vacant habitat. Factors that affect movements by transients may be important to population and distributional dynamics."

Roads and human density are important factors influencing current wolverine distribution (Carroll et al. 2001b); and wolverine habitat selection is negatively correlated with human activity – including roads (Krebs et al. 2007). Wolverine occurrence has shown a negative relationship with road densities greater than 2.8 mi/mi^2 (1.7 km/km^2) (Carroll et al. 2001b).

(T)he presence of roads can be directly implicated in human-caused mortality (trapping) of this species. Trapping was identified as the dominant factor affecting wolverine survival in a Montana study (Squires et al. 2007).

Krebs et al. (2007) state, "Human use, including winter recreation and the presence of roads, reduced habitat value for wolverines in our studies."

Wisdom et al. (2000) state:
Carnivorous mammals such as marten, fisher, lynx, and wolverine are vulnerable to over- trapping (Bailey and others 1986, Banci 1994, Coulter 1966, Fortin and Cantin 1994, Hodgman and others 1994, Hornocker and Hash 1981, Jones 1991, Parker and others 1983, Thompson 1994, Witmer and others 1998), and over-trapping can be facilitated by road access (Bailey and others 1986, Hodgman and others 1994, Terra-Berns and others 1997, Witmer and others 1998).

...Snow-tracking and radio telemetry in Montana indicated that wolverines avoided recent clearcuts and burns (Hornocker and Hash 1981).

Copeland (1996) found that human disturbance near natal denning habitat resulted in immediate den abandonment but not kit abandonment. Disturbances that could affect wolverine are heli-skiing, snowmobiles, backcountry skiing, logging, hunting, and summer recreation (Copeland 1996, Hornocker and Hash 1981, ICBEMP1996f).

Carroll et al. (2001b) state:
The combination of large area requirements and low reproductive rate make the wolverine vulnerable to human-induced mortality and habitat alteration. Populations probably cannot sustain rates of human-induced mortality greater than 7–8%, lower than that documented in most studies of trapping mortality (Banci 1994, Weaver et al. 1996).

... (T)he present distribution of the wolverine, like that of the grizzly bear, may be more related to regions that escaped human settlement than to vegetation structure.

Wisdom et al. (2000) offered the following strategies:

- Provide large areas with low road density and minimal human disturbance for wolverine
  and lynx, especially where populations are known to occur. Manage human activities and
  road access to minimize human disturbance in areas of known populations.

- Manage wolverine and lynx in a metapopulation context, and provide adequate links
  among existing populations.

- Reduce human disturbances, particularly in areas with known or high potential for
  wolverine natal den sites (subalpine talus cirques).

- The EA fails to consider and use the best available science and fails to insure population viability in violation of NFMA and additionally, violating NEPA's requirements that the FS demonstrate scientific integrity. See 36 C.F.R. 219.3; 40 C.F.R. 1502.24.
  The FS fails to set meaningful thresholds and assumes that project-caused habitat losses are insignificant. Of such analyses, Schultz (2010) concludes that “the lack of management thresholds allows small portions of

habitat to be eliminated incrementally without any signal when the loss of habitat might constitute a significant cumulative impact." In the absence of meaningful thresholds of habitat loss and no monitoring of wolverine populations at the Forest level, projects will continue to degrade wolverine habitat across the Beaverhead-Deerlodge NF over time.

Remedy: Choose the No Action Alternative and consult with the FWS on the impact of the project and on the Revised Forest Plan on wolverines.

We wrote in our comments:

Comment #5-19: Disclose the impact of climate change on the efficacy of the proposed treatments. Disclose the impact of the proposed project on the carbon storage potential of the area.PLEASE TAKE A HARD LOOK AT HOW CLIMATE CHANGE AFFECTS AND IS AFFECTED BY

THIS PROJECT IN VIOLATION OF NEPA, NFMA, THE FOREST PAN AND THE APA.

Published scientific reports indicate that climate change will be exacerbated by logging, and that climate change will lead to increased wildfire severity (including drier and warmer conditions that may render obsolete the proposed effects of the Project). The former indicates that the Butte Lookout Project may have a significant adverse effect on the environment, and the latter undermines the central underlying purpose of the Project. Therefore, the Forest Service must candidly disclose, consider, and fully discuss the published scientific papers discussing climate change in these two contexts. At least the Forest Service should discuss the following studies:

Depro, Brooks M., Brian C. Murray, Ralph J. Alig, and Alyssa Shanks. 2008. Public land, timber harvests, and climate mitigation: quantifying carbon sequestration potential on U.S. public timberlands. Forest Ecology and Management 255: 1122-1134.Harmon,

Mark E. 2001. Carbon sequestration in forests: addressing the scale question. Journal of Forestry 99:4: 24-29. Harmon, Mark E, William K. Ferrell, and Jerry F. Franklin. 1990. Effects of carbon storage of conversion of old-growth forest to young forests. Science 247: 4943: 699-702

Harmon, Mark E, and Barbara Marks. 2002. Effects of silvicultural practices on carbon stores in Douglas-fir –

western hemlock forests in the Pacific Northwest, USA: results from a simulation model. Canadian Journal of Forest Research 32: 863-877.

Homann, Peter S., Mark Harmon, Suzanne Remillard, and Erica A.H. Smithwick. 2005. What the soil reveals: potential total ecosystem C stores of the Pacific Northwest region, USA. Forest Ecology and Management 220: 270-283.

McKenzie, Donald, Ze'ev Gedalof, David L. Peterson, and Philip Mote. 2004. Climatic change, wildfire, and conservation. Conservation Biology 18:4: 890 -902.

"MM. Disclose the impact of climate change on the efficacy of the proposed treatments;"

"Many of the lands in the Project area should be classified as physically unsuitable (FSH 2409.13-21.5) It is unacceptable to prescribe logging where restocking problems persist, knowingly converting "suitable" timber lands into grasslands to feed livestock. "Adequate restocking" has neither been defined, nor properly analyzed, using field monitoring results. This analysis should take into account the likely effects of climate change on productivity and restocking requirements."

"Hayward, 1994 essentially calls into question the entire manipulate and control regime, as represented in the EIS. The managed portion of the BDNF has been fundamen-

tally changed, as has the climate, so the Forest Service must analyze how much land has been fundamentally changed forest wide compared to historic conditions, and disclose such information to the public in the context of an EIS by completing the Forest Plan Revision process."

"Response: None of the alternatives would have a measurable impact on carbon stocks in either the short- or long-term, because the area of treatment is a small fraction relative to regional and global carbon stocks. Please see the Carbon Cycling and Storage Specialist Report, available on the project website, and summarized in this environmental assessment for more details. See response to comment #5-1 for more information on best available science.

Red Rocks Vegetation Project, Carbon Cycling and Storage Report, p.2.
Effects to Carbon Cycling

Summary: None of the alternatives would have a measurable impact on carbon stocks in either the short or the long term, because the area of treatment is a small fraction relative to regional and global carbon stocks.

Direct and Indirect Effects – All Alternatives Because the acres proposed for harvest represent a miniscule area in the context of regional and global carbon stocks, differences in effects between the alternatives are negligible. All alternatives are therefore discussed together.In the short term, alternative 2 would remove some carbon currently stored in live and dead biomass by harvesting trees on ap-

proximately 6,928 acres. A substantial portion of this carbon would remain stored for a period of time in wood products (Depro et al. 2008, U.S. Environmental Protection Agency 2010), reducing some of the carbon emitted through decomposition. In alternative 1, more carbon would be stored on-sit e rather than in wood products.In the action alternative, removing trees, which are reducing stand health and/or are dead, and encroaching conifers from aspen stands and grasslands would provide open and safe areas to reforest with native species and increase growth rates and health of remaining trees, consequently speeding up overall ecosystem recovery. Natural regeneration would help ensure these forest stands return to a carbon sink. Motorized equipment used during the action alternative would emit a small quantity of greenhouse gases, but the impact that this would have on the atmospheric carbon dioxide concentration is impossible to determine. Timber harvest in any specific forest or stand will only affect the global carbon dioxide pool if harvest does not occur elsewhere in the world to supply the same world demand for timber (Wear and Murray 2004, Gan and McCarl 2007, Murray 2008). If the timber resulting from salvage harvest is used in the marketplace to replace products such as steel or concrete that cause more carbon emission during production, harvest may provide a small net reduction in the atmospheric carbon dioxide concentration (Harmon et al. 2009, Ryan et al. 2010, McKinley et al. 2011). Because the effects of forest management activities are so tiny, the carbon effects of the action alternative

are indistinguishable from the effects of not taking the action."

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). It is indeed time to speak honestly about unrealistic expectations relating to desired future condition.

NEPA requires a "hard look" at the (best available) science relating to future concentrations of greenhouse gasses and gathering climate risk as we move forward into an increasingly uncertain and uncharted climate future. This has not been done either at the programmatic, or at the project, level of analysis.

Scientific research indicates that increasing CO2 and other greenhouse gas concentrations may preclude attaining the anticipated "desired" future condition, not only in the project area but most likely across the entire Northern Rockies bioregion and beyond.

The ID Team and people commenting on this project seem unaware of the likelihood that desired (forest) conditions are at great risk.

No amount of logging, thinning and prescribes burning will cure the cumulative effects (irretrievable loss) ALREADY baked into today's climate reality. (Emphasis added.) "Treatments" must be acknowledged for what they are: Adverse cumulative environmental effects. Logging can

neither mitigate, nor prevent, the effects of wildfire or logging. Both cause disturbance to forests that cannot be restored or retrieved – resilience is gone. It is way too late in the game to pretend to ignore the elephant in the room.

NEPA requires analysis of an alternative that reflects our common understanding of climate risk. A considerable amount of data and scientific research repeatedly confirms that we may be looking in the (back into history) wrong direction for answers to better understand our forest future.

Remedy: Choose the No Action Alternative or withdraw the draft Decision Notice and write an EIS where you disclose the current and future impacts of climate risk to our national forests. It is time to reach into the science, analyze the current level of risk and to the best of our ability assess risks going forward. More specifically, NEPA requires cumulative effects analysis at the programmatic (HFP) level, and in the project-level in an EIS. Please assess and disclose all risks associated with vegetative-manipulation units in the project area in the proper climate-risk context/scenario. Please include a "climate risk alternative."

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 Forests.

"Challenges in predicting responses of individual tree species to climate are a result of species competing under a

never-before-seen climate regime that we have not seen before -- one forests may not have experienced before either.

Is it fair to characterize what is occurring in the project area and across the BDNF as not just your garden variety of stand-type conversion, but deforestation on a very long-term (or permanent) basis?

Please study the scientific findings of the research presented above. Analyze the likely consequences of moving forward. Then, disclose your findings. We sincerely believe that an overwhelming body of evidence not only brings into question the EA's Purpose and Need, but compels us all to reconsider the assumptions, goals and expected desired future condition of Revised Beverhead-Deerlodge Forest Plan.

Plan expectations must be amended at the programmatic level. Clearly, significant (multiple) amendments to the Forest Plan are warranted before proceeding with project-level action(s). According to best available science, implementing the SEIS as written will accomplish the opposite of the desired future condition unless major management adjustments are made. Getting this wrong is an irretrievable commitment of resources and a violation of NEPA for failing to analyze and disclose the (foreseeable future) climate risks as best we can by relying on what we now know to be true. 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.

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 Forests. "Challenges in predicting responses of individual tree species to climate are a result of species competing under a never-before-seen climate regime that we have not seen before -- 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)

The Red RocksVegetation project is not consistent with NFMA's "adequate restocking" requirement.
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 regeneration. High fire severity and low seed availability further reduced the probability of postfire 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)

Nowhere in the EA is the proper (aggregated) restocking monitoring data and analysis shown. If monitoring has been done, as advertised in the BDFP, is there sufficient evidence to document the scope and probability of post-fire regeneration failures in the project area? Please document that analysis process and the estimation of those risks

"***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-Rumens et al. (2018). (Please find attached)

"Scientific studies have determined that replacing older forests with fast-growing young trees will not provide increased carbon storage, as may be commonly assumed. [33] ***On the contrary, once an old-growth forest is logged the new young forest will take at least 200 years to recover the carbon storage pre-***

34 previously held by the old-growth forest, if storage recovery happens at all. This result stems from the fact that forests store 50 percent of their carbon in soil, 10 percent in woody debris, six percent in the forest floor, one per- cent in the understory, and only 33 percent in living trees.[35]

Illustratively, an agricultural field transformed into a tree plantation will only store 31 percent of its carbon storage potential, while an agri- cultural field transformed into an old-growth forest will store 83 per- cent of its car- bon storage potential. [36] This finding led researchers to remark that "if car- bon stores were the only concern then conversion to an old-growth dominated landscape would be the best option as this system stores close to 90 percent of the potential maximum, even with fire or wind disturbance and no timber salvage . . . . As an example, researchers found that the cur- rent carbon storage in forests in Ore- gon and Washington is less than one- half of its potential.[38] They stated that there is a "substantial prospect to sequester carbon in the future, should land management and natural distur- bance regimes move the region toward a landscape more dominated by old- growth forests.[39]"

https://scholarship.law.umt.edu/cgi/viewcontent.cgi?article=1260&con- text=plrlr

See attached.

We wrote in our comments:

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 pro- jection;

"***Response: Based on these collaborative effects and preliminary effects analysis, the proposed action was refined to expedite the treatment of the vegetative stands impacted by insects and disease. The hazardous fuels emphasis was removed from the purpose and need, and proposed action. This was the proposed action shared with the public during the comment period. Since Red Rocks Vegetation project does not have a purpose and need to reduce wildfire risk, it is not analyzed in this environmental assessment. The Beaverhead-Deerlodge National Forest has not made a decision to suppress natural wildfire in the project area and replace natural fire with logging and prescribed burning. Therefore, there are no cumulative impacts associated with replacing natural wildlife. Previous wildfires and suppression activities were considered in the cumulative effects analysis.The direct, indirect, and cumulative effects associated with activity fuels and fuel conditions are analyzed in the Silviculture Specialist Report, available on the project website."***

Page 1 states: ***The analysis for the forest vegetation resource focuses on how the alternatives would affect the tree composition and structure of the forest stands in the Red Rocks project area and how those effects would influence the resistance and resiliency of forest vegetation to future disturbances and stressors (e.g. insects and diseases, wildfires, droughts, etc.).***

Page 2 of the Silviculture Specialist Report states that an objective of the project is to: "***Where needed to reduce the risk from wildfire for public and firefighter health and safety, or to protect structures, infrastructure, and municipal watersheds."***

Page 18 of the Silviculture Specialist Report states under the No Action Alternative***: "Young lodgepole pine stands would become more vulnerable to wildfire, and harder and more expensive to manage into the future due to falling trees and very heavy horizontal fuel loads."***

It seems clear that one of the goals of the project is to improve the ***resiliency of forest vegetation to future disturbances and stressors (e.g. insects and diseases, wildfires, droughts, etc.).***

Published scientific reports indicate that the logging prescription proposed by the Forest Service for the Red Rocks area will actually increase fire severity -- not reduce fire severity – as assumed by the Forest Service. Because this issue is the central underlying theme that is critical to support the proposed logging project, the Forest Service must candidly disclose, consider, and fully discuss the published scientific papers that analyze whether commercial logging is an effective means of fire suppression. The Forest Service should have discussed published scientific papers, which make findings based on actual studies, not simply on models. Not doing this is a violation of NEPA, NFMA, the APA and the Forest Plan In the analysis, the Forest Service should have at least addressed the issues of (a) which studies are applicable to lodgepole pine forests, (b) whether logging large diameter trees helps or hinders efforts to reduce fire risk, (c) whether logging without prescribed burning helps or hinders efforts to fire risk, and (d) whether all small diameter trees must

be removed in order to reduce fire risk. In this analysis, the Forest Service should not include internally produced, unpublished documents written by land managers. These types of documents are biased in favor of logging, and therefore not scientifically reliable. See Ruggiero (2007) (discussing the fact that land managers are part of a different branch of the Forest Service than research scientists, and the position of the land managers implies that they are not independent of policy decisions, and therefore may not be scientifically credible). The Forest Service should disclose and discuss the findings of – at least – the following studies:

- Raymond, Crystal L. & David L. Peterson. 2005. Fuel treatments alter the effects of wildfire in a mixed evergreen forest, Oregon, USA. Canadian Journal of Forestry Research 35: 2981 – 2995; and

- Odion, Dennis C., Evan J. Frost, James R Strittholt, Hong Jiang, Dominick A. Dellasala, Max A. Moritz. 2004. Patterns of fire severity and forest conditions in the western Klamath Mountains, California. Conservation Biology 18:4: 927-936.
  Since the project's goals are partly to reduce the chances that fire will destroy private structures and harm people, the current fuel/fire hazard situation on land of all ownerships within the WUI (at least the WUI that's relevant to this area) must be displayed on a map. More importantly, the fuel/fire hazard situation post-project on land of all ownerships within the WUI must also be displayed on a map. The maps provided don't display the most important picture around which this project is conceptualized. Based on lack of proper mapping of current and projected conditions, the EIS doesn't accurately disclose the threats to private structures and people under any scenarios, for all alternatives. It must be discernable why some areas are included for treatment and others are not. The FS does not have a detailed long-term program for maintaining the allegedly safer conditions, including how areas will be treated in the future following proposed treatments, or how areas not needing treatment now will be treated as the need arises. The public at large, and private landowners, must understand the impli-

> cations of the long-term efforts, including the amount of funding necessary, and the likelihood based on realistic funding scenarios for such a program to be funded both adequately and in a timely manner.
>
> The EA mix, and thus confuse, two separate issues, those being hazardous fuels and "forest health." The EA fails to clearly disclose which treatment units are for fuel reduction and which are to deal with the alleged "forest health" problem(s). Clearly, maintaining parts of the Forest in "safer" fuel conditions is not in accord with maintaining natural, ecological processes. "Excessive

fuels" from one perspective is cover habitat from the perspective of a pine marten, and the very processes that cause the alleged "forest health" problems are what create dead tree habitat for a myriad of native wildlife. The FS's position seems to be that we can have both, but that's like the empty promise that came out of the Forest Planning process that said the FS could meet its ASQ and still provide for viable populations of Bull trout, lynx, ...etc. This is the very same failure to face reality that has resulted in much-needed judicial oversight of this National Forest.

The EA fails to deal lucidly with the hazardous fuels issue on the appropriate landscape scale. The EA only discusses fuel conditions in the areas proposed for treatment, yet wildland fire operates beyond artificial ownership or other boundaries. The EA fails to answer a fundamental question: Will the fuel reduction activities be in any way significant, when one of any number of potential fire scenarios plays out on the land in the foreseeable future? One cannot tell, because the fuel conditions in the larger landscape surrounding "treatment units" are not adequately discussed.

Likewise, the appropriate landscape scale for the "forest health" issues is also beyond the treatment units, but not adequately considered.

The EA also fails to deal with the fuels issue on the appropriate temporal scale. The EA basically theorizes fire behavior at some short-duration fixed time period following treatment (ignoring the heightened fuel risk due to the logging activities, by the way) but doesn't consider the obvi-

ous fact that vegetation response to the proposed activities will be rapid in the understory, and also significant for smaller tree growth in the years following treatment. How those vegetation changes would affect fire behavior when one of any number of possible fire scenarios plays out on the land in the foreseeable future is also glossed over in the EA's overly simplistic analyses.

And since this "fuel reduction regime" was not a planning scenario dealt with in sufficient detail (if at all) during Forest Plan development, both the project-level and programmatic ecological and economic costs and impacts go unexplained and undisclosed. The BDNF must disclose to the public just how much of the Forest is considered to be likewise "out of whack" in alleged "forest health" terms and more importantly, disclose how much of the Forest is to be treated for fuel reduction in a manner that emphasizes fuel conditions over native ecological processes.

Hayward, 1994 states:
Despite increased interest in historical ecology, scientific understanding of the historic abundance and distribution of montane conifer forests in the western United States is not sufficient to indicate how current patterns compare to the past. In particular, knowledge of patterns in distribution and abundance of older age classes of these forests in not available. ...Current efforts to put management impacts into a historic context seem to focus almost exclusively on what amounts to a snapshot of vegetation history—a documentation of forest conditions near the time when European settlers first began to impact forest structure. ...The value of the historic information lies in the perspective it can provide on the potential variation... I do not believe that historical ecology, emphasizing static conditions in recent times, say 100 years ago, will provide the complete picture needed to place present conditions in a proper historic context. Conditions immediately prior to industrial development may have been extraordinary compared to the past 1,000 years or more. Using forest conditions in the 1800s as a baseline, then, could provide a false impression if the baseline is considered a goal to strove toward.

Hayward, 1994 essentially calls into question the entire manipulate and control regime, as represented in the EA. The managed portion of the BDNF has been fundamentally changed, as has the climate, so the Forest Service must analyze how much land has been fundamentally changed

forest wide compared to historic conditions, and disclose such information to the public in the context of an EIS by completing the Forest Plan Revision process.

The FS's usual response to our comment that the fire planning issue is indeed programmatic, is that it is "out of the scope" of a project analysis, which is precisely our point: the FS has so far failed to deal with this issue within the appropriate forest wide or landscape level. In the absence of such planning, the public and decision maker for this project proposal is extremely uninformed. So, for example, fire suppression actions are never disclosed, as NEPA requires.

Recently, Huff, et al., 1995 stated:
(I)ntensive forest management annually produces high fuel loadings associated with logging residues. As a by-product of clearcutting, thinning, and other tree- removal activities, activity fuels create both short- and long-term fire hazards to ecosystems. The potential rate of spread and intensity of fires associated with recently cut logging residues is high (see for example, Anderson 1982, Maxwell and Ward 1976), especially the first year or two as the material decays. High fire-behavior hazards associated with the residues can extend, however, for many years depending on the tree species (Olson and Fahnestock 1955). Even though these hazards diminish, their influence on fire behavior can linger for up to 30 years in the dry forest ecosystems of eastern Washington and Oregon. Disposal of logging residue using prescribed fires, the most common approach, also has an associated high risk of an escaped wildfire (Deeming 1990). The link between slash fires and escaped wildfires has a history of large conflagrations for Washington and Oregon (Agee 1989, Deeming 1990).

Regeneration and seral development patterns can have a profound effect on potential fire behavior within landscapes by enhancing or diminishing its spread (Agee and Huff 1987, Saveland 1987). Spatially continuous fuels associated with thick regeneration in plantations can create high surface-fire potential during early successional stages. This was evident in most of the roughly 275 hectares of 1- to 25-year-old plantations burned in the 3500-hectare 1991 Warner Creek Fire in the Willamette National Forest (USDA 1993). The fire moved swiftly through the open-

ings created by past harvests, killing nearly all the regeneration but usually missing adjacent stands >80 years old.

Logged areas generally showed a strong association with increased rate of spread and flame length, thereby suggesting that tree harvesting could affect the potential fire behavior within landscapes.

In general, rate of spread and flame length were positively correlated with the proportion of area logged in the sample watersheds.

Increased rate of spread means that the perimeter of the fire will grow much faster. Generally, a faster perimeter growth makes a wildfire harder to contain.

Other scientists have doubts about the efficacy of intensive fuels reductions as fire- proofing methods. DellaSala, et al. (1995) state:

Scientific evidence does not support the hypothesis that intensive salvage, thinning, and other logging activities reduce the risk of catastrophic fires if applied at landscape scales ... At very local scales, the removal of fuels through salvage and thinning may hinder some fires. However, applying such measures at landscape scales removes natural fire breaks such as moist pockets of late- seral and riparian forests that dampen the spread and intensity of fire and has little effect on controlling fire spread, particularly during regional droughts. ... Bessie and Johnson (1995) found that surface fire intensity and crown fire initiation were strongly related to weather conditions and only weakly related to fuel loads in subalpine forest in the southern Canadian Rockies. . . . Observations of large forest fires during regional droughts such as the Yellowstone fires in 1988 (Turner, et al. 1994) and the inland northwest fires of 1994 . . . raise serious doubts about the effectiveness of intensive fuel reductions as “fire-proofing” measures.

The Sierra Nevada Ecosystem Project, in its 1996 “Final Report to Congress: Status of the Sierra Nevada” (University of California-Davis, Wildland Resources Center Report No. 36) states:

More than any other human activity, logging has increased the risk and severity of fires by removing the cooling shade of trees and leaving

flammable debris." And, "Timber harvest, through its effects on forest structure, local microclimate, and fuel accumulation, has increased fire severity more than any other recent human activity. ... Although silvicultural treatments can mimic the effects of fire on structural patterns of woody vegetation, virtually no data exist on the ability to mimic ecological functions of natural fire."

DellaSala et al., 1995 state:

The effectiveness of fuel breaks remains a subject of debate within and outside the fire management community. There are many reasons for this broad range of opinion, among them that objectives can vary widely, fuel break prescriptions (width, amount of fuel reduction, maintenance standards) may also vary, they can be placed in many different fuel conditions, and may be approached by wildland fires under a variety of normal to extreme weather conditions. Furthermore, fuel breaks are never designed to stop fires but to allow suppression forces a higher probability of successfully attacking a wildland fire. The amount of technology directed at the fire, and the requirement for firefighter safety, both affect the efficacy of fuel breaks in the suppression effort

Sustained alteration of fire behavior requires effective and frequent maintenance, so that the effectiveness of any fuel treatment, including fuel breaks, will be not only a function of the initial prescription for creation, but also standards for maintenance that are applied. The efficacy of many past fuel breaks has been largely lost because of inadequate or no maintenance. If a fuel break is to remain effective, permanent cover type must occur.

The EA takes a very narrow, simplistic view of the science on fuel reduction and ignores scientific information that argues against its conclusions. The EA must be re-written to acknowledge the controversies, and remove its already-made decision biases.

Graham, et al., 1999a point out that thinning can result in faster fire spread than in the unthinned stand.

For example, the 20-foot wind speed[1] must exceed 50 miles per hour for midflame wind speeds to reach 5 miles per hour within a dense Stand

(0.1 adjustment factor). In contrast, in an open stand (0.3 adjustment factor), the same midflame wind speeds would occur at only a 16-mile-per-hour wind at 20 feet.

Depending on the type, intensity, and extent of thinning, or other treatment applied, fire behavior can be improved (less severe and intense) or exacerbated." ... Fire intensity in thinned stands is greatly reduced if thinning is accompanied by reducing the surface fuels created by the cuttings. Fire has been successfully used to treat fuels and decrease the effects of wildfires especially in climax ponderosa pine forests (Deeming 1990; Wagel and Eakle 1979; Weaver 1955, 1957). In contrast, extensive amounts of untreated logging slash contributed to the devastating fires during the late 1800s and early 1900s in the inland and Pacific Northwest forests.

Depending on intensity, thinning from below and possibly free thinning can most effectively alter fire behavior by reducing crown bulk density, increasing crown base height, and changing species composition to lighter crowned and fire- adapted species. Such intermediate treatments can reduce the severity and intensity of wildfires for a given set of physical and weather variables. But crown and selection thinnings would not reduce crown fire potential.

In regards to ecosystem sustainability and wildland fire, Cohen and Butler (2005) state: Realizing that wildland fires are inevitable should urge us to recognize that excluding wildfire does not eliminate fire, it unintentionally selects for only those occurrences that defy our suppression capability—the extreme wildfires that are continuous over extensive areas. If we wish to avoid these extensive wildfires and restore fire to a more normal ecological condition, our only choice is to allow fire occurrence under conditions other than extremes. Our choices become ones of compatibility with the inevitable fire occurrences rather than ones of attempted exclusion. (Emphasis added.)

It seems that the project is a part of a wider, continuing indiscriminate fire suppression strategy, without consideration of sensible wildland fire use—elevating the odds for the type of extreme events most feared.

Cohen and Butler (2005) made recommendations regarding fuel treatment in an interface zone in the Boulder River canyon on the Gallatin NF, following a two-day field trip. Based upon research, and investigation following other instances of wildland fire, Cohen and Butler (2005) specify the need to focus primarily on the Home Ignition Zone (HIZ). The HIZ is approximately 150 from a home. They state, "(W)e cannot mitigate a highly vulnerable HIZ with fuel reduction activities beyond the HIZ; a highly vulnerable HIZ remains highly vulnerable even when surrounded by a fuel break. ...The high intensity wildfire has no direct flame effect on the building ignition potential outside the HIZ."

To the degree that this proposal focuses on dead and dying trees, it is not about reducing crown fires. Cohen and Butler (2005) note that dead trees that have lost their needles pose minimal crown fire risk as compared to trees with canopy intact—live or dead:

[1] Velocity of the wind 20 feet above the vegetation, in this case tree tops.

When needles fall from the tree canopy the tree loses the principal crown fire fuel. These needles are now part of the more compact and much less intensively burning surface fuel bed. Thus, the crown fire spread is impeded at this location. Primary attention for removing insect killed trees that retain their needles should occur within the HIZ and in any areas where intense fire behavior will produce a life safety concern (falling dead trees usually do not become a problem until after the needles have dropped.)

Cohen and Butler (2005) explain the "life safety" concept, defining it as "...about preventing fatalities during an extreme wildfire that includes all reasonable options." The researchers focus on the need to treat fuels to establish safe areas in the event of extreme wildfire events, and treat fuels to reduce potential extreme case fire intensity along escape routes to these safe areas or well beyond the fire's danger zone. Outside these safe areas, the escape routes, and the HIZ, these researchers indicate no need to focus on fuel reduction for life safety reasons in the CPZ.

None of the so-called cumulative effects discussions adequately discloses the effects of past management activities in a logically-defined analysis

area, on land of any ownership, to the issue of how those projects have affected the fuel situation now referred to as “hazardous.” How have past and ongoing logging and other management activities across this landscape affected fuel conditions and the “forest health” issues alleged by the EA? We know that old high grade and clearcut-type logging leads directly to vegetative conditions that are not natural and present an elevated (above natural) risk of fire. Yet nowhere does the EA present an intelligent cumulative effects discussion about past management in relation to its “Purpose and Need” in violation of NEPA, NFPA and the APA.

In 2016, in the largest analysis ever on this question, scientists found that forests with the fewest environmental protections and the most logging had the highest (Please find the paper attached.) not the lowest — levels of fire intensity. Logging removes relatively noncombustible tree trunks and leaves behind flammable "slash debris," consisting of kindling-like branches and treetops.

It is time for the Forest Service to be more honest with the public about Fire ecology and move away from trying to prevent and suppress wildfire as one of its primary occupations.
The Draft ROD is in violation of NEPA, NFMA, and the APA.

The remedy is to choose the No Action Alternative or write an EIS that explains to the public that logging can result in more wildfires and to the public the benefits of crown fires and the ineffectiveness of logging as a means of fire prevention. Fire depends primarily on temperature and lack of rain and snow.

We wrote in our comments: ***"Disclose the biological assessment for the candidate, threatened, or endangered species with potential and/or actual habitat in the Project area. Please complete a biological assessment for lynx and formally consult with USFWS regarding the project's potential impacts on lynx.The Project analysis and impacts on ESA-listed Canada lynx violate the ESA, NEPA, and NFMA."***

"Response: A biological assessment has been prepared for threatened and endangered wildlife species within the project area, including lynx and grizzly bears. Formal consultation has been initiated with the U.S. Fish and Wildlife Service, and will be completed prior to signing a decision for this project. See the Agencies and Persons Consulted section of this environmental assessment for more details."

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

Please also find a paper on lynx by Holbrook et al that confirms Kosterman's findings.

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.

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 BDNF and 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 corridors, 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 and the ESA.

The FS approval and implementation of the Lynx Management Direction 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 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. The EA fails to take a hard look at this factor is in violation of NEPA. 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 authorized 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. The EA nor the DN explain where the WUI is in relation to the projects and the LAUs but merely state that the entire project lies within the WUI bounder. EA p. 164, foot note 11. Also, it is not clear why the project does not utilize the Lynx Amendment wildland urban interface map to define WUI, the correct definition for WUI, but instead uses the definition in the Healthy Forest Restoration Act. If the projects were to use the correct definition of WUI, the project could not proceed. The failure to comply with logging restrictions outside the WUI violates NFMA. The failure to adequately address this issue in the EA and demonstrate compliance with the Lynx Amendment violates NEPA.

The analysis of the impacts to lynx in the EA and the DN is extremely limited and it inappropriately uses an LAU that excessively large, allowing the impacts to be minimized. The current best science suggests that female lynx home range as about 10,000 acres. The project area is almost 10 times the size. The analysis in the EA is invalid.

The current science demonstrates that lynx must travel between areas of high hare densities and resist traveling through low cover areas in winter. The EA fails to 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. As stated in AWR's comments, the best available science is now Kosterman's Masters Thesis, "Correlates of Canada Lynx Reproductive Success in Northwestern Montana"
This study 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 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 common 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 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 Northern Rockies Lynx Management Direction is inadequate to ensure conservation and recovery of lynx. The amendments fail to use the best available science on necessary lynx habitat elements, including but not limited to, failing to include 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). Ac-

tivities that may destroy or adversely modify critical habitat are those that alter the physical and biological features to an extent that appreciably reduces 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, provided 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 determine 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 allowing 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. The EA and DN do not 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 analyzing 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 unsuitable 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 occurred 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 critical 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 modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering", and "harass" as "actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering". The project will harm lynx.

The Montana Federal District Court ruled on 10/15/2018 that the BDNF must complete forest-wide consultation with the U.S. Fish and Wildlife Service to determine what effects, if any, the Forest Plan may have on lynx.

This has not been done.

The Remedy is the Beaverhead-Deerlodge National Forest must complete forest-wide consultation with the U.S. Fish and Wildlife Service to determine what effects, if any, the Revised Forest Plan may have on l

REMEDY REQUESTED

The analysis and decision-making process supporting the Red Rock's Vegetation Project Draft DN's selection of Alternative 2 is inadequate. Appellants have outlined, within this statement of reasons, why the DDN and FONSI are arbitrary, capricious, and illegal.

Objectors request that the EA, and DDN be withdrawn or remanded for the reasons set forth in this Statement of Reasons, the Forest Service formally consults with the Fish and Wildlife Service on the Revised Forest Plan's impact on lynx , and wolverine and an Environmental Impact Statement be prepared that fully complies with all laws, regulations, and policies if the FS wants to proceed with this Project.

Submitted respectfully for the objectors:

____/S/_____

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