Data Submitted (UTC 11): 10/12/2020 6:00:00 AM
First name: Michael
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Organization: Alliance For The Wild Rockies
Title:
Comments: Dear Supervisor Steel;

Please accept these comments on the Mid-Swan Landscape Restoration and Wildland Urban Interface (Mid-Swan) Project Draft Environmental Impact Statement (DEIS), on behalf of Friends of the Clearwater, Native Ecosystems Council, and Alliance for the Wild Rockies, here after (Alliance).

The DEIS is not currently available on the Flathead N.F.'s web- site. In fact there is nothing available for any project not the Flathead N.F. website. This is a violation of NEPA. There for the comment period needs to be extended for 45 days after the Flathead National Forest gets its website fixed. The public can- not be expected to comment on a DEIS that it cannot read.

SEE LETTER PG 2 OF 63: Please see copy of a screen shot below that I had when I tried to look at the Flathead N.F. website for the Mid-Swan project on- line.

https://www.fs.usda.gov/nfs/11558/www/nepa/110188_FS- PLT3_5341085.pdf

Since the website is down, how can anyone submit comments since the email address you gave to submit comments does not work?

Alliance submits the following comments to guide the development of the environmental analysis for the proposal. The Forest

Service must complete a full environmental impact statement (EIS) for this Project because the scope of the Project will likely have a significant individual and cumulative impact on the environment. Alliance has reviewed the statutory and regulatory 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 ac- companying 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 or that need to be answered in an EA:

[bull] Disclose the acreages of past, current, and reasonably fore- seeable logging, grazing, and road-building activities with- in the Project area;

[bull] Solicit and disclose comments from the Montana Department of Fish, Wildlife, and Parks regarding the impact of the Project on wildlife habitat;

[bull] Solicit and disclose comments from the Montana Department of Environmental Quality regarding the impact of the

Project on water quality;

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

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

[bull] Disclose the snag densities in the Project area, and the method used to determine those densities;

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

[bull] Disclose the Flathead National Forest's record of compliance with state best management practices regarding stream sedimentation from ground-disturbing management activities;

[bull] Disclose the Flathead National Forest's record of compliance with its monitoring requirements as set forth in its Forest Plan;

[bull] Disclose the Flathead National Forest's record of compliance with the additional monitoring requirements set forth in previous DN/FONSIs and RODs on the Flathead Nation- al Forest;

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

[bull] Disclose the level of current noxious weed infestations in the Project area and the cause of those infestations;

[bull] Disclose the impact of the Project on noxious weed infestations and native plant communities;

[bull] Disclose the timeline for implementation;

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

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

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

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

determined by field review;

. 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 and the failure to compile data to establish a reliable inventory of sensitive species on the Forest;

. Disclose how Project complies with the Roadless Rule;

Please include a complete cost benefit analysis for the project. Please consult with the Montana State Historic Preservation Office to ensure the project complies with the National Historic Preservation Act.

CANADA LYNX VIABILITY

On page 325 of the EA, it discusses "Correlates of Canada Lynx Reproductive Success in Northwestern Montana" by Megan K. Kosterman.

And "Understanding and predicting habitat for wildlife conservation: the case of Canada lynx at the range periphery" by HOLBROOK et al that confirms Kosterman's findings.

Does the action alternative comply with Kosterman and Holbrook's recommendations?

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

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

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

LCAS requirements include:

Project planning[mdash]standards.

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

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

3. Maintain habitat connectivity within and between LAUs. Programmatic planning-standards.

1. Conservation measures will generally apply only to lynx habi- tat on federal lands within LAUs.

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

3. To facilitate project planning, delineate LAUs. To allow for assessment of the potential effects on an individual lynx, LAUs should be at least the size of area used by a resident lynx and contain sufficient year-round habitat.

4. To be effective for the intended purposes of planning and monitoring, LAU boundaries will not be adjusted for individual projects, but must remain constant.

5. Prepare a broad-scale assessment of landscape patterns that compares historical and current ecological processes and vegetation patterns, such as age-class distributions and patch size characteristics. In the absence of guidance developed from such an assessment, limit disturbance within each as follows: if more than 30

percent of lynx habitat within an LAU is currently in un- suitable condition, no further reduction of suitable conditions shall occur as a result o vegetation management activities by federal agencies.

Project planning-standards.

1. Management actions (e.g., timber sales, salvage sales) shall not change more than 15 percent of lynx habitat within a LAU to an unsuitable condition within a 10- year period.

Programmatic planning-standards.

1. Identify key linkage areas that may be important in providing landscape connectivity within and between geographic areas, across all ownerships.

2. Develop and implement a plan to protect key linkage areas on federal lands from activities that would create barriers to movement. Barriers could result from an accumulation of incremental projects, as opposed to any one project.

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

The U.S. Court of Appeals for the Ninth Circuit hold that "[o]nce an agency is aware that an endangered species may be present in the area of its proposed action, the ESA requires it to prepare a biological assessment . . . ." Thomas v. Peterson, 753

F. 2d 754, 763 (9thCir. 1985). If the biological assessment concludes that the proposed action "may affect" but will "not adversely affect" a threatened or endangered species, the action agency must consult informally with the appropriate expert agency. 50 C.F.R. [sect][sect] 402.14 (b)(1), 402.12(k)(1).

Canada lynx are listed under the ESA.

Canada lynx may be present in the project area and the proposed project may affect lynx by temporarily increasing road density, removing vegetative cover, and engaging in mechanized activities that could displace lynx.

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

Grizzly Bears

In May 2019, the United Nations released a report finding that the current rate of species extinction "is already at least tens to hundreds of times higher than it has averaged over the past 10 million years."1 The mountain caribou in the lower 48 states went extinct just a few months ago. Like the Cabinet-Yaak grizzly bear, the mountain caribou lived primarily on National Forest land, had a population of less than 50 individuals, and was threatened by logging and roads.

Alliance reiterates this point here because the agencies issued similar assurances regarding the mountain caribou that they now issue for the Cabinet-Yaak grizzly bear. For example, in litigation to protect the mountain caribou in this Court, the agencies represented that they would "meet caribou needs" by using the best available science and applying forest plan protections, and not approving logging projects unless they concluded that the project was "not likely to adversely affect" the mountain caribou. Jayne v. Sherman, 706 F.3d 994, 1001 (9th Cir.2013)(quoting FWS Biological Opinion).

In Jayne, these statements were accepted as adequate protections for the mountain caribou. Now the mountain caribou is extinct. It is not too late to avoid the same fate for the Cabinet-Yaak grizzly bear. As members of Congress stated when

1https://www.ipbes.net/sites/default/files/downloads/sp- m_unedited_advance_f or_posting_htn.pdf

they passed the ESA: "The agencies of Government can no longer plead that they can do nothing about [the grizzly bear]. They can, and they must. The law is clear." Tennessee Valley Auth. v. Hill, 437 U.S. 153, 184 (1978) (quoting Congressional Record).

The preservation of endangered species takes "priority over the 'primary missions' of federal agencies." Accordingly, courts

must "afford[] endangered species the highest of priorities," and act with "institutionalized caution" when reviewing ESA cases. Cottonwood Envtl. Law Ctr. v. USFS, 789 F.3d 1075, 1091 (9th Cir.2015). This Court holds that the "fundamental principle [of institutionalized caution] remains intact and will continue to guide district courts when confronted with requests for injunctive relief in ESA cases." Id. Although the district court did not apply this fundamental principle in this case, this Court may now remedy that error by issuing a temporary injunction pending appeal to preserve the status quo until a final decision is issued on the merits.

Measures implemented beginning in the 1990s for protection of the threatened grizzly bear have decreased the amount of road available for motorized public travel and management activities, while increasing security for grizzly bears as well as other wildlife species.

The well-established scientific consensus is that roads pose the most imminent risk to this grizzly population. Ninety percent of this population's Recovery Zone habitat is located on public National Forest lands. Thus, the federal government has the power to limit road density for grizzly bear protection on the vast majority of its habitat and thereby prevent the extinction of this grizzly population.

However, the U.S. Forest Service has prepared multiple years of monitoring reports regarding its implementation of road closures in grizzly habitat. These monitoring reports establish that these road closures are routinely violated and therefore ineffective:

members of the public regularly ignore signs, drive around gates or earthen berms, remove obstructions such as boulders or logs, or simply create their own new motorized routes.

Although these monitoring reports are only required for the Recovery Zone, there are incidental observations in these reports regarding closure violations found in grizzly habitat outside of the Recovery Zone, in the government-designated "Bears Out- side Recovery Zone" or "BORZ" areas.

Please disclose how often closed roads are monitored for closure violations. Please disclose all of the road closure violations in the Flathead National Forest over the last 5 years.

The recurring problem of road closure failures undermines the foundation of the Flathead Forest Plan management regime, which relies on these road closures to achieve certain densities of open and total roads both inside and outside the Recovery Zone. The agencies must address this problem and its impacts in an updated ESA consultation for the Flathead Forest Plan. The agencies must also address this problem and its impact in an up- dated ESA consultation and in the special use projects and is an- other reason that an EIS should be written for the spexial use Projects.

How does the FP complies with the "best available science" on grizzly recovery, or the 2012 Planning Rule that required Forest to emphasize "Connectivity?"

The majority of the Northern Continental Divide Grizzly Bear Ecosystem - is National Forest land, managed by the Forest Service. In terms of all of the human uses that affect grizzly bears, "[r]oads probably pose the most imminent threat to grizzly habitat today. The management of roads is one of the most powerful tools available to balance the needs of people with the needs of bears." Accordingly, the U.S. Fish & Wildlife Service (FWS) states: "It is strongly recommended that road management be given the highest priority within all recovery zones." Roads pose a threat to grizzly bears because roads provide hu- mans with access into grizzly bear habitat, which leads to direct bear mortality from accidental shootings and intentional poachings.

Human access also leads to indirect bear mortality by creating circumstances in which bears become habituated to human food and are later killed by wildlife managers. Human access also re- sults in indirect mortality by displacing grizzly bears from good habitat into areas that provide sub-optimal habitat conditions.

Displacement may have long term effects: "Females who have learned to avoid roads may also teach their cubs to avoid roads. In this way, learned avoidance behavior can persist for several generations of bears before they again utilize habitat associated with closed roads." Both open and closed roads displace grizzly bears: "grizzlies avoided roaded areas even where existing roads were officially closed to public use []. Females with cubs remained primarily in high, rocky, marginal habitat far from roads. Avoidance behavior by bears of illegal vehicular traffic, foot

traffic, and/or authorized use behind road closures may account for the lack of use of areas near roads by female grizzly bears in this area.

This research demonstrated that a significant portion of the habitat in the study area apparently remained unused by female grizzlies for several years. Since adult females are the most important segment of the population, this lack of use of both open- roaded and closed-roaded areas is significant to the population." In addition to having a significant impact on female grizzly bears, displacement may also negatively impact the survival rates of grizzly cubs: "survivorship of the offspring of females that lived in unroaded, high elevation habitat was lower than that recorded in other study areas in the [Northern Continental Di- vide Ecosystem].

The majority of this mortality was due to natural factors related to the dangers of living in steep, rocky habitats. This is important in that the effects of road avoidance may result not only in higher mortality along roads and in avoidance of and lack of use of the resources along roads, but in the survival of young when their mothers are forced to live in less favorable areas away from roads."

Current peer-reviewed science still finds that roads have the most significant impact on grizzly bear survival: "[o]f all the co- variates we examined, the amount of secure habitat and the density of roads in nonsecure habitat on public lands had the greatest effect on grizzly bear survival."

Roads, even if nominally "temporary," can still have long-lasting generational displacement effects on grizzly bears because females teach their cubs to avoid these areas.

These roads can therefore result in direct mortality, indirect mortality, and reduced cub survival. When applied to an extremely small, endangered2 population of fewer than 50 individuals that is already experiencing high mortality rates, failing recovery tar- gets, and hovering at less than half the numbers needed for viability, these harms are amplified and create a great cause for concern for Alliance's members. Neither the "imminent harm" posed by roads nor the dire status of this population are acknowledged by the agencies.

The project will not maintaining and enhancing grizzly habitat and will increase the potential for grizzly-human

conflicts in violation of NFMA, NEPA, the APA and the ESA.

The Forest does not have a good track record of keeping closed roads closed. The Forest Service does not disclose the road mileage behind these ineffective closures; therefore it is unclear how many miles of additional open and total roads must be added to the existing condition calculations as a result of these ineffective closures.

There are at least three problems with the FNF's record of amount of roads. First, because "undetermined" is a sub-category of "unauthorized" roads, it is possible that the particular un- determined roads at issue in this case were created[mdash]without authorization from the Forest Service[mdash]in the interim between the measurement of the Access Amendments baseline and the Forest Service's survey of existing roads for the Project.

All. for the Wild Rockies v. Savage, 897 F.3d 1025, 1036, n.18 (9th Cir. 2018). In light of these circumstances that (1) road closures/barriers are regularly breached but the Forest Service con- ducts no systematic monitoring to determine how many miles of illegal road use are occurring behind barriers each year, and (2) the Forest Service simply ignores illegal "undetermined" roads and does not include them in its calculations for open or total roads in the annual monitoring reports, the open and total road numbers in the monitoring reports are not accurately reflecting the conditions on the ground. It is therefore reasonable to assume that the baselines in the project area regularly exceeded because the reported conditions hover at or near the baseline.

Chronic recurring road closure breaches cannot reasonably be construed as "temporary;" and illegal road use does not fall within the scope of Access Amendment "temporary" roads.

The Forest Service and FWS have acknowledge that road closure breaches (and resulting illegal road use) are not addressed in the Revised Flathead Forest Plan. Nonetheless, the agencies argue that all road closure breaches regardless of whether they are chronically recurring and regardless of how long they last on the landscape must be construed as "temporary" road increases. Onto this premise, the agencies then bootstrap an additional argument that because certain specific types of temporary roads were addressed in the Access Amendment, that discussion must also apply to "temporary" road increases from illegal road use.

First, it is not reasonable to construe recurring illegal road use as "temporary" road density increases. The monitoring reports indicate that public users may repeatedly breach the same closure year after year. See, e.g., AR42:000059-62 (noting that boulders placed in 2015 have been removed and unauthorized users are again circumventing gate on Road 2236). Moreover, the Forest Service may take years to act on known violations. See, e.g., AR42:000061 ("The Clatter Creek gate (268) was included on the 2015 gate repair contract but after the bids came in the Clatter Creek gate was dropped due to repair costs for all gate re- pairs exceeding available funding. In BY2016 the gate remained damaged and ineffective."); see also AR43:000081-82 (note 2) (during planning for the Hanna Flats logging project in the Idaho Panhandle N.F., the Forest Service found illegal motorized use on 15.7 miles of road that were not included in the baseline but the agency postponed remedial action until implementation of the logging project; in the 2018 monitoring report, the agency concedes it has still not yet eliminated this illegal use); see also AR232:000767 (finding that four barriers did not effectively prevent motorized use but deferring any action to fix the problems).

Thus, while the Forest Service insists that all breaches are temporary, those same breaches may be recurring or may have last- ed for many years prior to discovery and remedial action, resulting in a chronic situation. The situation with the BORZ is a good illustration of this problem S although the Forest Service insists that it fixes all breaches as soon as possible, nonetheless at least four out of seven BORZ areas chronically fail to meet both the

open and total road baseline conditions from the Access Amendment, as shown above in the table in Section B.

Second, even assuming that illegal road use could be construed as "temporary," it still does not have the same effect as lawful temporary road use. A breach of a closure device that results in public motorized use in effect results in an open road. The Access Amendment severely restricts temporary increases in open roads: "immediately following completion of all mechanized harvest and post- harvest slash activities requiring use of the road, to allow motorized public use during the bear summer sea- son prior to the fall bear hunt (i.e., June 16 - August 31) for activities such as personal firewood collection. This public access would only be provided in cases where the mechanized harvest and/or post-harvest slash activities occurred during the same active bear year."

Thus, temporary increases in open roads are limited to a June 16-August 31 window, and may only occur in the same year in which logging activities have already occurred and used that particular road, presumably because grizzlies would have al-

ready been displaced from those areas. In contrast, illegal motorized use behind road closure breaches is not limited to a June

16-August 31 window, and is not limited to a single year entry on a road along and on which logging activities have already been occurring.

Moreover, illegal road use would also constitute an increase in total roads. However, temporary increases in total roads are only permitted if the roads are "effectively" gated to prevent public use during a project, (2) after project use, the roads are treated so as to "effectively prevent[] motorized access" and require no motorized access for maintenance for at least 10 years, and (3) upon project completion, the area is "returned to or below the baseline levels contained in Table 16" of the Access Amendment ROD. Obviously a road that has illegal road use is not "effectively" gated to prevent public use.

Thus, illegal road use does not comply with the restrictions set for lawful increases in temporary roads neither open nor closed in the Access Amendment and therefore cannot possibly have the same effects. It is simply implausible that unlimited illegal road use occurring at any time in any location would have the same effect on grizzly bears as Access Amendment temporary roads that are significantly restricted in both timing and location. Indeed, illegal road use is illegal precisely because the Forest Service has already closed these specific roads to protect grizzly bears. If illegal motorized use occurs on these roads that were closed to protect grizzly bears, it may displace grizzly bears from areas that they would otherwise not be displaced from.

Becasue of the serious impacts to grizzly bears, please demonstrate compliance with Forest Plan standards relevant to grizzly bears, and analyze the direct, indirect, and cumulative impacts to grizzly bears.

The Forest Service must comply with National Forest Management Act ("NFMA") and its implementing regulations. NFMA requires the Forest Service to ensure that site-specific management projects are consistent with the applicable forest plan. 16

U.S.C. [sect] 1604(i). Thus, the Forest Service must ensure that all aspects of the proposed action comply with the Flathead Pan- handle National Forests Land Management Plan.

Road density and habitat security standards used by the Flathead NF are patently deficient, partly because they are based on re- search that conflates behavioral phenomena such as avoidance and displacement with demographic phenomena, notably survival. The scale is wrong as well, given that exposure to mortality hazards logically accrues over years as a consequence of cumulative annual movements of bears vis-[agrave]-vis hazardous environs.

Compounding prospective problems with the project, proposed activities are concentrated in an area that is vital for facilitating movement of grizzly bears between core habitats. Project activi ties will diminish rather than

enhance security needed not only to facilitate transit of bears, but also increase odds that exposed bears will survive.

The extent to which poaching, malicious killing, or other suspect circumstances are associated with human-caused deaths is also instructive regarding the overall effectiveness of conflict mitigation efforts during 1999-2017 to offset the problematic effects of road-access and poaching. By its nature, malicious killing/ poaching is a criminal act undertaken by criminals. Such behavior is rooted in attitudes and outlooks that are notoriously unresponsive to education and 'outreach'. The phenomenon is about willful malfeasance. As such, limitations on road access coupled with improved law enforcement and successful prosecutions are logically the most appropriate redress[mdash]not, for example, conflict mitigation by a specialist who is not tasked primarily with law enforcement.

Before pursuing this any farther, some clarification of obfuscations in the dead bear database is needed. During 1999-2017 a number of deaths were ascribed to 'Undetermined' human causes, 'Poaching' or listed as 'Under investigation'. The first and last categories are not explicit, but nonetheless strongly suggestive. Certainly, 'Under investigation' suggests that the death occurred under suspicious circumstances warranting investigation[mdash]with a strong likelihood of either poaching or other un- warranted lethal action by the involved people. Such suspicions are rarely definitively resolved. 'Undetermined' is also more suggestive of malfeasance rather than innocence on the part of the involved people. Given the alternatives, such deaths are more defensibly allocated to causes more resistant than not to

1) malicious or otherwise suspect causes account for a large portion[mdash]if not majority[mdash]of grizzly bear deaths in the Northern Contintenal Divide Ecosystem; (2) that aggressive limitations to road access by the USFS are needed, especially in areas with concentrations of productive habitat (Proctor et al. 2015, 2017). F. Access Management is Critical to Limiting Malicious & Other Unjustified Killing

The consensus of relevant research is unambiguous about the link between road access and grizzly bear mortality. The more access, the more dead bears there are, with disproportionate concentrations near roads (Brannon et al. 1988; Benn & Herrero 2002; Nielsen et al. 2004; Wakkinen & Kasworm 2004; Boulanger & Stenhouse 2014; McLellan 2015; Proctor et al.

2017, 2018). Dead bears tend to be concentrated within 100 to 500 m of roads, averaging around 300 m ([plusmn] 195 m) among studies where distance was noted.

Unfortunately, there is a common conflation of the extent to which radio-marked grizzly bears spatially avoid roads with the geospatial configuration of mortality risk and, even more important, decrements in survival and population growth. These para- meters are not synonymous. Even though a bear might underuse habitats within a certain distance of roads, this does not translate into a 1:1 correlation with exposure to risk of human-related mortality during a bear's lifetime. Conflation of avoidance with mortality risk has led to the unstated assumption that the former can be used to set standards for the latter.

Please examine the cumulative effects of this project.

The Forest Service could unequivocally benefit grizzly bears in this area by the closure and retirement of roads.

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1. Will the Forest Service be considering binding legal standards for noxious weeds in its Land Management Plan?

2. Has the State Historic Preservation Office signed off that the Special Use projects comply with the Historic Preservation Act? The project is involution of the National Historic Preservation Act if this is not done.

5. How effective has the Forest Service been at stopping (i.e. preventing) new weed infestations from starting during logging and road building operations?

6. Is it true that new roads are the main cause of new noxious weed infestations?

7. How many road closure violations have been documented in the Swan Lake Ranger District of the Flathead N.F. in the last 5 years?

8. How do road closure violations affect habitat effectiveness calculations for big game?

9. Is it true that noxious weeds are one of the top threats to biodiversity on public lands?

10. How can the Forest Service be complying with NFMA's requirement to maintain biodiversity if it has no legal

standards that address noxious weeds?

[bull] Please disclose the Flathead National Forest's record of compliance with its monitoring requirements as set forth in its Forest Plan;

[bull] Please disclose the Flathead National Forest's record of compliance with the additional monitoring requirements set forth in previous DN/FONSIs and RODs on the Flathead National Forest;

[bull] Please disclose the results of the field surveys for threatened, endangered, sensitive, and rare plants in each of the proposed units;

[bull] Please disclose the level of current noxious weed infestations in the Project area and the cause of those infestations;

[bull] Please disclose the impact of the Project on noxious weed infestations and native plant communities;

How will the decreased elk security affect wolverines and have you formally consulted with the FWS on the effects of this project on wolverines? The wolverine was recently determined to be warranted for listing under the ESA. 75 Fed.

Reg.78030 (Dec. 14, 2010). It is currently a candidate species, proposed for listing.. The USFWS found that "[s]ources of hu- man disturbance to wolverines include . . . road corridors, and extractive industry such as logging . . .." . The BLM must go through ESA formal consultation for the wolverine for this project.

Please prepare a Biological Assessment and formally consult with the USFWS as required by law.

THE AGENCIES MUST COMPLETE A BIOLOGICAL AS- SESSMENT, BIOLOGICAL OPINION, INCIDENTAL TAKE STATEMENT, AND MANAGEMENT DIRECTION AMENDMENT FOR THE

RMP FOR THE WOLVERINE.

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

THE AGENCIES MUST CONDUCT ESA CONSULTATION FOR THE

WOLVERINE.

Wolverines may be present in the Project area. The Forest Ser- vice concedes that the Project "may affect" wolverines. The agencies' failure to conduct ESA consultation for a species that may be present and may be affected by the Project violates the ESA. Wolverines are currently warranted for listing under the ESA. As the agencies are well aware, the scheduled, court ordered listing date for the wolverine is this year. In fact, FWS has recently filed the a document in federal court committing to a listing date for the wolverine. Accordingly, the wolverine will be listed under the ESA before the final decision is made to authorize and implement this Project, and long before any project activities commence. Regardless, even candidate species must be included in a biological assessment.

Did the Forest Service survey for wolverines in the project area? Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. In

order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area. Ruggierio et al 2000;

Wolverines generally scavenge for ungulates along valley bot- toms and forage and den in remote, high-elevation areas (Hornocker and Hash 1981; Morgan and Copeland 1998). Thus if mangers wished to provide habitat for wolverines, they could pay particular attention in the planning process to ungulates winter range and other aspects of habitat quality for ungulates to provide a consistent supply of carcasses for wolverine to scavenge. In addition, wolverines generally avoid areas of human activity. To limit the threat of human-caused disturbance or mortality, managers could restrict access to portions of the landscape where wolverines are most likely to occur.

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

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

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

The wolverine was recently determined to be warranted for list- ing under the ESA. 75 Fed. Reg.78030 (Dec. 14, 2010). It is currently a proposed 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.

The Roadless areas in the project area would be designated as Wilderness under the Northern Rockies Ecosystem Protection

Act or (NREPA). Currently, sixteen Senators are sponsoring NREPA in the Senate (S. 827) and Forty-four Representatives are sponsoring NREPA in the House (H.R. 1321). NREPA recognizes this areas as an important wildlife corridor because of their importance as habitat for grizzly bears and lynx and connecting corridors for native species. Please find a copy of S. 827 and H.R. 1321 attached.

How would the project affect the wilderness potential of road- less lands and unroaded lands adjacent to roadless areas in the project area?

What are the redd counts in bull trout critical habitat in the project area? Please also provide the all the historical bull counts that you have in the project area?

Page 163 of the DEIS states: "It is likely that bull trout would be adversely affected by the implementation of either alternative B and C. A limited amount of short-term pulses of fine- grained sediment are expected to be delivered to bull trout habitat as roads within RMZs are constructed, decommissioned or stored, and when IRMZ are treated with prescribed fire. This sediment would potentially be delivered to bull trout critical habitat and primary spawning reaches and would likely result in reduced spawning/juvenile rearing success in the short-term, with long-term beneficial effects."

This is a violation the Clearwater Act, the ESA and NFMA.

Page 166 of th DEIS states: "Two streams (Jim Creek and Goat Creek) within the Mid- Swan project area are currently listed as impaired for sediment and on the MDEQ 303(d) list, al- though Jim Creek is currently proposed for delisting. All other waterbodies meet MDEQ water quality standards. Inventory and monitoring data show cold stream temperatures."

How will the project affect Goat Creek? If the project is in compliance with the Cleanwater Act, NFMA, and the ESA, Goat Creek should be proposed for delisting after the project is completed.

The EIS must fully and completely analyze the impacts to bull trout critical habitat and westslope cutthroat trout habitat. What is the standard for sediment in the Forest Plan? Sediment is one of the key factors impacting water quality and fish habitat. [See USFWS 2010]

The introduction of sediment in excess of natural amounts can have multiple adverse effects on bull trout and their habitat (Rhodes et al. 1994, pp. 16-21; Berry, Rubinstein, Melzian, and Hill 2003, p. 7). The effect of sediment beyond natural background conditions can be fatal at high levels. Embryo survival and subsequent fry emergence success have been highly correlated to percentage of fine material within the stream-bed (Shepard et al. 1984, pp. 146, 152). Low levels of sediment may result in sublethal and behavioral effects such as increased activity, stress, and emigration rates; loss or reduction of foraging capability; reduced growth and resistance to disease; physical abrasion; clogging of gills; and interference with orientation in homing and migration (McLeay et al. 1987a, p. 671; Newcombe and MacDonald 1991, pp. 72, 76, 77; Barrett, Grossman, and Rosenfeld 1992, p. 437; Lake and Hinch 1999, p. 865; Bash et al. 2001n, p. 9; Watts et al. 2003, p. 551; Vondracek et al. 2003, p. 1005; Berry, Rubinstein, Melzian, and Hill 2003, p. 33). The effects of in- creased suspended sediments can cause changes in the abundance and/or type of food organisms, alterations in fish habitat, and long-term impacts to fish populations (Anderson et al. 1996, pp. 1, 9, 12, 14, 15; Reid and Anderson 1999, pp. 1, 7-15). No threshold has been determined in which fine sediment addition to a stream is harmless (Suttle et al. 2004, p. 973). Even at low concentrations, fine-sediment deposition can decrease growth and survival of juvenile salmonids.

Aquatic systems are complex interactive systems, and isolating the effects of sediment to fish is difficult (Castro and Reckendorf 1995d, pp. 2-3). The effects of sediment on receiving water ecosystems are complex and multi-dimensional, and further compounded by the fact that sediment flux is a natural and vital process for aquatic systems (Berry, Rubinstein, Melzian, and Hill 2003, p. 4). Environmental factors that affect the magnitude of sediment impacts on salmonids include duration of exposure, frequency of exposure, toxicity, temperature, life stage of fish, angularity and size of particle, severity/magnitude of pulse, time of occurrence, general condition of biota, and availability of and access to refugia (Bash et al. 2001m, p. 11). Potential impacts caused by excessive suspended sediments are varied and complex and are often masked by other concurrent activities (Newcombe 2003, p. 530). The difficulty in determining which environmental variables act as limiting factors has made it difficult to establish the specific effects of sediment impacts on fish (Chapman 1988, p. 2). For example, excess fines in spawning gravels may not lead to smaller populations of adults if the amount of juvenile winter habitat limits the number of juveniles that reach adulthood. Often there are multiple independent variables with complex inter-relationships that can influence population size.

The ecological dominance of a given species is often deter- mined by environmental variables. A chronic input of sediment could tip the ecological balance in favor of one species in mixed salmonid populations or in species communities com- posed of salmonids and nonsalmonids (Everest et al. 1987, p.

120). Bull trout have more spatially restrictive biological requirements at the individual and population levels than other salmonids (USFWS (U.S. Fish and Wildlife Service) 1998, p. 5). Therefore, they are especially vulnerable to environmental changes such as sediment deposition.

Aquatic Impacts

[bull] Classify and analyze the level of impacts to bull trout and westslope cutthroat trout in streams, rivers and lakes from sediment and other habitat alterations:

Lethal: Direct mortality to any life stage, reduction in egg-to-fry survival, and loss of spawning or rearing habitat. These effects damage the capacity of the bull trout to produce fish

and sustain populations.

Sublethal: Reduction in feeding and growth rates, decrease in habitat quality, reduced tolerance to disease and toxicants, respiratory impairment, and physiological stress. While not leading to immediate death, may produce mortalities and population de- cline over time.

Behavioral: Avoidance and distribution, homing and migration,

and foraging and predation. Behavioral effects change the activity patterns or alter the kinds of activity usually associated with an unperturbed environment. Behavior effects may lead to immediate death or population decline or mortality over time.

Direct effects:

Gill Trauma - High levels of suspended sediment and turbidity can result in direct mortality of fish by damaging and clogging gills (Curry and MacNeill 2004, p. 140).

Spawning, redds, eggs - The effects of suspended sediment, de- posited in a redd and potentially reducing water flow and smothering eggs or alevins or impeding fry emergence, are related to sediment particle sizes of the spawning habitat (Bjornn and Reiser 1991, p. 98).

Indirect effects:

Macroinvertebrates - Sedimentation can have an effect on bull trout and fish populations through impacts or alterations to the macroinvertebrate communities or populations (Anderson, Tay- lor, and Balch 1996, pp. 14-15).

Feeding behavior - Increased turbidity and suspended sediment can affect a number of factors related to feeding for salmonids, including feeding rates, reaction distance, prey selection, and prey abundance (Barrett, Grossman, and Rosenfeld 1992, pp.

437, 440; Henley, Patterson, Neves, and Lemly 2000, p. 133;

Bash et al. 2001d, p. 21).

Habitat effects - All life history stages are associated with com- plex forms of cover including large woody debris, undercut banks, boulders, and pools. Other habitat characteristic important to bull trout include channel and hydrologic stability, sub- strate composition, temperature, and the presence of migration corridors (Rieman and McIntyre 1993, p. 5).

Physiological effects - Sublethal levels of suspended sediment may cause undue physiological stress on fish, which may reduce the ability of the fish to perform vital functions (Cederholm and Reid 1987, p. 388, 390).

Behavioral effects - These behavioral changes include avoidance of habitat, reduction in feeding, increased activity, redistribution and migration to other habitats and locations, disruption of territoriality, and altered homing (Anderson, Taylor, and Balch 1996,

p. 6; Bash et al. 2001t, pp. 19-25; Suttle, Power, Levine, and McNeely 2004, p. 971).

[bull] How will this project affect native fish? What is the current condition in the riparian areas?

How will this project protect rather than adversely impact fish habitat and water quality? No logging or road building should be done in riparian areas. There should not be any stream crossings. Roads should be decommissioned and removed, not upgraded and rebuilt.

[bull] Hauer, et al. (1999) found that bull trout streams in wilderness

habitats had consistent ratios of large to small and attached to unattached large woody debris. However, bull trout streams in watersheds with logging activity had substantial variation in these ratios. They identified logging as creating the most substantive change in stream habitats.

"The implications of this study for forest managers are twofold:

(i) with riparian logging comes increased unpredictability in the frequency of size, attachment, and stability of the LWD and (ii) maintaining the appropriate ratios of size frequency, orientation, and bank attachment, as well as rate of delivery, storage, and transport of LWD to streams, is essential to maintaining historic LWD characteristics and dynamics. Our data suggest that exclusion of logging from riparian zones may be necessary to maintain natural stream morphology and habitat features. Likewise, careful upland management is also necessary to prevent cumulative effects that re- sult in altered water flow regimes and sediment delivery regimes. While not specifically evaluated in this study, in general, it appears that patterns of upland logging space and time may have cumulative effects that could additionally alter the balance of LWD delivery, storage, and transport in fluvial systems.

These issues will be critical for forest managers attempting to prevent future detrimental environmental change or setting restoration goals for degraded bull trout spawning streams."Muhlfeld, et al. (2009) evaluated the association of local habitat features (width, gradient, and elevation), watershed characteristics (mean and maximum summer water temperatures, the number of road crossings, and road density), and biotic factors (the distance to the source of hybridization and trout density) with the spread of hybridization between native westslope cutthroat trout Oncorhynchus clarkiilewisi and introduced rainbow trout O. mykiss in the upper Flathead River system in Montana and British Columbia.

They found that hybridization was positively associated with mean summer water temperature and the number of upstream road crossings and negatively associated with the distance to the main source of hybridization. Their results suggest that hybridization is more likely to occur and spread in streams with warm water temperatures, increased land use disturbance, and proximity to the main source of hybridization.

The EIS must use the best available science to analyze how logging riparian habitat will impact native fish and water quality.

We wrote in our scoping comments:

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

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

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

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

"But what nobody talks about is all these other populations that, 50 years ago, these were all viable populations," he said Tuesday as part of a presentation on bull trout in

Rattlesnake Creek. "You know, Gold Creek, Belmont Creek, Trout Creek, there's a whole list of them. There's a whole bunch of them that are just basically on the verge of disappearing. And what we like to talk about are the ones that are doing OK. But in places like Lolo Creek and some Bitterroot tributaries, bull trout there are just barely hanging on."

Bull trout have faced a long, slow decline over the past century, to the point where they are now listed as a threatened species under the Endangered Species Act. Success is a relative term even in the places where they are doing well.

"They're nowhere near what they were historically," Knotek said of the tributaries where the populations are relatively healthy. "But they have a fair number of adult spawners coming in. People see them in the fishery. But we need to start looking at all these other tributaries that used to be bull trout spawning tributaries and recognize what's going on in the bigger picture. We're just looking at a very thin slice instead of looking at the whole thing. A lot of this stuff is just symptoms of what's going on at the larger scale. Bull trout are the canary. They're very susceptible to environmental change, whether it's temperature, whether it's physical, whether it's sediment. There's something going on in these drainages and the symptoms we're seeing are the bull trout distribution is shrinking, we're losing populations and we're seeing expansion of nonnatives."

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

Knotek was the featured presenter Friday for a discussion on restoration efforts and the importance of Rattlesnake

Creek as a bull trout habitat. The event was organized by the Clark Fork Coalition, a nonprofit in Missoula that aims to protect water quality for the 22,000-square-mile Clark Fork River Basin.

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

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

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

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

In Rattlesnake Creek, biologists have conducted redd counts of the migratory population in the lower reaches since 1999. There is a healthy resident population in the upper reaches, but researchers are more interested in the

fish that actually migrate to the Clark Fork River. The results have been disturbing.

They found a high of 36 in 2006 and 24 in 2008, before Milltown Dam was removed. There was an expected drop to just four redds - spawning beds - after the dam was removed in 2009, because of the massive disturbance.

However, the number of redds has not bounced back since, and researchers found just six last year.

"That tells us that it wasn't just the dam removal that caused it, because they should be recovering by now," Knotek said. "And there are lots of populations like this stream that are not doing well but need more attention. We've got a problem here, but it's not inconsistent with other tributaries. There's something bigger going on."

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

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

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

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

Knotek believes that a "ramping up" of current conservation work is the only thing that can save bull trout populations.

Fish screens, the removal of dams, awareness of anglers and water conservation - especially by people us- ing stream irrigation to water their lawns - is crucial.

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

As Knoteck pointed out, bull trout need clear, cold mountain waters to spawn and require clean gravel beds, deep pools, com- plex cover, good in-stream flows in the fall and large systems of interconnected waterways for their migrations.

Page 66 of the EA shows the total amount of sediment currently going into the streams in the project area per year is 286 tons. Under Alternative 2 this will increase to 511 tons of sediment per year. Under Alternative 3 is will increase to 461.3 tons per year and under alternative 4 it will increase to 516 tons per year. The amount of sediment going into the streams will barely go down post project. Assuming your table is accurate, how many years it will take post- project to make up for all of the increase in sediment during the project? Will there be any

bull trout left in the streams by then? How many bull trout will be killed during the implementation of the project?

How will the Mid-Swan project make the waters clearer in the short term?

How will the Mid-Swan project make the waters colder in the short term?

How will the Mid-Swan project make the gravel beds of the streams int he project area cleaner in the short and long term?

How will the Mid-Swan project make the affect deep pools in streams in the project area in the short and long term?

How will the Mid-Swan project make the affect complex cover over the streams in the project area in the short and long term?

How will the Mid-Swan project make the affect the in-stream flows in the fall in the short and long term?

How will the Mid-Swan project make the affect large systems of interconnected waterways for bull trout migrations?

Critical habitat receives protection under section 7 of the Endangered Species Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. There is no exception for the short run? How long is the project scheduled to last?

Will this project adversely modify bull trout critical habitat in the short run?

How will the Mid-Swan project affect the temperature of the streams in the project area including bull trout critical habitat?

Will all of the proposed logging increase the temperature of the streams in the project area?

Will all of the proposed road building and road use by log truck, clearcutting, and other logging put more sediment into streams in the project area?

How will this affect bull trout and bull trout critical habitat?

When was the last time the project area was surveyed for bull trout?

What was the results of these surveys?

The EIS does not characterize or evaluate the project area water- sheds based on the Watershed Condition Framework or the base- line condition developed for bull trout. We do not know what the current condition of streams are in the project area, i.e., are they functioning acceptably, at risk or at unacceptable risk? And for what ecosystem parameters? How will this project affect stream function, i.e., degrade, maintain, restore?

[bull] The project relies on BMPs to protect water quality and fish habitat. First, there is no evidence that application of BMPs actually protects fish habitat and water quality.

[bull] Second, BMPs are only maintained on a small percentage of roads or when there is a logging project.

BMPs fail to protect and improve water quality because of the allowance for "naturally occurring degradation." In

Montana, "naturally-occurring degradation" is defined in ARM 16.20.603(11)

as that which occurs after application of "all reasonable land, soil and water conservation practices have been applied." In other words, damage caused directly by sediment (and other pollution) is acceptable as long as BMPs are applied. The result is a never-ending, downward spiral for water quality and native fish. Here's how it works:

[bull] Timber sale #1 generates sediment damage to a bull trout stream, which is "acceptable" as long as BMPs are applied to project activities.

[bull] "Natural" is then redefined as the stream condition after sediment damage caused by Timber Sale #1.

[bull] Timber sale #2 - in the same watershed - sediment damage would be acceptable if BMPs are applied again - same as was done before.

[bull] "Natural" is again redefined as the stream condition after sediment damage caused by Timber Sale#2.

The downward spiral continues with disastrous cumulative effects on bull trout, westslope cutthroat trout and most aquatic life. BMPs are not "reasonable." Clearly, beneficial uses are not being protected. In Montana, state water quality policy is not being followed. [sect] 75-5-101 et seq. and ARM 16.20.701 et seq.

[bull] How will the project affect climate change ?

The U.S. Fish and Wildlife Service found that bull trout are exceptionally sensitive to the direct, indirect, and cumulative effects of roads. Dunham and Rieman demonstrated that disturbance from roads was associated with reduced bull trout occurrence. They concluded that conservation of bull trout should involve protection of larger, less fragmented, and less disturbed (lower road density) habitats to maintain important strongholds and sources for naturally recolonizing areas where populations have been lost. (USFS 2000, page 3-82.

Hitt and Frissell showed that over 65% of waters that were rated as having high aquatic biological integrity were found within wilderness-containing subwatersheds.

Trombulak and Frissell concluded that the presence of roads in an area is associated with negative effects for both terrestrial and aquatic ecosystems including changes in species composition and population size. (USFS 2000, pages 3-80-81).

"High integrity [forests] contain the greatest proportion of high forest, aquatic, and hydrologic integrity of all are dominated by wilderness and roadless areas [and] are the least altered by management. Low integrity [forests have] likely been altered by past management are extensively roaded and have little wilder- ness." (USFS 1996a, pages 108, 115 and 116).

"Much of this [overly dense forest] condition occurs in areas of high road density where the large, shade-intolerant, insect-, dis- ease- and fire-resistant species have been harvested over the past 20 to 30 years. Fires in unroaded areas are not as severe as in the roaded areas because of less surface fuel, and after fires at least some of the large trees survive to produce seed that regenerates the area. Many of the fires in the unroaded areas produce a forest structure that is consistent with the fire regime, while the fires in the roaded areas commonly produce a forest structure that is not in sync with the fire regime. In general, the effects of wildfires in these areas are much lower and do not result in the chronic sediment delivery hazards exhibited in areas that have been roaded." (USFS 1997a, pages 281-282).

"Increasing road density is correlated with declining aquatic habitat conditions and aquatic integrity An intensive

review of the literature concludes that increases in sedimentation [of streams] are unavoidable even using the most cautious roading methods." (USFS 1996b, page 105).

"This study suggests the general trend for the entire Columbia River basin is toward a loss in pool habitat on managed lands and stable or improving conditions on unmanaged lands." (McIntosh et al 1994).

"The data suggest that unmanaged systems may be more structurally intact (i.e., coarse woody debris, habitat diversity, riparian vegetation), allowing a positive interaction with the stream processes (i.e., peak flows, sediment routing) that shape and maintain high-quality fish habitat over time." (McIntosh et al 1994).

"Although precise, quantifiable relationships between long-term trends in fish abundance and land-use practices are difficult to obtain (Bisson et al. 1992), the body of literature concludes that land-use practices cause the simplification of fish habitat." (McIntosh et al 1994).

"Land management activities that contributed to the forest health problem (i.e., selective harvest and fire suppression) have had an equal or greater effect on aquatic ecosystems.

If we are to restore and maintain high quality fish habitat, then protecting and restoring aquatic and terrestrial ecosystems is essential." (McIntosh et al 1994).

"Native fishes are most typically extirpated from waters that have been heavily modified by human activity, where native fish assemblages have already been depleted, disrupted, or stressed []." (Moyle et al 1996).

"Restoration should be focused where minimal investment can maintain the greatest area of high-quality habitat and diverse aquatic biota. Few completely roadless, large watersheds remain in the Pacific Northwest, but those that continue relatively undisturbed are critical in sustaining sensitive native species and important ecosystem processes (Sedell, et. al 1990; Moyle and Sato 1991; Williams 1991; McIntosh et al. 1994;

Frissell and Bayles 1996). With few exceptions, even the least disturbed basins have a road network and history of logging or other human disturbance that greatly magnifies the risk of deteriorating riverine habitats in the watershed." (Frissell undated).

"[A]llocate all unroaded areas greater than 1,000 acres as Strongholds for the production of clean water, aquatic and riparian-dependent species. Many unroaded areas are isolated, relatively small, and most are not protected from road construction and subsequent timber harvest, even in steep areas. Thus, immediate protection through allocation of the unroaded areas to the production of clean water, aquatic and riparian-dependent re- sources is necessary to prevent degradation of this high quality habitat and should not be postponed." (USFWS et al 1995).

"Because of fire suppression, timber harvest, roads, and white pine blister rust, the moist forest PVG has experienced great changes since settlement of the project area by Euroamericans.

Vast amounts of old forest have converted to mid seral stages."(USFS/BLM 2000, page 4-58).

"Old forests have declined substantially in the dry forest PVG []. In general, forests showing the most change are those that have been roaded and harvested. Large trees, snags, and coarse woody debris are all below historical levels in these areas."

(USFS/BLM 2000, page 4-65).

"High road densities and their locations within watersheds are typically correlated with areas of higher watershed sensitivity to erosion and sediment transport to streams. Road density also is correlated with the distribution and

spread of exotic annual grasses, noxious weeds, and other exotic plants. Furthermore, high road densities are correlated with areas that have few large snags and few large trees that are resistant to both fire and infestation of insects and disease. Lastly, high road densities are correlated with areas that have relatively high risk of fire occurrence (from human caused fires), high hazard ground fuels, and high tree mortality." (USFS 1996b, page 85, parenthesis in original).

In simpler terms, the Forest Service has found that there is no way to build an environmentally benign road and that roads and logging have caused greater damage to forest ecosystems than has the suppression of wildfire alone. These findings indicate that roadless areas in general will take adequate care of them- selves if left alone and unmanaged, and that concerted reductions in road densities in already roaded areas are absolutely necessary.

Indeed, other studies conducted by the Forest Service indicate that efforts to "manage" our way out of the problem are likely to make things worse. By "expanding our efforts in timber harvests to minimize the risks of large fire, we risk expanding what are well established negative effects on streams and native salmonids. The perpetuation or expansion of existing road net- works and other activities might well erode the ability of [fish] populations to respond to the effects of large scale storms and other disturbances that we clearly cannot change." (Reiman et al 1997).

The following quotes demonstrate that trying to restore lower severity fire regimes and forests through logging and other management activities may make the situation worse, compared to allowing nature to reestablish its own equilibrium. These statements are found in "An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins, Volume 3 (ICBEMP):

"Since past timber harvest activities have contributed to degradation in aquatic ecosystems, emphasis on timber harvest and thinning to restore more natural forests and fire regimes represent risks of extending the problems of the past." (ICBEMP page 1340).

"Proposed efforts to reduce fuel loads and stand densities often involve mechanical treatment and the use of prescribed fire.

Such activities are not without their own drawbacks -- long-term negative effects of timber harvest activities on aquatic ecosystems are well documented (see this chapter; Henjum and others 1994; Meehan 1991; Salo and Cundy 1987)." (ICBEMP page 340).

"Species like bull trout that are associated with cold, high elevation forests have probably persisted in landscapes that were strongly influenced by low frequency, high severity fire regimes. In an evolutionary sense, many native fishes are likely well acquainted with large, stand-replacing fires." (ICBEMP page 1341).

"Attempts to minimize the risk of large fires by expanding timber harvest risks expanding the well-established negative effects on aquatic systems as well. The perpetuation or expansion of existing road networks and other activities might well erode the ability of populations to respond to the effects of fire and large storms and other disturbances that we cannot predict or control (National Research Council 1996). (ICBEMP page 1342).

"Watersheds that support healthy populations may be at greater risk through disruption of watershed processes and degradation of habitats caused by intensive management than through the effects of fire." (ICBMP page 1342).

"Timber harvest, through its effects on forest structure, local microclimate, and fuels accumulation, has increased fire severity more than any other recent human activity. If not accompanied by adequate reduction of fuels, logging (including salvage of dead and dying trees) increases fire hazard by increasing surface dead fuels and

changing the local microclimate. Fire intensity and expected fire spread rates thus increase locally and in areas adjacent to harvest". (USFS 1996c, pages 4-61-72).

"Logged areas generally showed a strong association with in- creased rate of spread and flame length, thereby suggesting that tree harvesting could affect the potential fire behavior within landscapes...As a by-product of clearcutting, thinning, and other tree-removal activities, activity fuels create both short- and long- term fire hazards to ecosystems. Even though these hazards diminish over time, their influence on fire behavior can linger for up to 30 years in dry forest ecosystems of eastern Oregon and Washington". (Huff et al 1995).

The answer, therefore, is not to try managing our way out of this situation with more roads and timber harvest/management. In summary:

[bull]Roads have adverse effects on aquatic ecosystems. They facilitate timber sales which can reduce riparian cover, increase water temperatures, decrease recruitment of coarse woody debris, and disrupt the hydrologic regime of watersheds by changing the timing and quantity of runoff. Roads themselves disrupt hydro- logic processes by intercepting and diverting flow and contributing fine sediment into the stream channels which clogs spawning gravels. High water temperatures and fine sediment degrade native fish spawning habitat.

According to the U.S. Forest Service 82% of all bull trout populations and stream segments range-wide are threatened by degraded habitat conditions. Roads and forest management are a major factor in the decline of native fish species on public lands in the Northern Rockies and Pacific Northwest.

Economics. The economic analysis is incomplete and does not fully explain all of the costs of the project.

Page x of the DEIS states one of the purposes of the project is to: "Protect, enhance, and restore large trees, old forest structure, lynx habitat, western white pine and whitebark pine;"

How specifically with the Mid-Swan project Protect, enhance, and restore large trees, old forest structure, lynx habitat, western white pine and whitebark pine?

What science shows that logging and road building will enhance lynx habitat?

What science shows that logging and road building will enhance and restore large trees?

Thank you for your time.

ATTACHMENTS:

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