January 29, 2020

Kevin Knauth, District Ranger

Bonners Ferry Ranger District

6286 Main Street

Bonners Ferry, ID 83805

Emailed to: comments-northern-idpanhandle-bonncrs-fcrrv@usda.gov

RE: Westside Restoration Project

Dear Ranger Knauth;

Please accept these comments on the Westside Restoration Project from me on behalf of the Alliance for the Wild Rockies.

The Alliance for the Wild Rockies and Native Ecosystems Council (collectively "Alliance") submit the following comments to guide the development of the environmental analysis for the proposal. 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 re-

quirements 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 Westside Restoration 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 Westside Restoration 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:

- Disclose all Idaho Panhandle National Forest (IPNF) Plan requirements for logging/ burning projects and explain how the Project complies with them;

- Disclose the acreages of past, current, and reasonably foreseeable logging, grazing, and road-building activities within the Project area;

- Solicit and disclose comments from the Idaho Department of Fish and Game regarding the impact of the Project on wildlife habitat;

- Solicit and disclose comments from the Idaho Department of Environmental Quality regarding the impact of the Project on water quality;

- Disclose the biological assessment for the candidate, threatened, or endangered species with potential and/or actual habitat in the Project area;

- Disclose the biological evaluation for the sensitive and management indicator species with potential and/or actual habitat in the Project area;

- Disclose the snag densities in the Project area, and the method used to determine those densities;

- Disclose the current, during-project, and post-project road densities in the Project area;

- Disclose the Idaho Panhandle National Forest's record of compliance with state best management practices regarding stream sedimentation from ground-disturbing management activities;

- Disclose the IPNF's record of compliance with its monitoring requirements as set forth in its Forest Plan;

- Disclose the IPNF's record of compliance with the additional monitoring requirements set forth in previous DN/FONSIs and RODs on the Idaho Panhandle Na-

tional Forest;

- Disclose the results of the field surveys for threatened, endangered, sensitive, and rare plants in each of the proposed units;

- Disclose the level of current noxious weed infestations in the Project area and the cause of those infestations;

- Disclose the impact of the Project on noxious weed infestations and native plant communities;

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

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

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

- Disclose the analytical data that supports proposed soil mitigation/remediation measures;

- Disclose the timeline for implementation;

- Disclose the funding source for non-commercial activities proposed;

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

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

- Disclose the historic levels of mature and old growth forest in the Project area;

- Disclose the level of mature and old growth forest necessary to sustain viable populations of dependent wildlife species in the area;

- Disclose the amount of mature and old growth forest that will remain after

implementation;

- Disclose the amount of current habitat for old growth and mature forest dependent species in the Project area;

AA. Disclose the amount of habitat for old growth and mature forest dependent species that will remain after Project implementation;

BB. 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;

CC. Disclose the amount of big game (moose and elk) hiding cover, winter range, and security currently available in the area;

DD. Disclose the amount of big game (moose and elk) hiding cover, winter range, and security during Project implementation;

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

FF. Disclose the method used to determine big game hiding cover, winter range, and security, and its rate of error as de-

termined by field review;

GG. 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;

HH. 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;

II. 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;

JJ. Disclose when and how the IPNF made the decision to suppress natural wildfire in the Project area and replace natural fire with logging and prescribed burning;

KK. Disclose the cumulative impacts on the Forest-wide level of the IPNF's policy decision to replace natural fire with logging and prescribed burning;

LL. Disclose how Project complies with the Roadless Rule;

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

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

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

Disclose maps of the area that show the following elements:
Past, current, and reasonably foreseeable logging units in the Project area;
Past, current, and reasonably foreseeable grazing allotments in the Project area; Density of human residences within 1.5 miles from the Project unit boundaries; Hiding cover in the Project area according to the Forest Plan definition;
Old growth forest in the Project area;
Big game security areas;
Moose winter range;

SOIL PRODUCTIVITY

The IPNF adopted the Region 1 Soil Quality Standards, FSM 2500-99-1 (SQS), to assure compliance with the Forest Plan and NFMA. The SQS limit the areal extent of detrimental soil disturbance within logging units to no more than 15%.

Soil Quality Standards "provide benchmark values that indicate when changes in soil properties and soil conditions would result in significant change or impairment of soil quality based on available research and Regional experience" (Forest Service Manual 2500, Region 1 Supplement 2500-99-1, Chapter 2550 – Soil Management, Section 2554.1).

The intent of the Regional Soil Quality Standards is that the FS must, in each case, consider the cumulative effects of both past and proposed soil disturbances to assure the desired soil conditions are met. This includes impacts from activities that include logging, firewood gathering, livestock grazing, and motorized recreation impacts.

Please disclose percent detrimental disturbance estimates provided by watershed. What is the relevance of the areal extent of management-induced soil damage over such a geographic area?

Alexander and Poff (1985) reviewed literature and found that the amount of soil damage varies even with the same logging system, depending on many factors. For example, as much as 10% to 40% of a logged area can be disturbed by skyline logging. They state:

There are many more data on ground disturbance in logging, but these are enough to indicate the wide diversity of results obtained with different equipment operators, and logging techniques in timber stands of different composition in different types of terrain with different soils. Added

to all these variables are different methods of investigating and reporting disturbance.

The Sheep Creek Salvage FEIS (USDA Forest Service, 2005a) states at p. 173:

Noxious weed presence may lead to physical and biological changes in soil. Organic matter distribution and nutrient flux may change dramatically with noxious weed invasion. Spotted knapweed (Centaurea biebersteinii D.C.) impacts phosphorus levels at sites (LeJeune and Seastedt, 2001) and can hinder growth of other species with allelopathic mechanism. Specific to spotted knapweed, these traits can ultimately limit native species' ability to compete and can have direct impacts on species diversity (Tyser and Key 1988, Ridenour and Callaway 2001).

Please disclose how the productivity of the land and soils been affected in the project area and forest wide due to noxious weed infestations, and how that situation is expected to change in the coming years and decades.

From Grier et al., (1989):
The potential productivity of a site can be raised or lowered by management activities causing a permanent or long-term increase or decrease in the availability of nutrients essential for plant growth. (P. 27.)

...Any time organic matter is removed from a site, a net loss of nutrients from that site also occurs. In timber harvesting

or thinning, nutrient losses tend to be proportional to the volume removed. (P. 27.)

...Slash burning is a common site preparation method that can affect soil chemical properties tremendously. A great deal of controversy is often associated with using fire because of the wide variety of effects, some of which are definitely detrimental to site quality and some of which are beneficial. (P. 30.)

The LNF has never attempted to put in place a scientifically sound definition of "soil productivity" that can be measured and compared to baseline conditions. Harvey et al., 1994 state:

The ...descriptions of microbial structures and processes suggest that they are likely to provide highly critical conduits for the input and movement of materials within soil and between the soil and the plant. Nitrogen and carbon have been mentioned and are probably the most important. Although the movement and cycling of many others are mediated by microbes, sulfur phosphorus, and iron compounds are important examples.

The relation between forest soil microbes and N is striking. Virtually all N in eastside forest ecosystems is biologically fixed by microbes... Most forests, particularly in the inland West, are likely to be limited at some time during their development by supplies of plant-available N. Thus, to manage forest growth, we must manage the microbes that add

most of the N and that make N available for subsequent plant uptake.

(Internal citations omitted.)

The proposal to log in areas of low soil productivity due to impacts of wildland fires and past logging activities flies in the face of NFMA's requirements to assure regeneration, sustained yield, and maintain soil productivity. Sec. 6. of the National Forest Management Act states:

(g) As soon as practicable, but not later than two years after enactment of this subsection, the Secretary shall in accordance with the procedures set forth in section 553 of title 5, United States Code, promulgate regulations, under the principles of the Multiple-Use, Sustained-Yield Act of 1960, that set out the process for the development and revision of the land management plans, and the guidelines and standards prescribed by this subsection. 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 scoping comments note that the project calls for 7.6 miles of new roads. Previous roadless inventories, both RARE II and during preparation of the IPNF Forest Plan and revised Forest Plan, omitted unroaded areas adjacent to the IRAs. Please include maps showing the location of unroaded areas—the boundaries of these areas. With the controversy—both social and scientific—surrounding the roadless issue, the failure to disclose with a map in an EIS all inventoried and uninventoried roadless lands makes no sense and constitutes a violation of NEPA.

What is a scientifically sound forest-wide standard for the IPNF to insure the viability of the black-backed woodpecker? How much black-backed woodpecker habitat is currently available in the LNF, how is it distributed, and how much will be available after this latest timber sale?

ECONOMICS

NFMA and the Forest and Rangeland Renewable Resources Planning Act (RPA) require management of national forest system lands in a manner that maximizes long term net public benefits based on the best available science.

Please comply with the monitoring requirements of the Forest Plan or NFMA. Please include a complete cost benefit analysis for the project.

Please consult with the Idaho State Historic Preservation

Office to ensure the project complies with the National Historic Preservation Act.

CANADA LYNX VIABILITY

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.

Kosterman also finds that lynx do not use clearcuts in the winter which is the time when they are at most risk of starvation.

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.

1) USFS needs to take a hard look at impacts to lynx under NEPA, apply the lynx conservation measures and standards of the NRLMD, and consult on lynx via section 7 of the ESA b/c the best available science -- including recent tracking surveys conducted by WTU -- confirm lynx's presence and use of the area;

(2) USFS's determination that the LNF is "unoccupied lynx habitat" is arbitrary b/c; (a) the definition of the term fails to take into account all lynx data for the LNF (including MFWP's data and all pre-1999 data) and USFS never conducted a proper or thorough survey of the area for lynx; and (b) lynx occur in the area; and

(3) USFS has failed to survey for lynx as required by the Biological Opinion on the Northern Rockies Lynx Management Direction (NRLMD).

In order to meet the requirements of the FS/USFWS Conservation Agreement, the FS agreed to insure that all project activities are consistent with the Lynx Conservation Assessment and Strategy (LCAS).

LCAS requirements include:

Project planning—standards.
1. Within each LAU, map lynx habitat. Identify potential denning habitat and foraging habitat (primarily snowshoe hare habitat, but also habitat for important alternate prey such as red squirrels), and topographic features that may be important for lynx movement (major ridge systems, prominent saddles, and riparian corridors). Also identify non-forest vegetation (meadows), shrub-grassland communities, etc.) adjacent to and intermixed with forested lynx habitat that may provide habitat for alternate lynx prey species.

2. Within a LAU, maintain denning habitat in patches generally larger than 5 acres, comprising at least 10 percent of lynx habitat. Where less than 10 percent denning habitat is currently present within a LAU, defer any management actions that would delay development of denning habitat structure.

3. Maintain habitat connectivity within and between LAUs.

Programmatic planning-standards.

1. Conservation measures will generally apply only to lynx habitat on federal lands within LAUs.

2. Lynx habitat will be mapped using criteria specific to each geographic area to identify appropriate vegetation and environmental conditions. Primary vegetation includes those types necessary to support lynx reproduction and survival. It is recognized that other vegetation types that are intermixed with the primary vegetation will be used by lynx, but are considered to contribute to lynx habitat only where associated with the primary vegetation. Refer to glossary and description for each geographic area.

3. To facilitate project planning, delineate LAUs. To allow for assessment of the potential effects on an individual lynx, LAUs should be at least the size of area used by a resident lynx and contain sufficient year-round habitat.
4. To be effective for the intended purposes of planning and monitoring, LAU boundaries will not be adjusted for individual projects, but must remain constant.
5. Prepare a broad-scale assessment of landscape patterns that compares historical and current ecological processes and vegetation patterns, such as age-class distributions and patch size characteristics. In the absence of guidance developed from such an assessment, limit disturbance within each as follows: if more than 30 percent of lynx habitat within an LAU is currently in unsuitable condition, no further reduction of suitable conditions shall occur as a result o vegetation management activities by federal agencies.

Project planning-standards.
1. Management actions (e.g., timber sales, salvage sales)

shall not change more than 15 percent of lynx habitat within a LAU to an unsuitable condition within a 10- year period.

Programmatic planning-standards.
1. Identify key linkage areas that may be important in providing landscape connectivity within and between geographic areas, across all ownerships.
2. Develop and implement a plan to protect key linkage areas on federal lands from activities that would create barriers to movement. Barriers could result from an accumulation of incremental projects, as opposed to any one project.

Please demonstrate that project activities are consistent with above and all other applicable programmatic and project requirements.

The U.S. Court of Appeals for the Ninth Circuit hold that "[o]nce an agency is aware that an endangered species may be present in the area of its proposed action, the ESA requires it to prepare a biological assessment . . . ." Thomas v. Peterson, 753 F. 2d 754, 763 (9thCir. 1985). If the biological assessment concludes that the proposed action "may affect" but will "not adversely affect" a threatened or endangered species, the action agency must consult informally with the appropriate expert agency. 50 C.F.R. §§ 402.14 (b)(1), 402.12(k)(1).

Canada lynx are listed under the ESA.

Canada lynx may be present in the project area and the proposed project may affect lynx by temporarily increasing

road density, removing vegetative cover, and engaging in mechanized activities that could displace lynx.

Please complete a biological assessment for lynx and formally consult with USFWS regarding the project's potential impacts on lynx and the impact on lynx critical habitat.

Both grizzly bears and lynx need to be included as part of the formal consulation and analyzed for how this project will impact them.

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 plan will adversely affect grizzly bears.

In the attached "***Guide to Effects Analysis of Helicopter Use in Grizzly Bear Habitat,***" the Montana/Idaho Level 1 Terrestrial Biologist Team developed assessment guidelines in 2009 to assist in analyses of helicopter effects on grizzly bears.

The guidance document finds: "***Helicopter use in core habitat likely results in more pronounced disturbance reaction in grizzly bears since bears are not conditioned to expect disturbances from motorized equipment or vehicles in core habitat.***" In general, the guidance paper finds: "***actions which compromise the purpose of core habitat are not easily characterized as 'insignificant' or 'discountable.***""

Is the project area in compliance with the access amendment for grizzly bears?

In its 1993 Grizzly Bear Recovery Plan the U.S. Fish and Wildlife Service cautions that "[r]oads probably pose the most imminent threat to grizzly habitat" today and since most grizzly bears are illegally killed within 500 yards of a road it's why the Forest Service has restrictions on the total number of roads in grizzly bear habitat. Are all the closed roads stopping motorized use? Are the road closures effective? When was the last time the road closures were surveyed to determine if they were working? If closed roads continue to be used they need to be included in the total number or roads in grizzly bear habitat.

How will the Forest Servic that closures are effective when they haven't been in the past?

How often will the closures be monitored to be sure they are effective?

How will the Forest Service ensure that illegal roads or trails are not being built?

The USFS is proposing a motorized access bridge across Pack River, a proposed Wild and Scenic River, Bull Trout Critical Habitat and with sensitive Westslope Cutthroat Trout. This will result in increased illegal access to trail (road 222) which is supposed to be closed according to the Access Amendment.

Because the berms are ineffective at preventing motorized access, and because there are additional roads on the landscape with either ineffective closures or no closure whatsoever that are not accounted for in the roads database, USFS is not in compliance with the current USFWS Biological Opinion and the Incidental Take Statement for the Access Amendments.

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.

Ruggierio et al 2000;

Wolverines generally scavenge for ungulates along valley bottoms and forage and den in remote, high-elevation areas (Hornocker and Hash 1981; Morgan and Copeland 1998). Thus if mangers wished to provide habitat for wolverines, they could pay particular attention in the planning process to ungulates winter range and other aspects of habitat quality for ungulates to provide a consistent supply of carcasses for wolverine to scavenge. In addition, wolverines general-

ly avoid areas of human activity. To limit the threat of human-caused disturbance or mortality, managers could restrict access to portions of the landscape where wolverines are most likely to occur.

In order to meet this viability mandate, the 1982 NFMA planning regulations require that the Forest Service select "management indicator species" whose "population changes are believed to indicate the effects of management activities." 36 C.F.R. § 219.19 (1) (2000). 253.

The 1982 NFMA planning regulations require the Forest Service to monitor the population trends of these species and to state and evaluate land management alternatives

"in terms of both amount and quality of habitat and of animal population trends of the management indicator species." 36 C.F.R. § 219.19 (2),(6) (2000).

The Forest Service does not know the population of wolverines on the Forest.

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 listed. The USFWS found that "[s]ources of human disturbance to wolverines include . . . road corridors, and extractive indus-

try 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.

The 1982 NFMA planning regulations, which were used to promulgate the Forest Plan require the Forest Service to monitor the population trends of management indicator species and to state and evaluate land management alternatives "in terms of both amount and quality of habitat and of animal population trends of the management indicator species." 36 C.F.R. § 219.19 (2),(6) (2000).

Elk

The agency does not provide a scientific basis for the road density thresholds it relies upon as a "habitat proxy" for elk viability. The Forest Service cites Christensen et al(1993), Wisdom et al (2004), and the "Grizzly Bear Amendment" as the scientific basis for the elk road density thresholds in the Forest Plan but none of these citations recommends the high permanent road densities and unlimited increases in temporary road densities adopted in the Forest Plan thus its reliance on those habitat proxies is arbitrary.

The agency does not provide a scientific rationale for failing to discuss and/or adopt other well-established habitat proxies/protections for elk, such as retention of elk security blocks as defined by Hillis, retention of some level of

canopy closure, hiding cover, or thermal cover, and restrictions against motorized use in winter range.

Due to the lack of effective habitat protections, elk are currently failing state population objectives.

Despite the lack of scientifically based habitat protections in the Forest Plan and the poor elk population numbers in the affected analysis area, the project will increase temporary road density in the project area above the levels recommended in the best available science. In light of the above-noted issues, the Forest Service is not ensuring elk viability in the project area.

The 1982 NFMA planning regulations, which were used to promulgate the Forest Plan, require the Forest Service to monitor the population trends of management indicator species and to state and evaluate land management alternatives "in terms of both amount and quality of habitat and of animal population trends of the management indicator species." 36 C.F.R. § 219.19 (2),(6) (2000).

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Christensen et al (1993) recommends elk habitat effectiveness of 70% in summer range and at least 50% in all other areas where elk are one of the primary resource consideration. According to Figure 1 in Christensen et al (1993), this equates to a maximum road density of approximately 0.65 mi/sq mi. in summer range and approximately 1.79 mi/sq mi. in all other areas. These recommendations were not followed in the Forest Plan and the Forest Service fails to provide a rational justification for the deviation from these recommendations.

Fish

The Clean Water Act requires that federal agencies comply with its provisions. The agency must protect water quality and comply with state water quality standards on National Forest system lands. Marble Mountain Audubon Soc. v. Rice, 914 F.2d 179, 182 (9th Cir. 1990); Oregon Natural Resources Council v. U.S. Forest Service, 834 F.2d 842, 848 (9th Cir. 1987); Northwest Indian Cemetery Protective Ass'n v. Peterson, 794 F.2d 688, 697 (9th Cir. 1987); 33 U.S.C. 1323(a) ("Each department, agency, or instrumentality of the executive [branch] . . . shall be subject to, and comply with, all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution"); 16 U.S.C. 1604(g)(3)(E)(iii) (timber may be harvested only where "protection is provided for streams, streambanks shorelines, lakes, wetlands, and other bodies of water from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment"); 36 C.F.R. 219.23(d) ("Forest Planning shall provide for -- Compliance with requirements of the Clean Water Act, the Safe Drinking Water Act, and all substantive and procedural requirements of Federal, State and local governmental bodies") and 36 C.F.R. 219.27(a)(4) ("All management prescriptions shall . . . Protect streams, streambanks, shorelines, lakes, wetlands and other bodies of water").

Section 303(d) of the CWA (33 USC §1313(d)) requires that states list water quality limited segments of bodies of

water within its jurisdiction. The listed segments are not meeting state water quality standards or failing to meet designated uses due to identified reasons. The states are required to develop Total Maximum Daily Loads (TMDL) for these waters (33 USC Sec 1313 (d)(1)(c)). TMDLs are designed to address all sources of pollution limiting the water quality of the public waters and should include point and non-point sources of pollution, such as sediment generated from logging activities. In the absence of a TMDL federal agencies have a duty to avoid further degradation of WQLS stream segments. A TMDL must be written for each 303 (d) listed water body before a decision is signed. It is a violation of the the Clean Water Act if this is not done.

Streams currently not meeting water quality standards represent an unacceptable current management condition. Listed streams in the project area are evidence the Forest Service has violated state water quality standards in the past. The project will make matters worse. Continuing the adverse effects caused by similar management practices, utilizing similar BMPs, on watersheds throughout the project area is unacceptable.

36 CFR 219.23(e) evaluation of existing or potential watershed conditions that will influence ... water yield, water pollution ...

Insufficient date is provided for an accurate assessment of the water quality impacts of the project. The Forest Service must evaluate watersheds in the project area for effects on water quality. Applying “all reasonable land, soil and water

conservation practices," or BMPs, has led to a never ending downward spiral for water quality and fisheries. BMPs are "reasonable" only if beneficial uses are protected. Clearly, the project fails to comply with state water quality standards.

Please demonstrate that the project will evaluate, protect and enhance water resources and fisheries. Do not do so is a violation of NFMA § 6(g)(E)(III) and NFMA §6(g)(3)(F)(v), 36 CFR 219.23 and 36 CFR 219.27.

Please formally consult with the USFWS on the impact of the project on bull trout and bull trout critical habitat.

Please see the attached paper by Chris Frissell on bull trout recovery.

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.

36 CFR 219.27 (c))(3) When trees are cut to achieve timber production objectives, the cuttings shall be made in such a way as to assure ... adequately restock the lands within 5 years after final harvest.

The Project provides no assurance that units can be re-stocked within 5 years after final harvest, in violation of NFMA Sec. 1604(g)(3)(E)(ii) and 36 CFR 219.27 (c)(3).

Note:

16 USC Sec. 1604 (k) is the section that requires "economic suitability."

THE FOREST SERVICE MUST TAKE A HARD LOOK AND DISCUSS THE RESPONSIBLE OPPOSING VIEWS OF SCIENTISTS WHOSE PUBLISHED PAPERS UNDERMINE THE CENTRAL UNDERLYING ASSUMPTION OF THE REDD BULL PROJECT.

Published scientific reports indicate that the logging prescription proposed by the Forest Service for the project 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 burn-

ing 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 implications 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. 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 EIS. The managed portion of the LNF 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 openings 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 EIS 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 capa-

bility—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.)

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

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:

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.

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.

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.

ALTERNATIVES NOT CONSIDERED

Please include an alternative which would implement prescribed fire fuels treatments that do not include removal of commercial wood products.

PINE MARTEN

The LNF provides inadequate management strategies to insure viability of the pine marten. Ruggiero, et al., 1998 and Bull and Blumton, 1999, indicate that vertical and horizontal diversity provided by snags and large down woody debris are important habitat characteristics for the pine marten, another MIS wildlife species on the LNF. The kind of "treatments" proposed would reduce the availability of prey species for the marten.

. Weeds

Native plants are the foundation upon which the ecosystems of the Forest are built, providing forage and shelter for all native wildlife, bird and insect species, supporting the natural processes of the landscape, and providing the context within which the public find recreational and spiritual opportunities. All these uses or values of land are hindered or lost by

> conversion of native vegetation to invasive and noxious plants. The ecological threats posed by noxious weed infestations are so great that a former chief of the Forest Service called the invasion of noxious weeds "devastating" and a "biological disaster." Despite implementation of Forest Service "best management practices" (BMPs), noxious weed infestation on the Forest is getting worse and noxious weeds will likely overtake native plant populations if introduced into areas that are not

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yet infested. The Forest Service has recognized that the effects of noxious weed invasions may be irreversible. Even if weeds are eliminated with herbicide treatment, they may be replaced by other weeds, not by native plant species.

Invasive plant species, also called noxious weeds, are one of the greatest modern threats to biodiversity on earth. Noxious weeds cause harm because they displace native plants, resulting in a loss of diversity and a change in the structure of a plant community. By removing native vegetative cover, invasive plants like knapweed may increase sediment yield and surface runoff in an ecosystem. As well knapweed may alter organic matter distribution and nutrient through a greater ability to uptake phosphorus over some native species in grasslands. Weed colonization can alter fire behavior by increasing flammability: for example, cheatgrass, a widespread noxious weed on the Forest, cures early and leads to more frequent burning. Weed colonization can also

deplete soil nutrients and change the physical structure of soils.

The Forest Service's own management activities are largely responsible for noxious weed infestations; in particular, logging, prescribed burns, and road construction and use create a risk of weed infestations. The introduction of logging equipment into the Forest creates and exacerbates noxious weed infestations. The removal of trees through logging can also facilitate the establishment of noxious weed infestations because of soil disturbance and the reduction of canopy closure In general, noxious weeds occur in old clearcuts and forest openings, but are rare in mature and old growth forests. Roads are often the first place new invader weeds are introduced. Vehicle traffic and soil disturbances from road construction and maintenance create ideal establishment conditions for weeds. Roads also provide obvious dispersal corridors. Roadsides throughout the project area are infested with noxious weeds. Once established along roadsides, invasive plants will likely spread into adjacent grasslands and forest openings.

Prescribed burning activities within the analysis area would likely cumulatively contribute to increases to noxious weed distribution and populations. As a disturbance process, fire has the potential to greatly exacerbate infestations of certain noxious weed species, depending on burn severity and habitat type (Fire Effects Information System 2004). Soil disturbance, such as that resulting from low and moderate burn severities from prescribed fire and fire suppression related disturbances (dozer lines, drop spots, etc.), provide

optimum conditions for noxious weed invasion. Dry site vegetation types and road corridors are extremely vulnerable, especially where recent ground disturbance (timber management, road construction) has occurred. Units proposed for burning within project area may have closed forest service access roads (jammers) located within units. These units have the highest potential for noxious weed infestation and exacerbation through fire activities. Please provide an alternative that eliminates units that have noxious weeds present on roads within units from fire management or logging management proposals in violation of NFMA and NEPA.

Please address the ecological, social and ascetic impact of current noxious weed infestations within the project area. What treatment methods will be used to address growing noxious weed problems? What noxious weeds are currently and historically found within the project area? Please include a map of current noxious weed infestations which includes knapweed, Saint Johnswort, cheat grass, bull thistle, Canada thistle, hawkweed, hound's-tongue, oxeye daisy and all other Category 1, Category 2 and Category 3 weeds classified as noxious in the Idaho COUNTY NOXIOUS WEED

LIST. State-listed Category 2 noxious weed species yellow and orange hawkweeds are recently established (within the last 5 to 10 years) in Idaho and are rapidly expanding in established areas. They can invade undisturbed areas where native plant communities are intact. These species can persist in shaded conditions and often grow underneath shrubs

making eradication very difficult. Their stoloniferous (growing at the surface or below ground) habit can create dense mats that can persist and spread to densities of 3500 plants per square mile (Thomas and Dale 1975). The EA does not adequately address the issue of weeds in violation of NFMA and NEPA and the Forest Plan.

The EIS does not address the cumulative, direct and indirect effects of the proposed project on weed introduction, spread and persistence that includes how weed infestations have been and will be influenced by the following management actions: road construction including new permanent and temporary roads, and skid trails proposed within this project; opening and decommissioning of roads represented on forest service maps; ground disturbance and traffic on forest service template roads, mining access routes, and private roads; removal of trees through commercial and pre-commercial logging and understory thinning; and prescribed burns. The EA does not adequately discuss what open, gated, and decommissioned Forest Service roads within the project area proposed as haul routes have existent noxious weed populations and what methods will be used to assure that noxious weeds are not spread into the proposed action units.

Noxious weeds are not eradicated with single herbicide treatments. A onetime application may kill an individual plant but dormant seeds in the ground can still sprout after herbicide treatment. Thus, herbicides must be used on consistent, repetitive schedules to be effective.
Please commitment to a long-term, consistent strategy of

application is being proposed for each weed infested area within the proposed action area in violation of NEPA and NFMA. The EIS should discuss what long term monitoring of weed populations is proposed.

When areas treated with herbicides are reseeded on national forest land, they are usually reseeded with exotic grasses, not native plant species. The EA does not discuss what native plant restoration activities will be implemented in areas disturbed by the actions proposed in this project. The EA adequately discuss howl disturbed areas including road corridors, skid trails, and burn units be planted or reseeded with native plant species.

The scientific and managerial consensus is that prevention is the most effective way to manage noxious weeds. The Forest Service concedes that preventing the introduction of weeds into uninfested areas is "the most critical component of a weed management program." The Forest Service's national management strategy for noxious weeds also recommends "develop[ing] and implement[ing] forest plan standards . . . ." and recognizes that the cheapest and most effective solution is prevention. The EIS does not adequately discuss which units within the project area currently have no noxious weed populations within their boundaries or what minimum standards are in the LNF Forest Plan to address noxious weed infestations. Please consider an alternative that includes land management standards that will prevent new weed infestations by addressing the causes of weed infestation. The failure to include preventive standards violates NFMA because the Forest Service is not en-

suring the protection of soils and native plant communities. Additionally, the omission of an alternative that includes preventive measures would violates NEPA because the Forest Service failed to consider a reasonable alternative.

Rare Plants

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The ESA requires that the Forest Service conserve endangered and threatened species of plants as well as animals. In addition to plants protected under the ESA, the Forest Service identifies species for which population viability is a concern as “sensitive species” designated by the Regional Forester (FSM 2670.44). The response of each of the sensitive plant species to management activity varies by species, and in some cases, is not fully known. Local native vegetation has evolved with and is adapted to the climate, soils, and natural processes such as fire, insect and disease infestations, and windthrow. Any management or lack of management that causes these natural processes to be altered may have impacts on native vegetation, including threatened and sensitive plants. Herbicide application – intended to eradicate invasive plants – also results in a loss of native plant diversity because herbicides kill native plants as well as invasive plants. Although native species have evolved and adapted to natural disturbance such as fire on the landscape, fires primarily occur in mid to late summer season, when annual plants have flowered and set seed. Following fall fires, perennial root-stocks remain underground and plants emerge in the spring. Spring and early summer burns

could negatively impact emerging vegetation and destroy annual plant seed.

The EA does not adequately examine what threatened, endangered, rare and sensitive plant species and habitat are located within the proposed project area in violation of the ESA, NEPA, the APA and NFMA. The standards used to protect threatened, rare, sensitive and culturally important plant species and their habitats from the management actions proposed in this project are inadequate.

Whitebark Pine

Not all ecosystems or all Rocky Mountain landscapes have experienced the impacts of fire exclusion. In some wilderness areas, where in recent decades natural fires have been allowed to burn, there have not been major shifts in vegetation composition and structure (Keane et al. 2002). In some alpine ecosystems, fire was never an important ecological factor. In some upper subalpine ecosystems, fires were important, but their rate of occurrence was too low to have been significantly altered by the relatively short period of fire suppression (Keane et al. 2002). For example, the last 70 to 80 years of fire suppression have not had much influence on subalpine landscapes with fire intervals of 200 to several hundred years (Romme and Despain). Consequently, it is unlikely that fire exclusion has yet to significantly alter stand conditions or forest health within Rocky Mountain subalpine ecosystems.

Whitebark pine seedlings, saplings and mature trees, present in subalpine forests proposed for burning, would experience mortality from project activity. Whitebark pine

is fire intolerant (thin bark). Fire favors whitebark pine regeneration (through canopy opening and reducing competing vegetation) only in the presence of adequate seed source and dispersal mechanisms (Clarks Nutcracker or humans planting whitebark pine seedlings).

White pine blister rust, an introduced disease, has caused rapid mortality of whitebark pine over the last 30 to 60 years. Keane and Arno (1993) reported that 42 percent of whitebark pine in western Montana had died in the previous 20 years with 89 percent of

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remaining trees being infected with blister rust. The ability of whitebark pine to reproduce naturally is strongly affected by blister rust infection; the rust kills branches in the upper cone bearing crown, effectively ending seed production.

Montana is currently experiencing a mountain pine beetle epidemic. Mountain pine beetle prefer large, older whitebark pine, which are the major cone producers. In some areas the few remaining whitebark that show the potential for blister rust resistance are being attacked and killed by mountain pine beetles, thus accelerating the loss of key mature cone-bearing trees.

Whitebark pine seedlings and saplings are very likely present in the subalpine forests proposed for burning and logging. In the absence of fire, this naturally occurring whitebark pine regeneration would continue to function as an important part of the subalpine ecosystem. Since 2005, rust resistant seed sources have been identified in the Northern Rockies (Mahalovich et al 2006). Due to the

severity of blister rust infection within the region, natural whitebark pine regeneration in the project area is prospective rust resistant stock.
Although prescribed burning can be useful to reduce areas of high-density subalpine fir and spruce and can create favorable ecological conditions for whitebark pine regeneration and growth, in the absence of sufficient seed source for natural regeneration maintaining the viability and function of whitebark pine would not be achieved through burning. Planting of rust-resistant seedlings would likely not be sufficient to replace whitebark pine lost to fire activities. Please conduct surveys to determine presence and abundance of whitebark pine re- generation or iIf whitebark pine seedlings and saplings are present, what measures will be taken to protect them. The project should include an alternative that excludes burning and logging in the presence of whitebark pine regeneration (consider 'Daylighting' seedlings and saplings as an alternative restoration method).

Please formally consult with U.S. Fish and Wildlife Service on the impact of this project on bull trout and bull trout critical habitat.

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 IPNF over time.

Please formally consult with the FWS on the impact of the project and on the Forest Plan on wolverines.

Bull Trout

The following article from the 9/25/15 Missoulian disagrees with the Forest Service and says it is habitat destruction causing bull trout declines.

http://missoulian.com/news/local/montana-fwp-biologist-despite-successes-bull-trout-populations-still-in/article_2798e4c6-0658-522f-be4c-4274f903129e.html

Montana FWP biologist: Despite successes, bull trout populations still in peril

Ladd Knotek is disturbed by the lack of attention being paid to the many western Montana streams where bull trout populations are struggling to survive.

The fisheries biologist with Montana Fish, Wildlife and Parks knows people love to latch on to the success stories from streams like Fish Creek and several Blackfoot tributaries, where bull trout populations are viable.

“But what nobody talks about is all these other populations that, 50 years ago, these were all viable populations,” he said Tuesday as part of a presentation on bull trout in Rattlesnake Creek. “You know, Gold Creek, Belmont Creek, Trout Creek, there’s a whole list of them. There’s a whole bunch of them that are just basically on the verge of disappearing. And what we like to talk about are the ones that are doing OK. But in places like Lolo Creek and some Bitterroot tributaries, bull trout there are just barely hanging on.”

Bull trout have faced a long, slow decline over the past century, to the point where they are now listed as a threat- ened

species under the Endangered Species Act. Success is a relative term even in the places where they are doing well.

“They’re nowhere near what they were historically,” Knotek said of the tributaries where the populations are relatively healthy. “But they have a fair number of adult spawners coming in. People see them in the fishery. But we need to start looking at all these other tributaries that used to be bull trout spawning tributaries and recognize what’s going on in the bigger picture. We’re just looking at a very thin slice instead of looking at the whole thing. A lot of this stuff is just symptoms of what’s going on at the larger scale. Bull trout are the canary. They’re very sus- ceptible to environmental change, whether it’s tempera-

ture, whether it’s physical, whether it’s sediment. There’s something going on in these drainages and the symptoms we’re seeing are the bull trout distribution is shrinking, we’re losing populations and we’re seeing expansion of nonnatives.”

Bull trout – which are native to the Columbia River Basin and are only found west of the Continental Divide in Montana – need clear, cold mountain waters to spawn and require clean gravel beds, deep pools, complex cover, good in-stream flows in the fall and large systems of in- tercon- nected waterways for their migrations. Rising tem- peratures and falling water levels trigger their migration to spawning tributaries in June, and they hang out until they spawn in the fall. They are much more susceptible to warming temperatures and habitat change than nonna- tive species such as brown and rainbow trout.

Knotek was the featured presenter Friday for a discussion on restoration efforts and the importance of Rattlesnake Creek as a bull trout habitat. The event was organized by the Clark Fork Coalition, a nonprofit in Missoula that aims to protect water quality for the 22,000-square-mile Clark Fork River Basin.

Knotek explained that because Rattlesnake Creek is south-facing and doesn't have much groundwater recharging, it has much less of a buffer against a warm- ing climate than other streams.

"The water temperatures are significantly higher than they were 10 years ago," he said. "The types of tempera- tures we're seeing in late summer and early fall, we never saw those 10 to 15 years ago. Water temperature is driving a lot of what we're talking about. It's definitely stressful on fish. It doesn't spell good news for bull trout."

Knotek said it's a common misconception that brown trout and rainbows are driving out bull trout, and he ex- plained that those nonnative species are simply moving in because the native species is dying off.

"It's replacement rather than displacement," he said.

In Rattlesnake Creek, biologists have conducted redd counts of the migratory population in the lower reaches since 1999. There is a healthy resident population in the upper reaches, but researchers are more interested in the fish that actually migrate to the Clark Fork River.

The results have been disturbing.

They found a high of 36 in 2006 and 24 in 2008, before Milltown Dam was removed. There was an expected drop to just four redds – spawning beds – after the dam was removed in 2009, because of the massive disturbance. However, the number of redds has not bounced back since, and researchers found just six last year.

“That tells us that it wasn’t just the dam removal that caused it, because they should be recovering by now,” Knotek said. “And there are lots of populations like this stream that are not doing well but need more attention.

We've got a problem here, but it's not inconsistent with other tributaries. There's something bigger going on."

Knotek said that Rattlesnake Creek was historically braided before the area was developed, and that eliminat- ed a lot of the back channels the juvenile fish need to grow.

"You need complexity," he said. "When you have a straight ditch in a system that used to be braided, it ain't good."

He's also seen much more algae growth in the upper sections, something that is obviously related to higher temperatures and added nutrients.

"We have browns and rainbows progressing upstream, and we attribute that to water temperature," he said. "That's consistent with other streams, too. It's very obvi- ous something is going on here."

Knotek believes that a “ramping up” of current conservation work is the only thing that can save bull trout populations. Fish screens, the removal of dams, awareness of anglers and water conservation – especially by people us- ing stream irrigation to water their lawns – is crucial.

“Bull trout are the canary,” he said. “But there are a lot of other species that we could be looking at as indicators as well. A lot of research needs to be done. There’s a lot of species being affected.”

Please prepare an EIS that addresses the analytical and scientific issues identified above and formally consult with the U.S. FWS on the impact of the project and the Forest Plan and the impact of IPNF projects forest wide on wolverine.

It was not clear in the scoping notice on how habitat for bull trout will effected, or how the RFP direction for key fisheries watersheds will be met. This information is key to these projects, especially as sedimentation will flow down-stream to bull trout critical habitat. How will bull trout crit-ical habitat be effected?

Will the project meet the RFP direction for key fisheries watersheds. The RFP at 292 states that the objectives for these areas is to restore and maintain viability of affected fish; standard 8 also states that short-term adverse impacts are ok is these are outweighed bylong-term benefits. How will the project create long-term benefits for bull trout, bull trout critical habitat or native fish in general and their habi-tat?

Will the project effect bull trout and water quality in viola-tion of the ESA, NEPA, NFMA, the Forest Plan, the Clean Water Act and the APA?

Please take a hard look and demonstrate compliance with fish and water quality standards from the Forest Plan, and demonstrate that the project will not be in violation of NEPA, NFMA, and the APA.

The Forest Service must formally consult with the USFWS on the affect of the project on bull trout and bull trout critical habitat and get a take permit.

How will the project that will contribute to bull trout recovery?

Please see the attached comments by Christopher A.

Frissell, Ph.D on The 2014 Draft Recovery Plan. He said the recovery plan for bull trout for bull trout implies (and in a backhanded way specifies) that the USFWS assumes there is flexibility to make management choices deliberately allowing some core area populations of bull trout to go into decline or extinction, on the expectation others will appear from scratch, or disperse from severely depressed relict populations elsewhere in the Recovery Unit to arise in new locations. However this Draft Plan, the previous listing and recovery planning record, and the published literature present virtually no evidence to substantiate that new populations of bull trout have established in contemporary times, either at the Core Area scale or the next smaller scale of breeding populations. In this regard bull trout are the biological polar opposite of vagile species like wolves, which are demonstrated to be amenable to reintroduction

and are proficient colonizers of new territory at the regional scale. On the other hand, we do have evidence that even small, so- called “relict” bull trout populations can rapidly reestablish migratory life histories, or expand extant spawning areas when changing habitat conditions allow it. But we do not know that they can establish new populations in previ- ously unoccupied streams or watersheds under contemporary prevailing conditions. Hence from a scientific perspective, existing populations of bull trout, no matter how small and far-flung, must be viewed as the sole seed sources for future recovery.”

Please see the attached 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 LNF and the project area at the time of listing so the Forest Service needs to consult with the FWS to see if this project and the Forest Plan could effect lynx.

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. 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). Activities 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 al-

ready 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, feed-

ing, 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.

Please see the attached 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.

Roadless and Unroaded areas

Will the project log any roadless areas or areas that are unloaded and next to inventoried roadless areas? If so, please analyze the impact of this project on potential wilderness areas.

Previous roadless inventories, both RARE II and during preparation of the IPNF Forest Plan, omitted unroaded areas adjacent to the IRAs. Please include maps showing the location of such areas—the boundaries of these areas. With the controversy—both social and scientific—surrounding the roadless issue, the failure to disclose with a map in an EIS all inventoried and uninventoried roadless lands makes no sense and constitutes a violation of NEPA.

The idea of doing separate analyses for the vaguely defined "unroaded" areas and contiguous or noncontiguous inventoried roadless lands make no sense. Since the existing inventoried roadless area boundaries were often adopted arbitrarily, analyzing effects on wilderness characteristics of <u>all</u> roadless acres—whether inventoried, uninventoried, uninventoried contiguous with inventoried, or any combination—is clearly called for in this analysis. Again, with all the controversy surrounding the roadless issue, to analyze impacts on uninventoried roadless lands separate from inventoried roadless areas is completely illogical and constitutes a violation of NEPA.

Please discuss the possibility that the uninventoried roadless areas may be eligible for later inclusion as inventoried roadless under the upcoming Forest Plan or as eligible for Wilderness designation.

The proposing activities in roadless areas of any status may irretrievably alter their wilderness characteristics. It is at this time, when an EIS is prepared to discuss the issue of potential impacts on roadless, that such analyses should have taken place. The American public, in the context of commenting on the Roadless Rule proposal, has clearly spoken against adverse impacts on roadless areas.

It is well established that logging in an uninventoried area is an "irreversible and irretrievable" commitment of resources that "could have serious environmental consequences" Smith v. U.S. Forest Service, 33 F.3d 1072, 1078 (9th Cir. 1994). Please address the effects of logging and roading the uninventoried roadless areas on their characteristics vis-à-vis potential for future wilderness or inventoried roadless area designation. The discussion of the impacts on unroaded areas was superficial. There was no analysis of the project's impact on the unique values of unroaded areas together with their adjacent inventoried roadless areas. The EA does not constitute the "hard look" requirement with respect to the environmental impact of logging and roading uninventoried roadless areas. Cutting and burning trees in uninventoried roadless areas requires a full Environmental Impact Statement.

Please include an alternative that would not affect all currently unroaded areas contiguous with inventoried roadless and Wilderness, despite the fact that their omission from inventoried roadless was arbitrary, and the science that in-

dicates such areas are the highest ecological integrity across the Northern Rockies.

Since the EA failed, as required, to incorporate the Roads Analysis Process and disclose the locations of all motorized travelways in the project area, it is impossible for the decision maker and public to tell which of the areas to be logged fall within logically bound roadless areas (not just "inventoried" roadless areas).

Biologically, speaking, the arbitrary "inventoried" roadless areas boundaries are irrelevant. Please disclose the irreversible and irretrievable commitment of resources caused by logging activities in these areas, particularly unroaded areas contiguous to "inventoried" roadless areas.

Federal Register: October 19, 1999 (Volume 64, Number 201)]
[Notices]
[Page 56306-56307]

Notice of Intent to prepare an EIS

> "This proposed rulemaking responds to strong public sentiment for protecting roadless areas and the clean water, biological diversity, wildlife habitat, forest health, dispersed recreational opportunities and other public benefits they provide."
>
> "... establishing criteria and procedures to ensure that the social and ecological values, that make both inven-

toried roadless areas and other uninventoried roadless lands important, are considered and protected through the forest planning process”

“It would also guide land managers in determining what activities are appropriate in uninventoried roadless areas that have important ecological and social values.”

“National procedures and criteria that address how land managers at the forest plan level should manage uninventoried roadless areas so as to protect their unroaded characteristics and benefits”

[Federal Register: May 10, 2000 (Volume 65, Number 91)]
[Proposed Rules]
[Page 30275-30288] Notice of Roadless Area Conservation
Proposed Rule

The intent of this rulemaking is to provide lasting protection in the context of multiple-use management for inventoried roadless areas and other unroaded areas within the National Forest System

Soil, water, and air. These three key resources are the foundation upon which other resource values and outputs depend. Healthy watersheds provide clean water for domestic, agricultural, and industrial uses; help maintain abundant and healthy fish and wildlife populations; and are the basis for many forms of outdoor recreation.

Healthy watersheds provide a steady flow of high quality water, maintain an adequate supply of water, and reduce flooding. Managing land uses to keep watersheds properly functioning and in natural balance is critical to maintaining watershed health and productivity.

Roadless areas generally have attributes that promote watershed health, primarily because minimal ground-disturbing activities have occurred.

Ground disturbing activities can accelerate erosion, increase sediment yields, and disrupt normal flow processes. Roadless areas maintain healthy and productive soils, which promote water entry into aquifers, minimize accelerated runoff, and provide for a diverse and abundant plant community important to both human and animal health. Roadless areas are less likely to suffer from human-caused landslides and other soil movement that fill streams with sediment and debris and disrupt normal stream processes. Roadless areas also have less dust and vehicle emissions, which reduce air quality, elevate human health risks, and diminish water quality. Roadless areas help maintain the high quality visibility that forest users seek when visiting the national forests.

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Unroaded areas are more likely than roaded areas to support greater ecosystem health, including the diversi-

ty of native and desired non-native plant and animal communities, due to the absence of disturbances caused by roads and accompanying activities. Healthy ecosystems can be characterized by the degree to which ecological factors and their interactions are reasonably complete and functioning for continued resilience, productivity, and renewal of the ecosystem.
Native plant and animal communities tend to be more intact in these less disturbed areas. Roadless areas also conserve native biodiversity, by providing a buffer against the spread of invasive species.

Conserving biodiversity offers many benefits to society. The public has recognized the importance of protecting species and ecosystems for their utilitarian, subsistence, and intrinsic values. Important benefits provided by healthy ecosystems, with diverse organisms and intact natural processes, include: (1) conservation of air, water, and soil quality and (2) sustainable levels of goods and services, including viable and desired levels of both game and non-game species.
In addition to these important reasons for maintaining healthy ecosystems with a full component of biodiversity, many species are valuable for medicinal and agricultural purposes.

Protecting and maintaining biodiversity also provides the opportunity for the appreciation and enjoyment of natural beauty and gives future generations the chance

to experience wild places, with their unique living plant and animal communities.

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The Forest Service manages environmental settings to provide, among other things, opportunities for recreational experiences. The Recreation Opportunity Spectrum (ROS Users Guide, FSM 2311 and FSH 2309.27) was developed to provide a framework for classifying and defining segments of outdoor recreational environments, potential activities, and experiential opportunities.

The Recreation Opportunity Spectrum's settings, activities, and opportunities represent a continuum that is divided into six classes: primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, rural, and urban. Inventoried roadless and other unroaded areas are characterized mainly by the primitive, semi-primitive non-motorized, and semi-primitive motorized classes.

Primitive and semi-primitive non-motorized classes often have many wilderness attributes; however, unlike wilderness, the use of mountain bikes and other mechanized means of travel, such as those used by people with disabilities, can be permitted. In addition, these classes have fewer restrictions on motorized tools, search and rescue operations, and aircraft use than in wilderness areas.

In semi-primitive motorized settings, there is little evidence of managerial control, yet these areas allow some motorized activities, such as: off-highway vehicle, over-snow vehicle, motorboat, and helicopter use; chainsaw and other motorized tool use; and appropriate motor vehicle use for other resource management activities. In addition, persons with disabilities have enhanced access capability in semi-primitive motorized class areas.

Inventoried roadless and other unroaded areas may provide outstanding opportunities for other dispersed recreational activities, such as hiking, fishing, camping, hunting, picnicking, wildlife viewing, cross-country skiing, and canoeing. All of these activities and those mentioned for the semi-primitive motorized class may occur in areas on the developed end of the spectrum, but the experience is different. Roaded natural, rural, and urban classes are characterized by increased interactions with other people, more sights and sounds of human development and activity, more management restrictions and controls, and more landscape modification resulting from resource management activities.

Inventoried roadless and other unroaded areas are the last remaining relatively undisturbed landscapes outside of wilderness and similarly designated areas. The demand for motorized and non-motorized recreation opportunities is increasing. As these lands continue to be

> developed, the supply of unroaded lands that are available for dispersed recreation is reduced.
>
> ***
>
> The Forest Service believes that it is important to protect the roadless characteristics of unroaded areas within the context of its multiple-use mandate.

Contiguous unroaded lands can be critically important linkage between roadless and/or Wilderness areas, are often at lower elevations and therefore provide unique roadless values based on differences in vegetation and habitat, proximity to mainstem rivers and larger streams and accessibility to primitive and semi-primitive recreation to the public. The EA failed to recognize or analyze the role of these lands and to analyze them, despite the continued recognition of their unique status and qualities. This is a failure to analyze a significant resource under Section 102(C) of the National Environmental Policy Act. As a result it also violates the public participation requirements of NFMA. In addition, logging in these lands is an irreversible commitment of resources, requiring full NEPA analysis of the values potentially affected by logging: soils, watershed and native fisheries, natural plant communities invasion, outdoor recreation, wildlife habitat, and wilderness value.

Contiguous unroaded lands (those contiguous with inventoried roadless areas) have been recognized for their unique ecological potential by the USFS. Recently, the current ad-

ministration noted in its Interim Directive on the Roads Policy, issued December 14, 2001:

> Additionally, the revision of Forest Service Manual Chapter 7710 included interim requirements that, rather than addressing the transportation atlas, record, or analysis, imposed a significant restriction on road construction or reconstruction in inventoried roadless areas and contiguous unroaded areas until a forest-scale roads analysis was completed and incorporated into the Forest plan. (66 FR 65796.)

Thus, the first set of Forest Service Manual provisions accompanying the roads policy acknowledged the special importance of these lands for protection of roadless values. In addition, the agency continued to recognize their importance and link them to IRA's in terms of shared values:

> …. remains consistent with the agency's intent in adopting the final road management directive in January 2001. As explained in the January Federal Register notice, the agency retained the transition procedures of the proposed policy (renamed “interim requirements” in the final directive) to ensure that the “values associated with inventoried roadless and contiguous unroaded areas are fully considered within the context of forest planning” (66 FR 3226, Col. 3). (66 FR 65798)

Logging of the undeveloped tracts of land contiguous to inventoried roadless areas or Wilderness requires full analysis of the wilderness, recreational and other values of the areas. The EA fails to do this. Hence, the FS makes the untenable

decision to defer the decision of what to do with these areas until after they have modified them. The impacts of this irreversible action occur now, not some unspecified time in the future, and must be completely reviewed before irreversible action is taken. Logging in these unroaded areas will change their nature and reduce and modify many of the watershed values they may now serve. The reliance on management unit designations in Forest Plans that have now expired under the 15-year term under NFMA (16 USC § 1604(f) (5) "Plans… shall (5) be revised … at least every fifteen years") is also misguided. Reliance on an outdated forest plan and then claiming that the decision can be deferred to a forest planning process to conclude at an uncertain time places these lands in limbo where the FS is free to alter their intrinsic value without analysis. The effects of logging cannot, as a practical matter, be reversed any time soon. Instead it will take decades for the areas to return to their prior values. In addition, the EA fails to adequately analyze and disclose adverse impacts that cannot be avoided by logging these areas. Plainly, the analysis given unroaded areas is not sufficient.

Please write an EIS. An EIS needs to be done to analyze the Wilderness characteristics of roadless lands and due to threaten species habitat and critical habitat and to comply with the law.

Thank you for considering our comments.

Sincerely Yours,

/s/
Michael Garrity
Executive Director
Alliance for the Wild Rockies

P.O. Box 505
Helena, MT 59624