Pursuant to 281(a)-218 (b-d)

Objection against the Draft Record of Decision For the Stonewall Vegetation Project On the Lincoln Ranger District of the Helena National Forest Submitted on June 10, 2015

Objectors Names and Addresses:

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Signed for Objectors this 10th day of June, 2015

Sara Jane Johnson

Reponsible Official:

Forest Supervisor Bill Avey, Helena National Forest

Incorporation of DEIS comments of 6/5/2013 into objection:

On June 5, 2013, NEC/AWR provided 29 pages of issues in regards to the DEIS for the Stonewall Project. We are incorporating all these issues we raised at that time into this objection, in order to avoid repetition. Issues we identified at that time that we felt require additional discussion were revisited for this objection.

Attachments: Appendix A with cited references is attached.

Description of Aspects Addressed by the Objection and Violations of the Law; and Connection between Objection and Prior Comments

To save repetition, we are combining the Objection requirements to describe aspects of the proposed project that we have concerns about, along with specific references to prior comments on these issues NEC/AWR submitted on June 5, 2013. Issues that we felt would benefit from additional discussion and specific literature citations are addressed below.

1. Forest Plan Amendments/Elk Management

In our NEC/AWR comments on the DEIS on 6/5/2013 at #3-4 at pages 2-5, we raised concerns about the proposed amendments to the Helena Forest Plan for wildlife standards 3 and 4a, and the lack of amendments for management area direction for T-3 and T-1. These concerns dealt with the lack of cumulative effects analysis, failure to use the current best science, and failure to comply with the NEPA in amendment development, including public involvement. We were also concerned about the overlap of the Stonewall Vegetation Project with the Blackfoot Non-winter Travel Plan and associated Forest Plan amendment, different from the amendment for the Stonewall project. We also raised concerns about the agency's definition of security as well as hiding cover. These concerns remain with the FEIS.

The Blackfoot Non-winter Travel Plan and Forest Plan Amendment has not bee finalized, but could be finalized at any time. The road management and security management are not the same for this travel plan/amendment as for the Stonewall project (FEIS 503-504). So the agency is planning on having 2 different management plans for the Stonewall project area, in violation of the NEPA and the NFMA. Why wouldn't the Stonewall project be consistent with the Blackfoot non-winter travel plan and amendment?

The proposed amendments for management area direction for T-1 and T-3 were not identified or evaluated in the DEIS. This is a violation of the NEPA and the NFMA to propose new amendments in the FEIS without providing

for public comment and notification. The purpose of an EIS is to ensure that the relevant information is made available to the larger public.

The FEIS at 499 states that burning will improve big game summer range. No monitoring or research was provided to support this claim, in violation of the NEPA and the NFMA. This claim is inconsistent with the Forest Plan direction for hiding cover on elk summer range, and MA T-1 and T-3. How can violation of Forest Plan direction for big game be called "habitat improvement?" The management of big game winter range must also maintain and/or improve it for big game. The claim that logging and burning big game winter range is in direct conflict with Forest Plan direction for big game on winter ranges. As with summer range, how can violation of Forest Plan MA direction for elk be called habitat improvement? In addition to the direct conflict with Forest Plan direction, the agency never provided any documentation that burning/logging elk summer and winter range constitutes habitat improvement, in violation of the NEPA. This also relates to the proposed Forest Plan amendments for hiding cover and thermal cover, both Forest-wide and within MAs. These amendments require the application of the current best science. No science was provided to demonstrate changing the Forest Plan will benefit big game via reducing hiding and thermal cover.

The agency also failed to provide any rationale as to why the impact of the proposed forest plan amendments was limited to the Stonewall project area, instead of the entire HNF. The CEQ recommendations recommend that the geographic areas occupied by those resources, in this case elk, outside of the project impact zone be determined; in most cases, the largest of these areas will be the appropriate area of the analysis of cumulative effects. The analysis of all forest plan amendments across the HNF on impacts to MIS elk is essential in order to avoid the tyranny of small decisions. In the case of the Stonewall project, the agency failed to provide any explanation as to why it limited the analysis of the proposed forest plan amendments to the Stonewall project area.

The agency notes at FEIS 317, 506, that the MFWP definition of hiding cover was used for the analysis. The FEIS at 504 states that the Forest Plan standard 4(a) cannot be met because of a lack of hiding cover. The justification for amending the Forest Plan is in part due to the failure of the Stonewall project area to meet Forest Plan standard. However, the agency did not demonstrate that the 2 elk herd units do not meet the actual definition of hiding cover in the Forest Plan, or concealing 90% of an elk at 200 feet.

There is no actual analysis in the FEIS as to what the hiding cover is per the Forest Plan standard, in violation of the NEPA and the NFMA.

The agency's claim that 40% canopy cover provides hiding cover is never supported with any peer-reviewed science (e.g., Lonner and Cada 1982, Forest Service white paper by Canfield and others). There is established science that demonstrates that a 40% canopy cover does not provide 100% hiding cover as per the standard definition of concealing 90% of an elk within 200 feet (Lyon et al. 1982, with application of the Montana Rule for hiding cover). In fact, the Lewis and Clark National Forest uses Lyon et al. (1982) and the Montana Rule to measure hiding cover on that Forest (USDA 2010). The rationale for amending 4(a) and 3 for the project is thus based on a flawed, invalid analysis of hiding cover, in violation of the NEPA and the NFMA.

The agency's analysis of exempting the project from hiding cover standard 3 and in management area T-2 and T-3 is also a violation of the NEPA and the NFMA because it lacked any analysis of impacts of removing hiding cover requirements for big game species. First, the actual definition of hiding cover in the Helena Forest Plan glossary was not used (concealing 90% of an elk within 200 feet) (Black et al. 1976, Lyon et al. 1985, USDA 2010a). Because of an invalid definition of hiding cover, the Forest Service will not count the loss of hiding cover from logging and burning as long as a 40% canopy cover is maintained. These treatments will remove official hiding cover, so this impact is concealed by using an invalid definition. Also, the proposed levels of hiding cover the would result from the Stonewall Project were never compared to recommended levels of hiding cover, which range from 40% (Black et al. 1976) to "good" hiding cover of 66% (Lyon et al. 1985). Failure to address recommended versus proposed amendment levels of hiding cover means that the agency failed to take a "hard look" at the impacts of deleting the hiding cover standards Forest-wide or within specific MAs, in violation of the NEPA and the NFMA.

The agency did not even use the actual definition of hiding cover they purport to be applying to the project, or a 40% canopy cover, in violation of the NEPA and the NFMA. The FEIS at 315 notes that "pre-kill" canopy cover was used to measure hiding cover for the project. This means that the impacts of the mountain pine beetle, which thin the forest canopy, were not actually measured for the project. This means that the agency's description of current and planned hiding cover levels from the Project are not correct.

Existing hiding cover will be much lower than reported, since the impact of the pine beetle on canopy cover is not being considered. In addition, the impact of the proposed logging will be vastly underestimated, since remaining hiding cover after logging/burning will be much lower than reported. The FEIS at 267 notes that post-kill from the pine beetle has reduced closed canopy forests to approximately 19% of the project area. Since this is the case, how can reported hiding cover from a 40% canopy be 56% and 36% for the 2 affected EHUs? It is clear that the Forest Service is providing false information to the public on hiding cover, in violation of the NEPA.

According to the MFWP definition of hiding cover as a 40% canopy cover, all hiding cover would be eliminated by bark beetles. This is actually invalid, as most lodgepole pine stands impacted by the pine beetle will recover hiding cover quickly. Tree boles and jack-strawed timber both provide hiding cover. And canopy thinning will immediately release the growth of any existing saplings in the understory, as well as increase moisture and sunlight for shrubs. Once this released vegetation reaches the average height of an elk, it will provide hiding cover. This impact has likely already occurred in most, if not all, of the forest stands in the project area.

The agency did not actually provide a cumulative effects analysis of applying the MFWP definition of hiding cover. If they had, it would have demonstrated a severe long-term impact on hiding cover with logging. Forest stands must reach a height of at least 40 feet after logging in order to qualify as hiding cover. This will take decades, especially in clearcuts, but in partially-logged units as well. On the contrary, use of the standard Forest Plan definition of hiding cover would demonstrate a much quicker recovery of logged/burned hiding cover. This severe long-term impact of applying the MFWP definition of hiding cover for management in the Stonewall Project Area was never evaluated, in violation of the NEPA and the NFMA.

The agency's invalid definition of hiding cover serves to conceal project impacts on the threatened grizzly bear as well. The FEIS at 428 states that over 500 acres of riparian treatments on either side of the side include 50 acres of clearcutting and 170 acres of intermediate harvest. The agency claims that these intermediate harvest areas will continue to provide hiding cover and travel corridors for grizzly bears. Intermediate harvest areas will supposedly maintain a 40% canopy cover, with the understory removed.

These treatments will clearly reduce and/or eliminate hiding cover for the grizzly bear, contrary to what is claimed by the agency.

The agency's analysis of big game security is also flawed. Security is not actually measured by the Hillis et al. (1991) methodology, because the hiding cover component is not included (FEIS 323). Although the Hillis definition of security is about 15 years old, this definition of security continues to be applied in measurements of elk habitat security. A peer-reviewed article published in the Journal of Wildlife Management in 2013 (Proffitt et al. 2013) used the complete definition of security as per Hillis, including a contiguous block of hiding cover. Hillis has also documented that his definition includes hiding cover in correspondence (Lyon and Hillis 2013). The agency's failure to use the entire Hillis definition of security allows them to misrepresent project impacts by claiming that post-project security will be just the same as current security (FEIS 347), which is clearly wrong. This is a violation of the NEPA and the NFMA, and the APA.

The agency's analysis of project impact on big game security also does not use the current best science, in violation of the NEPA. The MFWP and the Forest Service are collaborating on an expanded definition of elk security for the Helena National Forest, as is identified in the Blackfoot Non-winter Travel and Forest Plan Amendment (MFWP comments on the DEIS at Appendix D, 781, 785, 779, 776, 775). This new strategy would expand security areas to 1,000 acres, and would occur on 50% of the landscape. Although it lacks a hiding cover requirement, the MFWP has recommended that there be a hiding cover requirement (Id. at 773, 775). Instead of using this proposed revision for security, the agency in the Stonewall project ignored it, and instead evaluated security by the 250-acre blocks on 30% of the landscape.

The agency failed to provide replacement standards for the big game standards they were planning to eliminate, in violation of the NEPA and the NFMA. Simply eliminating Forest Plan standards is a violation of the NFMA, since requirements of the NFMA are being abandoned. The NEPA also requires that Forest Plan amendments develop alternatives. There were no alternatives proposed for the deletion amendments, in violation of the NEPA and the NFMA.

The agency also will violate the NFMA by failing to use the current best science in amending the Forest Plan. The agency noted that habitat

effectiveness and security as per Hillis are both accepted "current best science." However, these recommendations for managing elk and other big game were not applied to the project as substitutes for the Forest Plan directions that are being eliminated. The proposed action alternative will exacerbate existing shortages of security as per the valid definition by Hillis, as well as habitat effectiveness, during logging by the addition of 11 miles of new roads and elimination of several thousand acres of hiding cover.

In addition, as noted previously, the MFWP and FS are working together to develop a more valid definition of big game security (see MFWP comments below for the Divide Non-winter Travel Plan). This new strategy would be defined as "the current best science" for management of elk security on the HNF (MFWP DEIS comments Appendix D at 775, 776, 779, 781, 785). Even though the FS is aware of this ongoing development for elk security, and is collaborating with the MFWP on this improved management approach, and are proposing this new strategy for the Blackfoot Non-winter Travel Plan, they inexplicably failed to apply it to the Stonewall Project. This new strategy would increase the size of security blocks to 1,000 acres, and increase the level to 50%. The existing Hillis definition is noted to be inadequate for the HNF (MFWP comments on DEIS for the Blackfoot Non-winter Travel Plan). The Stonewall analysis is violating the NEPA and the NFMA by not including this new recommended management of elk security for the Stonewall Project, as well in the proposed Forest Plan amendments for the Stonewall Project.

Failure to apply the current best science to Forest Plan direction for big game and the MIS elk, will result in significant adverse impacts within the Stonewall project area, in violation of the NFMA. Severe displacement of elk from this landscape during the summer means that these lands are not providing natural levels of breeding/rearing habitat for this MIS, in violation of the NFMA. The open road density during project activities, due to a lack of any standards, will be 3.5 miles per section for both elk herd units (FEIS 319). The habitat effectiveness level for these areas will be approximately 40% (Lyon et al. 1985). The minimum HE recommended for elk is 50% (Christensen et al. 1993).

The agency has violated the NEPA by failing to define what habitat effectiveness and habitat security will be for elk within the project area. The EHUs provide a cumulative effects analysis, but wash out local effects due to their large size. The project area is 23, 670 acres while the EHUs are

32,406 acres for Beaver Creek, and 44,325 acres for Keep Cool Creek (FEIS 319).

The current best science for limiting the size of clearcuts was also not applied to the project in any Forest Plan direction. Lyon et al. 1985 recommends that clearcuts not exceed 100 acres in size. Black et al. (1976) recommends also that the width of clearcuts be limited to 1200 feet, so that forage is within 600 feet for elk. Neither of these recommendations were applied to the Stonewall vegetation project, in violation of the NFMA. There is no analysis as to how clearcut sizes and widths will affect elk, as well, in violation of the NEPA; the agency failed to take a hard look at project designs on this MIS and species indicated by elk, such as mule deer.

The agency failed to provide a valid analysis of cumulative impacts of the proposed Forest Plan amendments by using an invalid definition of security. The current security levels of 26-27% in the two affected EHUs are based on just open road densities, not hiding cover. If the actual definition of security were used as per Proffitt et al. (2013), the condition for elk vulnerability would have been identified as being much lower; the impacts of the project would thus have been reported, as well, as being much more severe on security than that agency is presenting to the public (no impact after the project is completed), in violation of the NEPA, the NFMA and the APA. Contrary to what the agency is claiming, the loss of hiding cover across the project area will eliminate security as per the Hillis definition, even if roads are closed after logging/burning is done.

The agency is also violating the NEPA and the NFMA by using an invalid definition of hiding cover to measure project impacts on big game. As is demonstrated in the FEIS at 492, the agency claims that forest habitat can be logged down, and the understory slashed and burned, while still maintaining hiding cover as per the 40% canopy cover level. This conceals the impacts of the project on hiding cover, in violation of the NEPA and the NFMA. With the actual definition of hiding cover (concealing 90% of an elk within 200 feet), there is no way that forest thinning and understory removal would not eliminate hiding cover, even if the overstory canopy remains at 40%.

The analysis of the proposed exemptions to the Forest Plan falsely claim that they will have no significant impacts on elk habitat. The impact of repeated exemptions of the 4(a) standard, and at times other standards, was never actually evaluated in the FEIS. The impact of past exemptions is not even

mentioned, including the failure of the Forest to meet these standards in 2010, when the Roadside Hazard Tree EA was completed (USDA 2010b). At that time, only 5 of 27 EHUs met standard 4(a), and only 10 of 27 met standard 3, although the Forest Plan definition of hiding cover was not used in that analysis. From recent information, it is clear that these repeated exemptions of these standards has significantly impacted elk habitat on the forest. These impacts were addressed in the MFWP comments on the proposed Forest Plan amendment of these standards in the Divide Non-winter Travel Plan and associated amendment. These comments, dated June 12, 2014, include the following in Appendix D of the Divide Non-winter Travel Plan FEIS/draft ROD:

757: the current and proposed motorized network on the Helena Ranger District (HRD) is more than adequate to provide access for big game hunting; in fact, the existing network severely fragments secure habitat blocks and lack of fall big game security is likely limiting bull elk survival and retention of elk on the HRD.

773: Hillis and his coauthors recommended retaining large, non-linear strategically located and well-distributed patches of non-motorized habitat during the fall hunting season to both protect bulls and prevent displacement of elk from public lands.

773: specific provisions quantifying and protecting "cover" may be a necessary component of a big game security standard for the HRD.

775: the minimum recommended retention of security habitat, 30% of an EHU within the FS boundary, is not adequate and not supported by the literature.

775:in order for security areas on the HRD to adequately protect bull elk and reduce displacement of elk to private land refuges during hunting seasons, individual security areas need to be much larger than those proposed in the Amendment (250 acres); in addition, some consideration of cover is likely warranted, perhaps in the form of a limited amount of disturbance to cover or specific regeneration or restoration plans.

776: the lack of fall security is likely limiting both survival of bull elk and retention of elk on public lands during the fall hunting season.

776: on the HRD, MFWP and FS biologist agree that at minimum, a 1,000 acres patch size is likely necessary in order to function as secure habitat and effectively retain elk on HNF lands despite increases in disturbance associated with hunting and other human activity; this patch size represents a minimum effective patch size and this recommendation in no way justifies reducing patch sizes to meet this level.

779: the Hillis paradigm recommends that a minimum of 30% of an EHU be comprised of security areas: this may be an untenable standard given unequal distribution of private lands within and among EHUs.

780: MFWEP biologists consistently state that fall motorized-route density is unacceptably high throughout most of the HRD and that specific routes and motorized-use areas unacceptably compromise elk habitat security;

781: only patches that are larger than 1,000 acres should be considered "security areas."

781: the proportion of individual EHUs that meet the above security area criteria should be substantially increased from existing condition, as determined by FS and MFWP biologist.

783: limited security habitat on the HRD may be affecting bull survival.

783: while overall numbers of elk are far above objective, bull numbers, in particular mature bulls, are low in the Little Blackfoot-Spotted Dog EHU; disproportionate numbers of spikes demonstrate that hunting pressure is significant in the area and security could be improved to increase survival of bulls;

784: the 5-year average bull:cow ratio is only slightly above the HD's minimum objective; displacement of elk from public land to private land refuges is an increasing concern.

784: improvements to habitat security in HD 335 may improve bull survival.

784: HD 343 has been below the long-term average for calf-cow rations in 8 out of the last 13 years; the bull:cow ratio has been either right at or below the minimum objection for 6 of the 13 years; thus the existing levels of big game security have not consistently yielded bull:cow ratios meeting MFWP's objective; improvements to habitat security may also improve bull survival in this HD.

785: the FS and MFWP biologist are continuing to work together to develop a habitat security standard specific to the HRD.

787: functional big game security is highly limited with the Little Prickly Pear Creek/Ophir Creek EHUs.

790: MFP finds that none of the 4 alternatives reduces overall road densities enough to appreciably improve wildlife habitat and big game security in the Divide landscape; in some areas, big game and other wildlife have already shifted their range from public to private lands and this trend is accelerating; low security and habitat effectiveness are likely contributing to this problem.

The proposed amendments to the Forest Plan for the Stonewall Project are violations of both the NEPA and the NFMA for numerous reasons, some that have already been identified. The project violates NFMA and/or NEPA because the Forest Service failed to conduct adequate analysis for the "site-specific" forest plan amendments it will approve for the project, and failed to comply with the best available science on elk habitat protections. The Forest Service failed to comply with the regulatory requirements for forest plan amendments. The Forest Service failed to include quantified and detailed information on forest-wide habitat conditions in its cumulative effects analysis for its "site-specific" forest plan amendment. The Forest Service will exempt the Stonewall project from compliance with various forest plan standards for elk habitat without complying with the alternative elk habitat protections that the agency promotes as the best available science in the Project EIS.

The agency's failure to provide any detailed or quantified information on habitat conditions across the forest, including forest plan noncompliance with Standards 3 and 4(a) across, and management area standards for MA T-1 and T-3, violate the NEPA. Without such information neither the courts nor the public can be assured that the agency provided the "hard look" that is required to provide. In addition, without an adequate cumulative effects analysis of forest plan amendments, the Forest Service is free to continue to exempt logging projects on a piecemeal basis from any conflicting forest plan standards without ever considering the forest-wide implications of those site-specific exemption. Such a practice undermines one of the fundamental purposes of the NFMA, which is to manage each National Forest with one systematic and integrated plan.

In the analysis of amendment impacts on elk, the agency did not analyze how or whether these amendments are consistent with the best available science on elk management, including the collaboration between the MFWP and FS on elk security areas. The 2000 NFMA regulations state that any amendments to a forest plan must be consistent with the best available science.

The proposed forest plan amendments for the Stonewall Project do not demonstrate consistency with the best available science for habitat management as alternatives to existing forest plan direction. Thus, the agency is violating the NFMA by failing to explain how it can be certain that

the Project complies with the NFMA if the Project is not developed in accordance with any standards for MIS elk. The agency cannot exempt a logging project from forest plan habitat requirements via a "site-specific" forest plan amendment and then move forward with logging without first implementing an alternative habitat protection based upon the best available science. The agency must either comply with forest plan standards or it must comply with the best available science as an alternative to forest plan standards.

In the case of the Stonewall Project, the agency failed to ensure that the project complies with the standards for elk habitat effectiveness an elk habitat security as currently proposed in collaboration with MFWP. The exemption of the Stonewall project from various Forest Plan standards for big game did not include a replacement of a habitat effectiveness standard for elk summer range. The agency recognizes that habitat effectiveness levels of at least 50% are needed to maintain elk on summer habitat as per Region 1 recommendations in Christensen et al. 1993). However, the Stonewall project will not apply this current best science to the project. Habitat effectiveness will be 40% during project implementation. For management areas such as T-1 and T-3 where the primary resource consideration is elk, failure to use this current best science is a direct violation of the MA direction for these areas, as summer elk use will be discouraged, not emphasized.

The agency provided no rationale as to how the proposed forest plan amendments are consistent with the best available science on elk management. To the contrary, the forest plan amendments would authorize a project that violates both various forest plan standards for elk habitat, as well as the best available scientific standards or current recommendations based on collaboration between MFWP and the Helena National Forest. Despite represented elk habitat effectiveness as an alternative mechanism to conserve elk habitat based upon the best available science, the project area will not comply with this threshold during or after project completion. The project will also not comply with the most current security habitat recommendations developed between MFWP and the HNF.

The proposed forest plan amendments for the Stonewall Project also conflict with a recent court decision for the District of Oregon (filed 12/09/14, No. 3:12-cv-02271-HZ). This decision indicates that site-specific amendments to forest plans require that amendments address unique characteristics of a

particular forest area, not conditions that are common throughout the National Forest. Any site-specific amendment to the forest plan must be based on unusual or unique aspects of the site itself when compared to the forest generally. Otherwise the agency is implementing piecemeal abandonment of the forest plan without having to undergo the rigor of public input and review of a new plan, and results in bypassing public consideration of the regional or forest-wide management implications of the amendments, which is inconsistent with NFMA's requirements for integrated forest plans. The court ruled that the proposed amendments in that case were arbitrary and capricious because the agency failed to adequately articulate a rational connection between the characteristics of the project area and the choice to adopt site-specific, rather than forest-wide amendments. In the case of the various amendments proposed for the Stonewall project, the agency failed to justify the use of site-specific amendments by defining why this project area is unique to the HFN.

Based on all of the above , it is clear that the proposed amendments to the forest plan for the Stonewall project will have significant cumulative impacts, which require the agency to complete an EIS for these amendments, instead of tagging them onto the analysis for the Stonewall Project. This failure to provide a stand-alone EIS for these proposed amendments is both a NEPA and an NFMA violation.

2. Purpose for the Project

In our comments on the DEIS, NEC and AWR noted at #7, pages 7-8, that the purpose of the project was invalid. The draft ROD at 9 states that the purpose and need of the project is to move the area towards meeting the Forest Plan direction of having a healthy and productive forest ecosystem; action is needed to move the landscape towards desired conditions described in the Forest Plan; this action responds to the goals and objectives outlined in the Forest Plan, and helps move the project area towards desired conditions described in that plan; all action alternative achieve progress towards desired conditions and outcomes as described in the Forest Plan and respond in various ways to the purpose and need for the project.

The project clearly does not implement the Forest Plan. A healthy forest ecosystem has healthy wildlife populations, including quality habitat for the MIS elk. There are six amendments proposed for the Forest Plan in regards to maintaining elk habitat. These amendments supposedly "exempt" the

Forest Service from managing for elk habitat. These amendments are summarized in the draft ROD at 4-5:

-Forest-wide Standard 3 for hiding cover on elk summer range and thermal cover on winter range;

-Forest-wide Standard 4a for open road densities during the big game hunting season along with hiding cover;

-Management Area T-2 standard for thermal cover on winter range;

-Management Area T-3 standard for hiding cover within the management area;

-Management Area T-2 and T-3 standards for hiding cover in timber harvest openings.

The Project will also require an exception to the Forest Plan standard requiring no more than 30% unsuitable lynx habitat within an LAU. Lynx LAU BI-08 currently contains 37% unsuitable lynx habitat due to fire. The exemption from this standard will allow prescribed burning and creation of additional unsuitable lynx habitat within this LAU.

This project will also require an exemption from the Forest Plan standard for no precommercial thinning in lynx habitat. The selected alternative includes 883 acres of precommercial thinning (draft ROD 7, Table 2).

This project will also result in a violation of the NRLMD standard to maintain lynx habitat connectivity. The project will reduce habitat connectivity in this identified lynx travel corridor with 716 acres of forest thinning, 673 acres of regeneration harvests, and 4,177 acres of prescribed burning. The total reduction of lynx habitat connectivity will be 5,566 acres, although precommercial thinning may add to these travel barriers as well. Past logging on another 4627 acres would bring the total barrier potential up to 43% of the project area, and this does not include 7,922 acres of fuels treatments, and 822 acres of precommercial thinning (FEIS 230, NEC/AWR comments on DEIS at page 8). The ability of lynx to travel across the project area is already severely compromised, and this will be exacerbated by the project due to the violation of the Forest Plan standard to maintain lynx habitat connectivity. The 35% of the project area that lies outside IRAs is heavily logged and fragmented with roads, and this will be exacerbated with the proposed additional logging.

The areas outside of the IRAs in the Stonewall Project area are already severely fragmented with logging, and possibly burning. The IRAs comprise 15,428 acres of the project area (FEIS Table 163 at 633). This is 65% of the project area. The remaining areas of the Project Area where logging can occur constitute only 8242 acres. Past logging has already impacted 5,133 acres including 3,473 acres of clearcutting (FEIS 90). These activities will have effected lynx travel (creation of barriers) to varying effects, with those most severe being clearcuts. Thus the landscape outside of the IRAs has had 62% of the forests impacted by logging, reducing connectivity. With the currently proposed logging of 1,389, the fragmentation impacts will increase up to 79% of the non-roadless lands in the project area. IRAs will likely be the only places in the project area that lynx will be able to move through in the winter, so increasing fragmentation in these unroaded areas will clearly be a significant impact on landscape connectivity for this threatened species.

The rationale for burning and logging to "restore the natural fire cycle" is also contracted by the agency's own analysis. The old growth criteria provided by Region 1 of the Forest Service in Green et al. (1991) includes descriptions of fire cycles as well as average age of oldest trees. For the Douglas-fir cover type on the HNF, the average age of the largest trees is 243 years, with some trees reaching 500-580 years old. The fire cycle is estimated to range from 150 to more than 300 years. For the lodgepole pine cover type on the HNF, the fire cycle may be as long as 350 to 400 years, with the average age of the largest trees being 173 years. For the spruce and subalpine fir forest types, the fire cycle may range from 70 to 350 years, with trees reaching up to 500 years old. For the whitebark pine cover type, the fire cycle is thought to range from 70 to 350 years, with the oldest trees reaching up to 530 years. This Forest Service analysis indicates that the forests in the Stonewall project area, including within the IRAs are not "outside of their historic fire cycles," as is claimed by the agency.

The project will eliminate much of the existing grizzly bear core habitat in the two affected bear subunits, due to disturbance activities associated with prescribed burning and slashing of trees in two IRAs. The Project will also require a violation of the recommended grizzly bear management direction, 19/19/68% for the NCDE; the OMARD will increase by up to 1% (FEIS 343) although the exact increase for alternative 4 is never provided. The project will require burning of up to 978 acres of grizzly bear hiding cover and denning habitat (FEIS 429) and 716 acres of clearcutting in recovery

habitat. Management recommendations for grizzly bears in the Yellowstone area include no clearcutting.

The project will implement an old growth strategy as per the Forest Plan which will provide only 2.5% old growth on the landscape. This level of old growth is far below what would have occurred historically, or what is recommended for wildlife, including pine marten (20%), pileated woodpecker (25%), goshawks (20%), and songbirds (20-25%). In addition, the old growth recommendations for all these species require that old growth be "embedded" within other mature forest habitats. The project will irretrievably eliminate the ability of the lower elevation, unroaded portions of the project area, or 35% of this landscape, from ever providing effective old growth habitat for almost the entire suite of wildlife on the HNF. This is contradictory to the agency's claims that management is needed to promote ecosystem function and forest health.

3. New Issue Based on New Information

NEC requested a hard copy of the FEIS during the objection period from the District Ranger. This hard copy was provided. However, NEC also requested a copy of the biological evaluation for this project. The Forest Service did not provide this BA, even though the draft ROD at 21 notes that consultation with the USFWS is ongoing. The BA has thus been completed and is a connected action for the Stonewall Project. The agency's failure to provide this document to NEC is a violation of the NEPA. NEC/AWR are not able to review and comment on this BA because the agency refused to provide it. NEC/AWR would like to review the information provided to the USFWS on agency analysis of project impacts to both the grizzly bear and lynx. If analysis and/or information is changed due to objections, the Forest Service could reasonably submit a revised BA to the USFWS based on public comments, which is one of the functions of the objection process. This objection process is not complete unless objectors are provided the entire analysis records on which a NEPA decision is being proposed.

4. Violation of the Roadless Area Conservation Rule

NEC/AWR expressed concerns about the extensive proposed burning within IRAs in the Project Area (comment #6, pages 5-7). The Stonewall Project will violate the Roadless Area Conservation Rule by destroying wildlife

habitat with prescribed burning in one-two IRAs in the project area. It is not clear if the selected alternative includes both IRAs with the planned 3,565 acres of burning (draft ROD). Destruction of wildlife habitat, including for a threatened species, is a violation of the Roadless Area Conservation Rule. The burning will destroy 3,565 acres of snowshoe hare habitat, a key prey species for the threatened lynx. This 3,565 acres of hare habitat destruction also comprises a significant portion of this lynx critical habitat; the objective of the burning is to reduce understory vegetation with burning and slashing of trees, including subalpine fir trees important for hares. The LCAS suggests that the average size of a lynx home range is 25-50 square miles. The burning will thus destroy from 11-22% of an average lynx home range. Existing research demonstrates that snowshoe hare habitat is strongly tied to understory vegetation density (Squires et al. 2010, Lewis et al. 2011; Walker 2005; Maletzke et al. 2008). Decreasing sapling density in hare habitat in Washington is estimated to potentially decrease hare density by over 50% (Lewis et al. 2011).

The destruction of snowshoe hare habitat in IRAs from burning will require an "exemption" from the Forest Plan for the 30% limit on unsuitable hare habitat within an LAU. The current level is 37%, and will increase to 39% due to burning in IRAs. It is a violation of the NEPA, the NFMA and the APA for the agency to claim that maintaining ecosystems requires exemptions from Forest Plan direction so that critical habitat for the threatened lynx can be degraded.

The prescribed burning in the IRAs will also destroy existing and developing lynx winter habitat, or habitat that is key to their persistence. Peer-reviewed published research has demonstrated that lynx in Montana require older, structurally-complex forests containing subalpine fir and spruce (Squires et al. 2010). Squires (2014) noted that lynx habitat in the western U.S. consists of mature spruce-fir forests that may exceed 300 years in age. Winter habitat potential for lynx improves as stands age, since subalpine fir and spruce trees increase over time (Tyers 2003). The acreage of subalpine fir forest types that will be burned in IRAs was not specifically identified by the Forest Service. However, it is likely substantial. Table 11 in the project FEIS at page 97-101 provides a summary of the forest types in proposed treatment units. There are 5596 acres of subalpine fir and/or spruce types identified for 65 units. The age of proposed treatment units is also provided in the FEIS in Table 10 at 91. There are no stands identified as 300 years in age. Most of the ages range slightly below or slightly above 120 years. Burning these

young forests will degrade/remove their potential for the long term to provide lynx winter habitat, and this is clearly an adverse impact for this species. Burning could destroy up to 4,117 acres (draft ROD 7-9) of existing and/or developing lynx winter habitat.

The mountain pine beetle infestations that have passed through the Stonewall project area will promote lynx winter habitat in the future as new young trees regenerate in opened forest conditions, just as they would develop in clearcuts in 15-40 years (Gillman 2009). In addition, existing saplings will be released which will promote their growth. These sapling would be destroyed by fire. In addition, the downed jack-strawed trees provided by trees killed by pine beetles will provide denning habitat for the lynx, and hiding cover for the hare (Squires et al. 2010). Burning these fuels "saplings and jack-strawed trees" will be a detriment, not benefit, to both hares and lynx.

The project will also reduce big game security as per the Hillis et al. (1991) definition within the roadless areas. Blocks of hiding cover are required to provide security. This definition that includes hiding cover is the accepted definition in peer-reviewed scientific literature (Proffitt et al. 2013). Understory slashing of small trees followed by burning, as well as overstory burning will destroy hiding cover based on the established definition of concealing 90% of an elk within 200 feet in the Helena Forest Plan. The burning in IRAs will destroy 978 acres of hiding cover (FEIS 427), even though the agency notes that hiding cover levels are below Forest Plan standards. The level of big game security already falls below the minimum recommended level of 30% in both EHUs in the Stonewall Project Area. The MFWP has indicated that a lack of big game security is contributing to growing problem of displacement of elk from public to private lands during the hunting season (Divide Travel Plan Comments 6/12/2014). Further reductions of hiding cover within IRAs will thus exacerbate a growing problem. The Forest Service did not identify why reduced hiding cover for big game is needed to restore the ecosystems in the two impacted IRAs. It is not clear as well why hiding cover is going to be exempted as a Forest Plan standard in order to allow the Stonewall project, including burning. The Forest Plan identifies hiding cover as an important habitat component in forest ecosystems, but the Stonewall Project suggests it is not.

The proposed burning in the 2 IRAs of the Stonewall project area includes 3,565 acres (draft ROD 9). These burning projects may take up to 10 years

for completion (FEIS 425). These activities will eliminate vast amounts of grizzly bear core habitat due to displacement. The Red Mountain grizzly bear subunit is already below recommended levels of grizzly bear core habitat, at 58% (FEIS 283). The Arrastra Creek subunit has 74% security. The reduction in security in this subunit may reduce it below the recommended 68% (FEIS 283-284) while the reduction is the Red Mountain core area will increase the existing deficiency. Thus prescribed burning and slashing in grizzly bear core areas of IRAs is not a beneficial action for this threatened species, in violation of the Roadless Area Conservation Rule.

The agency provided two defenses to the proposed burning in IRAs. One is to increase habitat diversity. The agency did not identify what criteria they were applying for "diversity." This is a violation of the NEPA, because the public has no way of understanding what the actual goal is. There are no specific criteria provided for what constitutes "diversity," and no discussion as well as to why existing conditions are not providing "diversity." It appears that the agency's definition of increasing diversity is to create areas of degraded wildlife habitat within areas of high quality habitat, so that more habitats conditions are available. Also, the agency did not define why increasing habitat diversity requires removing vast acreages of hare habitat, which will adversely impact the lynx. Removing the understory and the overstory in IRAs will also remove habitat for three MIS for the HNF, the goshawk, pine marten, and pileated woodpecker. It will also remove habitat for the sensitive fisher, and hiding cover for the grizzly bear. These inconsistencies were never defined in regards to improving habitat diversity.

The agency also claims that burning is required to restore fire to the ecosystems in the project area. The recent 36,000 Snow Talon fire just to the east of the Stonewall Project Area apparently does not count as restoration of fire to this landscape, but it is not clear why not. Also, the benefits of long periods without fire were not addressed for the lynx. Squires (2014) noted that "lynx habitat in the western U.S. consists of mature spruce-fir forests that may exceed 300 years in age." It is impossible that humans have interrupted a 300-year fire cycle in just the last 100 years.

In a Forest Service report by their research branch, McKelvey et al. (1999) identified the fire return intervals that occur in the western U.S. (Table 15.1 at 429). These fire return intervals range from 100-300 years, and are consistent with Squires (2014) identification of lynx habitat as being comprised of very old forests. Tyers (2003) has demonstrated the benefits of

a long fire return interval for spruce/fir habitats in the Yellowstone Ecosystem. The greatest densities of subalpine fir, an important tree species for hare habitat, occurs in the oldest stands, including up to 300 years. Burning will remove understory alpine fir and spruce, and destroy the tree species that are key to hare habitat, and thus winter lynx habitat.

The agency purports that burning in IRAs will increase snags for wildlife. However, most of the proposed logging will eliminate or reduce snags for wildlife. The snag habitat created from burning in IRAs will not mitigate for the snag removal in harvest units. Snags must be available every 5-25 acres for wildlife to use them (Bull et al. 1997). Abundant snags in IRAs cannot providing nesting habitat for wildlife within harvest units.

5. The Forest Service will violate the ESA, the NEPA, and the NFMA by failing to manage critical lynx habitat to promote recovery and persistence of this threatened species.

This section references the information provided in the above section, #4.

NEC/AWR addressed numerous concerns about lynx in our DEIS comments, issue #11, pages 13-17). One of our concerns we identified in these comments was the misleading descriptions of winter hare habitat. This concern was ignored by the agency in the FEIS. The agency is clearly representing young clearcuts as lynx winter habitat (e.g., FEIS at 271; stand initiation habitat provides winter foraging and den habitat is residual coarse woody debris is available) and 274 (mapped lynx habitat is abundant within both LAUS, available winter foraging habitat; stand initiation and multi-storied structure stages varies; BL-07 contain a larger amount of stand initiation hare habitat, as well as over twice the amount of multi-storied foraging habitat providing more winter foraging habitat). The current best peer-reviewed, published science (Squires et al. 2010; Squires et al. 2012) clearly demonstrates that Montana lynx winter habitat only consists of older multistoried forests with well-developed understories. The agency's misrepresentation of this habitat requirement for lynx clearly misrepresents the impact of the proposed logging. This misrepresentation suggests that lynx winter habitat, which is key to persistence (Squires et al. 2010), can be easily restored after logging (15-40 years). This is clearly false. The logging of forests will take over 100 years to regain lynx winter habitat, or

developing lynx winter habitat. This is a clear violation of the NEPA, the NFMA, the ESA and the APA.

There was no assessment in the FEIS to support the agency's claims that logging will even create winter hare habitat (as opposed to winter lynx habitat). This will require the development of very dense conifer understories in the 1,389 acres to be logged. The agency provided no data to demonstrate that this dense regeneration will in fact occur. This seems unlikely, at least for many of the past 3,473 acres of clearcutting that has occurred in this project area, or in other harvested areas (1,660 acres) (FEIS 90). If this regeneration was so prolific, it seems that the Forest Service would not have had to propose a site-specific amendment to MA T-2 and T-3 to allow logging adjacent to existing clearcuts that have not yet developed hiding cover. The suggestion to the public that all logged areas will develop into dense winter hare habitat in 15-40 years is a violation of the ESA, the NEPA and the NFMA because it is not supported with any actual documentation while using this claim to promote project activities. The agency needs to provide monitoring data to demonstrate what proportion of the logged units, both clearcuts and partial harvest units, are expected to produce high densities of saplings that will provide winter hare habitat. Although winter hare habitat in young clearcuts is not winter lynx habitat, the availability of this habitat is still highly important to ensure that hare populations are abundant.

The severe costs to lynx from logging and burning were also never identified in regards to recruitment of lynx winter habitat, in violation of the ESA, the NFMA and the NEPA. This misrepresentation adds to the agency's misrepresentation discussed previously in regards to the identification of young clearcuts as lynx winter habitat. The agency is falsely implying to the public that lynx management requires logging, which is clearly wrong (i.e., logging is needed to provide lynx winter habitat in young clearcuts). What is never noted by the agency is that logging destroys, not creates, lynx winter habitat or developing lynx winter habitat.

If subalpine fir forests are not logged, they will progress into lynx winter habitat, or the habitat key to lynx persistence (Squires et al. 2010). This progression may take up to 200-300 years (Squires 2014; Tyers 2003). However, if they are logged, they are irretrievably removed as lynx winter habitat for this same period of time. This severe impact of logging of forests in lynx critical habitat is never identified in the FEIS. The proposed logging

includes 716 acres of clearcuts, and 673 acres of thinning, for a total of 1389 acres. The exact acres of subalpine fir forests that will be logged was never specifically identified in the FEIS or draft ROD. It is likely substantial, however. We noted that the DEIS at 99 states that 69% of the project area is alpine fir habitat. In addition, the FEIS Table 11 at pages 97-101 identify 5596 acres of subalpine fir forests in 65 treatment units that were being considered for treatment (logging or burning). The average age of these stands is far below 300 years, indicating that these stands will increase in value as winter lynx habitat over time.

The importance of recruitment of lynx winter habitat in this landscape was completely ignored by the agency, even though winter habitat is key to lynx persistence. There is no information or analysis provided in the FEIS as to what level of winter lynx habitat is needed for long-term persistence. Without this information, there can be no valid management, or assessment of management impacts, on lynx. There is information available, however, that indicates the level of lynx winter habitat that should be provided. This information was available in 1999, long before the NRLMD or BiOp for the NRLMD was completed. This information was simply ignored. McKelvey et al. (1999) noted that if the natural fire regime can be estimated for an area that is to be managed for lynx, then it is logical to use this rate to design management strategies. In areas with a 100 year fire return interval, 36% of the forests would be older than 100 years; with a 150 year fire return interval, 51% of the forests would be older than 100 years; with a 200 year fire-return interval, 60% of the forests would be older than 100 years; and in a 300 year fire return interval, 71% of the forests would be older than 100 years (Id., Table 15.1 at 429). The fire return intervals in the Stonewall project area can be identified in the Region 1 old growth criteria by Green et al. (1991). The natural expected levels of old growth forests that provide lynx winter habitat could thus be estimated, and applied to the project area. These natural levels of older forests are the most likely method to manage lynx persistence, and should be the basis for landscape management. This was never done for the Stonewall project. Thus, the cost to lynx persistence due to the elimination of 1,389 acres of developing lynx winter habitat demonstrates the Forest Service failed to take a hard look at project impacts to the lynx, in violation of the NEPA, the NFMA and the ESA.

The Forest Service is violating the ESA by applying management direction provided in the NRLMD to lynx critical habitat. The NRLMD allows for a loss of 26,662 acres of any lynx habitat on the HNF (FEIS 406). These acres

are based on a 6% tally of all lynx habitat on the HNF, including acres currently unoccupied. Thus the impact on lynx critical habitat for these 26,662 acres will actually be greater than 6%, since there are fewer lynx critical habitat acres that mapped lynx habitat (the latter includes the Big Belt Mountains, Elkhorns, Divide landscape). There is no identified biological basis for even a 6% loss of lynx habitat, let alone a greater loss in critical habitat (NRLMD FEIS, ROD, BiOp). All of the 6% allowed loss, or 26,662, supposedly would allow all lynx critical habitat in the Stonewall project area to be destroyed. This project area is only 23,670 acres. The elimination of lynx from this landscape is allowed by the NRLMD, but not for critical habitat.

There is currently no BiOp for the designation of lynx critical habitat in the western U.S. A programmatic BiOp is required before any national forest with critical lynx habitat can implement management activities that may affect critical habitat and impact persistence and recovery of lynx. Otherwise, the agencies (Forest Service and USFWS) are violating the ESA.

The Forest Service will violate the ESA by degrading/removing 6,449 acres of critical lynx habitat in the Stonewall project area. This degradation/removal includes 716 of regeneration harvest, 673 acres of partial harvest, 883 acres of precommercial thinning, and burning of 4,117 acres. These acres represent 27% of the project area. Snowshoe hare habitat will be degraded/destroyed on all these treatment acres. Winter lynx habitat via recruitment of aging forests will be reduced by 25% (excluding the precommercial thinning of 883 acres). These severe impacts of the project on lynx were never identified in the FEIS. Nor were the cumulative impacts of past logging addressed as well. There have been 3,872 acres of past clearcutting, 373 acres of other thinning, and 382 acres of roadside hazard logging, all of which would reduce snowshoe hare habitat and retard development of winter lynx habitat (DEIS 230). In addition, there have been 7922 acres of past fuels treatments. Id. It is not clear what these treatments entailed, or how hare habitat and winter lynx habitat were impacted. Regardless, the past impacts of management have been substantial (20% with logging, 33% with fuels treatments, an unknown amount from precommercial thinning). These impacts on lynx were never evaluated in the FEIS, in violation of the NEPA. The agency clearly did not take a hard look at management options in the Stonewall project area since they failed to look at how past management has impacted lynx and hares.

The agency has misrepresented project impacts on the snowshoe hare, in violation of the NEPA, the NFMA and the ESA. They claim that no hares exist in mid-seral and stem exclusion habitat, and that logging will these habitat will create hare habitat. This representation that logging is needed to increase hares is a severe misrepresentation of the actual impact of logging on hares, and thus lynx. First, as we noted previously, the Forest Service provided no data to demonstrate that harvest units will develop into hare habitat. This is an unfounded assumption. It may or may not develop into dense conifer stands that provide hare habitat. Second, the agency provided no monitoring data to demonstrate that 42-44% of lynx habitat in the affected LAUs (Table 20, FEIS 274) do not have hare habitat or are not used by hares, so logging them will not impact hares or lynx. As a result of this unsupported claim, the agency did not evaluate the impact of logging 1,389 acres of forest. The current best science demonstrates that landscape habitat is important to hare populations, not just the very best habitats that occur in patches across the landscape. The potential to provide healthy hare populations will be directly impacted by logging lower quality habitats, including stem exclusion and mid-seral habitats (in addition to the long term impacts of eliminating recruitment lynx winter habitat discussed earlier). Walker (2005) reported that matrix quality in hare landscape can have a substantial effects on hare densities, movements and spatial distribution; opening forest stands within 300 m of suitable patches of dense forest degrades hare matrix habitat; these effects can reduce hare densities and persistence; open-structured forest presumably presents the greatest resistance to inter-patch movement by hares of any matrix habitat type; she would recommend trying to maintain as much boreal (spruce-fir_ forest as possible, and selecting against projects that create large expanses of open habitat; matrix quality may be decreased by creating large blocks of disturbance areas that increase the amount of open habitat; instead, small patches of open habitat set amongst dense forest patches may allow for greater landscape connectivity between patches, not only for hares but also for lynx; poor matrix quality may create remnant patches with very high densities of hares, but possibly lower overall abundance of hares; increasing matrix quality most likely decreases the landscape-wide variance in hare density, and leads to an overall higher abundance of hares.

The importance of matrix habitat for hares has also been reported by Lewis et al. (2011) in a peer-reviewed scientific publication (Journal of Mammalogy). They reported a correlation between open-structured habitat within 300 m of a stand perimeter and hare pellet densities; landscapes in

which hare habitat is more contiguous, or where good patches of hare habitat are surrounded by other patches of similar habitat quality, support more hares than landscape that are more fragmented or include matrix habitats that are poorer quality; an increase in the amount of open-structure habitat in the matrix can reduce hare densities by greater than 10%; dispersal and mate-seeking behaviors occur at larger scales and necessitate that hares also use matrix habitats; low-quality matrix habitat could decrease survival for hares because predators might have higher hunting success or be more numerous in matrix habitats; conversely, high-quality matrix habitat could provide alternative or supplemental resources, thus supporting higher densities of hares in the focal stands;

The NRMLD strategy for managing hares is a violation of the ESA, NEPA and the NFMA because it's strategy is not supported by science that was available during development of this document (2007). It also is also over 10 years old, and has not been amended to incorporate growing information on the importance of matrix habitat for hares. Application of this strategy ensures elimination of lynx on landscapes as a result, since viable hare habitat is potentially limited to tiny portions of the landscape (multistoried stands with high horizontal diversity). This is because there is no requirement in the NRMLD that young clearcuts actually provide hare habitat. They can be classified as hare habitat without any monitoring or documentation. Thus huge acreages of claimed hare habitat in older clearcuts may not actually exist. And if young regenerating forests do contain hare habitat, they do not have to be maintained due to the 6% exemption. In effect, the NRMDL does not require actual management of hares, the primary prey for lynx. There was no analysis in the Stonewall NEPA documents to demonstrate what percentage of clearcuts and partial harvest units are expected to provide dense regeneration for hares. There was also no analysis as to what percentage of these old harvest units are currently being used by hares in the winter. As was noted by McKelvey et al. 1999, dense regeneration after disturbance is most likely to occur after fire.

The agency has violated the NEPA and the ESA by not addressing the past precommercial thinning of 882 acres on snowshoe hares and lynx. Instead, it appears that these areas are still being claimed as snowshoe hare habitat as per the NRLMD. This downplays the cumulative impacts of past logging.

There is no analysis of the fragmentation impacts on lynx of past logging and fuels treatments, or the proposed logging and fuels treatments, planned for the Stonewall project, in violation of the NEPA, the NFMA and the ESA. Clearcutting and thinning will reduce landscape movements of lynx, including clearcuts that have trees up to a 4-inch dbh, which are relatively old (Squires et al. 2010; Squires et al. 2012). The Stonewall project area is an identified movement corridor for lynx as per Squires et al. (2013). This includes the Beaver Creek drainage in the project area (FEIS 398). While the agency acknowledges that openings crated by timber harvest can reduce connectivity and alter the movement and distribution of lynx within their home range and across the landscape, they still conclude that logging and burning treatments for the Stonewall project would not reduce connectivity within or between LAUs (FEIS 403; Table 101 at 409). This conclusion counters their own recognition that logging can reduce habitat connectivity for the lynx. They did not identify why the logging and burning planned for the Stonewall project is different, and will not reduce connectivity, in violation of the NEPA, the NFMA and the ESA.

It is clear that the agency did not take a "hard look" at how the proposed treatments will impact habitat connectivity for lynx in this documented corridor which exists in critical lynx habitat. The cumulative impacts of past activities combined with planned activities will have a highly significant adverse impact on habitat connectivity for the lynx. Connectivity in the landscape outside the IRAs is already severely compromised. With 15,428 acres of the project area located within the IRAs (FEIS 633, Table 163), this leaves only 8242 acres of non-IRA habitat in the project area. Past logging, including 3,473 acres of clearcuts, and 1,660 other acres, or 5,133 acres (FEIS 90) has already degraded/eliminated lynx habitat connectivity. This includes 62% of these roaded lands. With the proposed project, with logging on another 1,389 acres, the area with reduced or eliminated habitat connectivity for lynx will increase to 79% of the roaded landscape. This impact clearly is significant for lynx critical habitat within an identified travel corridor. This impact will be exacerbated, as well, with the planned burning of lynx habitat on 3,565 acres in IRAs (draft ROD 9). This degradation of connectivity will impact 23% of the roadless lands in the project area. The amount of past burning in these IRA acres in the Stonewall project area is unknown. At a minimum, the violation of the Forest Plan standard to maintain lynx habitat connectivity is being violated, which would be a significant impact just for lynx habitat, let alone lynx critical habitat.

6. Grizzly Bear Management

NEC/AWR raised issues concerning grizzly bears in our DEIS comments with issues # 9-10 at pages 10-13. The issues we raised deal with violation of the NEPA, the NFMA and ESA for impacts on the grizzly bear, as well as failure to accurately define these impacts to the public.

The FEIS and draft ROD do not identify what the open road density will be during project activities within grizzly bear occupied habitat as defined in the 1986 Forest Plan. This standard directs a limit of 0.55 miles of open road within this habitat (FEIS 277). Within the project area, this standard is clearly being violated. The FEIS at 160 notes that the current open road density in the project area is 2.04 miles per section. The density during logging/burning is not provided. The failure of the agency to address compliance with this Forest Plan standard for grizzly bears is both a NEPA, ESA and an NFMA violation.

The agency did not address the severe impact of extremely high open road densities in the 35% (8,242 acres) of the project area that are outside of IRAs. The IRAs comprise 15,428 acres of the 23, 670 acre project area. The total roads in the project area are identified as 78.2 miles (FEIS 160), while the project will require 32.4 miles as haul routes. Roads needed for other activities, as precommercial thinning, prescribed burning, etc. are unknown. However, the minimum open road density during project activities in the 35% of the roaded area of the project area (8,242 acres of approximately 13 square miles) will be 2.5 miles per section. Road densities of one mile or less are required to prevent displacement of grizzly bears. The open road density in roaded portions of the project area could be as high as 5.7 miles per section (2.04 miles of road in the 37 square mile project area equals 74 miles divided by 13 square miles of roaded habitat). The open road density in 35% of the project area will be unavailable to grizzly bears for the 10 years of project activities, which is a violation of the ESA. The agency claims there is adequate replacement habitat available. However, it is unknown how this was determined. Replacement habitat would have to be habitat that is currently not being used by grizzly bears. Where this habitat is and it's acreage was never defined in the FEIS.

The open road density in between IRAs is not being managed at a density to promote grizzly bear recovery (less than or equal to one mile per section), in violation of the ESA. The current best science by Schwartz et al. (2010)

noted that in the Yellowstone ecosystem, management of grizzly bears requires not only the provision of core security areas, but a limit on open road densities in between these areas. Otherwise bears are exposed to high mortality risks when they move between core areas.

The agency claims that core habitat will not be reduced by the project, including on a temporary basis (FEIS 427) and thus will maintain the 19/19/68 recommendations for recovery habitat in the NCDE. This is false. There are extensive activities proposed within core areas of IRAs. These burns include 3,565 acres (draft ROD 9). These disturbance activities will displace grizzly bears, and will remove these areas as core habitat. The agency provided no data that suggests that prescribed burning activities, along with associated activities (slashing trees, building fire lines, helicopter activity), do not displace grizzly bears. Blanchard (1983) noted that increased human activity is clearly detrimental to the grizzly bear through avoidance behavior. Even nonmotorized recreational activity in Yellowstone National Park has been shown to displace grizzly bears (Coleman et al. 2013). The prescribed burning activities will reduce the IRA acreage below the minimum required for security, or 2500 acres, in the project area, and will thus eliminate most if not all existing core habitat in the project area. The agency's failure to identify the impacts prescribed burning will have on grizzly bear core habitat is a NEPA, NFMA, and an ESA violation.

The agency claims that grizzly bear denning habitat will not be impacted within IRAs. However, up to 978 acres of denning habitat will be burned within IRAs (FEIS 427). The agency provided no peer reviewed science that reported that grizzly bears in Montana are not affected by burning in their denning areas. At best, the impact of burning on denning habitat is unknown. The agency's contention that impacts are known is a violation of the NEPA. And the agency's failure to apply the current best science for management of the grizzly bear is a violation of the ESA, since they are purporting to apply science that does not actually exist.

The FEIS at 283 notes that grizzly bears use lower elevation riparian habitats in the spring after emerging from hibernation. Over 500 acres of riparian buffers are proposed for treatment in the project (FEIS 428). This includes 300 acres of burning and 170 acres of logging. The agency claims that these treated areas will continue to provide both cover and travel corridors that would help facilitate bear use within many of the treatment sites. Cover will supposedly be maintained, with the exception of 50 acres of clearcuts,

because not all trees will be harvested, and burning will be minimized. The FEIS at 429 and 432 states that intermediate harvest units and low severity burning will continue to provide adequate cover for bears, even though cover will be reduced. It is not clear how it was determined that reduced cover levels will still be adequate for grizzly bears. What specifically does "adequate" mean? As per the Forest Plan definition of hiding cover, which hides 90% of an elk within 200 feet, logging and/or burning/slashing of understory trees will most likely not maintain hiding cover. Even low-severity burning will reduce forest understory (FEIS 430). The agency is clearly providing false analysis conclusions in regards to the impact of the treatments on important riparian habitat for the grizzly bear, in violation of the NEPA, ESA and NFMA.

The agency makes repeated claims that the proposed treatment units, including both burning and logging, will benefit grizzly bears by increasing forage. Research on grizzly bears in Canada was cited as support for the benefits of logging (FEIS 430). A study in the Selkirk Mountains was also referenced, although it was referenced from another research paper instead of the article itself. Id. Research in Yellowstone National Park was mentioned but the reference was not actually cited. This research was likely that completed by Blanchard (1983). Blanchard reported that 90% of the 2,261 aerial radio relocations of 46 instrumented grizzlies were in timber too dense to observe the bear; 3/4th of the relocations were less than 100 m from a timber-opening edge; the majority of feeding sites (56%) were in timber over 3 meters tall, while only 6% were in areas where trees were less than 3 meters tall. This clearly indicates that grizzly bears in the Yellowstone area were not selecting young clearcuts as foraging areas. Blanchard (1983) concluded that since Yellowstone grizzly bears use forested areas to a large extent, any alterations in the quantity and/or quality of timber cover may affect the availability of preferred habitat; radio relocations and feeding sites indicate the majority of feeding activities and day beds occur in mixed age and species stands of moderate to dense (26-75%) canopy cover; conventional logging negatively affects bears through reduction of shelter and increases in human activity; logging operations should include requirements that clearcuts should be not greater than 300 m wide with long timber-to-opening edges. The width of clearcuts and other harvest units in the Stonewall project is unknown. However, widths of noncover areas are likely vast, given that most current harvest units are immediately adjacent to one another (all will have hiding cover removed by overstory reduction/removal and understory slashing/burning). In addition, most of

these units are also immediately adjacent to old harvest units. This project will strip hiding cover from most of the landscape outside IRAs, or on 8,242 acres due to past and planned logging.

Since Blanchard's 1983 research the Interagency Grizzly Bear Study Team has continued to identify adverse impacts of logging on the Yellowstone grizzly bear. Mattson and Knight (1991A) reported that with logging, on a broad scale, habitat value will likely decrease and mortality risk increase under short-rotation management regimes; any timber harvest and associated activities should be assumed to have a negative affect on the bear population unless proven through appropriate consultation to not contribute to mortality risk or habitat degradation; the idea that food availability increases in early stages of forest succession does not generally hold in the Yellowstone area; use of globe huckleberry fruits and sweet –cicely, has been associated with semi-shaded and typically patchy conditions of mid- to late-successional stands; conversely, grazed fibrous foods that predictably increase in abundance in the earliest stages of forest succession cannot be efficiently digested by bears and are not critical to the nutrition of most Yellowstone grizzly bears; further, foliage in open areas such as recently harvested timber stands predictably cures sooner than foliage in shaded areas, and thus, would be effectively available for a shorter period; virtually all of the data that suggest that bears use openings for foraging was collected from bears using natural rather than man-made ecotones in remote wilderness areas; man-made edges are also affected by roads; their data on bear use of natural versus man-made edges reinforces their conclusions that timber harvest has, on average, degraded habitat conditions; they recommended treatments other than clearcutting; timber harvest will most likely degrade grizzly bear habitat, regardless of treatment, in the whitebark pine zone and on Douglas-fir habitat types.

A negative impact of logging in British Columbia by grizzly bear has also been reported in 2 studies. McLellan and Hovey (2001) reported that regenerating cut blocks along with rocky areas consistently ranked lowest in grizzly bear use. Apps et al. (2004) also reported that grizzly bears were more often detected in landscape with less young and logged forest; at the finest scale, a strong negative association with very young, logged forests occurred.

The existing research does not provide a reasonable level of support that logging benefits grizzly bears by changes in forage. Thus the repeated

claims in the Stonewall FEIS that logging will benefit grizzly bear forage (e.g., Table 106 at FEIS 428; forage will increase for grizzly bears on up to 4940 acres) are a violation of the NEPA, the NMFA and the ESA. The agency provided no site-specific monitoring data on how grizzly bear foods respond to logging in the Stonewall project area. This information needs to be provided for the 5,133 acres of past logging, including 3,473 acres of clearcutting (FEIS 90). This is 22% of the project area.
The agency also falsely claims that logging and burning in whitebark pine habitats will benefit the grizzly bear by promoting this important grizzly bear food source, which is a violation of the NEPA, the NFMA and the ESA. The availability of whitebark pine nuts to grizzly bears is generally dependent upon harvest by red squirrels (Kendall 1983). Reductions in the forest canopy either by logging or burning, and reductions of the understory with slashing and burning, will reduce the density of red squirrels (Holloway and Malcolm 2006; Herbers and Keller 2007). This will in turn reduce availability of whitebark pine nuts to grizzly bears. Forest thinning and burning in whitebark pine forests is clearly an adverse impact to grizzly bears.

7. Old Growth Management

Old growth was addressed at # 12, pages 17-18 in NEP/AWR DEIS comment 6/5/13.

The agency is clearly violating the NEPA and the NFMA by applying an invalid conservation strategy to 3 Forest MIS, and for migratory songbirds. The agency will meet Forest Plan direction of 5% old growth for the 2 3rd order drainages that exist in the project area (0203, 0204A). These drainages at 6834 and 4849 acres, for a total of 11,638 acres (47% of the project area (FIES 219). The designated old growth in these two 3rd order drainages will be 592 (FEIS 222). This is 5% of these 2 drainages. Since old growth management is not required if there is no 3rd order drainage designated, the Stonewall project area will be managed for only 2.5% old growth (1203 acres divided by the 23,670 acre project area).This is implementation of the HFP. There is no discussion as to why this will ensure viability of various old growth MIS for the HNF, or for forest songbirds. The MIS pileated woodpeckere requires 25% old growth (Bull and Holthausen 1993). The MIS pine marten requires 20% old growth (Thompson and Harestad 1994). The MIS goshawk requires 20% old growth (Reynolds et al. 1992). Forest songbirds require 20-25% old growth (Montana Partners in Flight 2000).

The landscape level of old growth in the Stonewall project area is at best 5%. The FEIS at 222 notes that there is an estimated 611 acres of old growth outside of the 2 3rd order drainages. This would be 1203 acres, or 5% for the project area. The existing level of old growth is far below recommended by the current best science.

The agency's old growth strategy is also invalid not just because of the inadequate amount planned for wildlife, but because this old growth can be small patches and is not required to be "embedded" within mature relatively dense forest habitat. The value of old growth depends upon surrounding habitat, something that is never addressed in the Stonewall FEIS. This is recommended for forest songbirds (Montana Partners in Flight 2000). At least 40% of a pileated woodpecker territory is recommended to be older, unlogged forests (Bull and Holthausen 1993). At least 60% of a goshawk territory is recommended to be relatively dense mid-aged to old forest (Reynolds et al. 1992). All of pine marten habitat is recommended to be 40% early mature, 40% mature, and 20% old growth (Thompson and Harestad 1994). The value of the old growth to be retained in the Stonewall project will not be likely to provide much actual value to wildlife, because it will exist within a sea of logged unsuitable habitat. Past clearcutting has already occurred on 3,473 acres, and partial harvest on 1,660 acres (FEIS 90). With the addition of 716 more acres of clearcutting, and 673 acres of partial harvest, the 35% of the project area outside of IRAs will contain 79% logged habitat. The 5% old growth will clearly not be embedded in suitable habitat for MIS.

Suitable habitat for MIS is not clearcuts. Bull and Holthausen (1993) recommend no clearcuts in pileated woodpecker habitat. Clearcutting was demonstrates in a long-term monitoring program to cause significant reduction in pileated woodpeckers (Bull et al. 2007). As noted previously, Thompson and Harestad (1994) do not recommend clearcuts in pine marten habitat. Reynolds et al. (1992) has noted that clearcuts over several acres in size are not goshawk habitat. Even partially-logged forests remove foraging habitat for goshawks, due to the decline in squirrels (Herbers and Klenner 2007; Holloway and Malcolm 2006). Old growth stands for goshawks may be less valuable when adjacent foraging habitat has been removed or degraded. Id. Or goshawk habitat may be completely removed by conversion to red-tailed hawk habitat (La Sorte et al. 2004). Small isolated old growth stands may be inaccessible to old growth species as the northern flying squirrel due to their limited dispersal distance (Bodin 2014). Or isolated old

squirrel due to their limited dispersal distance (Bodin 2014). The fisher has been reported to avoid crossings wider than 82 feet (Powell et al. 1994).Or isolated old growth may be inaccessible to forest carnivores as well, who avoid crossing openings in the winter, such as the pine marten (Thompson and Harestad 1994; Fager 2003) and lynx (Squires et al. 2010). Disturbances outside of old growth forests may actually cause forest carnivores to vacate the landscape. For example, clearcutting of more than 20-25% of the landscape has been noted to cause a loss of the pine marten (Hargis et al. 1999). And clearcutting will reduce the carrying capacity of snowshoe hares, an old growth species. Clearcutting reduces the suitability of remaining older forest habitat (Lewis et al. 2011; Walker 2005). These research results demonstrate that management of old growth requires a landscape perspective, not just leaving a few patches of old growth. This perspective was completely ignored in the Stonewall FEIS. The only analysis for old growth was a notation that the Forest Plan direction will be met. This is not the same as a NEPA analysis.

There is no analysis provided in the Stonewall FEIS as to what natural levels of old growth were, and why this would ensure viability of associated species, not only for the amount of old growth, but the level of embeddedness of this old growth. This information is available for the Stonewall project area, but was not used by the agency. The fire return intervals for forest types in the Stonewall project area are provided in the Region 1 old growth report by Green et al. 1991). The average age structure of forests as per fire return intervals is provided in another Forest Service report on forest carnivores (McKelvey et al 1999). The FEIS at 96 notes that 69% of the project area is subalpine fir habitats, which means 31% is generally drier Douglas-fir habitats. Alpine fir has a fire return interval of over 300 years (Green et al. 1991). At this interval, 51% of the forests would be old growth (McKelvey et al. 1999). For Douglas-fir, with a fire return interval ranging up to 300 years (Green et al. 1991), the average old growth level would be 36% (McKelvey et al. 1999). Combining these two habitats across the Stonewall project area, there would have historically be an average of 46% . [*The 23,670 acre project area would have 16,332 acres of alpine fir, or 69%, of which 8329 acres would have been old growth; the 7338 acres of the project area that are Douglas-fir would have an average of 36% old growth, or 2641 acres; these acres combined total 10,970 acres, or 46% of the project area*]

Suggested Remedies:

1. *Postpone any management of this identified lynx habitat, including identified "hot spots" until the most current science is available in the next year.* NEC/AWR attended a BLM-sponsored field trip to the Garnet Mountains on June 10, 2015. Dr. John Squires also attended, and informed the various participants on many issues in regards to lynx. One important factor he noted was the within the next year, they have significant new information on lynx habitat use that will vastly improve our knowledge of how to manage lynx habitat. He noted that the current NRLMD direction is arbitrary because it is not based on any peer-reviewed science. He also noted that the NRLMD allows for 30% of the landscape to be clearcut at any given time and be unsuitable winter hare habitat. He believes the data will demonstrate that this is too high, and needs to be lowered. The postponement of management in critical lynx habitat is also important because Squires noted that recent logging is likely responisible for the extinction of a small lynx population in the Garnet Mountains. This logging was conducted under the NRLMD direction, which to NEC/AWR, supports our concerns that this direction is invalid and is an extinction risk for lynx. The importance of postponing any further management of lynx habitat until actual data is available to guide management is also evident from other recently-initiated monitoring programs. For example, Squires noted that there is ongoing research in the Snow Talon fire area where radio-tagged lynx are being studied in regards to fire impacts, and also in Colorado, lynx are being studied in regards to impacts of insect infestations. He noted that current assumptions that lynx do not use areas of high insect-killed trees is not being supported by reproducing lynx.

2. *Postpone the Stonewall Project until the Forest Service documents how snowshoe hares have responded to past clearcutting and past partial harvest in the project area.* Currently, there is no basis for claiming that regeneration harvest will create snowshoe hare winter habitat by dense regeneration. This management for a threatened species is based on assumptions, not data.

3. *Postpone the Stonewall Project until the Forest Service provides a valid, scientific basis for how past and planned management will "maintain" lynx habitat connectivity in this critical habitat.* Currently, there

is no analysis as to how the Forest Plan standard to maintain connectivity is actually going to be maintained.

4. *Postpone the Stonewall Project until the Forest Service amends the HFP to provide a valid management strategy for old growth habitat.* The current project will continue the erosion of old growth habitat in this landscape, and will have irretrievable impacts on habitats outside the IRAs. In turn, these lower –elevation habitats are critical to many wildlife species, including the goshawk, other forest raptors, and most forest songbirds and woodpeckers.

5. *Postpone the Stonewall Project until the Forest Service has undergone formal consultation on the management of lynx critical habitat with the NRLMD.* The agencies claims that the NRMLD addresses critical habitat is invalid since it removes any special status for lynx critical habitat. Under the NRMLD, all occupied lynx habitat is managed with the same criteria, and all include a loss of 6% habitat. This loss of critical habitat will actually be higher, since the landbase used for the 6% includes "all mapped lynx habitat" on a national forest, including unoccupied habitat. This is a much larger area than critical habitat. The agency did not identify what percentage the 6% exemption could be in critical habitat on the HNF.

6. *Postpone the Stonewall Project until the agency has one established management plan for this landscape, so that the public can understand what the actual management direction will be.* This requires that the agency clearly define which management plan will apply to the project area. Is it the Blackfoot Non-winter Travel Plan and Forest Plan amendment, the Stonewall management. There cannot be two different management plans for the same area.

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