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Comments: Please find attached our comments on the Lolo National Forest Land Management Plan Revision. I submitted or attachments for our comments a few minutes earlier.

March 31, 2024

Lolo National Forest Supervisor's Office

Attn: Amanda Milburn - Lolo Plan Revision

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Missoula, MT 59804

SM.FS.LFNRevision@usda.gov

Dear Ms. Milburn;

Thank you for the opportunity to comment on the Proposed Action (PA) for the revised Lolo National Forest Plan.

Page A10-1 of the Proposed Action states:

The Lolo National Forest Land Management Plan retains the decision for managing Canada lynx habitat from the 2007 Northern Rockies Lynx Management Direction Record of Decision. In 2007, the Northern Rockies Lynx Management Direction amended the existing plans of 18 national forests in Montana, Idaho, Wyoming, and Utah, including the Custer Gallatin National Forest. The record of decision was signed by the regional foresters of the USDA Forest Service Northern Region, Intermountain Region, and Rocky Mountain Region on March 23, 2007.

Why are you mentioning the Custer Gallatin National Forest? Shouldn't the document be focused on the Lolo National Forest?

Page A10-1 of the Proposed Action continues:

The purpose of the Northern Rockies Lynx Management Direction was to incorporate into national forest plans management direction that conserves and promotes recovery of Canada lynx by reducing or eliminating adverse effects from land management activities on National Forest System lands, while preserving the overall multiple use direction in existing plans. In retaining the Northern Rockies Lynx Management Direction, the Lolo National Forest Land Management Plan carries forward the objectives, standards, and guidelines that were developed to conserve the Canada lynx. The use of the terms "standards," and "guidelines" in the Northern Rockies Lynx Management Direction is consistent with the definitions of these terms found in the Lolo National Forest Land Management Plan. The definition of "objectives" in the Northern Rockies Lynx Management Direction is consistent with the definition of "desired conditions" found in the Lolo National Forest Land Management Plan. The Lolo National Forest Land Management Plan thus defines the Northern Rockies

Lynx Management Direction "objectives" as "desired conditions."

The Northern Rockies Lynx Management Direction in this appendix is incorporated into the revised Lolo Land Management Plan in its entirety, to include required monitoring within the Northern Rockies Lynx

Management Direction and those terms and conditions that were incorporated from the U.S. Fish and Wildlife Service Biological Opinion on the Northern Rockies Lynx Management Direction.

The 2017 Species Status Assessment (SSA) notes repeatedly that the effectiveness of the NRLMD has never been officially evaluated, including references that effectiveness is "uncertain," or that effectiveness is "likely" or "assumed" or "most certainly" benefiting lynx conservation (e.g., SAA (2017) at 3, 21, 22, 36, 37, 57, 137, 155, 158). The SAA at 219 concludes that the NRMLD "is likely" to continue to support conservation and restoration of lynx, while this document at 231 notes that "uncertainty" remains as to its effectiveness. While the SSA (2023) claims that the NRLMD has been demonstrated to be effective in conserving lynx, the research on which this claim was based was never cited in violation of NEPA, NFMA, the APA and the ESA.

In addition, the population trend of lynx within Unit 3 has not been effectively monitored (e.g., SSA 2017 at 3, 18, 21, 36, 107, 140, 143). The Draft Recovery Plan at Table 2, page 14, identifies the "estimated" lynx population size in Unit 3 as between 200-300 animals, based on expert opinion or published estimates of carrying capacity. In 2009, Dr. John Squires provided a lynx population estimate in Unit 3 in a recorded interview as approximately 300 animals (McMillion 2009). This is the same maximum number estimated today, 15 years later. It would appear that in the time since the NRLMD was implemented in 2007, no increases in lynx populations in Unit 3 are "estimated" in violation of NEPA, NFMA, the APA and the ESA.

Measuring the effectiveness of the NRLMD on local lynx population trends is essentially impossible as the NRLMD has no measurable habitat standards in violation of NEPA, NFMA, the APA and the ESA.

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The NRLMD has only 2 habitat standards for lynx. One is Standard VEG S1, which requires that within Lynx Analysis Units (LAUs), only 30% of "mapped lynx habitat" can be in a clearcut condition (updated to "early stand initiation stage" instead of "stand initiation stage") that has not regenerated and developed into winter snowshoe hare habitat (usually trees extending over the winter snows)(NRLMD ROD at Attachment 3), a period that is estimated to take 20-40 years. This 30% restriction does not

include any forest habitat within a LAU that is not mapped as lynx habitat. This 30% restriction does not include any natural openings within a LAU. This percentage of non-lynx habitat can be considerable within LAUs. In effect, the total amount of openings allowed in a LAU is greater than 30%, as it will include clearcuts in forests identified as non-lynx habitat, plus all natural openings. Since there is no actual limit on openings within a lynx home range as per the NRLMD, the effect of the 30% standard cannot be measured because this would not include all openings within a LAU.

The NRLMD has one other habitat standard, which is Standard ALL S1, which requires vegetation management actions to "maintain" habitat connectivity across an entire LAU, including all non-lynx habitat. There are no actual definitions included in this standard or in the NRLMD FEIS/ROD as to what constitutes maintaining connectivity. To date, we have not observed any actual definitions or measurements as to how vegetation projects affect connectivity within occupied lynx habitat within USFS Regions 1 and 4, or as applied by the FWS in consultations on vegetation treatments in lynx habitat. Standard ALL S1 is always claimed in Regions 1 and 4 to be maintained in spite of planned and existing vegetation treatments, due to the lack of any definitions of what connectivity entails. There is an actual scientific definition of "maintained" lynx habitat connectivity within lynx habitat. Connectivity would consist of roughly 70% of a home range, by adding the 50% mature forest habitat and 20% advanced regeneration forests reported for lynx breeding habitat in Unit 3 (Holbrook et al. 2019; Kosterman et al. 2018). Both habitats, as measured in these research publications would provide travel cover for lynx due to densities of forest structure. This 70% habitat connectivity for lynx based on the current best science is surprisingly close to the habitat connectivity recommendations provided by Brittell et al. (1989 at Table 2), or 35 years ago; this document recommended 30% foraging habitat, 30% travel habitat, and 6% denning habitat, which would provide 68% connectivity within a lynx home range.

In spite of a lack of monitoring of the effectiveness of the NRLMD to conserve and restore lynx in Unit 3, the current best science clearly demonstrates this management direction will not conserve and restore lynx populations in Unit 3 in violation of NEPA, NFMA, the APA and the ESA.

The NRLMD (2007) was based on the Lynx Conservation and Assessment (LCAS 2000), which was in a small part, based on Brittell et al. (1989). The reference to use of Brittell et al. (1989) "in part" is because only the 30% opening standard in mapped lynx habitat of the NRLMD was based on Brittell et al. (1989). This was noted in the NRLMD ROD at 9 and 16, and in the NRLMD FEIS at page 72. We could not find anywhere in the LCAS (2000) where the 30% clearcut standard was attributed to Brittell et al. (1989); the basis for this recommendation in the

LCAS was never clear as to how it was based on the current best science.

While the Brittell et al. (1989) guidelines for lynx habitat management included a host of recommendations, only the 30% openings was incorporated into the LCAS (2000) and NRLMD (2007) documents. These other conservation recommendations never used from Brittell et al. (1989) include management of lynx habitat within every 640 acres (page 99), including natural openings within a 30% opening threshold (page 33), maintaining lodgepole pine stands instead of converting to other more commercially valuable stands (page 92, 101), keeping openings under 600-1200 feet wide, with optimum opening width of 300 feet (page 102), keeping roads to a minimum (page 33), limiting clearcuts to 20-40 acres (page 101), managing forest stands as 40-acre units (page 99), emphasizing lodgepole pine (75% of landscape) as a key lynx habitat characteristic (page 97), and developing monitoring procedures to address the impact of forest activities and these habitat recommendations on lynx conservation (page 95). As noted by Brittell et al. (1989) they were providing recommendations for lynx conservation that required monitoring to ensure validity. The current best science clearly indicates that the 30% clearcut standard in the NRLMD is invalid and has likely allowed vast habitat losses within occupied lynx habitat in Unit 3.

The following are the most notable flaws of the NRLMD (2007) in regards to conservation and recovery of the threatened Canada lynx in violation of NEPA, NFMA, the APA and the ESA.

1. The allowance of 30% young clearcuts within an LAU is up to 6 times more openings than has been found in breeding lynx habitat. Kosterman et al. (2018) and Holbrook et al. (2019) reported that in lynx breeding habitat, openings in both core and the overall home range averaged 4-5%. The allowed percentage of openings in the NRLMD, as was previously noted, is actually higher than 30%, as natural openings and clearcuts in forests defined as non-lynx habitat are not counted. The actual amount of openings in LAUs allowed by the NRLMD is thus even greater than 6 times recommended by the current best science. Please find Kosterman et al. (2018) and Holbrook et al. (2019) attached.

2. The NRLMD and therefore the Revised Forest Plan have no standard for any level of mature forest habitat within a LAU. The current best science identifies breeding lynx habitat as having from 50-60% mature forest habitat within a home range (Kosterman et al. 2018; Holbrook et al. 2019; also reported in Olson et al. 2023). Although the NRMLD has a requirement outside

of the Wildland Urban Interface (WUI) to maintain multi-storied older forest habitat within mapped lynx habitat, any current level of these multi-storied older stands outside the WUI and within mapped lynx habitat is acceptable, even if below 50%.

3. The NRLMD and therefore the Revised Forest Plan do not define the categories of lynx/hare habitat by the current best science, so habitat conditions within lynx habitat defined by the NRLMD and the current best science cannot be compared. The current best science defines lynx habitat in 4 categories: sparse forest, stand-initiation forest, advanced regeneration forest, and mature forest (Holbrook et al. 2017a). Each of these 4 types of lynx habitat are specifically defined so that they can be generally identified across the lynx home range. Id.

Because the NRLMD does not identify lynx habitat categories based on the new science of documented lynx habitat categories, measures of lynx habitat via the NRLMD do not actually define the quality of current or planned levels of lynx habitat within an LAU. The habitat categories in the NRLMD do not define lynx habitat by the current best science, so the measurements of these NRLMD habitat categories have no meaning as per lynx habitat quality in violation of NEPA, NFMA, the APA and the ESA.

The NRLMD ROD glossary identifies 8 categories for lynx habitat: denning habitat, mid-seral or later forests, multi-story mature or late successional forest, stand initiation structural stage, stem exclusion structural stage, understory re-initiation structural stage, and winter snowshoe hare habitat. There are only general descriptions of these lynx habitats in the NRLMD. More recently, the Forest Service has "tweaked" lynx habitat definitions of the NRLMD in various project analyses (without any additional NEPA) by changing categories to early stand initiation, stand initiation, stem exclusion, mature multi-story and other/intermediate (e.g., lynx habitat defined in the Sawmill-Petty Project on the Lolo National Forest, pages 85-80 in the project EA available on the agency web site). The other structural stages identified in the NRLMD glossary "apparently" have been dropped without any Forest Plan amendments.

Except for stand initiation structural stage, there can be no comparison between habitat categories defined in the NRLMD and the current best science, since both definitions call for essentially no trees older than

seedlings. And in order to actually compare the level of openings in lynx habitat as per the NRLMD and the current best science, the agencies would have to identify all existing openings within a LAU, not just openings in lynx habitat. If this information is provided, lynx habitat levels of openings as per the current best science could be derived from agency analysis of LAUs as per the NRLMD.

Although the level of advanced regenerating forests, one of the 4 categories of lynx habitat as per the current best science, would appear to be identified by the upgraded LAU habitat definition "stand initiation structural stage," the NRLMD simply uses the age of clearcuts, rather than actual tree density, as the criteria for this structural stage. As advanced regeneration habitat requires large amounts of dense seedling/sapling trees that extend above winter snows (Holbrook et al. 2017a; Holbrook et al. 2019; Kosterman et al. 2018), simply counting all older clearcuts as winter snowshoe hare habitat could lead to significant overestimates of this habitat within a LAU. Even if older clearcuts actually develop high levels of seedlings and saplings required for winter snowshoe hare habitat, these areas may already have been precommercially thinned with a loss of winter snowshoe hare habitat. Since a minimum/average density of older saplings and younger trees are not required as per the NRLMD in stand initiation structural stages, this habitat category does not generally define lynx habitat as per the current best science for advanced regeneration, which has been found to average about 20% per lynx home range (Holbrook et al. 2019; Kosterman et al. 2018). Please find Holbrook et al. 2019 and Kosterman attached.

4. The NRLMD and therefore the Revised Forest Plan do not restrict openings sizes in lynx habitat in violation of NEPA, NFMA, the APA, and the ESA. The current best science indicates that large openings are difficult for lynx to cross, with an average crossing distance of less than 400 feet (Squires et al. 2010). The basis for the 30% clearcut limit in the NRLMD, or Brittell et al. (1989), recommended clearcuts no larger than 20-40 acres, with optimal crossing distance for lynx being 300 feet. The failure of the NRLMD and the proposed Revised Forest Plan to limit the size of openings in lynx habitat will allow the creation of lynx habitat with vast acres of openings.

5. The NRLMD and therefore the Revised Forest Plan do

not have a category of lynx habitat that is consistent with the current best science for "mature forest" in violation of NEPA, NFMA, the APA, and the ESA, which the current best science notes generally comprises 50-60% of breeding lynx home ranges (Holbrook et al. 2019; Kosterman et al. 2018). Holbrook et al. (2017a) attached, defines mature forest habitat as mid-seral stands at least 40 years in age with a multi-storied structure with a mixed species composition, with spruce/fir forests tending to be more dominant in composition; mature stands have an average tree dbh of 10 inches, with a range of size classes; these stands have a median canopy cover of 56%, a median tree height of 65 feet, and a median basal area of 140 square feet per acre; tree density of trees over 5 inches dbh is 217 trees/acre, and median density of trees under 5 inches dbh is 1500 trees/acre. Thus one cannot determine if the NRLMD measures of lynx habitat within an LAU reflect the current best science for an important habitat feature for lynx, or mature forest.

6. The NRLMD and the proposed LNFaction for the revised Forest Plan allows areas of both mapped lynx habitat and non-lynx habitat to be identified as habitat lacking snowshoe hares without any actual documentation. An example is stem exclusion stands. Since various structural stages can be identified as lacking snowshoe hares, these structural stages that are logged are not considered a loss of snowshoe hares to the lynx. Claiming the absence of hares, and thus no required management, across significant acres of a LAU without any verification results in many hare habitats being destroyed or degraded with vegetation treatments. The assumption in the NRLMD that hares are either present or absent from a given structural stage is contradicted by the current best science. Holbrook et al. (2017b) surveyed snowshoe hare densities across various forest habitats (over a 40% canopy cover) and reported pellet densities ranged from 0.28, 0.81, 1.48 to 4.21 per ha, and that pellets were present on 67% of all plots.

7. The NRLMD and therefore the Revised Forest Plan do not have requirement for sizes of LAUs, just a recommendation that these approximate a lynx home range, which is defined as from 25-50 square miles, which would range from 16,000 to 32,000 acres in violation of NEPA, NFMA, the APA and the ESA. The current best science defines lynx home ranges as from 33-69 square km, which is 8,128-16,960 acres (Olson et al. 2023). The median lynx home range has been defined

as 55 km square, which equates to 13,500 acres (Holbrook et al. 2017a). Thus the LAUs as per the NRLMD can include much larger management units than are identified by the current best science, which could create significant habitat losses within a given lynx home range. For example, if the average lynx home range within a project area is roughly 8,000 acres, and the LAU is defined as even 32,000 acres, this allows clearcutting of a potential 9,600 acres (30% of 32,000 acres), although this would likely be less given LAUs as per the NRLMD do not include areas claimed to be non-lynx habitat. Still, a large portion of a lynx home range could be clearcut as per the NLMD while supposedly conserving lynx.

8. The NRLMD fails to measure the displacement impact that vegetation treatments have on lynx habitat use. Holbrook et al. (2018) evaluated cumulative (summer and winter) lynx avoidance of 3 types of vegetation treatments: regeneration (clearcuts), selection (group selection and liberation cuts) and thinnings (improvement cuts and precommercial thinning). All 3 types of treatments were avoided for 10 years. Afterwards, recovery to half of pre-treatment lynx use took 34-40 years for clearcuts and selection treatments, and 20 years for thinnings. Hence, all vegetation treatments within a lynx home range will have significant impacts with lynx avoiding those areas for many years. This is a crucial impact of lynx habitat management, and any management criteria for lynx habitat must be based on the avoidance impacts of vegetation treatments.

9. The NRLMD does not limit the fragmentation of lynx/hare habitat. Although the NRLMD Standard ALL S1 states that habitat connectivity within a LAU has to be maintained, there are no actual criteria as to what constitutes maintaining connectivity. We have never seen any determinations in Forest Service NEPA documents, or consultation recommendations by the USFWS, that fragmentation of lynx/hare habitat by vegetation treatments will significantly and adversely impact these species. There are no habitat restrictions on management of areas within a LAU that are claimed to be non-lynx habitat. These areas may consist of a significant portion of the total landscape within a LAU. The NRLMD definition of lynx and non-lynx habitat is not consistent with the current best science. The current best science defines lynx habitat as 100% of the landscape within a home range, while the NRLMD defines lynx habitat as "pieces" of habitat within a landscape. The NFLMD definition of lynx habitat as "pieces" of



the landscape ensures that this landscape can be severely fragmented with forest thinning, both commercial activities and fuels management. Fragmentation of forests with vegetation treatments, from clearcutting to forest thinning to understory removal, will not only remove/reduce snowshoe hares, a key prey species for lynx, but will reduce the use of these treated areas for many decades (Holbrook et al. 2018). The barrier impacts of forest thinning on lynx were identified as early as Brittell et al. (1989) and Squires et al. 2010). The barrier impacts of vegetation treatments on snowshoe hares has also been documented by published science (Lewis et al. 2011). The failure of the NRLMD to prevent extensive fragmentation of lynx/hare habitat means it lacks any valid conservation value for these 2 species.

10.The NRLMD does not restrict active motorized route densities in lynx habitat in violation of NEP, NFMA, the APA and the ESA. Squires et al. (2010) noted that roads with low vehicle use (8 vehicle trips per day did not cause lynx avoidance. The impact of higher levels of motorized activity on lynx is unknown. Roads also create snowmobile routes, and thus increase winter disturbances for lynx.

11.The NRLMD does not address the importance of lodgepole pine stands to both lynx and hares. This importance was noted by Brittell et al. (1989) many years ago, as previously noted. This importance has been substantiated by current science as well. Holbrook et al. (2017a) identified the importance of lodgepole pine forests in selection by lynx; this association was noted to be based upon the high nutritional value of seedling/sapling lodgepole pine to snowshoe hares, as compared to other conifer species. We have noted many vegetation treatment proposals within Region 1 as designed to replace lodgepole pine forests with more commercially important conifers, including within critical lynx habitat. This management selection against lodgepole pine forests will have long term adverse impacts on both snowshoe hares and lynx, but is allowed by the NRLMD.

H. The revised LNF Proposed Action for the Revised Forest Plan does not adequately demonstrate that logging and fuels reductions projects are essential in lynx habitat to conserve lynx in violation of NEPA, NFMA, the APA and the ESA.

Page A10-8 states:

Management direction related to vegetation

Lynx require certain habitat elements to persist in a given

area. Lynx productivity is highly dependent on the quantity and quality of winter snowshoe hare habitat. Winter snowshoe hare habitat may be found in dense young regenerating forests - where the trees protrude above the snowline and in multistoried forests where limbs of the overstory touch the snowline, in addition to shorter understory trees that provide horizontal cover. Certain activities, such as timber harvest, prescribed burning and wildfires, can affect the amount and distribution of these habitat elements, which can in turn affect lynx productivity. Timber harvest can be beneficial, benign, or detrimental depending on the harvest method, the spatial and temporal occurrence on the landscape and the inherent vegetation potential of the site (FEIS, Vol. 1, Appendix P).

#### HE AGENCIES MUST REINITIATE CONSULTATION ON THE NORTHERN ROCKIES LYNX MANAGEMENT DIRECTION.

The Northern Rockies Lynx Management Direction is inadequate to ensure conservation and recovery of lynx. The amendments fail to use the best available science on necessary lynx habitat elements, including but not limited to, failing to include standards that protect key winter habitat.

The Endangered Species Act requires the FS to insure that the revised Forest Plan is not likely to result in the destruction or adverse modification of critical habitat. 16 U.S.C. §1536(a) (2). Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features to an extent that appreciably reduces the conservation value of critical habitat for lynx. 74 Fed. Reg. 8644. The Northern Rockies Lynx Management Direction (NRLMD) as applied in the proposed action violates the ESA by failing to use the best available science to insure no adverse modification of critical habitat. The NRLMD carves out exemptions from Veg Standards S1, S2, S5, and S6. In particular, fuel treatment projects may occur in the WUI even though they will not meet standards Veg S1, S2, S5, or S6, provided they do not occur on more than 6% of lynx habitat on each National Forest. Allowing the agency to destroy or adversely modify any lynx critical habitat has the potential to appreciably reduce the conservation value of such habitat. The agency cannot simply set a cap at 6% forest-wide without looking at the individual characteristics of each LAU to determine whether the project has the potential to appreciably reduce the conservation value. The ESA requires the use of the best available science at the site-specific level. It does not allow the agencies to make a gross determination that allowing lynx critical habitat to be destroyed forest-wide while not appreciably reduce the conservation value.

The FS violated NEPA by applying the above-mentioned exception without analyzing the impacts to lynx in the individual LAUs. The Proposed action violates the NFMA by failing to insure the viability of lynx. According to the 1982 NFMA regulations, fish and wildlife must be managed to maintain viable

populations of Canada lynx in the planning area. 36 C.F.R. 219.19. The FS has not shown that lynx will be well distributed in the planning area. The FS has not addressed how the proposed action's adverse modification of denning and foraging habitat will impact distribution. This is important because the agency readily admits that the LAUs already contain a "relatively large percentage of unsuitable habitat."

The national forests subject to this new direction will provide habitat to maintain a viable population of lynx in the northern Rockies by maintaining the current distribution of occupied lynx habitat, and maintaining or enhancing the quality of that habitat. Has the LNF removed any lynx analysis units (LAUs) without going through NEPA? If so please disclose where these LAUs were and why you violated NEPA by removing the LAUs without taking public comment?

The FS cannot insure species viability here without addressing the impacts to the already low amount of suitable habitat. By cutting in denning and foraging habitat, the agency will not be "maintaining or enhancing the quality of the habitat."

Much of the LNF is in Canada lynx habitat. 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) and the requirements of protecting lynx critical habitat. The FS did not do so with its proposed action analysis. This proposed action will adversely affect lynx critical habitat in violation of the Endangered Species Act. The BA/BE needs to be rewritten to reflect this information to determine if this proposed action will adversely modify proposed critical habitat for lynx and if so conference with USFWS.

The SNF is home to the Canada lynx, listed as a Threatened species under the Endangered Species Act (ESA). In December 1999, the Forest Service and Bureau of Land Management completed 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 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 eliminate 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 LNF Revised Forest Plan mandatory, before actions such as the proposed action 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 Biological Opinion (B.O.) during of Section 7 consultation. The SNF must incorpo-

rate terms and conditions from a programmatic B.O. into a Forest Plan amendment or revision before projects affecting lynx habitat, such as the proposed action, 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. 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 allowing 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.

- \* Are weak in providing direction for coordinating management activities with adjacent landowners and other agencies to assure consistent management of lynx habitat 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 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 fragmenting 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. (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 pre-commercial 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 disturbance processes

- \* Grazing by domestic livestock that reduces forage for lynx prey

It seems clear that the Proposed Action for the Revised Forest Plan is going to combine limited efforts to actually conserve and promote the recovery of the lynx in Unit 3 with an expansive logging program, both to sustain the timber industry and for wildfire prevention. Logging is the basic process in fuels reduction programs, whereby commercially-suitable trees are clearcut and thinned, followed by complete removal of the forest sub-canopy. Fuels projects without commercial logging are still essentially logging programs, it's just that the trees removed with chainsaws are not commercial products. With both commercial and noncommercial logging projects claimed as fuels management programs, habitat for both snowshoe hares and lynx are removed for an untold number of years. Recovery of mature forests will likely require many decades, in addition to the initial avoidance timeline of 20 up to 34-43 years by lynx of fuels treatments (Holbrook et al. 2018), attached.

It is a common claim by proponents of logging that forest fires can be prevented or reduced in severity with logging. These claims do not qualify as "science," as science refers to the "body of evidence." Claims that logging can stop and/or reduce fires is controversial, and is not appropriate for implementation as a FWS management program for lynx. Also is the issue of how much of lynx habitat needs to be degraded and/or removed for up to 40 or more years in order to save the remaining lynx habitat from fire? In other words, what percentage of suitable lynx habitat needs fuels treatments in order to protect the remaining suitable habitat? What are the probabilities that fuels treatments will preserve remaining suitable lynx habitat? Do these probabilities, based on science, justify directly removing/degrading lynx habitat with the possibility of saving remaining habitat? If fuels treatments do not actually save existing lynx habitat, what is the potential cumulative loss of lynx habitat due to both fire and fuels management? How can this cumulative loss be estimated and implemented as a valid management strategy for lynx?

We take strong exception to the inferences by the FWS that lynx habitat is currently a high fire risk due to forest density, which has supposedly increased due to forest succession above what would have occurred historically. The "too dense" claim as per forests is simply rhetoric to justify logging, and should not be used by the FWS in a lynx recovery plan. Forest density does

not increase endlessly over time, but is controlled by site specific conditions defined for each habitat type. Habitat types are a common management tool used by the Forest Service, but this science is not conducive to promotion of fire management and logging, so it is not used in addressing forest density relationships to fire. Also, claims that fire suppression have severely reduced fires after pre-settlement times are also bogus. It is well documented that fires are driven by weather conditions, not fuels.

One factor that we have never seen addressed in the revised LNF Proposed Action for the Revised Forest Plan claims of the need for aggressive logging programs to stop fires (e.g., Lyons et al. 2022), is that all logging programs require roads. Recent fuels management (logging) proposals in Region 1 of the Forest have included massive increases in roads. Although many of these roads, but not all, are claimed to be "temporary," there is no such thing as a temporary road. The road prisms are maintained for future use in most cases. Roads allow public access, either motorized or otherwise. This public access is the major contributor to fires. Little (2023) recently reported that in California, from 2000-2022, 95% of all fires were caused by humans. The title of her article was "The Fire Species: data reveal how California's wildfires start." It is a huge contradiction for management of fires when agencies create vast new miles of roads for fuels reduction projects, roads which will provide public access for decades if not in perpetuity.

It will be impossible to control either fires or climate change impacts on lynx habitat in Unit 3. The only means of having any effective, "controllable" conservation actions is to stop the loss of lynx habitat from logging and fuels projects. This loss, which has not been measured by the FWS, is clearly quite massive since the NRLMD was implemented, and is accelerating at this time. Prospects for lynx recovery are clearly poor, given not just past logging activities on public lands, but more so with the wildfire "crisis" being promoted by government agencies. One would think that for every several thousand acres of fuels reduction (logging) activities, a certain number of human mortalities are going to be prevented. The actual data for this is never provided.

Page A3-5 of the Proposed Action states:

The judicious use of managed wildfire over large areas and prescribed burning, in association with mechanical treatments where high certainty in outcome is required, could lead to the most ecologically desirable outcomes. The application of these tools at a spatial scale several orders of magnitude greater than their current use is required to restore patterns of vegetation structure and composition at a scale that successfully synchronizes successional patterns, disturbances, and climate dynamics. Where feasible and compatible with other management priorities, creating management conditions that enable

natural processes to do important work on the ground, that is otherwise expensive and less effective to emulate with direct management, could be economically beneficial, contribute to fire and climate resiliency, and improve diversity of wildlife habitat conditions. Repeated treatments overtime could be required to achieve such goals given the century's worth of successional inertia and fuel accumulation that has occurred in many areas.

This does not follow the best available science. Revised Forest Plans are required to follow the best available science.

Please see the following article from the Missoula Current  
UM researchers: Let small wildfires burn to diminish large fires

Laura Lundquist

<https://missoulacurrent.com/let-wildfires-burn/>

(Missoula Current) As increasing drought pushes western Montana toward a risky fire season, new University of Montana research indicates that wildfire suppression can worsen the effects of wildfire.

The scientific journal "Nature Communications" this week published a UM research project that used computer simulations to show that fire suppression increases the likelihood that subsequent wildfires will be worse than if the area had been allowed to burn under the right conditions.

"Fire suppression has unintended consequences," said Mark Kreider, a Ph.D. student in the UM Forest and Conservation Sciences program. "We've known for a long time that suppressing fires leads to fuel accumulation. Here, we show a separate counter-intuitive outcome."

Over the past 20 years or so, wildfires appear to have gotten bigger and more intense, particularly in the American West but also worldwide. Fuel accumulations due to long-term wildfire suppression in the U.S. can account for part of the reason, as can climate change, which worsens drought and heat. But the UM study takes the problem one step further to find that fire suppression, especially full-on wildfire attack, worsens conditions by leaving areas unburned that otherwise could have been cleansed by fire.

Researchers didn't have the option of using actual data. They would have needed to compare wildfires that were suppressed with those that weren't. But there are too many other variables that would need to be controlled to create similar conditions - terrain, weather, wildfire intensity - and the authors say there are no landscapes, even wilderness, where fire is not somewhat suppressed.

So they turned to computer simulations, where they could select for specific situations. They could create a wildfire scenario, dialing particular conditions up or down with all other variables held constant to see if anything changed.

To isolate the effect of wildfire suppression, they ran five scenarios with varying intensities of firefighting. Moderate, high

and maximum suppression assumed that the initial attack teams were on site within 4, 2 and 1 hours, respectively. With progressive suppression, crews simply monitor a low- or moderate-intensity fire until it starts to increase in intensity and then they go into suppression mode. Finally, the researchers modeled a zero-suppression situation.

After running the simulations thousands of times, the researchers found that aggressive wildfire suppression appears to cause large wildfires to burn more acres, and more areas experience high-intensity fire rather than the patchy kind of burning that occurs with smaller fires.

For years, fire researchers have bemoaned the "fire suppression paradox," where suppressing wildfires in the present can merely make future wildfires worse by allowing a lot of forest vegetation to persist. But as a result of their findings, the UM researchers have added a new concept of "wildfire suppression bias," where because smaller fires are squelched early, large fires end up being bigger because they burn the area that smaller fires should have burned.

There have always been some fires that burn big, such as the 1910 Fire. But because of suppression, those kinds of fires are now over-represented, because smaller fires are immediately put out. Thus the public perception of wildfire is also skewed only toward large fires.

The researchers use the analogy of the overuse of antibiotics. "In our attempt to eliminate all fires, we have only eliminated the less intense fires (that may best align with management objectives such as fuel reduction) and instead selected for primarily the most extreme events (suppression bias) and created higher fuel loads and more 'suppression-resistant' fires (suppression paradox)," the researchers wrote.

In the mid-1960s, some federal agencies such as the National Park Service recognized the ecological role of wildfire and created a policy to allow fires to burn under certain conditions. The U.S. Forest Service was slower to follow. In 1970, Montana foresters pushed to allow wildfire to burn within the Selway-Bitterroot Wilderness and the results prompted a gradual shift away from the Forest Service policy of complete suppression. But during the recent pandemic, agencies slid back toward full suppression as a way to compensate for limited crews and over-extended resources. The UM research shows how that may backfire.

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created a policy to allow fires to burn under certain conditions. The U.S. Forest Service was slower to follow. In 1970, Montana foresters pushed to allow wildfire to burn within the Selway-Bitterroot Wilderness and the results prompted a gradual shift away from the Forest Service policy of complete suppression. But during the recent pandemic, agencies slid back toward full suppression as a way to compensate for limited crews and over-extended resources. The UM research shows how that may backfire.

However, the researchers acknowledge that the Forest Service faces challenges if it tries to implement a more progressive policy of fire suppression. Internally, some forest managers will dismiss new research and continue to adhere to the traditional policy of suppression. Meanwhile, some members of the public distrust government agencies and will demand immediate action when fires are discovered. That attitude is exacerbated by the fact that more people keep moving into forested areas.

They also note the value of prescribed burns but say that prescribed burns should be augmented with progressive suppression to reduce the intensity and size of future wildfires.

"It may seem counterintuitive, but our work clearly highlights that part of addressing our nation's fire crisis is learning how to accept more fires burning when safely possible," said Philip Higuera, co-author and UM professor of fire ecology. "That's as important as fuels reduction and addressing global warming."

Contact reporter Laura Lundquist at [lundquist@missoulacurrent.com](mailto:lundquist@missoulacurrent.com).

Please find Kreider, M.R., Higuera, P.E., Parks, S.A. et al. 2024, "Fire suppression makes wildfires more severe and accentuates impacts of climate change and fuel accumulation," attached.

Please see the following article:

Montana researchers urge towns to focus on wildfire preparation

<https://missoulacurrent.com/research-wildfire-preparation/>

Laura Lundquist

(Missoula Current) For more than a decade, a small group of scientists have been trying to convince people that fireproofing their homes is far more effective than logging the forest when it comes to surviving wildfire. But few people are listening.

In mid-December, six researchers published a paper in the Proceedings of the National Academy of Sciences journal warning that communities across the nation, but particularly those in the West, aren't prepared to survive an urban conflagration such as the one that devastated Lahaina, Hawaii, in August.

The paper, titled "Wildland-urban fire disasters aren't actually a wildfire problem," points out that, since 2016, communities from Lahaina to Gatlinburg, Tenn., that have lost hundred of homes to fires have certain things in common: the fires occurred under extreme weather conditions - high winds and

persistent drought - and most of the structures weren't fire-resistant.

"These problem fires were defined as an issue of wildfires that involved houses. In reality, they are urban fires initiated by wildfires. That's an important distinction - and one that has big repercussions for how we prepare ourselves for future fires," the authors wrote.

The authors included three researchers from the Forest Science and Fire Sciences laboratories of the U.S. Forest Service Rocky Mountain Research Station in Missoula and one from Headwaters Economics in Bozeman.

In a 2014 paper in the Proceedings of the National Academy of Science, some of the same authors developed a community risk assessment that put the focus on improving the security of individual homes in a community, not the forest around them.

The emphasis is placed on modifying the house and the home ignition zone, a region within 100 feet of a house where debris and vegetation should be eliminated or minimized to reduce the chance of fire getting close to the house.

The reason that urban conflagrations begin and spread is because wind pushes embers and heat from one unprotected building to another, overwhelming fire departments that normally train to fight fire in just one building. Conditions are made worse when buildings are close together, because radiant heat becomes a bigger factor, spreading fire quicker.

"Reducing the likelihood that a home will ignite interrupts the disaster sequence by enabling effective structure protection. New construction siting, design, construction materials, and landscaping requirements should take wildfire potential into account," the authors wrote in the December paper.

One of the paper's authors, Jack Cohen, is a fire-behavior analyst and heat transfer engineer who has spent 40 years investigating wildfires, particularly those that are linked to incidents where hundreds of homes burned. He has spent at least the past decade writing papers and giving talks about the need to focus on making homes less susceptible to wildfires, which are a natural process, especially in the arid West.

When asked why the researchers decided to submit the recent article that seeks to drum home points they already promoted a decade ago, Cohen said cities and agencies have done very little during that time period to put their recommendations into place.

"What prompted us this time was the Lahaina urban conflagration that was associated with a grassfire. It may be a repeated message on our part, but it's not being received very well. Not much has changed," Cohen said. "The federal and state agencies still don't get it - they're still defining the problem as a wildfire control problem."

Since the 2014 paper, Cohen and other researchers have had to just watch as town after town has burned terribly but predictably, as if no one has read their research. In Gatlinburg

and Pigeon Forge, Tenn., 2,460 buildings burned in a 2016 fire; in 2018, the Camp Fire led to the loss of almost 19,000 buildings in Paradise, Calif.; in December 2021, 1,084 buildings burned in Superior and Louisville, Colo. from a grass fire; and in November 2021, a grassfire sparked fires in 23 homes in Denton, Mont.

Each wildfire had very little connection to most of the burning buildings, Cohen said. A wildfire is the source of initial ignition, but from that point on, it's a series of structure fires that lead to more structure fires. For example, with the Four Mile Canyon Fire in Boulder, Colo., the state of Colorado and the Forest Service had completed a number of fuel treatments nearby that they touted as protective. But high winds carried fire brands to ignite the houses far from the fire. Cohen found that while 168 houses burned, a lot of vegetation around the houses didn't, "so the wildfire didn't sweep through town."

"In the past five years, a number of incidents with more than 100 houses burning have been initiated by grass fires, which burn quickly. The grass fires pass through and are gone while the community continued to burn," Cohen said. "What I've found, particularly over the past five or six years, is that extreme wildfire is not dependent on closed-canopy conifers that produce big flames. The only time these urban disasters occur is under extreme conditions. That typically means it's very windy."

Nothing about the Lahaina Fire surprised Cohen. Not even the overblown claims that a wildfire "roared through and destroyed the town." Again, the wildfire was over before the town really started to burn. The fire started as a grassfire fanned by high winds, and had Lahaina not been there, the fire would have burned through the buffel grass and guinea grass within a matter of minutes before it died out on the beach.

But Lahaina was there, a high-density community with several blocks of multi-story, largely-connected wooden structures. That configuration caused buildings to catch fire either due to burning embers flying from other buildings or from catching fire due to the overwhelming heat from nearby buildings.

"The ignition initiated where the grassfire came down, and that was it - it was a conflagration," Cohen said. "You don't want to be in a high-density community when you can't control the fire. Thirteen of the 26 fatalities in the 1991 Oakland Hills Fire occurred in the street when two-story buildings were burning on both sides of the street and the road became blocked. The heat was untenable."

One house in Lahaina stood untouched and was dubbed "the miracle house." But Cohen said it was just a good example of the points he and his fellow authors have been trying to communicate about defensible space and being fire-adapted. The owners had recently renovated the house with a nonflammable roof. It had wood walls, but the nearest building was about 30 feet away - far enough to prevent radiant heat from starting a

fire - and there was little debris on the grounds or the house to actively spread the fire.

"The home ignition zone works," Cohen said. "The home ignition zone came out of the modeling I did and then the crown fire experiments I did with wood walls to show the distance, the proximity required to produce an ignition was realistic. At the same time, California was cutting 300-foot clearances around communities, which means nothing to (airborne) burning embers, but it's way over (what's required) for radiant heat exposure."

Cohen and his colleagues hope their latest paper prompts more action from local governments. Cohen is hoping Missoula County can do a better job when it updates its Wildfire Protection Plan in the near future.

But more than likely, Cohen said, they'll be writing a similar paper in another few years, trying to make politicians and the public understand. It doesn't help that they're fighting some in their own agency, the Forest Service, who insist that logging, not home modification, will save communities.

"Fire is inevitable. But nobody's figuring it out," Cohen said.

"We're starting from the presumption that it's wildfire that spreads through a community that lays it to waste. We even have the agencies responding in that fashion by being obsessed with this notion of wildfire control. So they do fuel treatments to have safe firefighting. That's not only counter ecologically, it doesn't work."

Contact reporter Laura Lundquist at [lundquist@missoulacurrent.com](mailto:lundquist@missoulacurrent.com).

Please find, "Wildland-urban fire disasters aren't actually a wildfire problem," by Calkin et al. 2023 attached.

The focus on logging should be within 100 feet of homes not on Forest Service lands unless a home is within 100 feet of Forest Service and BLM lands. The LNF Proposed Action on the Revised Forest Plan is not based on the best available science and is in violation of NEPA, NFMA and the APA.

Please develop an alternative that follows the recommendations of Calkin et al. 2023.

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

the NEPA requirements for transparency.

The agency will violate the Forest Plan by logging riparian areas; almost all wildlife species will be harmed by this treatment.

The agency will violate the NFMA by failing to ensure that old growth forests are well-distributed across the landscape with this proposed Revised Forest Plan although not provided in the scoping document for public comment, the agency is amending the Forest Plan to allow logging of old growth rather than preserving it.

The proposed Action does not take a hard look at the impacts of the massive amount of logging and road building on wildlife, especially species listed under the Endangered Species Act such as grizzly bears, bull trout, wolverine and whitebark pine.

The attached federal district court ruling March 12, 2024 found that significant new roadbuilding projects in the Flathead National Forest will negatively impact Endangered Species Act-listed grizzly bears and. The court found that the U.S. Forest Service and U.S. Fish and Wildlife Service did not lawfully examine the impacts to these species when the agencies green lit the roadbuilding plan in 2018. The proposed action has the same legal violations.

How many road closure violations have been found in the Lolo National Forest in the last 5 years?

It is fair to assume that there are many more violations that regularly occur and are not witnessed and reported. It is also fair to assume that you have made no effort to request this available information from your own law enforcement officers, much less incorporate it into your analysis. Considering your own admissions that road density is the primary factor that degrades elk and grizzly habitat, this is a material and significant omission from your analysis- all of your ORD and HE calculations are wrong without this information.

The veracity of the FS's inventory of system and nonsystem ("undetermined" or "unauthorized") roads is at issue here also. This is partly because the FS basically turns a blind eye to the situation with insufficient commitment to monitoring, and also because violations are not always remedied in a timely manner. Will the Revised continue to include the current Forest Plan's- Access standards?

Please disclose how many years the existing core areas have provided the habitat benefits assumed under the Forest Plan. As pointed out, some has been lost (due to "private infrastructure development") and we're not told of other likely and foreseeable reductions.

Please take a hard look as road closure violations.

Additionally, your emphasis on elk populations across entire hunting districts is disingenuous and has little relevance to whether you are meeting your Forest Plan obligations to maintain sufficient elk habitat on National

Forest lands. As you note, the Forest Plan estimated that 70% of elk were taken on National Forest lands in 1986. What percent-

age of elk are currently taken on National Forest lands?  
Have you asked Montana Department of Fish, Wildlife and Parks for this information? Any honest biologist would admit that high elk population numbers do not indicate that you are appropriately managing National Forest elk habitat; to the contrary, high elk numbers indicate that you are so poorly managing elk habitat on National Forest lands that elk are being displaced to private lands where hunting is limited or prohibited. Your own Forest Service guidance document, Christensen et al 1993 states: "Reducing habitat effectiveness should never be considered as a means of controlling elk populations."

What is the existing condition of linear motorized route density on National Forest System lands in the action area and what would it increase to during implementation.

Do your open road density calculations include the "non-system" i.e. illegal roads in the LNF?

Do your open road density calculations include all of the recurring illegal road use documented in your own law enforcement incident reports?

Has the LNF closed or obliterated all roads that were promised to be closed or obliterated in the your Travel Plans? Or, are you still waiting for funds to close or obliterate those roads? This distinction matters because you cannot honestly claim that you are meeting road density standards promised by the Travel Plan if you have not yet completed the road closures/obliterations promised by the Travel Plan. Furthermore, as noted above, you have a major problem with recurring, chronic violations of the road closures created by the Travel Plan, which means that your assumptions in the Travel Plan that all closures would be effective has proven false. For this reason, you cannot tie to the analysis in the Travel Plan because it is invalid. You must either complete new NEPA analysis for the Travel Plan on this issue or provide that new analysis in the NEPA analysis for this Proposed action. Either way, you must update your open road density calculations to include all roads receiving illegal use.

Christensen et al (1993) states: "Any motorized vehicle use on roads will reduce habitat effectiveness. Recognize and deal with all forms of motorized vehicles and all uses, including administrative use." Please disclose this to the public and stop representing that roads closed to the public should not be included in habitat effectiveness calculations. The facts that (a) the proposed action calls for constructing or reconstructing many miles of road, (b) you have problems with recurring illegal use, and (c) you have many miles of illegal roads in the LNF that you have not committed to obliterating, means that your conclusion that this Proposed Action will have no effect on open road density or habitat effectiveness is implausible to the point of being disingenuous. You cannot exclude these roads simply because you say they are closed to the public. Every road receiving motorized use must be included in the HE calculation. You must consider all of this road use in order to take a hard look that is fully

and fairly informed regarding habitat effectiveness. In the very least you must add in all "non-system" roads, i.e. illegal roads, as well as recurring illegal road use (violations) in your ORD calculations. Also, as a side note, your calculations in Christensen et al 1993 finds: "Areas where habitat effectiveness is retained at lower than 50 percent must be recognized as making only minor contributions to elk management goals. If habitat effectiveness is not important, don't fake it. Just admit up front that elk are not a consideration."

Please include an alternative in the Revised Forest Plan that maintain or enhance existing elk habitat by maximizing habitat effectiveness as a primary management objective. Emphasis will also be directed toward management of indigenous wildlife species. Commodity resource management will be practiced where it is compatible with these wildlife management objectives. Please also include a standard that ensures that habitat effectiveness will be positively managed through road management and other necessary controls on resource activities." Also - "Elk habitat effectiveness will be maintained." Please demonstrate that the revised Forest Plan will comply with all of these provisions for all of the above-stated reasons.

Do the action alternatives comply with PACFISH-INFISH?

Are you meeting the INFISH Riparian Management Objectives for temperature, pool frequency, and sediment?

The best available science shows that roads are detrimental to aquatic habitat and logging in riparian areas is not restoration. Fish evolved with fire, they did not evolve with roads and logging.

Please completely analyze the impacts to native fish 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]

Please include an alternative that strengthens native fish habitat protections by not allowing new roadbuilding throughout native fish habitat.

New roadbuilding proposed in the proposed action without meaningful reclamation to ensure no net increase in the road system threatens stream sedimentation that will degrade native fish habitat. Surface runoff on roads, including roads unused by motorized vehicles, threatens to cause sediment discharge to nearby waterbodies, including native fish streams. Culverts inevitably clog and fail, causing the affected stream to run over the roadbed with associated erosion and sedimentation. Such sedimentation threatens to degrade stream conditions and harm native fish, which require very cold and clean water to survive and reproduce.

The proposed action will spread weeds due to existing weed infestations, potential soil disturbance, roads, private lands, activity timing, logging, and moving equipment through infested areas. Weeds are already prolific in the LNF, washing equipment doesn't work when the equipment then moves through infesta-

tions and spreads across the LNF because of soil disturbed by roads and logging. Are the design features adequate to ensure the management actions by the LNF doesn't spread weeds?

With all the existing weed infestations and the high risk of weed proliferation there is no analysis or even discussion of how this impacts wildlife forage. Weeds are displacing native vegetation that wildlife need for food.

Connectivity for wildlife is fragmented in the LNF and this proposed action will exacerbate that situation with oversized clearcuts and more roads. This is already impacting small mammals that are prey for larger animals and birds yet there is no analysis of how this impacts wildlife foraging.

The proposed action logs and builds roads through old growth forest habitat yet analysis of the impacts to wildlife is nil, a mere two paragraphs for goshawk.

It is time to give the LNF a rest. If landowners are concerned about fire then the best thing they can do is thin and manage their own property.

A new study by Dominick A. DellaSala et al. found that reviewed 1500 wildfires between 1984 and 2014 found that actively managed forests had the highest level of fire severity. Please find DellaSala et al. attached. While those forests in protected areas burned, on average, had the lowest level of fire severity. In other words, the best way to reduce severe fires is to protect homes from the Home out in the Home Ignition Zone, not log forests outside the home ignition zone, therefore the purpose and need of the Green Union is not valid.

The best available science shows that Commercial Logging does not reduce the threat of Forest Fires. What best available science supports the action alternatives?

Please find Schoennagel et al (2004) attached. Schoennagel states: "we are concerned that the model of historical fire effects and 20th-century fire suppression in dry ponderosa pine forests is being applied incorrectly across all Rocky Mountain forests, including where it is inappropriate.

Schoennagel et al (2004) states: "High-elevation subalpine forests in the Rocky Mountains typify ecosystems that experience infrequent, high-severity crown fires []. . . The most extensive subalpine forest types are composed of Engelmann spruce (*Picea engelmannii*), subalpine fir (*Abies lasiocarpa*), and lodgepole pine (*Pinus contorta*), all thin-barked trees easily killed by fire. Extensive stand-replacing fires occurred historically at long intervals (i.e., one to many centuries) in subalpine forests, typically in association with infrequent high-pressure blocking systems that promote extremely dry regional climate patterns."



Schoennagel et al (2004) states: "it is unlikely that the short period of fire exclusion has significantly altered the long fire intervals in subalpine forests. Furthermore, large, intense fires burning under dry conditions are very difficult, if not impossible, to suppress, and such fires account for the majority of area burned in subalpine forests.

Schoennagel et al (2004) states: "Moreover, there is no consistent relationship between time elapsed since the last fire and fuel abundance in subalpine forests, further undermining the idea that years of fire suppression have caused unnatural fuel buildup in this forest zone."

Schoennagel et al (2004) states: "No evidence suggests that spruce-fir or lodgepole pine forests have experienced substantial shifts in stand structure over recent decades as a result of fire suppression. Overall, variation in climate rather than in fuels appears to exert the largest influence on the size, timing, and severity of fires in subalpine forests []. We conclude that large, infrequent stand replacing fires are 'business as usual' in this forest type, not an artifact of fire suppression."

Schoennagel et al (2004) states: "Contrary to popular opinion, previous fire suppression, which was consistently effective from about 1950 through 1972, had only a minimal effect on the large fire event in 1988 []. Reconstruction of historical fires indicates that similar large, high-severity fires also occurred in the early 1700s []. Given the historical range of variability of fire regimes in high-elevation subalpine forests, fire behavior in Yellowstone during 1988, although severe, was neither unusual nor surprising."

Schoennagel et al (2004)(emphasis added) states: "Mechanical fuel reduction in subalpine forests would not represent a restoration treatment but rather a departure from the natural range of variability in stand structure."

Schoennagel et al (2004) states: "Given the behavior of fire in Yellowstone in 1988, fuel reduction projects probably will not substantially reduce the frequency, size, or severity of wildfires under extreme weather conditions."

Schoennagel et al (2004) states: "The Yellowstone fires in 1988 revealed that variation in fuel conditions, as measured by stand age and density, had only minimal influence on fire behavior. Therefore, we expect fuel-reduction treatments in high-elevation forests to be generally unsuccessful in reducing fire frequency, severity, and size, given the overriding importance of extreme climate in controlling fire regimes in this zone. Logging also will not restore subalpine forests, because they were dense historically and have not changed significantly in response to fire suppression. Thus, fuel-reduction efforts in most Rocky Mountain subalpine forests probably would not effectively mitigate the fire hazard, and these efforts may create new ecological problems by moving the forest structure outside the historic range of variabil-

ity."

Likewise, Brown et al (2004) states: "At higher elevations, forests of subalpine fir, Engelmann spruce, mountain hemlock, and lodgepole or whitebark pine predominate. These forests also have long fire return intervals and contain a high proportion of fire sensitive trees. At periods averaging a few hundred years, extreme drought conditions would prime these forests for large, severe fires that would tend to set the forest back to an early successional stage, with a large carry-over of dead trees as a legacy of snags and logs in the regenerating forest . . . natural ecological dynamics are largely preserved because fire suppression has been effective for less than one natural fire cycle. Thinning for restoration does not appear to be appropriate in these forests. Efforts to manipulate stand structures to reduce fire hazard will not only be of limited effectiveness but may also move systems away from pre-1850 conditions to the detriment of wildlife and watersheds." "Fuel levels may suggest a high fire 'hazard' under conventional assessments, but wildfire risk is typically low in these settings."

Likewise, Graham et al (2004) states: "Most important, the fire behavior characteristics are strikingly different for cold (for example, lodgepole pine, Engelmann spruce, subalpine fir), moist (for example, western hemlock, western red cedar, western white pine), and dry forests. Cold and moist forests tend to have long fire return intervals, but fires that do occur tend to be high intensity, stand-replacing fires. Dry forests historically had short intervals between fires, but most important, the fires had low to moderate severity."

According to Graham et al (2004), thinning may also increase the likelihood of wildfire ignition in the LNF: "The probability of ignition is strongly related to fine fuel moisture content, air temperature, the amount of shading of surface fuels, and the occurrence of an ignition source (human or lightning caused) . . . There is generally a warmer, dryer microclimate in more open stands (fig. 9) compared to denser stands. Dense stands (canopy cover) tend to provide more shading of fuels, keeping relative humidity higher and air and fuel temperature lower than in more open stands. Thus, dense stands tend to maintain higher surface fuel moisture contents compared to more open stands. More open stands also tend to allow higher wind speeds that tend to dry fuels compared to dense stands. These factors may increase probability of ignition in some open canopy stands compared to dense canopy stands."

The Proposed Act for the Revised Forest Plan proposes weakened grizzly bear habitat protections by allowing new roadbuilding throughout the LNF, without meaningful and permanent reclamation of other roads elsewhere in the Forest to compensate for the new road construction.

What is the open and total road density in the Lolo National Forest Bear Analysis Units?

New roadbuilding in the Forest without meaningful reclamation to ensure no net increase in the road system presents a significant threat to grizzly bears, because motor vehicle users and other people recreating can trespass on the supposedly "impassable" roads and thus encroach on grizzly bear habitat. Further, even unused roads cause detrimental impacts to grizzly bear survival and reproduction, because grizzly bears are displaced from roaded habitat, regardless of whether the roads receive public or administrative use. However, in concluding that the Forest Plan will not jeopardize the species, FWS's Revised Biological Opinion failed to adequately examine adverse impacts to grizzly bears from unauthorized motorized use on roads closed according to the Forest Plan's weaker closure standards; failed to consider the displacement impacts caused by roads even when they do not receive motorized use; and failed to account for increased roadbuilding enabled by the Forest Service's abandonment of stringent road-reclamation requirements.

Please find attached the paper titled, "The importance of natural forest stewardship in adaptation planning in the United States" by Faison et al 2023 which found that protecting more forests with natural stewardship is a cost effective way to harness the inherent adaptation and mitigation powers in forests and ensure that they are at their most functional to regulate planetary processes. Please include an alternative that provides security for grizzly bears so they have corridors to travel through the LNF to the Bitterroot, Yellowstone, Selway, and Cabinet-Yaak ecosystems.

Please formally consult with the FWS on the impact of Revised Forest Plan on lynx, lynx critical habitat, whitebark pine, bull trout, Bull trout critical habitat, monarch butterflies, and grizzly bears.

Please include an alternative what has strong big game standards based on Hillis, including:

- (1) Forest Plan Standard 3 - Hiding Cover,
- (2) Forest Plan Standard 3 - Thermal Cover,
- (3) Forest Plan Standard 4a - Open Road Density & Hiding Cover,
- (4) Habitat Effectiveness,
- (5) Hillis Elk Security at Elk Herd Unit level (i.e., including all lands), and
- (6) Hillis-derived Elk Security at Elk Analysis Unit level (i.e., lands within National Forest boundary).

Total number of elk is not a correct measure of whether or not adequate secure big game habitat is available on Forest Service lands: "This is inappropriate because the correct measures of big game security are annual bull survival rates and the degree to which big game are retained on public land during the fall hunting season."

Please disclose or address the displacement of elk from public

land to private land during hunting season due to inadequate security habitat on National Forests.

The Montana Department of Fish, Wildlife and Parks recommends that land managers provide enough secure habitat during fall to meet annual bull survival objectives while maintaining general bull harvest opportunity. . . .

In contrast, the number of elk that spend the majority of the year on some nearby private lands has increased dramatically between 1986 and 2013.

Please include an alternative that results in big game having enough secure habitat so that they spend the majority of their time on the LNF.

The Montana Department of Fish, Wildlife and Parks has indicated that there is a serious problem with elk being displaced from insecure National Forest lands onto private land during hunting season. Please don't allow exempting logging and roading projects from the only quantitative limits on logging and roading on this National Forest exacerbates this elk displacement problem and (a) results in a failure to comply with Forest Plan objectives and goals to maintain elk habitat and hunter opportunity, (b) results in a major change to standards and guidelines intended to maintain elk habitat and hunter opportunity, (c) significantly limits hunter opportunity on this Forest, and (d) affects a large portion of this National Forest that is reasonably available to the public for hunting.

For these reasons, the Forest Service's practice of routinely exempting projects from Standards 3 and 4a amounts to a significant change to the Forest Plan, which requires analysis under 36 C.F.R. §219.10 (f) and 36 C.F.R. §219.12.

Please include an alternative that protects aspen stands from livestock browsing.

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

The agency is violating the NEPA by providing false reasons for logging to the public by claiming that insects and disease in forest stands are detrimental to the forest by reducing stand vigor (health) and increasing fire risk. There is no current science that demonstrates that insects and disease are bad for wildlife, including dwarf mistletoe, or that these increase the risk of fire once red needles have fallen.

The agency is violating the NEPA by claiming that logging public lands will protect resource values (homes) on private land.

The scoping notice states:

Fire and Fuels Resource

\* Decrease wildfire impacts on resource values and private land through hazardous fuels reduction activities on public

lands.

- o Reduce fuels in all layers so that expected wildfire behavior is modified to a lower intensity allowing for safe and effective fire suppression.

- o Create, enhance, and maintain fuel breaks where feasible.

Please see the attached paper by Baker et al. 2023. This landmark study found a pattern of "Falsification of the Scientific Record" in government-funded wildfire studies.

This unprecedented study was published in the peer-reviewed journal *Fire*, exposing a broad pattern of scientific misrepresentations and omissions that have caused a "falsification of the scientific record" in recent forest and wildfire studies funded or authored by the U.S. Forest Service with regard to dry forests of the western U.S. Forest Service related articles have presented a falsified narrative that historical forests had low tree densities and were dominated by low-severity fires, using this narrative to advocate for its current forest management and wildfire policies. However, the new study comprehensively documents that a vast body of scientific evidence in peer-reviewed studies that have directly refuted and discredited this narrative were either misrepresented or omitted by agency publications. The corrected scientific record, based on all of the evidence, shows that historical forests were highly variable in tree density, and included "open" forests as well as many dense forests. Further, historical wildfire severity was mixed and naturally included a substantial component of high-severity fire, which creates essential snag forest habitat for diverse native wildlife species, rivaling old-growth forests.

These findings have profound implications for climate mitigation and community safety, as current forest policies that are driven by the distorted narrative result in forest management policies that reduce forest carbon and increase carbon emissions, while diverting scarce federal resources from proven community wildfire safety measures like home hardening, defensible space pruning, and evacuation assistance.

"Forest policy must be informed by sound science but, unfortunately, the public has been receiving a biased and inaccurate presentation of the facts about forest density and wildfires from government agencies," said Dr. William Baker in their press release announcing the publication of their paper.

"The forest management policies being driven by this falsified scientific narrative are often making wildfires spread faster and more intensely toward communities, rather than helping communities become fire-safe," said Dr. Chad Hanson, research ecologist with the John Muir Project in the same press release.

"We need thinning of small trees adjacent to homes, not back-country management."

"The falsified narrative from government studies is leading to inappropriate forest policies that promote removal of mature, fire-resistant trees in older forests, which causes increased carbon emissions and in the long-run contributes to more fires"

said, Dr. Dominick A. DellaSala, Chief Scientist, Wild Heritage, a Project of Earth Island Institute concluded in the press release. The proposed action is therefor in violation of NEPA, NFMA and the APA .

Please see the following article:

Montana researchers urge towns to focus on wildfire preparation

<https://missoulacurrent.com/research-wildfire-preparation/>

Laura Lundquist

(Missoula Current) For more than a decade, a small group of scientists have been trying to convince people that fireproofing their homes is far more effective than logging the forest when it comes to surviving wildfire. But few people are listening. In mid-December, six researchers published a paper in the Proceedings of the National Academy of Sciences journal warning that communities across the nation, but particularly those in the West, aren't prepared to survive an urban conflagration such as the one that devastated Lahaina, Hawaii, in August.

The paper, titled "Wildland-urban fire disasters aren't actually a wildfire problem," points out that, since 2016, communities from Lahaina to Gatlinburg, Tenn., that have lost hundred of homes to fires have certain things in common: the fires occurred under extreme weather conditions - high winds and persistent drought - and most of the structures weren't fire-resistant.

"These problem fires were defined as an issue of wildfires that involved houses. In reality, they are urban fires initiated by wildfires. That's an important distinction - and one that has big repercussions for how we prepare ourselves for future fires," the authors wrote.

The authors included three researchers from the Forest Science and Fire Sciences laboratories of the U.S. Forest Service Rocky Mountain Research Station in Missoula and one from Headwaters Economics in Bozeman.

In a 2014 paper in the Proceedings of the National Academy of Science, some of the same authors developed a community risk assessment that put the focus on improving the security of individual homes in a community, not the forest around them.

The emphasis is placed on modifying the house and the home ignition zone, a region within 100 feet of a house where debris and vegetation should be eliminated or minimized to reduce the chance of fire getting close to the house.

The reason that urban conflagrations begin and spread is because wind pushes embers and heat from one unprotected building to another, overwhelming fire departments that normally train to fight fire in just one building. Conditions are made worse when buildings are close together, because radiant heat becomes a bigger factor, spreading fire quicker.

"Reducing the likelihood that a home will ignite interrupts the disaster sequence by enabling effective structure protection.

New construction siting, design, construction materials, and landscaping requirements should take wildfire potential into account," the authors wrote in the December paper.

One of the paper's authors, Jack Cohen, is a fire-behavior analyst and heat transfer engineer who has spent 40 years investigating wildfires, particularly those that are linked to incidents where hundreds of homes burned. He has spent at least the past decade writing papers and giving talks about the need to focus on making homes less susceptible to wildfires, which are a natural process, especially in the arid West.

When asked why the researchers decided to submit the recent article that seeks to drum home points they already promoted a decade ago, Cohen said cities and agencies have done very little during that time period to put their recommendations into place.

"What prompted us this time was the Lahaina urban conflagration that was associated with a grassfire. It may be a repeated message on our part, but it's not being received very well. Not much has changed," Cohen said. "The federal and state agencies still don't get it - they're still defining the problem as a wildfire control problem."

Since the 2014 paper, Cohen and other researchers have had to just watch as town after town has burned terribly but predictably, as if no one has read their research. In Gatlinburg and Pigeon Forge, Tenn., 2,460 buildings burned in a 2016 fire; in 2018, the Camp Fire led to the loss of almost 19,000 buildings in Paradise, Calif.; in December 2021, 1,084 buildings burned in Superior and Louisville, Colo. from a grass fire; and in November 2021, a grassfire sparked fires in 23 homes in Denton, Mont.

Each wildfire had very little connection to most of the burning buildings, Cohen said. A wildfire is the source of initial ignition, but from that point on, it's a series of structure fires that lead to more structure fires. For example, with the Four Mile Canyon Fire in Boulder, Colo., the state of Colorado and the Forest Service had completed a number of fuel treatments nearby that they touted as protective. But high winds carried fire brands to ignite the houses far from the fire. Cohen found that while 168 houses burned, a lot of vegetation around the houses didn't, "so the wildfire didn't sweep through town."

"In the past five years, a number of incidents with more than 100 houses burning have been initiated by grass fires, which burn quickly. The grass fires pass through and are gone while the community continued to burn," Cohen said. "What I've found, particularly over the past five or six years, is that extreme wildfire is not dependent on closed-canopy conifers that produce big flames. The only time these urban disasters occur is under extreme conditions. That typically means it's very windy."

Nothing about the Lahaina Fire surprised Cohen. Not even the overblown claims that a wildfire "roared through and de-

stroyed the town." Again, the wildfire was over before the town really started to burn. The fire started as a grassfire fanned by high winds, and had Lahaina not been there, the fire would have burned through the buffel grass and guinea grass within a matter of minutes before it died out on the beach.

But Lahaina was there, a high-density community with several blocks of multi-story, largely-connected wooden structures.

That configuration caused buildings to catch fire either due to burning embers flying from other buildings or from catching fire due to the overwhelming heat from nearby buildings.

"The ignition initiated where the grassfire came down, and that was it - it was a conflagration," Cohen said. "You don't want to be in a high-density community when you can't control the fire. Thirteen of the 26 fatalities in the 1991 Oakland Hills Fire occurred in the street when two-story buildings were burning on both sides of the street and the road became blocked. The heat was untenable."

One house in Lahaina stood untouched and was dubbed "the miracle house." But Cohen said it was just a good example of the points he and his fellow authors have been trying to communicate about defensible space and being fire-adapted. The owners had recently renovated the house with a nonflammable roof. It had wood walls, but the nearest building was about 30 feet away - far enough to prevent radiant heat from starting a fire - and there was little debris on the grounds or the house to actively spread the fire.

"The home ignition zone works," Cohen said. "The home ignition zone came out of the modeling I did and then the crown fire experiments I did with wood walls to show the distance, the proximity required to produce an ignition was realistic. At the same time, California was cutting 300-foot clearances around communities, which means nothing to (airborne) burning embers, but it's way over (what's required) for radiant heat exposure."

Cohen and his colleagues hope their latest paper prompts more action from local governments. Cohen is hoping Missoula County can do a better job when it updates its Wildfire Protection Plan in the near future.

But more than likely, Cohen said, they'll be writing a similar paper in another few years, trying to make politicians and the public understand. It doesn't help that they're fighting some in their own agency, the Forest Service, who insist that logging, not home modification, will save communities.

"Fire is inevitable. But nobody's figuring it out," Cohen said.

"We're starting from the presumption that it's wildfire that spreads through a community that lays it to waste. We even have the agencies responding in that fashion by being obsessed with this notion of wildfire control. So they do fuel treatments to have safe firefighting. That's not only counter ecologically, it doesn't work."

Contact reporter Laura Lundquist at [lundquist@missoulacur-](mailto:lundquist@missoulacur-)



rent.com.

Please find, "Wildland-urban fire disasters aren't actually a wildfire problem," by Calkin et al. 2023 attached.

To protect homes from wildfire, the proposed action should limit logging projects to within 100 feet of homes. The purpose and need are not based on the best available science and is in violation of NEPA, NFMA and the APA.

Please develop an alternative that follows the recommendations of Calkin et al. 2023.

The agency is violating the NEPA by using vague, unmeasurable terms to rationalize the proposed logging to the public.

How can the public measure "resiliency?" What are the specific criteria used to define resiliency, and what are the ratings for each proposed logging unit before and after treatment? How is the risk of fire as affected by the project being measured so that the public can understand whether or not this will be effective?

How is forest health to be measured so that the public can see that this is a valid management strategy? What specifically constitutes a diversity of age classes, how is this to be measured, and how are proposed changes measured as per diversity? How are diversity measures related to wildlife (why is diversity needed for what species)? If the reasons for logging cannot be clearly identified and measured for the public, the agency is not meeting the NEPA requirements for transparency.

The agency will violate the Forest Plan by logging riparian areas; almost all wildlife species will be harmed by this treatment.

The agency will violate the NFMA by failing to ensure that old growth forests are well-distributed across the landscape with a Forest Plan amendment; although not provided in the scoping document for public comment, the agency is amending the Forest Plan to allow logging of old growth rather than preserving it.

Please include an easily understandable accounting of all costs for the various types of treatments, including burning. For commercial logging, fuels reduction, and prescribed burning, we would like to know what the estimated cost is "per acre" for that particular treatment. We would also like to know the costs for construction of new temporary roads, reconstruction of existing roads, and road obliteration and/or decommissioning per mile of road.

Please include an easily understandable accounting of all costs for the various types of treatments, including burning. For commercial logging, fuels reduction, and prescribed burning, we would like to know what the estimated cost is "per acre" for that particular treatment. We would also like to know the costs for construction of new temporary roads, reconstruction of existing roads, and road obliteration and/or decommissioning per mile of road.

## CONCLUSIONS

The job of the LNF is to protect wildlife, not just government

logging programs. This responsibility is clearly absent in the Proposed revised LNF Forest Plan. It is basically a proposal to allow the continuation, and likely expansion, of logging programs in Unit 3, the Northern Rockies. This Draft Recovery Plan appears to be a concealed version of the previous delisting proposal from 2017, whereby habitat protections on lynx would be removed, be what they are (extremely limited). The editors of Scientific American recently included an article in the November 2023 issue titled "Protect Habitats to Preserve Species." Please find the article attached. This article noted that of more than 1,600 animals and plants that have been listed as threatened or endangered, only 60 have subsequently been removed due to recovery. As was noted by Kunzig (2023), <https://www.scientificamerican.com/article/can-we-save-every-species-from-extinction/> this represents a recovery rate of only 6%. Also of note was the analysis of 88,290 consultations completed by the FWS for listed species from 2008 to 2015; zero projects were stopped (Id.). This article concluded that federal agencies only rarely take the active measures to recover a species that Section 7 of the ESA requires. The Draft Recovery Plan released for public review for the lynx, particularly in Unit 3 or the Northern Rockies, is a clear example of this agency failure to protect listed species and their habitats. This recovery plan is a violation of the ESA as well as the public trust due government agencies for management of public resources. A Recovery Plan that actually protects existing lynx habitat to promote conservation and recovery needs to be developed, as this current Draft Recovery Plan is a complete failure for lynx conservation.

Instead of giving up on threatened and endangered species, we should instead focus on protecting their habitat and fighting global warming. Thanks to Judge Seeley, Montana is under court order to consider the effects of projects on climate change but we also need to a better job of protecting wildlife habitat.

The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. The problem is the ESA's provisions to protect critical habitat for listed species is full of loopholes. For example, lynx critical habitat allows clearcutting and bulldozing logging roads even though lynx avoid clearcuts and roads.

Wolverines also do best in secure habitat. Montana Fish Wildlife and Parks and other wildlife agencies use camera and bait stations to count and identify wolverines based on their distinct marks on their bellies. Where they find most wolverines are in protect habitat such as wilderness areas, wilderness study areas and roadless areas.

Montana is lucky to still have wolverines, as well as most of the species that were here when Lewis and Clark traveled through the area over two hundred years ago. It is scientifically docu-

mented that the best habitat for wolverines and other listed species in the Northern Rockies is connected, protected wildlands. If we want to keep wolverines and other threatened and endangered species around for future generations we need to protect their best habitat which are protected wild areas.

For wolverines, and for most of the species listed under the ESA, to survive over the long run, we need to protect their secure habitat as well as fight global warming. This is exactly what the Northern Rockies Ecosystem Protection Act is designed to accomplish.

The Northern Rockies Ecosystem Protection Act (NREPA) is now before the Senate as S. 1531. NREPA is a grassroots bill written by scientists and citizens from the Northern Rockies including Missoula's own Mike Bader and Dr. John Craighead who was named as one of the "top 100 scientists of the 20th century" by National Geographic.

NREPA not only protects existing wildlands habitat by designating all of the 23 million acres of roadless areas in the Northern Rockies as wilderness but also fights climate change by keeping carbon-sequestering forests intact.

National Forests absorb an astounding 10 percent of the carbon that America generates with unlogged and old growth forests absorbing the most carbon. Recent studies have also found that logging in states such as Oregon, releases more carbon than all of their cars and trucks combined.

Please analyze an alternative that greatly reduces the amount of logging and road building.

#### Bull Trout

How does clearcutting and building more roads and adding non-system roads to the National Forest Service system helps bull trout and bull trout critical habitat recover?

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

The EIS must fully and completely analyze the impacts to bull trout, bull trout critical habitat, and westslope cutthroat trout habitat. What is the standard for sediment in the Revised 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 (Shep-

ard 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 increased 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 determined 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 composed 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

\* 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 decline 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, deposited 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, Taylor, 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 complex forms of cover including large woody debris, undercut banks, boulders, and pools. Other habitat characteristic important to bull trout include channel and hydrologic stability, substrate 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. 2001, pp. 19-25; Suttle, Power, Levine, and McNeely 2004, p. 971).

\* How will this proposed action affect native fish? What is the current condition in the riparian areas?

How will this proposed action 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.

\* 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 result 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 clarkii lewisi* 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.

How much new sediment will the revised Forest Plan allow to go into the streams from all of the logging and road building projects that the proposed action is calling for? Please include an alternative that recovers bull trout throughout their historic range in the LNF.

How many bull trout will be killed during the implementation of the revised Forest Plan?

Will this revised Forest Plan allow projects to adversely modify bull trout critical habitat?

Wilderness

Please include an alternative that recommends all inventoried roadless areas as wilderness based on the Northern Rockies Ecosystem Protection Act, S. 1583.

Please include an alternative that manages all inventoried roadless land the same as Wilderness Areas.

Rattlesnake Wilderness and National Recreation

On October 19, 1980, The Rattlesnake Wilderness and National Recreation Area Act was signed by the President Jimmy Carter. The Rattlesnake is a Sacred Area. This was and is recognized by the Salish Tribe. Hundreds of years ago the Salish would travel through the Rattlesnake to reach the Jocko, then on to Clearwater Area. The Rattlesnake was and is a place where the Salish would seek their Vision Quest to establish their Purpose and Path in their life.

The Salish Tribe recognized the Rattlesnake as Sacred. They knew it had Special Energy and a Spiritual Presence; that if approached in the proper way would open the person seeking their Vision to the clear Truth of the World and the Universe and where their proper place is in it, with a clear Vision of their purpose.

We are sharing this information because it is of ultimate importance to how we manage and protect the NRA and Wilderness. The USFS Rattlesnake proposals in the Lolo plan are misguided and would be very harmful to the Rattlesnake and what we are trying to protect. You (USFS) are attempting to manipulate and rearrange what does not need to change. The Rattlesnake does not need or want you to remodel or interfere with the natural processes that are occurring. Leave the Rattlesnake be as it is. The Rattlesnake is alive, it has been repairing itself and healing from the damage and interference of human activities for over one hundred years.

Management of the Rattlesnake should be quite simple, it should be primarily the management of people's actions and behavior. Mechanized (mt. bikes) and motorized uses should never be allowed. Humans should use their legs or ride a horse.

Please leave the Rattlesnake alone, do not tamper with it.

Please protect the Rattlesnake and all roadless areas to give peo-

ple a safe and sacred place away from the stresses and untruths of the modern world.

The RNRA history and culture is deeply engrained in the Missoula community and is a major attribute of Missoula. In addition to the primitive undeveloped recreation resource, the RNRA also has deep cultural and spiritual significance. It has the same spiritual value to the Missoula community that cultural significant places have to our tribal neighbors to the north have. It's Missoula's Walden Pond where people go for spiritual replenishment and mental health. During my tenure on the Lolo, we worked hard to respect local cultural values and develop personal relationships and trust with the communities across the forest. The hard goals and standards in the 1986 LNF Plan were foundational to the development and maintenance of that public trust, that and tenured forest staff that knew both the communities, on the ground resources and culture of the forest intimately. To that end we tried to put a face to an otherwise faceless bureaucracy. Unfortunately, I see the LNF losing contact with and the trust of the community as a result of continually rotating staff and impersonal public relations and now repeated attacks on the recreational and spiritual resources in the RNRA. The PA clearly indicates that the Lolo has lost its institutional memory regarding the RNRA management history and as importantly that culture. The lack of connection with the people, communities and on the ground resources of the LNF has been disappointingly evident since the forest first embarked on plan revision about a year ago. While you claimed the forest staff is providing you with the on the ground information you need to make the plan specific to the LNF, the Proposed Action in the revised plan doesn't reflect that.

To help improve and clarify RNRA management in future iterations of the Proposed Action and or in the appropriate alternative for RNRA management, I offer the following comments on Ms. Upton's 3/26/24 remarks.

Forest Supervisors Special Email Message March 26, 2024 regarding the RNRA commenting on comments received but before the end of the comment period

If the public is not allowed to see and comment on comments in an open Readers Room before the comment period closes, why did the Supervisor comment on comments no one else could see before the close of the comment period? This seems to be a violation of NEPA. It looks like you are saying that either you don't like or that the comments you have received so far are wrong and that there is indeed a lot wrong with the PA in relation to the RNRA.

The LNF Supervisor wrote in her comment:

First, I must emphasize that it was not the intent of the proposed action to substantially change the current management of the RNRA

It may not have been your intent, but the Proposed Action (PA)



does significantly change the current management of the RNRA by declaring it "suitable" (Appendix 2 Table A2.3 and elsewhere in the PA) for logging, road construction and grazing in addition to dropping all the RNRA Goals and Standards in the current Forest Plan and LAC Direction.

The Rattlesnake National Recreation Area (RNRA) does not have its own Management Area or delineation in the Proposed Action. It is chopped up into three Management Areas that are less restrictive and not specific to the National Recreation Area as under current management and seems to violate the intent of Congress. Please find attached the House of Representative Congressional Committee Report on the passage of the Rattlesnake Wilderness and National Recreation Area. The Geographic Area plan components for the RNRA are even skimpier than in the MA section. with plan components in the Greater Missoula Geographic Area section (Chapter 3).

The RNRA in the Greater Missoula Geographic Area in Chapter 3 doesn't even have ANY goals, Objectives, Standards or Guidelines. for the Rattlesnake NRA ( PA pg 121)

In addition, management areas (Chapter 4) overlay this, as does the Forestwide desired recreation opportunity spectrum (ROS) (Chapter 2). I can appreciate that this structure of overlapping allocations is complex. To be clear, the most restrictive plan WHAT SPECIFICALLY are the most restrictive plan components for the RNRA? You must clearly state this in the revised plan and do it in a way that a reader can find and understand. Please specifically state WHAT these most restrictive plan components are for the RNRA in clear language somewhere in the revised plan.

Please take a harder look at the current management goals and standards, LAC Direction, management history and designation intent. If you want to change any management in the RNRA, state specifically what is wrong or broken in the current management and why you can't resolve it with the current and past RNRA management methods.

The RNRA LAC Direction is not included anywhere in the Proposed Action and correct me if I'm wrong, was only recently added to the online document library. If the RNRA LAC Direction is not found in the Proposed Action then it is not included in the PA.

Please write a Revised Forest Plan that tells the public, current and future land managers what will and will not be allowed and done on the LNF. Vague, broad over reaching guidance is too squishy to keep the rapidly rotating FS Line Officers from asserting the plan means whatever they want it to mean. If the 2012 Planning Rule doesn't let you make a clear and meaningful plan, then it is inadequate and you should defer plan revision until you have a planning rule that results in meaningful and accountable management on the LNF. The Process is not the product of plan revision, it's what's IN the plan and that the public can understand and support it. So far all the revision meetings

are have been dominated by process rather than meaningful discussion of content.

What are the "specific management plans" you are referring to that will be recognized in the revised plan and continue to be used appropriately" but that are not mentioned anywhere in the PA? How can the public know what you are referring to if they are not mentioned in the PA?

The ROS map for the main corridor of the RNRA says "Semi Primitive Motorized". To say "motorized" and then say in your message it is not open to motorized use is contradictory and sounds like double talk. Please make the entire RNRA non motorized.

Thank you for pledging to carefully evaluate all the problems with RNRA management in the PA. Please make sure subsequent versions fully disclose the history and cultural of the RNA designation, honor the intent of the designation (to prevent roading and logging in the Rattlesnake drainage) and have safeguards to protect and manage the RNRA as it has been for the last 44 years and into the future for the primitive undeveloped recreation resource and setting by assigning the RNRA its own MA with clear, accountable and specific Desired Conditions, Goals, Objectives, Standards, Guidelines and a Suitability statement that says it is unsuitable for any kind of commercial or non-commercial logging and road building unless it is within 100 feet of a home.

To "best to ensure that the RNRA is managed appropriately" all you have to do is leave the current management in place and provide future safeguards. To repair the damage done to the Lolo by the proposed for the NRA just leave it alone, do nothing: Keep the current management with future safeguards.

The PA in relation to the RNRA significantly degrades the recreation, fish and wildlife resource, not only as demonstrated in the plans for the RNRA but the fact there has not even been a dedicated recreation specialist on the revision team let alone one that has any knowledge of the on the ground recreation resource or recreation culture of Missoula. The bias against the RNRA and fish and wildlife and recreation resource and commitment to the belief that there is no forest vegetation problem that can't be solved by logging, is further reinforced by having a timber person as the revision team leader. I don't mean to disrespect or criticize that person's abilities in their specialty area, but on a forest where fish, wildlife and recreation are as important on the Lolo, why wasn't a recreation or wildlife specialist selected to lead the revision effort?

The RNRA is not the place to use industrial commercial logging and road construction under the false premise that you are in anyway enhancing the recreation resource.

The Marshall Woods project in 2015, after another attempt to log and road the RNRA, instead demonstrated a better approach. It complied with the RNRA designation intent by using non-commercial, methods and prescribed fire to treat fuels and tim-

ber stands and that work has been called a success by the LNF staff. According to Missoula District Ranger Crystal Stonesifer (Missoulian 1/26/23) "

The PA, while putting Wilderness, the only other Congressionally designated area on the forest, in its own Management Area as was done in the 1986 LNF Plan, does not have a special Management Area for the RNRA. By doing the PA fails to recognize the national and local significance of the RNRA. This is a 180 degree departure from current management in the 1986 LNF Plan. The PA further diminishes the significance and importance of the RNRA by washing its management in with other non-designated recreation areas, ski areas and bicycling trails on the forest. The RNRA is not just another tourist or roadside attraction like the Milwaukee RR R/W / Hiawatha Trail or LNF ski areas. It should not be in MA5 (or MA's 3 or 4). It is not like Blue Mtn or Pattee Canyon, which are de facto city parks and don't have Congressional designation.

At a time when there is rapidly increasing recreation use, increasing population in the Missoula valley, increasing human recreation impact and increasing impacts of climate change on the RNRA and all NF lands, the standards to protect and manage the RNRA need to be MORE specific and stringent, not less specific, generalized and vague.

The PA was presented as a "starting point", that would mean starting from the current management, not from before the Rattlesnake Act of 1980 when the RNRA was open to logging and road construction as is done in the PA. As a bare minimum the "starting point" in the PA should be management under the Goals and Standards in the 1986 LNF Plan, Amendments 1,3, 5 and 16 to the 1986 LNF Plan and the standards in the 1992 LAC Direction for the RNRA.

There is also an inconsistency and confusion in the PA for the "south zone" of the RNRA. The PA refers to a "south zone" but doesn't say whether it is the same "south zone" identified in Lolo Forest Order F16-001-Lolo-D3 dated 1/25/15. Furthermore, the acres other than those in the "south zone" are unaccounted for as part of the RNRA in the PA and not mentioned at all in either MA 3 or 4, both of which include RNRA acreage.

There is no acknowledgement of the RNRA throughout the PA when "designated areas" are mentioned and no apparent awareness of the historical background of the Rattlesnake Wilderness and NRA and its cultural role in the Missoula community. These omissions diminish and downplay:

1. the significance of the RNRA, as a Congressionally designated area,
2. that the NRA is the only NRA on the Forest and in Region 1
3. it's history and purpose of designation,

Disregard for the recreation resource in the RNRA is further supported by:

1. the absence of RNRA specific Goals, Objectives, Standards

and Guidelines in the Missoula Geographic Area section,  
2. the change under the PA that the NRA would be "suitable"  
for road construction and logging (Ch 3 pg 121) for any  
reason you chose, and

3. the lack of Goals and Objectives and Standards in the Man-  
agement Area section (Ch 4 MA 3,4,5) of the PA

Again, these omissions are so many that we can only conclude  
that the devaluation and diminishing the value and importance  
of the recreation resource in the RNRA was intentional to sup-  
port the primary objective in the PA: logging and building roads  
in the RNRA.

In summary, the RNRA is the ONLY NRA in Region One. The  
PA significantly diminishes its national significance as the only  
Congressionally recognized and thereby most significant recre-  
ation area in the Region by denying it a Management Area like  
the other congressionally designated area on the Forest (Wilder-  
ness) as was done in the 1986 LNF Plan and as was done in the  
2006 "false start" LNF Plan revision. The PA also strips the  
RNRA of its specific and protective Guidelines and Standards,  
Forest Plan Amendments and Limit of Acceptable Change Di-  
rection and designates it suitable timber harvest and new road  
construction in disregard for the reason it was designated as an  
NRA in the first place. The PA represents a radical 180-degree  
change in management for the Rattlesnake NRA

The RNRA should be assigned its own MA not only for its  
unique character and history, but because it is only one of two  
Congressionally designated area on the LNF, the other being  
Wilderness, which has its own MA. All of the standards in the  
1986 LNF Plan should remain in the Revised Plan and it should  
clearly state that the RNRA is closed to commercial tree re-  
moval, new road construction, existing road reconstruction and  
will be managed in perpetuity, as was the intent of Congress in  
1980, for primitive recreation and where the preservation and  
enhancement of the recreation resource is the number one man-  
agement objective. Additional protective provisions should be  
added to the PA so we don't have to go through this same issue  
over and over again where some new FS manager comes in with  
the great idea to log the RNRA, since this is not the Lolo NF's  
first try at upending the RNRA management in the last 10 years.  
The Proposed Action does not revise the 1986 Forest Plan for  
the RNRA, it eliminates it and starts with a proposal for the Rat-  
tlesnake drainage like it was before the 1986 LNF Plan and be-  
fore the NRA was designated in the 1980 Rattlesnake Act, a time  
when the drainage was open to logging and road building and  
had no recreation standards at all.

Appendix A / Preliminary Issues

Issue 2: "Opportunities (suitability) for mountain bikes or ebikes  
and other uses"

Ebikes are motorcycles: a "cycle" with a motor, why don't you  
refer to them as motorcycles since they are a motorized cycle?  
Referring to an e bike as anything other than a motorcycle is

misleading. Ebikes should not be allowed in the Rattlesnake National Recreation Area

Rather than "ebikes" simply say "motorcycles including e-bikes".

There is no stated Need for Change in the RNRA anywhere in the "Need for Change" and yet the Proposed Action describes a radical 180-degree change in management in the NRA and completely discards any of the Management Direction in Appendix O-2 of the 1986 LNF Plan (LAC Based Management Direction Rattlesnake National Recreation Area and Wilderness Dec 1992), without saying what is wrong with it (Need for Change). The generalize mentions of "recreation" in the Need for Change are so vague that they can be interpreted however you want. Please do not change current management of the RNRA back to pre- 1980 conditions as is proposed. The LNF does need to log it, build new and temporary roads and reconstruct temporary roads, open it to grazing (MA3 and 4), personal use firewood cutting, and eliminate the Goals and Standards in the 1986 FP, Amendments to that Plan, and the LAC Direction.

Please manage the RNA as directed in the Rattlesnake Act of 1980 which states that the RNA will be used for ecological and educational purposes consistent with the standards in the 1986 Plan which are incorporated into the PA. Primitive recreation and maintenance of primitive recreation settings will be the primary management objective."

There is currently no grazing permitted in the RNRA and the MA 3 lands the PA has in the RNRA are steep, thickly forested and unsuitable for grazing. The MA 4 lands are all creek bottoms and include riparian and are similarly unsuitable and high risk for resource damage. Please continue to prohibit livestock grazing in the Rattlesnake.

While Wilderness and recommended Wilderness are mentioned in this section as having their own Management Areas, the RNRA is not only no mentioned but also not given it's own Management Area even though it is a Designated Area with the same level and importance (the Rattlesnake Act of 1980) as Wilderness.

Please state that the RNRA is also a Designated Area and give it it's own Management Area same as Wilderness... why WOULD'T you do this if not to again intentionally diminish and downplay the significance and protections owed to the RNRA? Please give the NRA it's due, clearly state the history and purpose of designation (to prevent road construction and logging) and identify it as the most nationally significant recreation resource on the Forest and in the Region by virtue of its Congressional and Presidential designation.

Please clearly state the value and social and economic role and contribution of the RNRA to the Missoula community and Missoula Geographic area. Include it's primitive recreation character, current 86 Plan and 92 LAC standards and the reason it was

designated.

Please state that there are TWO Designated Area in the Missoula GA: Wilderness and the RNRA. PA pg 119 Table 32: says NRA is 60,030 acres

The RNRA is not 60,030 acres, it's approx. 28,000 acres. It is not clear why the PA doesn't mention or refer to the RNRA as a Congressionally designated area (like it does for Wilderness), the only NRA in Region One or state the RNRA acreage anywhere.

Please state the RNRA is a Congressionally designated area like Wilderness, state and differentiate between the RNRA acreage, the Rattlesnake Wilderness acreage and the combined total.

Please state the purpose for which the RNRA was established: to prevent logging and road building in the Rattlesnake drainage.

The purpose the RNRA was established is not included. Managers cannot know specifically what the Desired Condition is.

State the purpose the RNRA was established: to prevent logging and road building in the Rattlesnake drainage.

Please add the purpose for which the RNRA was established: to prevent logging and road building in the Rattlesnake drainage.

There are no measurable standards or Desired Condition for the current Limits of Acceptable Change included in the PA for the RNRA. Therefore, under the PA, there are no standards for things like trail and road conditions or maintenance, groups size, trail encounters, camp site density or campsite condition to protect fish and wildlife. Therefore, under the PA there isn't any way to measure and manage for these factors in the RNRA. Absent these standards/desired conditions/Limits of Acceptable Change, trails and roads could increase in size and number and deteriorate in condition, campsites would deteriorate and increase in numbers, groups of 20-30-40 or more hikers, mtn bikers or horseback riders could dominate trails. ROS categories don't include any measurable/quantifiable standards.

Recommended additions to Desired Condition for ALL OF THE RNRA, not just the "south zone":

Trails and roads meet the Limits of Acceptable Change standards in the 1992 Limits of Acceptable Change based Management Direction for the Rattlesnake National Recreation Area and Wilderness.

Group size and trail encounters meet the Limits of Acceptable Change standards in the 1992 Limits of Acceptable Change based Management Direction for the Rattlesnake National Recreation Area and Wilderness.

Campsite encounters, campsite density and campsite condition meet the Limits of Acceptable Change standards in the 1992 Limits of Acceptable Change based Management Direction for the Rattlesnake National Recreation Area and Wilderness.

PA Pg 121: OMISSION

Comment: Why are there no Goals, Objectives, Standards or Guidelines for the RNRA?

Please add these to include the standards in the 1986 LNF Plan

and the 1992 Limits of Acceptable Change based Management Direction, and that the RNRA is closed to grazing, road construction and reconstruction, construction of temporary roads and logging.

None of the RNRA should not be in MA 3. Congress designated it as one unit, it has been managed that way for 44 years and was in the 86 LNF Plan. If you feel compelled to have fewer than the 28 MA's in the 86 LNF Plan, six MAs (with an unique MA6 for the RNRA) is still a lot less than the 28 MAs in the 86 Plan.

The RNRA should be assigned its own MA not only for its unique character and history, but because it is only one of two Congressionally designated area on the LNF, the other being Wilderness, which has its own MA. All of the standards in the 1986 LNF Plan should remain in the Revised Plan and it should clearly state that the RNRA is closed to grazing, logging, new road construction, existing road reconstruction and will be managed in perpetuity, as was the intent of Congress in 1980, for primitive recreation and where the preservation and enhancement of the recreation resource is the number one management objective.

PA Pg 158 Suitability (MA3-SUIT)

Comment: Item 02: The backcountry area of the RNRA, consistent with the purpose of its designation, the 9/17/80 Congressional Committee notes for the Act and the Rattlesnake Act emphasis on primitive settings and recreation should not be suitable for timber harvest for other multiple use purposes.

Comment: The RNRA should have its own MA and should not be in MA 3,4, or 5 at all for the same reasons as above.

PA Pg 159 4.4 MA 4 General Forest

Comment: There is no mention of the RNRA or acres in the MA 4 section. None of the RNRA should not be in MA 4. Congress designated it as one unit, it has been managed that way for 44 years and was in the 86 LNF Plan. If you feel compelled to have fewer than the 28 MA's in the 86 LNF Plan, 6, (with an unique MA for the RNRA) is still a lot less than the 28 MAs in the 86 Plan.

The RNRA should be assigned its own MA not only for its unique character and history, but because it is only one of two Congressionally designated area on the LNF, the other being Wilderness, which has its own MA. All of the standards in the 1986 LNF Plan should remain in the Revised Plan and it should clearly state that the RNRA is closed to commercial tree removal, new road construction, existing road reconstruction and will be managed in perpetuity, as was the intent of Congress in 1980, for primitive recreation and where the preservation and enhancement of the recreation resource is the number one management objective.

Pg 160 RNRA in MA 5 Pg 160 Table 2 Comment:

1. There is a mention of where the Rattlesnake National Recreation Area "South Zone" is in relation to the "South Zone" map referenced in Lolo Forest Order F16-001-Lolo-D3 dated 1/25/15

and whether it is the same 15,168 acres.

2. The Lolo Forest Order F16-001-Lolo-D3 dated 1/25/15 "south zone" map is also missing from any of the appendix material.

3. The remaining acres (outside the "south zone") in the RNRA are unaccounted for and not mentioned as being in the RNRA in the other two RNRA MA's (MA3 and 4)

4. Congress designated the RNRA as one unit and it has been managed as one unit in the 1986 LNF Plan. There is no reason and it contradicts the RNRA designation and history to split it into three different Management Areas.

5. There is nothing in the "Need to Change" document saying why the RNRA should be split into three different MAs. "If it ain't broke, don't fix it."

Please put all of the RNRA in one Management Area (6) as Congress designated it. While I understand your direction to minimize management areas, the RNRA warrants a separate management area because it is the only one in the Region and thereby unique and is also a Congressionally designated area like Wilderness which has its own MA in the PA.

P.A. pg 161: Suitability (MA5-SUIT)

01 Recreation emphasis areas are suitable for a high density of recreation development.

"High density of recreation development" would exceed all current RNRA mgt goals, standards and LAC Direction. RNRA currently has group size limits. What happened to these? We are opposed to getting rid of group size restrictions.

Management of the RNRA designed for large numbers of people" would exceed all current RNRA mgt goals, standards and LAC Direction. RNRA currently has group size limits. What happened to these? There is nothing in Need for Change to get rid of the group size standards in the RNRA. RNRA has group size limits. There is nothing in Need for Change to drop groups size limits in the RNRA.

02 Facilities may be designed for user comfort and convenience and could be highly refined. Comment: What does "highly refined" mean? This term without any specificity doesn't say anything.

HOW could facilities be and what is "highly refined"? Recommendation: Clearly and concisely define "highly refined"

Comment: The current RNRA LAC Opportunity Classes are for more primitive recreation experiences. The PA has them all as more developed/less primitive ROS classes.

The main corridor Road/Trail 515 is currently Semi Primitive Roaded I and II with the exception of the first roughly 1/2 mile of the main corridor Road/Trail 515.

The PA has all of the main corridor Road/Trail 515 as Semi Primitive Motorized. Map GM04 has most of the RNRA in Semi Primitive Non-Motorized, most of the RNRA is currently Pristine or Primitive.

These changes to more developed ROS categories are unwar-



ranted (not mentioned in Need for Change) and will degrade the current less developed recreation settings in the RNRA.

Please keep the current ROS classifications found in the 1992 LAC Management Direction for the RNRA

All mass transit does to recreation areas is to further degrade the recreation experience, resource and facilities by creating bringing in more people, creating more crowding, trash and human impacts: Single vehicle recreationists plus mass transit recreationists equals MORE not less impact. The adverse effect of crowding at recreation sites resulting from mass transit is borne out and already a problem at heavy recreation areas around Salt Lake City Utah, many sites in Colorado and in the Sierra Nevada's in California. "Encouraging mass transit opportunities to major recreation destinations" on the LNF will create those problems on the LNF.

What will you do or what management actions may be taken when you exceed recreation carrying capacities or exceed ROS experience levels?

Please add management actions you'll take when you exceed recreation carrying capacities or ROS experience levels.

Text pg A3.27: "Consider altering infrastructure to better capture and use natural and man-made snow." Text pg A3-27: "Where possible relocate existing infrastructure and opportunities to areas with less risk of climate-exacerbated damage."

What do these statements mean? Please explain or expand what on what you'll do.

Text pg A3-28: "As possible, remove or decommission vulnerable infrastructure."

Comment: What is climate vulnerable infrastructure? Please clearly state specifically what you are talking about.

Recommendation: Explain in plain speak what "climate vulnerable infrastructure" is.

#### 4.2.2 Rec Opportunity Spectrum Settings (ROS)

"Potential management strategies are those that (1) assist in providing a range of recreation opportunities across the Forest, (2) minimize visitor impacts to natural resources and conflicts between user groups, and (3) construct and maintain facilities and trails to address capacity issues and meet visitor needs. Potential strategies may include developing a recreation vision and a strategic prioritization process that provides direction for maintenance of existing recreation facilities, construction of new facilities, and reconstruction of and/or additions to existing facilities. What does "Potential strategies may include developing a recreation vision and a strategic prioritization process that provides direction for maintenance of existing recreation facilities, construction of new facilities, and reconstruction of and/or additions to existing facilities." mean?

Please state something that is more specific, measurable and identifiable so the reader and public will know what you are proposing.

Please delineate the RNA boundary and put all of the RNRA in one MA as stated several times above.

The RNRA should be assigned its own unique MA. There are only two Congressionally designated areas on the LNF: Wilderness and the RNRA. Wilderness has its own MA but the RNRA is chopped up in the PA into three different MAs (3, 4, and 5). The Rattlesnake Act did not divide up the recreation values in the NRA and the 1986 Plan likewise had one Management Area for the NRA. Furthermore, NONE of the NRA should be or was ever intended to be managed as "General Forest" as shown in Appendix 01 GM Map 01

Please put all of the RNA in its own unique MA as was done in the 1986 Plan and keep all the current 86 Forest Plan and LAC standards in the revised plan.

Please keep the RNRA in the same Opportunity Classes as in Appendix O-4 of the 86 LNF Plan.

The rest of the NRA is proposed as Semi Primitive non-motorized when now it is nearly all Pristine. The proposed change is a decrease in solitude in the ROS/NRA. There is no NEED FOR CHANGE for this in the Need for Change document.

Please keep the RNRA in the same Opportunity Classes as in Appendix O-4 of the 86 LNF Plan.

Why is there one isolated sliver of primitive non-motorized up the NRA corridor surrounded by Primitive? "You can't get there from here"

Why do the isolated parts of the NRA have a lower Desired Scenic Integrity from the Wilderness when they are the same landscape and development level on the ground?

:The RNRA should be assigned its own MA (6) not only for its unique character and history, but because it is only one of two Congressionally designated area on the LNF, the other being Wilderness, which has its own MA. All of the standards in the 1986 LNF Plan should remain in the Revised Plan and it should clearly state that the RNRA is closed to commercial tree removal, new road construction, existing road reconstruction and will be managed in perpetuity, as was the intent of Congress in 1980, for primitive recreation and where the preservation and enhancement of the recreation resource is the number one management objective.

Since the RNRA is Congressionally designated and the only NRA in Region 1, why isn't it mentioned in "Fast Facts"? Fast Facts includes designated and recommended wilderness, why doesn't it mention the only designated National Recreation Area in the Region?

The best way to make existing wildfire- vulnerable developments ignition resistant is to work within the limited area of the "home ignition zone"-a home and its surroundings within 100 feet (which may include neighboring homes). (Calkin, et. al. 2023 Proceedings of the National Academy of Sciences). While RNRA was managed well from the Rattlesnake Act in

1980 for the following 35 years. But now with the increasingly frequent attacks on the NRA by the Marshall Woods project in 2015 and now the revised forest plan proposed action, it's clear that the management goals, standards and all the "plan components" in the revised plan have to be even stronger and more prescriptive than in the current plan so that there can be no room a future FS manager in 5, 10 or 20 years to come in and try to twist the meaning of the language and undo what the founders of the RNRA did.

As recreation pressure and the population of the Missoula valley increases, as human caused recreation impacts increase and as we experience further resource damage from climate change, you will provide additional measures, actions or Forest Orders, not fewer, to protect the primitive recreation resource and experience in the RNRA.

Thank you for your time and consideration of our comments.

Sincerely yours,

Mike Garrity

Alliance for the Wild Rockies