June 12, 2015, Via EMail

Objection against the Draft Decision Notice and Final Environmental Impact Statement for the Stonewall Vegetation Project,

Forest Service,

Helena National Forest,

Lincoln Ranger District

Identification of Objectors:

Lead Objector: Michael Garrity, Director, Alliance for the Wild Rockies (AWR) PO Box 505, Helena, MT 59624; Phone 406-459-5936.

Signed for Objectors this 12th day of June, 2015

/s/ Michael Garrity

Michael Garrity

Name of the Responsible Official, National Forest, Ranger District where Project is Proposed:

The Responsible Official, Helena National Forest Supervisor William Avey,

has made available a Final Environmental Impact Statement (FEIS) for the Stonewall Vegetation Project and its associated draft Record of Decision (draft ROD).

The Stonewall Vegetation Project area is in the Lincoln Ranger District of the Helena National Forest and covers approximately 24,010 acres within Lewis and Clark and Powell Counties, Montana. The Stonewall project area is approximately 4 miles north and west of the town of Lincoln, Montana.

Description of those aspects of the proposed project addressed by the objection, in- cluding specific issues related to the proposed project if applicable, how the objec- tor believes the environmental analysis or draft decision specifically violates law, regulation, or policy: The FEIS and DROD are contained in the USFS webpage at:

http://www.fs.usda.gov/project/?project=30355

This decision includes commercial harvest (1,389 acres), pre-commercial vegeta- tion treatments (883 acres), prescribed burning (6,027 acres), temporary road building (0.9 miles - which will be obliterated after implementation), and road maintenance (31.5 miles). This decision results in 18,498 CCF.

The includes 3,565 acres of prescribed burning within the Bear Marshall Scapegoat Swan and Lincoln Gulch Inventoried Roadless Areas (IRA).

A site specific Forest Plan amendment for hiding cover on summer range and the open road density/hiding cover ratio during the hunting season (Big Game Stan- dards 3and 4(a)

respectively, and Management Area T2 and T3 is required for the combination of activities as identified in the draft ROD.

Suggested Remedies that would Resolve the Objection

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

Supporting Reasons for the Reviewing Office to Consider

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

This section is directly connected to objectors previous comments submitted on June 1, 2013 and June 11, 2013 on the Draft Environmental Impact Statement that was released for public review on or about May of 2013. The objection

process re- quires objectors to demonstrate a connection between prior specific written com- ments on the particular proposed project or activity and the content of the objec- tion. To meet this requirement, we have cited the specific issue we are addressing as it was raised in our draft analysis comments, in order to clarify why specific is- sues are being carried forward into this objection. Also, this Objection raises issues that arose after the Draft EIS was available for public comment, including issues raised by the agency's response to comments on the Draft EIS.

Objection Appendices

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Thank you for the opportunity to object.

NOTICE IS HEREBY GIVEN that, pursuant to 36 CFR Part 218, AWR objects to the Draft Record of Decision (ROD) and Final Environmental Impact Statement (EIS) issued on or about April 30, 2015, including the Responsible Official's adoption of both Alternative 2-Proposed Action.

AWR is objecting to this project on the grounds that implementation of the Selected Alternative is not in accordance with the laws governing management of the national forests such as the FLPMA, ESA, NEPA, NFMA, the Helena National Forest (HNF) Forest Plan

and the APA, in- cluding the implementing regulations of these and other laws, and will result in additional degradation in already degraded watersheds and mountain slopes, further upsetting the wildlife habitat, ecosystem and human communities. Our objections are detailed below.

If the project is approved as proposed, individuals and members of the above-mentioned groups would be directly and significantly affected by the logging and associated activities. Objectors are conservation organi- zations working to ensure protection of biological diversity and ecosys- tem integrity in the Wild Rockies bioregion (including the HNF). The individuals and members use the project area for recreation and other forest related activities. The selected alternative would also further de- grade the water quality, wildlife and fish habitat. These activities, if im-

plemented, would adversely impact and irreparably harm the natural qualities of the Project Area, the surrounding area, and would further de- grade the watersheds and wildlife habitat.

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

We wrote in our comments: “This watershed is functioning at risk or unacceptable risk for habitat parameters important to bull trout and westslope cutthroat trout and will remain so post project.

Maintaining degraded fish habitat conditions does not support narrowing the RHCAs.

The Forest Service and the Fish and Wildlife Service are required by the ESA to recover populations not maintain them at extreme risk of extinction.

This project attempts to sidestep NFMA requirements that a viable population be main- tained, with habitat and populations well-distributed throughout the planning area. Managing for extinction in the Stonewall watershed is not a legal option. The Forest Service and the Fish and Wildlife Service are required by the ESA to recover populations not maintain them at extreme risk of extinction. The Forest Service should formally con- sult with the Fish and Wildlife Service and initiate a project that will recover bull trout in- stead of maintaining them at risk for extinction in violation of the Endangered Species Act.”

The Forest Service and the Fish and Wildlife Service are required by the ESA to recover populations not maintain them at extreme risk of extinction. The DROD and FEIS are in violation of NEPA, the APA, the ESA and NFMA.

This project attempts to sidestep NFMA requirements that a viable population be main- tained, with habitat and populations well-distributed throughout the planning area. Managing for extinction in the Stonewall watershed is not a legal option. The Forest Service and the Fish and Wildlife Service are required by the ESA to recover populations not maintain them at extreme risk of extinction. The Forest Service should formally con- sult with the Fish and Wildlife Service and initiate a project that will recover bull trout in- stead of maintaining them at risk for extinction in violation of the Endangered Species Act. This needs to be done before the release of the draft ROD so the public has a chance to comment on it. The Forest Service must consult with the

USFWS on PACFISH/INFISH in bull trout critical habitat since bull trout critical habitat was designated after PACFISH/INFISH was implemented.

The Remedy is to reissue the ROD and FEIS after the public has a chance to see and comment on the Forest Service's consultation with the USFWS on this impacts of this project and bull trout and bull trout critical habitat.

We wrote in our comments:

"Please also examine the planned SW Crown of the Continent Projects impacts in grizzly bears.

Please formally consult with the U.S. FWS to determine the impacts of this project on grizzly bears.

It looks like the open road density will increase during the timber sale. Will this violate the open road density requirements of the Forest Plan? How will construction temporary roads not increase the total road density? These are new roads.

Please formally consult with the USFWS and get a take permit for grizzly bears."

The Forest Service must consult with the USFWS on the impact of this project on grizzly bears and give the public a chance to comment on this consultation. It is a violation of NEPA, NFMA, the APA, and the ESA to not do so.

The Remedy is to reissue the ROD and FEIS after the public has a chance to see and comment on the Forest Service's consultation with the USFWS on this impacts of this project and bull trout and bull trout critical habitat.

We wrote in our comments:

1. Did the Forest Service conduct NEPA analysis (i.e. an EA or EIS) for the Fire Plan?

2. If the Forest Service did not conduct NEPA for the Fire Plan, please immediately start that NEPA process.

3. Please provide a map showing the WUI and the locations of all homes in com- parison to the project area.

4. If the Forest Service did not conduct NEPA for the Fire Plan, please disclose the cumulative effects of Forest-wide implementation of the Fire Plan in the DEIS to avoid illegally tiering to a non-NEPA document. Specifically analyze the decision to prioritize mechanical, human-designed, somewhat arbitrary treatments as a replacement for naturally-occurring fire.

5. Did the Forest Service conduct ESA consultation for the FirePlan?

6. Did the Forest Service formally consult on the NRLMD in lynx critical habitat?"

The Forest Service must consult with the USFWS on the Fire Plan and impact of this project on lynx, lynx critical habitat and and the NRLMD in lynx critical habitat and give the public a chance to comment on this consultation. It is a violation of NEPA, NFMA, the APA, and the ESA to not do so.

The Remedy is to reissue the ROD and FEIS after the public has a chance to see and comment on the Forest Service's consultation with the USFWS on this impacts of this project and bull trout and bull trout critical habitat.

We wrote in our comments:

7. "Will the Forest Service be considering binding legal standards for noxious weeds in its revision of the Helena Forest Plan?

8. How effective have BMPs been at stopping (i.e. preventing) new weed infesta- tions from starting during logging and related road operations?

9. Is it true that new roads are the number one cause of new noxious weed infesta- tions?

10. Why isn't the Forest Service considering a Forest Plan amendment in this Project to amend the Forest Plan to include binding legal standards that address noxious weeds?

11. Is it true that noxious weeds are one of the top threats to biodiversity on our Na- tional Forests?

12. How can the Forest Service be complying with NFMA's requirement to maintain biodiversity if it has no legal standards that address noxious weeds?

13. Will this Project address all Project area BMP needs, i.e. will the BMP road mainte- nance backlog and needs from this Project all be met by this Project?

The DEIS is not clear if any MIS were found. What MIS did you find, how many and how did you look for these MIS?

How will the decreased elk security and thermal cover affect wolverines? Please formally consult with the US FWS on the impact of this project on wolverines.

Which wildlife species and ecosystem processes, if any, does fire-proofing benefit?

Which species and processes do fire-proofing harm?

What evidence do you have that this logging will make the forest healthier for fish and wildlife?

What about the role of mixed severity and high severity fire – what are the benefits of those natural processes?

How have those processes (mixed and high severity fire) created the ecosystems we have today?

Over how many millennia have mixed and high severity fire have been occurring without human intervention?

What beneficial ecological roles do beetles play? Can the forest survive without beetles?

Will all WQLS streams in the project area have completed TMDLs before a decision is signed?

Why is logging that removes trees considered regeneration (and not loss of existing forest), when a stand-replacing fire is considered loss of the forest (and not regeneration)?

How will the project improve watershed health?

Will this project leave enough snags to follow the Forest Plan requirements and the requirements of sensitive old growth species such as flammulated owls and goshawks?

After snags are cut down for safety for OSHA requirements will there still be enough snags left for old growth sensitive species?

29. Will this Project exacerbate existing noxious weed infestations and start new infestations?

30. Do unlogged old growth forests store more carbon than the wood products that would be removed from the same forest in a logging operation?

31. What is the cumulative effect of National Forest logging on U.S. carbon stores? How many acres of National Forest lands are logged every year? How much carbon is lost by that logging?

32. Is this Project consistent with "research recommendations (Krankina and Harmon 2006) for protecting carbon gains against the potential impacts of future climate change? That study recommends "[i]ncreasing or maintaining the forest area by avoiding deforestation," and states that "protecting forest from logging or clear- ing offer immediate benefits via prevented emissions."

33. Please list each visual quality standard that applies to each unit and disclose whether each unit meets its respective visual quality standard. A failure to com- ply with visual quality Forest Plan standards violates NFMA.

34. For the visual quality standard analysis please define "ground vegetation," i.e. what age are the trees, "restablishes," "short-term," "longer term," and "reveg- etate."

35. Please disclose whether you have conducted surveys in the Project area for this Project for wolverines, pine martins, northern goshawk and lynx, grizzly bears as required by the Forest Plan.

36. Please disclose the last time the Project area was surveyed for Whitebark pine, wolverines, pine martins, northern goshawk, grizzly bears and lynx.

37. Please disclose how often the Project area has been surveyed for wolverines, whitebark pine, pine martins, northern goshawks, grizzly bears and lynx. Is it im- possible for a wolverines, pine martins, northern goshawks, grizzly bears and lynx to inhabit the Project area?

38. Would the habitat be better for whitebark pine, wolverines, pine martins, north- ern goshawks, grizzly bears and lynx if roads were removed in the Project area?

39. What is the U.S. FWS position on the impacts of this Project on whitebark pine, wolverines, pine martins, northern goshawks, grizzly bears and lynx? Have you conducted ESA consultation?

40. Please provide us with the full BA for the whitebark pine, wolverines, pine martins, northern goshawks, grizzly bears and lynx.

The Forest Service did not adequately answer these questions. Almost no surveys were done. No baseline conditions were identified. The Remedy is to write a new Draft ROD and completely answer these questions.

We wrote in our comments:
"**POPULATION VIABILITY AND HABITAT MANAGEMENT OF MANAGEMENT INDICATOR AND SENSITIVE SPECIES**

The HNF continues to rely on wildlife habitat models for TES and MIS, utilizing the TSMRS or a similar database, of unproven reliability. The HNF cites no on-the- ground studies verifying the assumptions made with the use of these models.[1]

[1] In his 1991 book, In the Absence of the Sacred, Jerry Mander notes criticisms of the use of computers by the Forest Service biologists, and discusses the loss of relationship between hu- mans and their wildlife neighbors as computers are utilized more widely by biologists (see Man- der, 1991).

The HNF has consistently ignored the Region's guidance document for old- growth species' habitat management (USDA Forest Service, 1990). From USDA Forest Service, 1990:

The greater vertical and horizontal diversity found within an old-growth stand al- lows for niche specialization by wildlife. Although the individual wildlife species occurring may not be unique to old-growth stands, the assemblage of wildlife species and the complexity of

interactions between them are different than in earli- er successional stages. P. 2

Forest-wide estimates are needed of the relative abundance, patch sizes, and spa- tial distribution of old-growth habitat by forest type. P. 3

In northwestern Montana, McClelland (1977) described a general trend of increased species richness in cavity-nesting birds from young to old-growth stands of larch and Douglas-fir. Old growth was par- ticularly important in providing an adequate number of suitable nesting trees for cavity-nesters. P. 6

Patch size correlates strongly with the numbers of species and individuals that can be supported and with rates of extinction and recolonization." ... Of 48 old-growth-associated species occurring in the Northern Region, about 60 percent are thought to require stands larger than 80 acres. P. 8

Roads are generally undesirable within an old-growth habitat patch. P. 9

Providing for well-distributed habitat patches with interconnections be-tween patches thus is necessary to maintain species diversity over the long term. P. 9.

McClelland (1979a) noted that pileated woodpeckers usually avoid open areas for feeding, preferring forests with a significant old-growth compo- nent and high basal area. ...Bull and Meslow (1977) classified preferred

feeding habitats as having high densities of snags and logs, dense canopies, and tall ground cover, with more than 10% of the ground area covered by logs. Pp. 11-12.

In the northern Rockies, the density of snags and stumps at pileated feeding sites (not throughout the feeding range) averaged 7 per acre (Aney and McClelland 1985). At least 500 acres of suitable feeding habitat is needed within the home range of a pair (McClelland 1979a). P. 12.

Monitoring Old-growth Habitats and MIS

Landres et al. (1988) pointed out that identifying old-growth stands based on habitat requirements of the MIS, and then monitoring habitat conditions for those MIS to assess old-growth conditions, is circular reasoning. Because old-growth associated MIS are intended to represent a community of wildlife species, stand selection, management and monitoring should not be directed only towards the minimum requirements of MIS. Both general habitat conditions in relation to an ecological classification and suitability of the stands or patches to MIS need to be monitored. P. 38, emphasis added.

Three levels of monitoring intensity have been identified for Forest Plan implementation: implementation, effectiveness, and validation monitoring. Monitoring of habitats should be emphasized at all levels, with additional monitoring of habitat occupancy and population trends of MIS as appropriate. P. 38.

Monitoring Intensity

Model predictions can be tested by sampling a portion of the designated old-growth stands to determine the actual rate of occupancy by management indicator species. P. 3

Validation Monitoring

Model validation should include tests to determine whether model output correctly predicts habitat quality. Reproductive performance over time is a good indicator of site productivity. P. 39.

Validation of Effects of Management Practices on Population

Viability

Monitoring data should enable comparison of ‘control’ and ‘treatment’ territories. Otherwise, it will be unclear whether observed population changes were due to habitat change, weather, prey population cycles, or other fac- tors. P. 39.

Methods For Habitat Monitoring

Aerial photo interpretation or other remotely-sensed data are suitable to determine cover type, overstory tree size, percent canopy cover, and stand acreage. Additional sampling effort will be needed to obtain reasonably accurate estimates of size and density of dead trees, standing and down. P. 40.

Methods For Monitoring Pileated Woodpecker

(field methodologies given, p. 40)

Methods For Monitoring Goshawk

(field methodologies given, pp. 40-41)

Methods For Monitoring Marten

(field methodologies given, p. 41)

Logging and other disturbance associated with the project and Seeley-Swan Fire Plan could affect northern goshawk nesting, post-fledging family habitat, al- ternative nesting, foraging, competitors, prey and potential habitat, including areas far from cutting units. Research in the Kaibab National Forest found that goshawk populations decreased dramatically even after partial logging and even when large buffers around nests were provided (Crocker-Bedford, 1990).

The HNF ignores important scientific information on goshawk habitat requirements. Reynolds, et al. 1992 provide a basis for a northern goshawk conservation strategy that could be implemented if forestwide habitat considerations were to be truly taken into account. They suggest that it is essential to viability of goshawks that 20-50% of old growth within their nesting areas be main- tained, yet the HNF fails to recognize that (see also Suring et al. 1993). Graham, et al. 1999, USDA Forest Service 2000b, Iverson et al. 1996, and Suring et al. 1993 are more examples of northern goshawk conservation strategies the FS might adopt for this Forest or Region, if em- phasis was more appropriately placed on species conservation and insuring viability rather than justification for resource extraction.

USDA Forest Service 2000b recommends that forest opening greater than 50-60 acres be avoid- ed in the vicinity of goshawks. At least five

years of monitoring is necessary to allow for effective estimates of habitat quality (Id.). Research suggests that a localized distribution of 50% old growth should be maintained to allow for viability of goshawks (Suring et al. 1993).

The scientific information provided in Center for Biological Diversity, 2004, also conflicts with the HNF's analyses and conclusions regarding goshawk viability, and includes vital information on goshawks not considered by the HNF.

Goshawks are often associated with a thick overstory cover and areas with a large number of large trees. For example, Hayward and Escano (1989) recom- mend an overstory canopy between 75 and 80%. According to the BE/BA for the Keystone Quartz EIS in the Beaverhead NF, "Goshawks prefer vegetation structure that permits them to approach prey unseen and to use their flight ma- neuverability to advantage (Widen, 1989, Beier and Drennan 1997)..."

Opening forests by logging will increase suitability of species as the red-tailed hawk, who competes with goshawks, as well as the great horned owl, a goshawk predator. The problems of habitat conversion from that of goshawk to red-tailed hawk has been reported by La Sorte et al., 2004 based on a study of over 120 goshawk territories.

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

large trees in the 180-acre nesting area would contradict the Reynolds et al. (1992) guidelines.

Greenwald et al., 2005 reviewed the current literature on goshawk habitat relationships applica- ble to the Northern Rockies. Nine of 12 studies demonstrated selection for stands with higher canopy closure, larger tree size, and greater numbers of large trees than found in random stands. Some notable statements and conclusions include:

...Most studies found that goshawks avoided open areas and logged early-seral stands; none of the studies cited in this paper found selection for such features.

...While some studies suffered from small sample sizes or relatively short sampling peri-

ods, the consistency of results demonstrates goshawk selection for late-successional forest structures (e.g., high canopy closure, large trees for forest type, canopy layering, abundant coarse woody debris) when using areas within their studied home ranges. ... This is not to say that goshawks only forage or roost in mature stands, but rather that such stands are dis- proportionately selected.

... (R)eviewed studies found goshawks avoided open areas, particularly logged open areas, and none found selection for openings.

... The 5 studies correlating nest occupancy and productivity with habitat features consis- tently demonstrated a relationship between closed-canopied forests with large trees and goshawk occupancy. Occupancy rates were reduced by removing forest cover in the home range, which thereby resulted in reduced productivity because there were fewer active breeding territories. (Internal citations omitted.)

Seeking to promote abundant populations of 14 prey species, Reynolds et al. (1992) rec- ommend maintaining 20% of the landscape in grass–forb or seedling–sapling stage forest, 20% in young forest, 20% in mid-aged forest, and 40% in mature and old forests. ... Given the above findings that goshawks generally avoid open areas and early-seral forest, that logging reduces goshawk occupancy and productivity, and a lack of evidence that creating openings or young forest through logging benefits goshawks, these recommendations ap- pear to lack support in research produced since 1992.

Across most of the western United States, mature and old-forests have declined to much less than 40% of the landscape. Given these declines and the lack of information on the amounts of mature and old-forest goshawks require, we recommend protecting existing ma- ture and old-forest characteristics and ensuring that such forests are allowed to develop in proportions similar to presettlement conditions. This can be accomplished by restricting cutting to small trees, and prohibiting large reductions in canopy closure. A similar pro- posal was recently adopted by Region 5 of the United States Forest Service for the Sierra Nevada. In sum, based on apparent inconsistencies between subsequent research and Reynolds et al. (1992), we recommend adaptation of the management guidelines to incor- porate results of numerous studies conducted since 1992. (Internal citations omitted.)

The issue of fragmentation should have been more thoroughly considered with respect to goshawks. Other edge-adapted species may compete with the goshawk and displace the goshawk if inadequate amounts of interior forest habitat are available. Crocker-Bedford (1990) recom- mends that a foraging area of >5000 acres of dense forest, in which no logging is permitted, be designated for goshawks, with additional areas of 2500-5000 acres of more marginal habitat designated beyond this 5,000 acre foraging area."

It is a violation on NFMA and NEPA to ignore these issues and concerns. The Remedy is the No Action Alternative.

We wrote in our comments:

"The HNF fails to take seriously the uncertain and precarious population status of the fisher, as described in Witmer, et al., 1998:

The status of the fisher in the Western United States is poorly known but generally per- ceived as precarious and declining. This is a serious issue alone, but it also is a component of the larger problem of the decline of biological diversity. Recovery of species of concern must necessarily focus on the population level, because this is the scale at which genetic variation occurs and because population [sic] are the constituent elements of communities and ecosystems. Systematic habitat alteration and overexploitation have reduced the histor- ical distribution of fishers in suitable habitat in the interior Columbia basin to isolated and fragmented populations. Current populations may be extremely vulnerable to local and re- gional extirpation because of their lack of connectivity and their small numbers (Id. at 14, internal citations omitted).

The proposed logging could adversely impact fishers and their habitat. Habitat elements for natal and maternal dens are found in large diameter logs or snags, slated to be reduced by the logging. "Though the post-treatment stand condi- tion would not be 'clear cuts', they would be fairly open and Jones (1991) did not expect to find substantial fisher hunting use of plantations by fishers until canopy approached 80% and 10-15 feet respectively (depending on snow depths)" (Helena NF's Spotted Beetle EA, p. 3-62). The logging, snag removal and other activities associated with the Hidden Lake Fuel Reduction project would

negatively affect fisher habitat. Movement, denning, resting areas, genetic diversity, and other aspects of fisher life cycles and fisher survival could be impacted by the project; the FS does not fully consider these elements of the project or adequately mitigate their impacts.

Jones (undated) and the LNF's Johnsen (1996) provide examples of possible conservation strate- gies for the fisher, something the FS has so far neglected to implement for this Sensitive species.

THE AGENCIES SHOULD CONDUCT ESA CONSULTATION FOR THE NORTHERN ROCK- IES FISHER.

This year, USFWS found "substantial scientific or commercial information indicating that listing a [Dis- tinct Population Segment] of fisher in the [Northern Rocky Mountains] of the United States [under the ESA] may be warranted." 75 Fed. Reg. 19925 – 19935 (April 16, 2010). In particular, USFWS found that listing the Northern Rockies fisher under the ESA may be warranted in primary part "due to the present and potential future modification and destruction of habitat from commercial timber harvest and commer- cial wood production by methods that may prevent succession to the mature forest stages preferred by fishers." The Forest Service admits that the fisher and/or its habitat are present within the project area and would be impacted by the project. The Forest Service did no ESA consultation for the fisher for this project.

THE AGENCIES SHOULD CONDUCT ESA CONSULTATION FOR THE WOLVERINE.

The wolverine, which was chosen by the Forest Service as a management indicator species forth project area, 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 industry such as logging . . .." .The Forest Service admits that the wolverine and/ or its habitat are present within the project area and would be impacted by the project. The Forest Service must go through ESA consultation for the wolverine for this project."

Objection: The project is in violation on NFMA, NEPA and the APA for the reasons stated above. The Remedy is to choose the No Action Alternative.

We wrote in our comments:

"*Regarding another Sensitive species, the black-backed woodpecker, Cherry (1997) states:*
The black-backed woodpecker appears to fill a niche that describes everything that foresters and fire fighters have attempted to eradicate. For about the last 50 years, disease and fire have been considered enemies of the 'healthy' forest and have been combated rela- tively successfully. We have recently (within the last 0 to 15 years) realized that disease and fire have their place on the landscape, but the landscape is badly out of balance with the fire suppression and insect and disease reduction activities (i.e. salvage logging) of the last 50 years. Therefore, the black-backed woodpecker is likely not to be abundant as it once was, and continued fire suppression and insect eradication is likely to cause further de- cline.

The Region 1 black-backed woodpecker assessment (Hillis et al., 2003) notes that the black- backed woodpecker depends upon dead and dying trees:

Black-backed woodpeckers occupy forested habitats that contain high densities of recently

dead or dying trees that have been colonized by bark beetles and woodborer beetles (Buprestidae, Cerambycidae, and Scolytidae). These beetles and their larvae are most abundant within burned forests. In unburned forests, bark beetle and woodborer infested trees are found primarily in areas that have undergone natural disturbances, such as wind- throw, and within structurally diverse old-growth forests. (Internal citations omitted.)

...Black-backed woodpeckers also occur in unburned landscapes Bull et al.1986, Goggans et al.1987, Bate 1995, Hoffman 1997, Weinhagen 1998, Steeger and Dulisse in press, Tay- lor unpublished data). Taylor's observations of black-backed woodpeckers in unburned forests in northern Idaho suggest that they may occur at substantially lower densities in un- burned forests, but no rigorous comparisons between black-backed woodpecker densities in burned and unburned forests have been done. Hutto (1995) hypothesized that black-backed woodpeckers reproduce at *source* reproductive levels in burns, but may drop to *sink* repro- ductive levels in the intervening periods between large burns.

Dolan (1998a,b) states in regards to impacts on the black-backed woodpecker due to fire sup- pression and post-fire logging states:

It seems that we have a huge cumulative effects problem here, and that each salvage sale re- moves habitat that is already very limited. We are having trouble avoiding a "trend to federal listing" call for the BBWO in salvaging burns, unless comparable acres of fire-killed dead are being created through prescribed burns.

The comments by other biologists attached to Dolan, 1998a,b reveal that the FS has yet to design a consistent, workable, scientifically defensible strategy to ensure viable populations of the black-backed woodpeckers. The fire suppression and "salvage" logging policies of the HNF are the biggest threat to black-backed woodpecker population viability on the Forest, unfortunately in failing to create a conservation strategy the cumulative impacts of the HNF's ongoing fire suppression policy will

remain unexamined. The Hidden Lake Fuel Reduction project continues an unspoken management for extinction policy.

Lofroth (1997) in a British Columbia study, found that wolverines use habitats as diverse as tun- dra and old-growth forest. Wolverines are also known to use mid- to low-elevation Douglas-fir forests in the winter (USDA Forest Service, 1993). The cumulative impacts of logging and road building on a species that depends upon remote, wild areas remain unexplored.

The flammulated, boreal owl and the great gray owl are species of concern that are sensitive to logging and other management activities. The HNF provides inadequate management strategies to insure their viability. See, for example, Hayward and Verner, 1994.

Wright, et al. (1997) point out that habitat restoration for the flammulated owl must be carefully targeted to the correct habitat types. The FS can't simply cut and/or burn forest area and expect flammulated owls to start using it as habitat. Wright, et al. (1997) state:

(W)e never detected Flammulated Owls in mesic old-growth ponderosa pine stands with a Vaccinium understory. Thus, within suitable landscapes, it may be most effective to conserve and restore stand structural characteris- tics within suitable habitat types (e.g., xeric ponderosa pine/ Douglas-fir stands in our study area), rather than within any stand containing pon- derosa pine trees.

The EIS does not adequately consider cumulative effects on upland habitat for boreal toads. This does not make sense, since such small populations that are likely to persist are especially susceptible to

fragmentation and extirpation due to isolation of smaller populations. See Maxell, 2000. In fact, the HNF has never performed a genuine analysis of cumulative impacts of logging activities on boreal toads.

From Ch. 3 p. 173 of the Bristow Area Restoration Project EA, Kootenai National Forest, (USDA Forest Service, 2003a:

Little quantitative data are available regarding the boreal toad's use of up- land and forested habitats. However, boreal toads are know to migrate be- tween the aquatic breeding and terrestrial nonbreeding habitats (TNC Database 1999), and that juvenile and adult toads are capable of moving over 5 km between breeding sites (Corn et al. 1998[2]). It is thought than ju- veniles and female boreal toads travel farther than the males (Ibid). A study on the Targhee National Forest (Bartelt and Peterson 1994) found female toads traveled up to 2.5 kilometers away from water after breeding, and in foraging areas, the movements of toads were significantly influenced by the distribution of shrub cover. Their data suggests that toads may have avoided macro-habitats with little or no canopy and shrub cover (such as clearcuts). Underground burrows in winter and debris were important com- ponents of toad selected micro-sites in a variety of macro-habitats. The bo- real toad digs its own burrow in loose soil or uses those of small mammals, or shelters under logs or rocks, suggesting the importance of coarse woody debris on the forest floor. ...(T)imber harvest and prescribed burning activi- ties could impact upland habitat by removing shrub cover, down woody material, and/or through compaction of soil.

Montana Fish, Wildlife & Parks, 2005 (a more recent version of the above cite "TNC Database, 1999") also discuss boreal toad habitat:

Habitats used by boreal toads in Montana are similar to those reported for other regions, and include low elevation beaver ponds, reservoirs, streams, marshes, lake shores, potholes, wet meadows, and marshes, to high elevation ponds, fens, and tarns at or near treeline (Rodgers and Jellison 1942, Brunson and Demaree 1951, Miller 1978, Marnell 1997,

Werner et al. 1998, Boundy 2001). Forest cover in or near encounter sites is often unreported, but toads have been noted in open-canopy ponderosa pine woodlands and closed-canopy dry conifer forest in Sanders County (Boundy 2001), wil-

[2] Cited and included as Maxell et al., 1998 herein.

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low wetland thickets and aspen stands bordering Engelmann spruce stands in Beaverhead County (Jean et al. 2002), and mixed ponderosa pine/cot- tonwood/willow sites or Douglas-fir/ponderosa pine forest in Ravalli and Mis- soula counties (P. Hendricks personal observation).

Elsewhere the boreal toad is known to utilize a wide variety of habitats, in- cluding desert springs and streams, meadows and woodlands, mountain wetlands, beaver ponds, marshes, ditches, and backwater channels of rivers where they prefer shallow areas with mud bottoms (Nussbaum et al. 1983, Baxter and Stone 1985, Russell and Bauer 1993, Koch and Peterson 1995, Hammerson 1999). Forest cover around occupied montane wetlands may include aspen, Douglas-fir, lodgepole pine, Engelmann spruce, and subalpine fir; in local situations it may also be found in ponderosa pine for- est. They also occur in urban settings, sometimes congregating under street- lights at night to feed on insects (Hammerson 1999, P. Hendricks personal observation). Normally they remain fairly close to ponds, lakes, reservoirs, and slow-moving rivers and streams during the day, but may range widely at night. Eggs and larvae develop in still, shallow areas of ponds, lakes, or reservoirs or in pools of slow-moving streams, often where there is sparse emergent vegetation. Adult and juvenile boreal toads dig burrows in loose soil or use burrows of small mammals, or occupy shallow shelters under logs or rocks. At least some toads hibernate in terrestrial burrows or cavities, ap-

parently where conditions prevent freezing (Nussbaum et al. 1983, Koch and Peterson 1995, Hammerson 1999).

Maxell et al., 1998 state:

We believe that the status of the Boreal toad is largely uncertain in all Region 1 Forests. ...Briefly, factors which are a cause for concern over the viability of the species throughout Region 1 include: (1) a higher degree of ge- netic similarity within the range of Region 1 Forests relative to southern or coastal populations; (2) a general lack of both historical and current knowledge of status in the region; (3) indications of declines in areas which do have historical information; (4) low (5-10%) occupancy of seemingly suit- able habitat as detected in recent surveys; (5) some evidence for recent restriction of breeding to low elevation sites and; (6) recent crashes in boreal toad populations in the southern part of its range which may indicate the species' sensitivity to a variety of anthropogenic impacts."

Objection: The Forest Service did not adequately answer these questions. Almost no

surveys were done. No baseline conditions were identified. The Remedy is to write a new Draft ROD and completely answer these questions.

We wrote in our comments;

"LYNX

In December 1999, the Forest Service and Bureau of Land Management com- pleted their "Biological Assessment Of The Effects Of National Forest Land And Resource Management Plans And Bureau Of Land Management Land Use Plans On Canada Lynx" ("Programmatic BA"). The Programmatic BA concluded that the current programmatic land management plans "may affect, and are likely to adversely affect, the

subject population of Canada lynx." The BA team rec- ommended amending or revising Forest Plans to incorporate conservation measures that would reduce or eliminate the identified adverse effects to lynx. The Programmatic BA's determination means that Helena Forest Plan implementa- tion is a "taking" of lynx.

The fact that continued implementation of the Forest Plans constitutes a "tak- ing" of the lynx is not disclosed in the EA or in the EA's Biological Assessment. Such taking can only be authorized with an incidental take statement, issued as part of a Biological Opinion (B.O.) during a Section 7 consultation. The FS must incorporate terms and conditions from a programmatic B.O. into a Forest Plan amendment or revision before projects affecting lynx habitat, such as the North Butte Salvage Project, can be authorized.

The Programmatic BA's "likely to adversely affect" conclusion was based upon the following rationale (p. 4), all of which apply here. Forest Plans within the Northern Rockies:

• generally direct an aggressive fire suppression strategy within developmental land allocations. ...this strategy may be contributing to a risk of adversely affecting the Lynx by limiting the availability of foraging habitat within these areas.

• allow levels of human access via forest roads that may present a risk of inci- dental trapping or shooting of Lynx or access by other competing carnivores.

The risk of road-related adverse effects is primarily a winter season issue.
• are weak in providing guidance for new or existing recreation developments.

Therefore, these activities may contribute to a risk of adverse effects to lynx.

• allow both mechanized and non-mechanized recreation that may contribute to a risk of adverse effects to lynx. The potential effects occur by al- lowing compacted snow trails and plowed roads which may facilitate the movements of lynx competitors and predators.

• provide weak direction for maintaining habitat connectivity within naturally or artificially fragmented landscapes. Plans within all geographic areas lack direction for coordinating construction of highways and other movement barriers with other responsible agencies. These factors may be contributing to a risk of adverse effects to lynx.

• fail to provide direction for monitoring of lynx, snowshoe hares, and their habi- tats. While failure to monitor does not directly result in adverse effects, it makes the detection and assessment of adverse effects from other management activities difficult or impossible to attain.

• forest management has resulted in a reduction of the area in which natural ecological processes were historically allowed to operate, thereby increasing the area potentially affected by known risk factors to lynx. The Plans have continued this trend. The Plans have also continued the process of fragment- ing habitat and reducing its quality and quantity. Consequently, plans may

risk adversely affecting lynx by potentially contributing to a reduction in the geographic range of the species.

• The BA team recommends amending or revising the Plans to incorporate conservation measures that would reduce or eliminate the identified adverse effects to lynx. The programmatic conservation measures listed in the Canada Lynx Conservation Assessment and Strategy (LCAS) should be considered in this regard, once finalized. The BA notes that the LCAS identifies the following risk factors to lynx in this geo-

graphic area:

- *Timber harvest and precommercial thinning that reduce denning or foraging habitat or con- verts habitat to less desirable tree species;*

- Fire exclusion that changes the vegetation mosaic maintained by natural dis- turbance processes;

- Grazing by domestic livestock that reduces forage for lynx prey;

- Roads and winter recreation trails that facilitate access to historical lynx habi-
  tat by competitors;

- Legal and incidental trapping and shooting;

- Being hit by vehicles;

- Obstructions to lynx movements such as highways and private land development;

It is clear, then, that the FS must do more than follow its Forest Plans to protect lynx. Nonetheless, and in spite of the inadequate analysis population viability fol- lowing adverse modification of habitat perpetuated by the Project, the North Butte Salvage Project BA concludes that the implementation of the proposed action would result in a determination of "may affect but not likely to adversely affect."

The EA and BA fail to fully demonstrate Project consistency with all LCAS Stan- dards and guidelines. For example, the LCAS sets mandatory Standards that would modify or amend the Forest Plans—steps the LNF has thus far not accom- plished. Important Programmatic Standards include:

Identify key linkage areas that may be important in providing landscape connectivi- ty within and between geographic areas, across all ownerships. (p. 87)

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. (Id.)

Map and monitor the location and intensity of snow compacting activities that coincide with Lynx habitat, to facilitate future evaluation of effects on Lynx as information becomes available. (p. 82).

On federal lands in Lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU.

The EA fails to provide adequate maps of LAUs and habitat components along with areas of human activity as the LCAS requires, making it impossible for the public and decision maker to understand the impacts of motorized travel, as well as to understand impacts on habitat and connectivity of habitat. The BA lacks a genuine analysis of the full range of cumulative impacts of other activi- ties. The EA and BA also fail to disclose the cumulative effects of livestock graz- ing on the grazing allotments in the project area.

The Programmatic BA's analysis of the ability of the Forest Plans, as 'amended' by the LCAS, to prevent a "taking" of the lynx is based upon the Forests' meet- ing management standards. As the Helena NF has not adequately shown that it is in compliance with its old growth standards, or that it even has valid old growth standards, as detailed elsewhere in

this appeal, the project BA and EA are not in compliance with the LCAS.

We also have to question the validity of the percentage habitat standards set by the LCAS itself. The Forest Service would be hard-pressed to find many Lynx Analysis Unit in the Northern Region—heavily logged or otherwise—that already don't meet these percentages. Basically, what these Standards accomplish is to validate the management status quo—the very situation that led to the listing of the lynx under the ESA."

Objection: The Forest Service did not adequately answer these questions. Almost no

surveys were done. No baseline conditions were identified. The Remedy is to write a new Draft ROD and completely answer these questions and consult with the FWS on the NRLMD in Lynx Critical habitat.

We wrote in our comments:

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

I. NECESSARY ELEMENTS FOR PROJECT EIS:

A. Disclose all Helena National Forest Plan requirements for logging/ burning projects and explain how the Project complies with them;

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

C. Solicit and disclose comments from the Montana Department of Fish, Wildlife, and Parks regard- ing the impact of the Project on wildlife habitat;

D. Solicit and disclose comments from the Montana Department of Environmental Quality regarding the impact of the Project on water quality;

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

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

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

K. Disclose the Helena National Forest's record of compliance with its monitoring requirements as
set forth in its Forest Plan;

L. Disclose the Helena National Forest's record of compliance with the additional monitoring re-
quirements set forth in previous DN/FONSIs and RODs on the Helena National Forest;

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

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

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

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

E. Disclose if there are any WQLS streams in the project area and if TMDLs are completed;

F. Disclose the biological assessment for the candidate, threatened, or endangered species with po- tential and/or actual habitat in the Project area;
G. Disclose the biological evaluation for the sensitive and management indicator species with poten- tial and/or actual habitat in the Project area;

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

R. Disclose the expected amount of detrimental soil disturbance in each unit after proposed mitiga- tion/remediation;"

Objection: The Forest Service did not adequately answer these questions. Almost no sur- veys were done. No baseline conditions were identified. The Remedy is to write a new Draft ROD and completely answer these questions. The EPA commented that the project would violate the 15% soil disturbance standards. This is a violation of NFMA, NEPA, the APA and the ESA since it will also affect bull trout and bull trout critical habitat since sediment will flow down stream to bull trout critical habitat.

Objection: The Forest Service did not adequately answer these questions. Almost no surveys were done. No baseline conditions were identified. The Remedy is to write a new Draft ROD and completely answer these questions and to consult with the FWS.

We wrote in our comments:

S. “Disclose the analytical data that supports proposed soil mitigation/ remediation measures;

T. Disclose the timeline for implementation;

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

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

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

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

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

Z. Disclose the amount of mature and old growth forest that will remain after implementation;

AA. Disclose the amount of current habitat for old growth and mature forest dependent species in the

Project area;
BB. Disclose the amount of habitat for old growth and mature forest dependent species that will re-

main after Project implementation;
CC. 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;
DD. Disclose the amount of big game (moose and elk) hiding cover, winter range, and security cur-

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

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

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

II. 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;

JJ. 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;

KK. Disclose when and how the Helena National Forest made the decision to suppress natural wildfire in the Project area and replace natural fire with logging and prescribed burning;

LL. policy MM. NN. OO. PP. for all QQ.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Past, current, and reasonably foreseeable logging units in the Project area;
The cumulative effects of past, current, and reasonably foreseeable logging units; Past, current, and reasonably foreseeable logging units in the Project area;
The cumulative effects of past, current, and reasonably foreseeable grazing;
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;

Disclose the cumulative impacts on the Forest-wide level of the Helena National Forest's decision to replace natural fire with logging and prescribed burning;

Disclose how Project complies with the Roadless Rule;
Disclose the impact of climate change on the efficacy of the proposed treatments; Disclose the impact of the proposed project on the carbon storage potential of the area; Disclose the baseline condition, and expected sedimentation during and after activities,

streams in the area;
Disclose maps of the area that show the following elements:

Does this project have a 404 permit from the Army Corp of Engineers to dredge and fill or harm a wetland? Please provide a map of all of the wetlands or wetland complex- es. If they are not mapped nothing in the EA ensures that wetlands won't be perma- nently converted to uplands and result in a net decrease in wetlands by dredging and filling when building temporary roads, skid trails or landing sites in wetlands. It is also a violation of NEPA, NFMA and the APA to not notify the public that the Forest Service does not have a 404 permit and is not following the Clean Water Act.

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 yet infested. The Forest Service has recognized that the effects of noxious weed inva- sions 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 be- cause 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 corri- dors. 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 ex- acerbate 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 construc- tion) 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 nox- ious weeds present on roads within units from fire management proposals*.

Please address the ecological, social and ascetic impact of current noxious weed infestations within the project area. Include an analysis of the impact of the actions proposed by this project on the long and short term spread of current and new noxious weed infestations. 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 MONTANA 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 Montana and are rapidly expanding in estab- lished 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). *Are yellow and orange hawkweeds present within the project area?*

Please 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 fol- lowing 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. 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 in- dividual 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.

What commitment to a long-term, consistent strategy of application is being proposed for each weed in- fested area within the proposed action area? What long term monitoring of weed populations is pro- posed?

When areas treated with herbicides are reseeded on national forest land, they are usually reseeded with exotic grasses, not native plant species. *What native plant restoration activities will be implemented in areas disturbed by the actions proposed in this project? Will 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. *Which units within the project area currently have no noxious weed populations within their boundaries? What mini- mum standards are in the Helena National Forest Plan to address noxious weed infestations? Please include an alternative in the DEIS that includes land management standards that will prevent new weed infestations by addressing the causes of weed infestation. The failure to include preventive standards vio- lates NFMA because the Forest Service is not ensuring the protection of soils and native plant communities. Additionally, the omission of an EIS alternative that includes preventive measures would violate NEPA because the Forest Service would fail to consider a reasonable alternative.*

Rare Plants

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 cli- mate, soils, and natural processes such as fire, insect and disease infestations, and windthrow. Any man- agement 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.

What threatened, endangered, rare and sensitive plant species and habitat are located within the pro- posed project area? What standards will be used to protect threatened, rare, sensitive and culturally im- portant plant species and their habitats from the management actions proposed in this project? Describe the potential direct and indirect effect of the proposed management actions on rare plants and their habi- tat. Will prescribed burning occur in the spring and early summer; please give justifications for this deci- sion using current scientific studies as reference.

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 remaining trees being infected with blister rust. The abili- ty 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 burn- ing and logging. In the absence of fire, this naturally occurring whitebark pine regeneration would contin- ue 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 re- sistant 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.

What surveys have been conducted to determine presence and abundance of whitebark pine re-genera- tion? If whitebark pine seedlings and saplings are present, what measures will be taken to protect them? Please include an alternative that excludes burning in the presence of whitebark pine regeneration (con- sider 'Daylighting' seedlings and saplings as an

alternative restoration method). Will restoration efforts include planting whitebark pine? Will planted seedling be of rust-resistant stock? Is rust resistant stock available? Would enough seedlings be planted to replace whitebark pine lost to fire activities? Have white pine blister rust surveys been accomplished? What is the severity of white pine blister rust in proposed action areas?

Project Area

Since the project's goals are to reduce the chances that fire will destroy private struc- tures, 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 own- erships within the WUI must also be displayed on a map. Based on this mapping of current and projected conditions, please accurately disclose the threats to private structures and people under those scenarios, for all alternatives. It must be discern- able why some areas are included for treatment and others are not.

The FS must 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 know what the scale of the long-term efforts must be, including the amount of funding necessary, and the likeli- hood based on realistic funding scenarios for such a program to be adequately and timely funded.

The FS must assess the fuel and fire risk situation across land ownership boundaries to understand, and disclose to the public, the likely fire scenarios across the area's land- scape. Only then can the context of your proposal be adequately weighed on its merits and evaluated on its merits.

The FS (Cohen, 1999) reviewed current scientific evidence and policy directives on the issue of fire in the wildland/urban interface and recommended an alternative focus on structure ignitability rather than extensive wildland fuel management:

The congruence of research findings from different analytical methods suggests that home ignitability is the principal cause of home losses dur- ing wildland fires... Home ignitability also dictates that effective mitigat- ing actions focus on the home and its immediate surroundings rather than on extensive wildland fuel management.

[Research shows] that effective fuel modification for reducing potential WUI fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation ef- forts on the structure and its immediate surroundings. Those characteris- tics of a structure's materials and design and the surrounding flam- mables that determine the potential for a home to ignite during wild- land fires (or any fires outside the home) will, hereafter, be referred to as home ignitability.

The evidence suggests that wildland fuel reduction for reducing home losses may be inefficient and ineffective. Inefficient because wildland fuel reduction for several hundred meters or more around homes is greater than necessary for reducing ignitions from flames. Ineffective because it does not sufficiently

reduce firebrand ignitions (Cohen, 1999)

That research also recognizes “the imperative to separate the problem of the wildland fire threat to homes from the problem of ecosystem sustainability due to changes in wildland fuels” (Ibid).

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

For example, the 20-foot wind speed[3] 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.

Graham, et al., 1999a also state:

Depending on the type, intensity, and extent of thinning, or other treat- ment applied, fire behavior can be improved (less severe and intense) or exacerbated." ... Fire intensity in thinned stands is greatly reduced if thin- ning is accompanied by reducing the surface fuels created by the cut- tings. Fire has been successfully used to treat fuels and decrease the ef- fects 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.

In their conclusion, Graham, et al., 1999a state:
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 physi- cal and weather variables. But crown and selection thinnings would not reduce crown fire potential.

Since the scientific literature suggests that your thinning activities will actually increase the rate of fire spread, you need to reconcile such findings with the contradictory assumptions expressed in your scop- ing letter.

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

Also, Hessburg and Lemkuhl (1999) suggest that prescribed burning alone can be utilized in many cas- es—possibly here—where managers typically assume mechanical fuel reductions must be used.

The FS must disclose its transparent, well thought-out long-term strategy for old-growth associated wildlife species viability in a properly-defined cumulative effects analysis area.

Even though ecological restoration is not the project's priority, the NEPA document must at least iden- tify all the existing ecological liabilities caused by past management actions. This includes poorly lo- cated or poorly maintained roads, high-risk fuel situations caused by earlier vegetation manipulation projects, wildlife security problems by open motorized roads and trails plus those that are closed but violated—and include all those impacts in the analyses.

Any desire to keep a road in the project area WUI must be in harmony with the alleged priority goals (again, to reduce the chances that fire will destroy private structures and harm people), not driven by timber production goals. The analysis must show how all roads will in fact be in harmony with the pri- ority goals.

Proposed activities could artificialize the forest ecosystem. Lodgepole pine is particularly subject to blowdown, once thinned. And any forest condition that is maintained through mechanical manipulation is not maintaining ecosystem function. The proposed management activities would not be integrated well with the processes that naturally shaped the ecosystem and resulted in a range of natural structural conditions. Thus, the need for standards guiding both the delineation of zones where artificializing fuel reduction actions may take place, and that also set snag and down woody debris retention amounts.

Veblen (2003) questions the premises the FS often puts forth to justify "uncharacteristic vegetation patterns" discussions, that being to take

management activities to alter vegetation patterns in response to fire suppression:

The premise behind many projects aimed at wildfire hazard reduction and ecological restoration in forests of the western United States is the idea that unnatural fuel buildup has resulted from suppression of formerly frequent fires. This premise and its implications need to be critically evalu- ated by conducting area-specific research in the forest ecosystems tar- geted for fuels or ecological restoration projects. Fire regime researchers need to acknowledge the limitations of fire history methodology and avoid over-reliance on summary fire statistics such as mean fire interval and rotation period. While fire regime research is vitally important for in- forming decisions in the areas of wildfire hazard mitigation and ecological restoration, there is much need for improving the way researchers communicate their results to managers and the way managers use this information.

Since disruption of fire cycles is identified, the HNF needs to take a hard look at its fire policies. The development of approved fire management plans in compliance with the Federal Wildland Fire Policy was the number one policy objective intended for immediate implementation in the Implementation Action Plan Report for the Federal Wildland Fire Management Policy and Program Review. In general, the FS lags far behind other federal land management agencies that have already invested considerable amounts of time, money, and resources to implement the Fire Policy. Continued mismanagement of national forest lands and FS refusal to fully implement the Fire Policy puts wildland firefighters at risk if and when they are dispatched to wildfires. This is a programmatic issue, one that the current Forest Plan does not adequately consider. Please see Ament (1997) as comments on this proposal, in terms of fire policy and Forest Planning.

Many adverse consequences to soil, ecological processes, wildlife, and other ele- ments of the natural environment are associated with thinning. (Ercelawn, 1999; Ercelawn, 2000.) For example: “Salvage or thinning operations that remove dead or decayed trees or coarse woody debris on the ground will reduce the availability of forest structures used by fishers and lynx.” (Bull et al., 2001.)

For every project proposal, it is important that the results of past monitoring be incor- porated into planning. All Interdisciplinary Team Members should be familiar with the results of all past monitoring pertinent to the project area, and any deficiencies of monitoring that have been previously committed to. For that reason, we expect that the following be included in the NEPA documents or project files:

- A list of all past projects (completed or ongoing) implemented in the proposed project area watersheds.

- The results of all monitoring done in the project area as committed to in the NEPA documents of those past projects.

- The results of all monitoring done in the proposed project area as a part of the Forest Plan monitoring and evaluation effort.

- A description of any monitoring, specified in those past project NEPA documents or the Forest Plan for proposed project area, which has yet to be gathered and/or
  reported.
  Please disclose the names of all other past projects (implemented during the life of the Forest Plan) whose analysis area(s) encompass the areas to be "treated" under this proposal. Please disclose if the FS has performed all of the monitoring and mitiga- tion required or recommended in any NEPA documents, and the results of the moni- toring.

For the proposal to be consistent with the Forest Plan, enough habitat for viable populations of old- growth dependent wildlife species is needed over the landscape. Considering potential difficulties of using population viability analysis at the project analysis area level (Ruggiero, et. al., 1994), the cumu- lative effects of carrying out multiple projects simultaneously across the HNF makes it imperative that population viability be assessed at least at the forestwide scale (Marcot and Murphy, 1992). Also, tem- poral considerations of the impacts on wildlife population viability from implementing something with such long duration as a Forest Plan must be considered (id.) but this has

never been done by the HNF. It is also of paramount importance to monitor population during the implementation of the Forest Plan in order to validate assumptions used about long-term species persistence i.e., population viability (Marcot and Murphy, 1992; Lacy and Clark, 1993).

The U.S. District Court ruled in Native Ecosystems Council vs. Kimbell on the Keystone Quartz project that the Forest Service presented no hard data to support or demonstrate the biological im- pact on old-growth species viability across the forest of further reducing Douglas-fir old-growth habitat below minimum forest plan standards, which themselves may be inadequate in light of more recent scientific information. Species in the Northern Region, including the HNF, thought to prefer old-growth habitat for breeding or feeding include northern goshawk, flammulated owl, pileated woodpecker, black-backed woodpecker (after wildfire or beetle epidemic), fisher, marten, Canada lynx, and wolverine.

For the Helena N.F., sensitive old-growth dependent species include the northern goshawk and flammulated owl. According to official FS policy, the HNF "must develop conservation strategies for those sensitive species whose continued existence may be negatively affected by the forest plan or a proposed project." FSM 2670.45. These strategies would address the forest-wide and range- wide conditions for the affected species, allowing site-specific viability analysis to be tiered to the forest-wide viability analysis, and would establish quantifiable objectives for the affected species. These strategies must be adopted prior to implementation of projects that would adversely impact sensitive species habitat. FSM 2622.01, 2670.45.

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

down? After snags are cut down for safety for OSHA requirements will there still be enough snags left for old growth sensitive species?

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

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

The Project is also designed to reduce under-story density through thinning. What surveys has the HNF specifically designed to detect flammulated owls? The FS has not developed a conservation strategy for the flammulated owl in the HNF, or in the Northern Rockies. Absent an appropriate landscape management strategy for insuring their viability, based upon the best available science, it is arbitrary and capricious to dismiss potential impacts on the ground where the FS has failed to conduct the kind of comprehensive surveys that would reveal their presence. This convenient ex- cuse for not protecting for a species that is becoming exceedingly rare, a strategy of managing for extinction (since

protection premised on detection affords greatest protection to the species that least need it) has been condemned by the FS's own leading expert in the northern region, Mike Hillis:

With the exception of the Spotted Owl..., the U.S. Forest Service has not given much emphasis to owl management. This is contrary to the National Forest Management Act of 1976 (NFMA) which mandates that all wildlife species be managed for viable popula- tions. However, with over 500 vertebrate species this would be difficult for any organiza- tion. Recognizing the absence of detailed information on owl habitat, the apparent asso- ciation of owls with snags, mature, and old-growth timber (both rapidly declining), it seems inconsistent that the U.S. Forest Service has placed little emphasis on owl man- agement. One might conclude that the agency's painful experiences with the Spotted Owl in Oregon and Washington have evolved into a 'hear no evil, see no evil' approach for other forest owls as well.
Holt and Hillis, "Current Status and Habitat Associations of Forest Owls in Western

Montana" (1987).

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

The FS has stated: "Well distributed habitat is the amount and location of required habitat which assure that individuals from demes,[4] distributed throughout the popula- tion's existing range, can interact. Habitat should be located so that genetic ex- change among all demes is possible." (Mealey 1983.)

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

Population viability analysis is not plausible or logical at the project level such as the

scale of the Dry Fork Vegetation and Recreation Restoration EA. Distributions of com- mon wildlife species as well as species at risk encompass much larger areas than typical project areas and in most cases larger than National Forest boundaries. No wildlife species that presently occupy the project area are at such low numbers that potential ef- fects to individuals would jeopardize species viability. No actions proposed under the preferred alternative would conceivably lead to loss of population viability. (Lewis and Clark NF, Dry Fork EA Appendix D at p. 9.)

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

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

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

Since almost all of the proposed project is within management area 20 (MA-20) which is to managed to be maintain and enhance grizzly bear habitat, please show how this project will benefit grizzlies bears and how it

will negatively impact them. Please do the same for lynx. Please examine how this project will affect all ESA listed, MIS and sensitive species.

[4]Subpopulations.

One of the biggest problems with the FS's failure to deal forthrightly with the noxious weed problem on a forest wide basis is that the long-term costs are never adequately disclosed or analyzed. The pub- lic is expected to continuously foot the bill for noxious weed treatments—the need for which increases yearly as the HNF continues the large-scale propagation of weeds, and fails to monitor the effective- ness of all its noxious weed treatment plans to date. There is no guarantee that the money needed for the present management direction will be supplied by Congress, no guarantee that this amount of mon- ey will effectively stem the growing tide of noxious weed invasions, no accurate analysis of the costs of the necessary post-treatment monitoring, and certainly no genuine analysis of the long-term costs beyond those incurred by site specific weed control actions.

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

Please utilize the NEPA process to clarify any roadless boundary issues. It is not ade- quate to merely accept previous, often arbitrary roadless inventories —unroaded ar- eas adjacent to inventoried areas were often left out.

Additionally, there is a lot of public support for adding unroaded areas as small as 1,000 acres in size to the road- less inventory.

We request a careful analysis of the impacts to fisheries and water quality, including considerations of sedimentation, increases in peak flow, channel stability, risk of rain- on-snow events, and increases in stream water temperature. Please disclose the lo- cations of seeps, springs, bogs and other sensitive wet areas, and the effects on these areas of the project activities. Where livestock are permitted to graze, we ask that you assess the present condition and continue to monitor the impacts of grazing ac- tivities upon vegetation diversity, soil compaction, stream bank stability and subse- quent sedimentation.

Please disclose in the NEPA document the results of up-to-date monitoring of fish habitat and watershed conditions and how this project will affect the fish in the project area.

It is extremely important the FS disclose the environmental baseline for watersheds.

Generally, this means their condition before development or resource exploitation was initiated. For example, the baseline condition of a stream means the habitat conditions for fish and other aquatic species prior to the impacts of road building, logging, livestock grazing, etc. Therefore, proper disclosure of baseline conditions would mean estimates of stream stability, pool frequency conditions, and water tem- perature range—essentially the values of Riparian Management Objectives along with such parameters as sediment levels. When such information is provided, compar- ison with the current conditions (after impacts of development) will aid in the assess- ment of cumulative effects of all alternatives.

Prescribed fires and mechanical treatments may adversely affect soil productivity. NFMA requires the FS to “not allow significant or permanent impairment of the productivity of the land.” [36 C.F.R. § 219.27(a)(1).] NFMA requires the Forest Service to “ensure that timber will be harvested

from Nation- al Forest System lands only where—soil, slope, or other watershed conditions will not be irreversibly damaged." [16 U.S.C. 1604 (g)(3)(E).]

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 dramatical- ly with noxious weed invasion. Spotted knapweed (Centaurea bieber- steinii D.C.) impacts phosphorus levels at sites (LeJeune and Seastedt, 2001) and can hinder growth of other species with allelopathic mecha- nism. Specific to spotted knapweed, these traits can ultimately limit native species' ability to compete and can have direct impacts on species di- versity (Tyser and Key 1988, Ridenour and Callaway 2001).

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

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. Al-

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though 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 for- est growth, we must manage the microbes that add most of the N and that make N available for subsequent plant uptake. (Internal citations omitted.)

Lacy, 2001 examines the importance of soils for ecosystem functioning and points out the failure of most regulatory mechanisms to adequately address the soils issue. From the Abstract:

Soil is a critical component to nearly every ecosystem in the world, sustaining life in a variety of ways—from production of biomass to filtering, buffering and transformation of water and nutrients. While there are dozens of federal environmental laws protecting and addressing a wide range of natural resources and issues of environmental quality, there is a significant gap in the protection of the soil resource. Despite the critical importance of maintaining healthy and sustaining soils, conservation of the soil resource on public lands is generally relegated to a diminished land management priori- ty. Countless activities, including livestock grazing, recreation, road building, logging, and mining, degrade soils on public lands. This article examines the roots of soil law in the United States and the handful of soil-related provisions buried in various public land and natural resource laws, finding that the lack of a public lands soil law leaves the soil resource under protected and ex- posed to significant harm. To remedy this regulatory gap, this article sketch- es the framework for a positive public lands soil protection law. This article concludes that because soils are critically important building blocks for nearly every ecosystem on earth, an holistic approach to natural resources protection requires that soils be protected to avoid undermining much of the legal protection afforded to other natural resources.

The article goes on:

Countless activities, including livestock grazing, recreation, road building, logging, mining, and irrigation degrade soils on public lands. Because there are no laws that directly address and protect soils on the public lands, consideration of soils in land use planning is usually only in the form of vaguely

conceived or discretionary guidelines and monitoring requirements. This is a major gap in the effort to provide ecosystem-level protection for natural re- sources.

The rise of an "ecosystem approach" in environmental and natural re- sources law is one of the most significant aspects of the continuing evolu- tion of this area of law and policy. One writer has observed that there is a

fundamental change occurring in the field of environmental pro- tection, from a narrow focus on individual sources of harm to a more holistic focus on entire ecosystems, including the multiple human sources of harm within ecosystems, and the complex so- cial context of laws, political boundaries, and economic institu- tions in which those sources exist.

As federal agencies focus increasingly on addressing environmental protec- tion from an holistic perspective under the current regime of environmental laws, a significant gap remains in the federal statutory scheme: protection of soils as a discrete and important natural resource. Because soils are es- sential building blocks at the core of nearly every ecosystem on earth, and because soils are critical to the health of so many other natural resources— including, at the broadest level, water, air, and vegetation—they should be protected at a level at least as significant as other natural resources. Feder- al soil law (such as it is) is woefully inadequate as it currently stands. It is a missing link in the effort to protect the natural world at a meaningful and effective ecosystem level.

... This analysis concludes that the lack of a public lands soil law leaves the soil resource under-protected and exposed to significant harm, and emas- culates the environmental protections afforded to other natural resources.

(Emphasis added.) The problems Lacy (2001) identifies of regulatory mechanisms exist in Regional and Forest-level standards and other guidance applicable for the proposed project.

Please provide estimates of current detrimental disturbance in all previously established activity areas in the watersheds affected by the proposal.

Please disclose the link between current and cumulative soil disturbance in project area watersheds to the current and cumulative impacts on water quantity and quali- ty. Please disclose if there are any WQLS streams or TMDL streams in the project area."

Objection: The Draft ROD and the FEIS is not compiling with the TMDL for the Blackfoot watershed. The EPA in their comments asked the Forest Service to contact MT DEQ and comply with the TMDL.

Remedy:

Choose the No Action Alternative or withdraw the DROD and work with MT DEQ to comply with the TMDL.

We said the following:

"Please disclose measures of, or provide scientifically sound estimates of, detrimental soil disturbance or soil productivity losses (erosion, compaction, displacement, noxious weed spread) attributable to off-road vehicle use.

Please disclose the results monitoring of weed treatments on the HNF that have been projected to signifi- cantly reduce noxious weed populations over time, or prevent spread. This is an ongoing issue of land productivity.

Please disclose how the proposed "treatments" would be consistent with Graham, et al., 1994 recommendations for fine and coarse woody debris, a necessary consideration for sustaining long-term soil productivity.

It has been well-established that site-specific Biological Evaluations (BEs) or Biological Assessments (BAs) must be prepared for all actions such as this. Further, the Forest Ser- vice Manual requires that BEs/BAs consider cumulative effects. The Forest Service Man- ual states that project BEs/BAs

must contain “a discussion of cumulative effects resulting from the planned project in relationship to existing conditions and other related projects” [FSM 2672.42(4)]. “Existing conditions” obviously are the current conditions of the resources as a result of past actions.

Published scientific reports indicate that climate change will be exacerbated by log- ging due to the loss of carbon storage. Additionally, published scientific reports indi- cate 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 Stonewall restoration and Fuels 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,

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and fully discuss the published scientific papers discussing climate change in these two contexts. At least the Forest Service should discuss the following studies:

- 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. Cli- matic change, wildfire, and conservation. Conservation Biology 18:4: 890 -902.
  Please evaluate all of the costs and benefits of this project. Please include a detailed list of all the costs to the agency and the public." Objection: The Forest Service did not adequately answer these questions. Almost no surveys were done. No baseline conditions were identified. The Remedy is to write a new Draft ROD and completely answer these questions.

• 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.

In new information raised in the FEIS it is clear that the despite the EIS's assertion that all cultural resources analysis complies with NEPA and the NHPA, the project have the potential to affect cultural resources and the Forest Ser- vice needs to send a rcompleted intensive culture resource survey report, pursuant to 36 CFR 800 to the SHPO for their review..

The MT SHPO has not yet received this survey. Currently this project is in violation of the National Historic Preservation Act and NEPA. The cultural surveys need to be done before the NEPA and NHPA process can be completed, which has not occurred. The EIS is also a violation of NEPA, NHPA, and NFMA since it stated that project was approved by the SHPO when it hasn't.

The remedy is to prepare a legally valid EIS comply with all NEPA, NHPA and NFMA requirements noted herein, and, if meeting all legal requirements or the No Action Alternative.

We wrote in our comments:

"**THE PROJECT VIOLATES SECTION 9 BECAUSE IT ALLOWS UNPERMITTED TAKE.**

The project allows unpermitted take of lynx, grizzly bear, wolverine, whitebark pine.

The agencies' failure to implement legally adequate and scientifically sound management direction for grizzly bears, lynx, wolverines, and whitebark pine at both the Helena National Forest level, through the Forest Plan, and at the regional level, violates the ESA as set forth below.

THE AGENCIES MUST COMPLETE A BIOLOGICAL ASSESSMENT, BIOLOGICAL OPINION, INCIDENTAL TAKE STATEMENT, AND MANAGEMENT DIRECTION FOREST PLAN AMENDMENT FOR THE

FOREST PLAN FOR WHITEBARK PINE.

The agencies do not have in place any forest plan biological assessment, biological opinion, incidental take statement, and management direction amendment for whitebark pine.

THE AGENCIES MUST PREPARE REGIONAL DIRECTION FOR WHITEBARK PINE.

The agencies do not have in place any recovery plan and regional management direction amendment for whitebark pine.

THE AGENCIES MUST CONDUCT ESA CONSULTATION FOR THE WHITEBARK PINE.

Whitebark pine is present throughout the analysis area for the Project. There may be whitebark pine in the proposed logging units:

The Stonewall Project may affect whitebark pine. The agencies' failure to conduct ESA consultation for a species that may be present and may be affected by the Project violates the ESA. Whitebark pine is cur- rently warranted for ESA listing and will be listed under the ESA this year, likely pursuant to litigation by the parties, and thus will be listed before this Project is complete, and possibly before the final decision authorizing this Project or before Project activities commence. Regardless, even candidate species must be included in a biological assessment. The Forest Service's biological assessment for the Project does not address whitebark pine.

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 pro- posed 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 remaining trees being infected with blister rust. The ability of whitebark pine to repro- duce 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 white- bark pine regeneration would continue to function as an important part of the sub- alpine 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 regen- eration 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.

The ROD and FEIS do not show that surveys have been conducted to determine pres- ence and abundance of whitebark pine re-generation or if whitebark pine seedlings and saplings are present, what measures will be taken to protect them. The Stonewall project should have included an alternative that excludes logging in the presence of whitebark pine regeneration (consider 'Daylighting' seedlings and saplings as an alter- native restoration method).

Restoring Whitebark Pine Forests of the Northern Rocky Mountains, USA Robert F. Keane and Russell A. Parsons 2010 wrote:

Whitebark pine (Pinus albicaulis) has been declining across much of its range in North America because of the combined effects of mountain pine beetle (Dendroctonus ponderosae) epidemics, fire exclusion poli- cies, and widespread exotic blister rust infections. Whitebark pine seed is dispersed by a bird, the Clark's nutcracker (Nucifraga columbiana), which caches in open, pattern-rich landscapes created by fire. This study was initiated in 1993 to investigate the effects of vari ous restoration treatments on tree populations, fuel dynamics, and vascular plant cover on five sites in the U.S. northern Rocky Mountains. The objective of this study was to restore whitebark pine ecosystems using treatments that emulate the native fire regime—

primarily combinations of prescribed fire, silvicultural cuttings, and fuel enhancement cuttings.

The main effects assessed included tree mortality, fuel consumption, and vegetation response measured just prior to the treatment, one year after the treatment(s), and five years posttreatment. While all treatments that included prescribed fire created suitable nutcracker caching habitat, with many birds observed caching seed in the burned areas, there has yet to be significant regeneration in whitebark pine. All burn treatments resulted in high mortality in both whitebark pine and subalpine fir (> 40%). Fine woody fuel load- ings marginally decreased after fire, but coarse woody debris more than doubled because of falling snags. Vascular species decreased in cover by 20% to 80% and remained low for five years. While the treatments were successful in creating conditions that favor whitebark pine regeneration, the high level of blister rust mortality in surrounding seed sources has reduced available seed, which then forced the nutcracker to reclaim most of the cached seed. Manual planting of whitebark pine seedlings is required to adequately restore these sites. A set of management guidelines is presented to guide restoration efforts.

LYNX

The conclusion that the project will have "No Effect" on Canada Lynx is in error. Page 8 of the DM says that the project area is within lynx critical habitat but "is currently un- suitable in an unsuitable condition for lynx." The DM illegally decided that it can make a new determination on what is suitable and unsuitable habitat for lynx. Page 266 of the Stonewall DEIS on the says lynx critical habitat applies to all NFS lands, mapped or not. The Department of Interior website defines critical habitat as habitat that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.

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http://www.fws.gov/midwest/endangered/saving/CriticalHabitatFactSheet.html

What is critical habitat?

Critical habitat is a term defined and used in the Act. It is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. An area is designated as "critical habitat" after we publish a proposed Federal regulation in the *Federal Register* and then we receive and consider public comments on the proposal. The final boundaries of the critical habitat area are also published in the *Federal Register*.

There is nothing in the legal definition of critical habitat that allows the Forest Service to say that they can adversely modify parts of lynx critical habitat because it is not important.

It is clear that this project is about protecting Forest Service jobs, corporate welfare for the timber indus- try and large Forest Service budgets rather than protecting and recovering lynx as the law requires. The Stonewall project is in violation of the Endangered Species Act.

As lynx home ranges are large, displaced lynx would move to an undisturbed area of the home range during project implementation. Implementation of the Stonewall project will harm lynx by

displacing them, which constitutes take in violation of the ESA.

The Endangered Species Act requires the FS to insure that the Stonewall 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 Forest Service must comply with the Northern Rockies Lynx Management Direction (NRLMD).

Because of instructions in the Northern Rockies Lynx Management Direction appeal de- cision the Forest Service is required to consult with the United States Fish and Wildlife

Service (USFWS). The Forest Service did not consult with the USFWS regarding lynx or the Northenr Rockies Lynx Management Direction (NRLMD), which is a violation of the En- dangered Species Act.

The NRLMD as applied in the Stonewall 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 treat- ment 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 Na- tional Forest. See NRLMD ROD, Attachment 1, pages 2-3. Allowing the agency to de- stroy or adversely modify any lynx critical habitat has the potential to appreciably re- duce 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 deter- mine 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 6% of lynx crit- ical habitat to be destroyed forest-wide will not appreciably reduce the conservation value.

The recent Salix decision in Montana Federal District Court ruled the FS has to formally consult on the NRLMD for lynx critical habitat and the Fleecer timber sale decision ruled the FS has to consult on the NRLMD for lynx travel corridors outside of lynx critical habitat. We are a nation of laws and the Forest Service needs to follow the law like the American public. Please find the court's order attached.

The FS also states that the project will result in disturbance to lynx in the project area and that lynx will move to an undisturbed area of the home range during project im- plementation.

In December 1999, the Forest Service and Bureau of Land Management completed their "Biological Assessment Of The Effects Of National Forest Land And Resource Man- agement Plans And Bureau Of Land Management Land Use Plans On Canada
Lynx" (Programmatic Lynx BA). The Programmatic Lynx BA concluded that the current programmatic land management plans "may affect, and are likely to adversely affect, the subject population of Canada lynx." The Lynx BA team recommended amending or revising Forest Plans to incorporate conservation measures that would reduce or elim- inate the identified adverse effects on lynx. The Programmatic Lynx BA's determination

means that Forest Plan implementation is a "taking" of lynx, and makes Section 7 formal consultation on the HNF Plan mandatory, before actions such as the proposed project are approved.

Continued implementation of the Forest Plan constitutes a "taking" of the lynx. Such taking can only be authorized with an incidental take statement, issued as part of a Bio- logical Opinion (B.O.) during of Section 7 consultation. The HNF must incorporate terms and conditions from a programmatic B.O. into a Forest Plan amendment or revision be- fore projects affecting lynx habitat, such as this one, can be authorized.

The Programmatic Lynx BA's "likely to adversely affect" conclusion was based upon the following rationale. Plans within the Northern Rockies:

- generally direct an aggressive fire suppression strategy within developmental land
  allocations. ...this strategy may be contributing to a risk of adversely

affecting the
lynx by limiting the availability of foraging habitat within these areas.

- allow levels of human access via forest roads that may present a risk of incidental
trapping or shooting of lynx or access by other competing carnivores. The risk of
road-related adverse effects is primarily a winter season issue.

- are weak in providing guidance for new or existing recreation developments. There-
fore, these activities may contribute to a risk of adverse effects to lynx.

- allow both mechanized and non-mechanized recreation that may contribute to a
risk of adverse effects to lynx. The potential effects occur by allowing compacted snow trails and plowed roads which may facilitate the movements of lynx competi- tors and predators.

- provide weak direction for maintaining habitat connectivity within naturally or artifi- cially fragmented landscapes. Plans within all geographic areas lack direction for coordinating construction of highways and other movement barriers with other re- sponsible agencies. These factors may be contributing to a risk of adverse effects to lynx.

- are weak in providing direction for coordinating management activities with adja- cent landowners and other agencies to assure consistent management of lynx habi- tat across the landscape. This may contribute to a risk of adverse effects to lynx.

- fail to provide direction for monitoring of lynx, snowshoe hares, and their habitats. While failure to monitor does not directly result in adverse effects, it makes the de- tection and assessment of adverse effects from other management activities diffi- cult or impossible to attain.

- forest management has resulted in a reduction of the area in which natural ecolog- ical processes were historically allowed to operate, thereby increasing the area po- tentially affected by known risk factors to lynx. The Plans have continued this trend. The Plans have also continued the process of fragmenting habitat and reducing its quality and quantity. Consequently, plans may risk adversely affecting lynx by po- tentially contributing to a reduction in the geographic range of the species.

- The BA team recommends amending or revising the Plans to incorporate conserva- tion measures that would reduce or eliminate the identified adverse effects to lynx.

The programmatic conservation measures listed in the Canada Lynx Conservation

Assessment and Strategy (LCAS) should be considered in this regard, once finalized. (Programmatic Lynx BA, at 4.)

The Programmatic Lynx BA notes that the LCAS identifies the following risk factors to lynx in this geographic area:

- Timber harvest and precommercial thinning that reduce denning or foraging
  habitat or converts habitat to less desirable tree species

- Fire exclusion that changes the vegetation mosaic maintained by natural dis-
  turbance processes

- Grazing by domestic livestock that reduces forage for lynx prey

- Roads and winter recreation trails that facilitate access to historical lynx habi-
  tat by competitors

- Legal (in Montana) and incidental trapping and shooting
- Predation
- Being hit by vehicles
- Obstructions to lynx movements such as highways and private land devel-
  opment

  As evidenced by the fact that the Canada lynx is now listed under the Endangered Species Act and has potential critical habitat in the project area, it is clear that the HNF must do more that follow its Forest Plan's weak protections provided for lynx. The NEPA analysis does not demonstrate that the project and its analysis are consistent with all Standards contained in the Lynx Conservation and Assessment Strategy (LCAS) for lynx critical habitat. This is a violation of NFMA and the ESA.

  The NEPA analysis does not adequately address the effects of logging on landscape pattern, which is es- sential for protection of critical habitat. The LCAS require that the FS:

  Maintain suitable acres and juxtaposition of lynx habitat through time. Design vegetation treat- ments to approximate historical landscape patterns and disturbance processes.

  If the landscape has been fragmented by past management activities that re- duced the quality of lynx habitat, adjust management practices to produce for- est composition, structure, and patterns more similar to those that would have occurred under historical disturbance regimes.

  The LCAS sets mandatory Standards that would modify or amend the Forest Plan— steps the HNF has thus far not accomplished. Important Programmatic Standards in- clude:

Identify key linkage areas that may be important in providing landscape connectivity within and between geographic areas, across all ownerships. (LCAS at 89.)

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. (Id.)

Map and monitor the location and intensity of snow compacting activities that coincide with lynx habitat, to facilitate future evaluation of effects on lynx as in- formation becomes available. (LCAS at 83.)

On federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU.

Among the standards set out in the LCAS are provisions to maintain denning habitat as discussed in the programmatic lynx BO:

Denning Habitat - Within developmental land allocations, existing Plan direction to maintain old growth habitat was judged to be adequate to provide for lynx denning habitat for all geographic areas except the Great Lakes. (BO at 31.)

However, the HNF cannot meet lynx denning requirements unless it is meeting Forest Plan old-growth requirements. The Programmatic BA's analysis of the ability of the Forest Plans, as "amended" by the LCAS, to prevent a "taking" of the lynx is based upon the Forests' meeting such

management standards. As the HNF has not yet proved it is in compliance with old-growth species' viability standards or ade- quately dealing with forest wide old-growth declines, the project may not be in compliance with the LCAS.

The impacts of both winter and non-winter motorized route densities must be ade- quately considered. The LCAS states, "the effects of open road densities on lynx are poorly understood" (LCAS at 95).

It is not clear that the HNF has a complete understanding of the current level of use of the project area for snowmobiles and other motorized recreational users. Please analyze the cumulative impacts on lynx from the additional new roads, additional skid trails, and other logging access routes to be constructed in the project area—roads/access routes that could be used by snowmobilers snowmobiles and other motorized recre- ational users, snowshoers, and cross country skiers long after the logging activities have stopped. These roads/ access routes can also impact lynx habitat during all seasons because of increased access for humans.

From Ruggiero, et al. (1999: "Lynx metapopulation dynamics operate at regional scales" (p. 24). There must be maps and adequate discussion of the connectivity issue in the DN, making it possible to see the landscape features that affect connectivity and metapopulation dynamics within and between LAUs both within and outside the project area, a goal of the LCAS mapping requirement.

The very existence of roads and compacted travel routes from motorized vehicles in snow adversely affect lynx because of the advantage provided for other predators that normally wouldn't be in portions of the project area in winter.

Any assumption that a project will not adversely impact the lynx simply because LCAS standards and guidelines are met has never been verified. These management guide- lines are merely a guess for lynx management, developed by the FS and other govern- ment agencies. There has never been an independent scientific peer review of these guidelines, including by lynx experts such as those who prepared the Ruggiero, et al. (1999) research paper upon which the LCAS is largely based.

Ruggiero, et al. (1999: "Lynx metapopulation dynamics operate at regional scales" shows that the project area is occupied lynx habitat.

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

Please utilize the NEPA process to clarify any roadless boundary issues. It is not ade- quate to merely accept previous, often arbitrary roadless inventories —unroaded ar- eas adjacent to inventoried areas were often left out. Additionally, there is a lot of public support for adding unroaded areas as small as 1,000 acres in size to the road- less inventory. We don't believe the DEIS adequately examined if these unroaded areas adjacent to roadless areas have wilderness qualities.

We requested in our scoping comments a careful analysis of the impacts to fisheries and water quality, including considerations of sedimentation, increases in peak flow, channel stability, risk of rain-on-snow events, and increases in stream water tempera- ture. This has not been done. Please disclose the locations of seeps, springs, bogs and other sensitive wet areas, and the effects on these areas of the project activities. Where livestock are permitted to graze, we asked that you assess the present condi- tion and continue to monitor the impacts of grazing activities upon vegetation diver- sity, soil compaction, stream bank stability and subsequent sedimentation. The DEIS does not adequately analyze this. This watershed has been proposed as bull trout crit- ical habitat. The project is not meeting the requirements of bull trout critical habitat.

!

Please disclose in the NEPA document the results of up-to-date monitoring of fish habitat and watershed conditions and how this project will affect the fish in the project area.

It is extremely important the FS disclose the environmental baseline for watersheds.

Generally, this means their condition before development or resource exploitation was initiated. For example, the baseline condition of a stream means the habitat conditions for fish and other aquatic species prior to the impacts of road building, logging, livestock grazing, etc. Therefore, proper disclosure of baseline conditions would mean estimates of stream stability, pool frequency conditions, and water tem- perature range—essentially the values of Riparian Management Objectives along with such parameters as sediment levels. When such information is provided, compar- ison with the current conditions (after impacts of development) will aid in the assess- ment of cumulative effects of all alternatives.

Prescribed fires and mechanical treatments may adversely affect soil productivity. NFMA requires the FS to “not allow significant or permanent

impairment of the productivity of the land." [36 C.F.R. § 219.27(a)(1).] NFMA requires the Forest Service to "ensure that timber will be harvested from Nation- al Forest System lands only where—soil, slope, or other watershed conditions will not be irreversibly damaged." [16 U.S.C. 1604 (g)(3)(E).]

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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 dramatical- ly with noxious weed invasion. Spotted knapweed (Centaurea bieber- steinii D.C.) impacts phosphorus levels at sites (LeJeune and Seastedt, 2001) and can hinder growth of other species with allelopathic mecha- nism. Specific to spotted knapweed, these traits can ultimately limit native species' ability to compete and can have direct impacts on species di- versity (Tyser and Key 1988, Ridenour and Callaway 2001).

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

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. Al- though the movement and cycling of many others are mediated by mi- crobes, 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 for- est growth, we must manage the microbes that add most of the N and that make N available for subsequent plant uptake. (Internal citations omitted.)

Lacy, 2001 examines the importance of soils for ecosystem functioning and points out the failure of most regulatory mechanisms to adequately address the soils issue. From the Abstract:

Soil is a critical component to nearly every ecosystem in the world, sustaining life in a variety of ways—from production of biomass to filtering, buffering and transformation of water and nutrients. While there are dozens of federal environmental laws protecting and addressing a wide range of natural resources and issues of environmental quality, there is a significant gap in the protection of the soil resource. Despite the critical importance of maintaining healthy and sustaining soils, conservation of the soil resource on public lands is generally relegated to a diminished land management priori- ty. Countless activities, including livestock grazing, recreation, road building, logging, and mining, degrade soils on public lands. This article examines the roots of soil law in the United States and the handful of soil-related provisions buried in various public land and natural resource laws, finding that the lack of a public lands soil law leaves the soil resource under protected and ex- posed to significant harm. To remedy this regulatory gap, this article sketch- es the framework for a positive public lands soil protection law. This article concludes that because soils are critically important building blocks for nearly every ecosystem on earth, an holistic approach to natural resources protection requires that soils be protected to avoid undermining much of the legal protection afforded to other natural resources.

The article goes on:

Countless activities, including livestock grazing, recreation, road building, logging, mining, and irrigation degrade soils on public lands. Because there are no laws that directly address and protect soils on the public lands, con-

sideration of soils in land use planning is usually only in the form of vaguely conceived or discretionary guidelines and monitoring requirements. This is a major gap in the effort to provide ecosystem-level protection for natural resources.

The rise of an "ecosystem approach" in environmental and natural re- sources law is one of the most significant aspects of the continuing evolu- tion of this area of law and policy. One writer has observed that there is a

fundamental change occurring in the field of environmental pro- tection, from a narrow focus on individual sources of harm to a more holistic focus on entire ecosystems, including the multiple human sources of harm within ecosystems, and the complex so- cial context of laws, political boundaries, and economic institu- tions in which those sources exist.

As federal agencies focus increasingly on addressing environmental protection from an holistic perspective under the current regime of environmental laws, a significant gap remains in the federal statutory scheme: protection of soils as a discrete and important natural resource. Because soils are es- sential building blocks at the core of nearly every ecosystem on earth, and because soils are critical to the health of so many other natural resources— including, at the broadest level, water, air, and vegetation—they should be protected at a level at least as significant as other natural resources. Feder- al soil law (such as it is) is woefully inadequate as it currently stands. It is a missing link in the effort to protect the natural world at a meaningful and effective ecosystem level.

... This analysis concludes that the lack of a public lands soil law leaves the soil resource under-protected and exposed to significant harm, and emasculates the environmental protections afforded to other natural resources.

(Emphasis added.) The problems Lacy (2001) identifies of regulatory mechanisms exist in Regional and Forest-level standards and other guidance applicable for the proposed project.

Please provide estimates of current detrimental disturbance in all previously estab-

lished activity areas in the watersheds affected by the proposal.

Please disclose the link between current and cumulative soil disturbance in project area watersheds to the current and cumulative impacts on water quantity and quali- ty. Please disclose if there are any WQLS streams or TMDL streams in the project area.

Please disclose measures of, or provide scientifically sound estimates of, detrimental soil disturbance or soil productivity losses (erosion, compaction, displacement, noxious weed spread) attributable to off-road vehicle use.

—
Please disclose the results monitoring of weed treatments on the HNF that have been projected to signifi- cantly reduce noxious weed populations over time, or prevent spread. This is an ongoing issue of land productivity.

Please disclose how the proposed “treatments” would be consistent with Graham, et al., 1994 recommendations for fine and coarse woody debris, a necessary considera- tion for sustaining long-term soil productivity.

It has been well-established that site-specific Biological Evaluations (BEs) or Biological Assessments (BAs) must be prepared for all actions such as this. Further, the Forest Ser- vice Manual requires that BEs/BAs consider cumulative effects. The Forest Service Man- ual states that project BEs/BAs must contain “a discussion of cumulative effects resulting from the planned project in relationship to existing conditions and other related projects” [FSM

2672.42(4)]. “Existing conditions” obviously are the current conditions of the resources as a result of past actions.

Published scientific reports indicate that climate change will be exacerbated by log- ging due to the loss of carbon storage. Additionally, published scientific reports indi- cate 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 Stonewall Vegetation 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 dis- cuss the published scientific papers discussing climate change in these two contexts. At least the Forest Service should discuss the attached following studies:

- 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

• 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, 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. Cli- matic change, wildfire, and conservation. Conservation Biology 18:4: 890 -902.

Please evaluate all of the costs and benefits of this project. Please include a detailed list of all the costs to the agency and the public. "
The Forest Service did not adequately answer these questions. Almost no surveys were done. No baseline conditions were identified.
The Remedy is to write a new Draft ROD and completely answer these questions and include a mandate protect fish, wildlife and soils as NFMA requires.
Objection:
The Website for the Helena N.F. http://www.fs.usda.gov/project/?project=30355

shows the legal notice for this project was posted on the website June 10, 2015.

This was new information. We did not raise this issue before because we did not know that the Helena N.F. would not comply with the following requirement.
"36 CFR Part 218.24 (3) Within 4 calendar days of the date of publication of the legal notice in the newspaper of record or, when applicable, the FEDERAL REGISTER, a digital image of the legal notice or FEDERAL REGISTER publication, or the exact text of the notice, must be made available on the Web. Such postings must clearly indicate the date the notice was published in the newspaper of record or FEDERAL REGISTER, and the name of the publication. "

The remedy is to prepare a legally valid EIS, comply with all NEPA, NHPA and NFMA requirements noted herein, and, if meeting all legal requirements (which as shown herein it does not) choose the No Action Alternative.

CONCLUSION

Pursuant to 36 CFR Part 218, and the APA, the Regional Office must re- spond to each of the above issues. As shown above, the Draft ROD and FEIS must be overturned and vacated and the project cannot be approved as currently reviewed and proposed.

Thank you. /s/
Michael Garrity (Lead Objector)

Executive Director

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