

**OBJECTION AGAINST THE DRAFT
DECISION NOTICE
FOR THE HORSEFLY VEGETATION
PROJECT**

Certified Mail # 7017 3380 0000 9482 3731

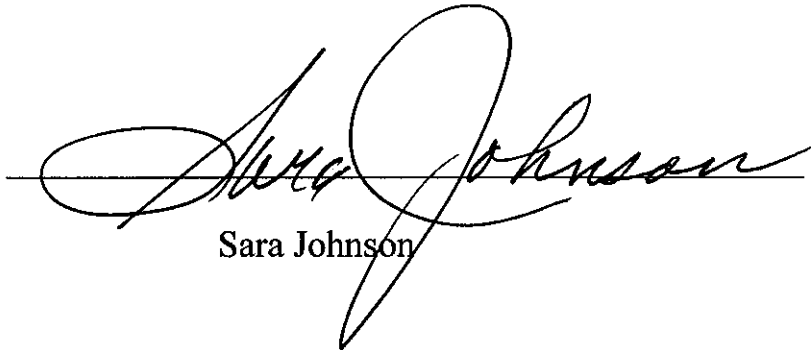
To: Objection Reviewing Officer
USDA Forest Service, Northern Region
26 Fort Missoula Road
Missoula, MT 59804

1. Objectors Names, Addresses and Telephone Numbers.

Lead Objector Native Ecosystems Council
Sara Johnson, Director
P.O. Box 125
Willow Creek, MT 59760
Phone: 406-579-3286

Alliance for the Wild Rockies
Mike Garrity, Director
PO Box 505
Helena, MT 59624
Phone: 406-459-5936

Signed for Objectors this 13th day of July, 2020



Sara Johnson

2. Attachments

This Objection includes 8 attached appendices, including prior comments on the Horsefly Project, and copies of relevant literature and reports cited in the Objection.

3. Name of the Proposed Project.

Horsefly Vegetation Project

4. Name and Title of Responsible Official

Bill Avey, Forest Supervisor, Helena-Lewis and Clark National Forest

5. Name of the Ranger District Project is Located.

Belt Creek-White Sulphur Springs Ranger District

6. A Statement that Demonstrates Connection between Prior Specific Written Comments on the Proposed Project and the Content of the Objection.

NEC and AWR provided extensive comments on the Preliminary Environmental Assessment for the Horsefly Vegetation Project on February 10, 2020. These comments are being incorporated by reference into this Objection, and are attached in Appendix A of this Objection. These comments are being carried forward into this Objection and are briefly summarized in Section B of this Objection.

7. Description of Those Aspects of the Proposed Project Addressed by the Objection, Including Specific Issues Related to the Proposed Project if Applicable, How the Objector Believes the Environmental Analysis or Draft Decision Specifically Violates Law, Regulation, Or Policy.

A. Based on the current best science and local monitoring data gathered by the Forest Service, the Horsefly Project will trigger violations of the National Forest Management Act (NFMA), the National Environmental Policy Act (NEPA), the Administrative Procedures Act (APA), and the Endangered Species Act (ESA).

The proposed project will log either or both the overstory and understory of forest stands on 6,890 acres, or 10.7 square miles, and prescribe burn another 3,453 acres, or 5.4 square miles, for an impact on 49% of the 21,000 acre project area. The project involves the construction of 40.7 miles of new roads, called temporary, although the project will last for 20 years, which means these roads could be in place for that period of time. The addition of these new roads will average 1.24 miles of added road per section of the project area. The project will require a total of 91.4 miles of road, which will create a total road density in this landscape of 2.8 miles per square mile. The agency claims that this will not affect the viability of any wildlife species, including sensitive species and species of conservation concern, noted in the Draft Decision Notice (DDN) is clearly false, as is the claim that the design criteria and mitigation measures will protect resources and prevent environmental harm. This project will clearly have extensive significant impacts on wildlife resources, and thus create environmental harm. The agency has misrepresented project impacts to the public, and failed to complete an Environmental Impact Statement (EIS) to address the vast adverse impacts the project will create for wildlife. These impacts are defined below.

1. The highly adverse and significant impacts that will be triggered on forest owls by the Horsefly Vegetation Project was never evaluated or as a result, disclosed in the NEPA analysis.

Any nests for great gray owl, boreal owls, and saw-whet owls have not been located in the project area. These nesting areas could be destroyed as a result. Conservation recommendations for the boreal owl on the Targhee National Forest (USDA 1997) include protecting 30 acres around boreal owl

nests from any vegetation management, and retaining 40% old growth forest within a 3600 acre territory. Conservation recommendations for the great gray owl on the Targhee National Forest include no vegetation management around a protected 20 acres of the nest stand, and retention of 40% old growth in the 1600 acres surrounding the nest stand. Protection of dense older stands for both species is important as both the boreal owl (Carlson 1991) and great gray owl (Koshmrl 2013) are extremely sensitive to heat, which would increased when forest stands are thinned. Both the great gray owl and boreal owl are known to occur in the Little Belt Mountains, including in the vicinity of the Horsefly Project (Carlson 1991). The boreal owl is recognized as an old growth-associated species that nests in cavities in snags (USDA 2018). Forest thinning will also eliminate great gray owl nesting sites, which predominately (72%) occur in unlogged habitat with a canopy closure of over 60%, and contain 2 or more canopy layers (Bull et al. 1988). This species is slightly colonial, so that many pairs of great gray owls may nest within a localized portion of the landscape, which means that habitat degradation could impact a number of nesting pairs. Id.

The northern saw-whet owl is also quite common in the Little Belt Mountains, and close to and within the Horsefly project, and this species nests in large snags averaging 21 inches dbh (Carlson 1991).). Old growth stands in the Little Belt Mountains contain at least 28 snags per acre with a dbh of 11 inches or greater, have an average canopy cover of 55%, contain on average 2-6 small trees per acre, 413 tree seedlings per acre, and 195 logs per acre (Whitford 1991). Great gray owls hunt largely within short distances of logs used for perches (Bull et al. 1988). Thus old growth stands would provide suitable nesting and foraging habitat for the saw-whet, boreal and great gray owls. Forest thinning has been shown to reduce large snag densities by up to 58% (Holloway and Malcolm 2006).

2. The project will have highly significant adverse impacts on the northern goshawk (hereafter “goshawk”), impacts that were never disclosed to the public in the NEPA analysis or evaluated in an EIS.

Forest thinning will reduce key prey species for the goshawk, including snowshoe hares and red squirrels; these species have been documented as important and primary prey species for the goshawk in Montana (Clough 2000) and on the Lewis and Clark National Forest (Murphy 2014; Johnson

2015). Forest thinning has been shown to reduce both red squirrels (Holloway and Malcolm 2006; Herbers and Klenner 2007) and snowshoe hares (Holbrook et al. 2017). In the southwestern United States, red squirrels have been identified as a “critical goshawk prey species;” this squirrel is largely responsible for goshawk productivity levels in that landscape (Salafsky et al. 2005).

Clearcutting completely eliminates habitat for both key prey species (red squirrel and snowshoe hare). This is likely why research in Montana found that goshawk productivity was reduced as the amount of clearcut habitat increased near goshawk nests (Clough 2000). Openings greater than 4 acres are not considered goshawk habitat (Reynolds et al. 1992). Clough (2000) noted that it is important to manage the landscape occupied by goshawks to avoid this type of habitat fragmentation. The 2011 Lewis and Clark Forest Monitoring report on species viability and 2004 Forest Plan monitoring reports both noted that the southwest goshawk guidelines (Reynolds et al. 1992) are the best science for management of the goshawk, although site-specific information is also important. The Targhee National Forest used the recommendations of the southwest goshawk guidelines to develop the 1997 Revised Forest Plan management direction for the goshawk (USDA 1997). The southwest goshawk guidelines call for management of 5400 acres of foraging habitat surrounding the 600 acre nest and PFA area. This foraging habitat should consist of 20% old growth, 20% mature forest, and 20% mid-aged forest to provide a good prey base for goshawks. **There was no analysis in the Horsefly Vegetation Project on how it would impact goshawk foraging habitat.**

In addition to forest thinning, the creation of large clearcuts not only eliminates goshawk prey (red squirrels and snowshoe hares) but also changes habitat from goshawk habitat to red-tailed hawk habitat (La Sorte et al. 2004). Red-tailed hawks are a very common species, while goshawks are quite rare. Swant (2015) summarized observations on both species from 2003-2011, where there were 540 sightings of goshawks and 2,947 sightings of red-tailed hawks. Red-tailed hawks compete with goshawks, including preying on juvenile goshawks (Johnson 2015; Clough 2000). **There was no analysis in the Horsefly Vegetation Project as to the extent to which goshawks will be replaced by red-tailed hawks as the result of the extensive vegetation removal and thinning.**

Although the 2004 Lewis and Clark National Forest 2006 monitoring report noted that future goshawk monitoring will focus on the impacts of management on goshawk habitat use, there is still no such monitoring data being provided 13 years later. However, the forest's ongoing goshawk monitoring program has identified that management of the postfledging area (PFA) for goshawks has been found to be key to goshawk management (Murphy 2014; Johnson 2015). These areas are limited on the Lewis and Clark National Forest, and generally are limited to 120-300 acres in size, with areas under 120 acres being too small (Murphy 2014). The lack of suitable PFAs on the Lewis and Clark National Forest has been identified as a likely limiting factor for goshawks on this forest (Murphy 2014). The structure and size of these areas is therefore important to goshawks, including dense mature forest canopy cover to protect the nest and juveniles from the weather and predators, and small openings of only several acres. Monitoring on the Lewis and Clark National Forest reported that goshawk PFA on average contained 11% grass, 2% clearcuts, 1% saplings, 14% old growth, and 68% conifer forest (USDA 2004). Clearcuts have also been documented to create a movement barrier to juvenile goshawks on the Lewis and Clark National Forest (Murphy 2014). There was no analysis in the Horsefly Vegetation Project as to how the project would affect the PFAs that occur in the project area.

The Lewis and Clark National Forest has gathered some habitat data on goshawks since they begin monitoring this species several decades ago. However, none of this monitoring information was used to design or evaluate goshawk impacts of the Horsefly Vegetation Project, including management of the goshawk PFAs, either current or historic, in the project area. The purpose of the project includes managing for forest health. The goshawk has been identified as the perfect indicator of forest health (Murphy 2014; Johnson 2015). Thus use of monitoring data to evaluate how the project will affect forest health should have been a key part of the project's purpose.

3. The Horsefly Project will have undisclosed but what are likely severe impacts on old growth and snag habitat and associated species in the project area, due to invalid management direction in the Lewis and Clark Forest Plan; implementation of this plan direction in the Horsefly Project Area will clearly have highly significant adverse impacts on a

large suite of forest wildlife, impacts that were never disclosed to the public; this impact should have been evaluated with an EIS; a valid analysis of impacts of forest plan direction on wildlife would have triggered completion of a forest plan amendment to ensure viability of these species is maintained within local areas of the landscape which means forest viability will also be maintained, as is required by the Lewis and Clark Forest Plan and the NFMA.

It is not actually clear how much old growth habitat remains in the Horsefly Project Area. There is conflicting information on old growth in the affected timber compartments in the project area, including in the 2004 and 2006 Lewis and Clark National Forest monitoring reports (USDA 2004, USDA 2006). The 2004 report states there is 12.06% old growth across the forest, and 14% on the inventoried Jefferson Division, which includes the Little Belts. The timber compartments in the 700s (701-711), which include the project area, are very low in both reports, ranging from 1.1 to 21.4%, and average 8.8% in the 2004 report (Table C-8d). This is lower than what is reported in the Horsefly Vegetation project.

These old growth levels, what ever they are for the Horsefly Project Area, are well below the recommended levels for wildlife. These include 20-25% for forest birds (Montana Partners in Flight 2000), 25% for the pileated woodpecker (Bull and Holthausen 1993), and 20% for the goshawk (Reynolds et al. 1992). Historically, old growth in the Rocky Mountains was estimated based on fire cycles by Lessica (1996) as ranging from 20-50%. Lynx experts noted that in natural fire cycles in historic lynx habitat likely resulted in a large percentage of the landscape in mature and older forests, more similar to the upper estimates of Lessica. McKelvey et al. (1999) in Table 15-1 reported that in forests that burned an average of every 100 years, 36% of the forest would be older than 100 years; in forests that burn every 150 years on average, 51% of the forests would have been older than 100 years; in forests that burned on average every 200 years, 60% of the forests would have been over 100 years old; and in forests that burned on average every 300 years, 71% of the forests would have been over 100 years old. On the Lewis and Clark National Forest, lodgepole pine stands that are 125-150 years provide prime goshawk foraging habitat (Johnson 2015), which means that historically, foraging habitat for this species was abundant.

The Lewis and Clark Forest Plan only requires 5% old growth on commercial forest lands, where 83% of the old growth actually occurs. It is thus impossible for this plan direction to conserve old growth species. Yet there was no amendment for the Horsefly Project to correct this serious flaw of the Forest Plan. Managing for only slightly more than 5% old growth is a severe adverse impact to wildlife. This includes up to 22 bird species associated with old growth at some time of their life cycle likely present on this forest (USDA 2018, Table 3-89).

Besides the paucity of old growth required by the Lewis and Clark Forest Plan, the agency now claims that this old growth can be logged in the Horsefly Vegetation Project. No data was ever provided to indicate that forest thinning will not change wildlife values. Yet it is clear from the existing science that thinning of old growth will markedly change wildlife values. For example, as noted previously, the great gray owl and boreal owl are both highly sensitive to heat (Carlson 1991; Koshmrl 2013) which would be increased with logging. Another big game species, the moose, is also highly intolerant of heat in the summer, including temperatures over 59% (Dickson 2012). Bird research in Montana has also identified at least 16 forest bird species that require relatively undisturbed forest habitat (Hutto 1995). Management recommendations for the pileated woodpecker include maintaining 40% of their territory of 900 acres as unlogged to provide undisturbed forests for this species. The recommendations for the three-toed and black-backed woodpeckers call for protected areas of 528 and 956 acres for these species, which would be unlogged (Goggans et al. 1989). Thus the Forest Service claim that logging will maintain habitat for wildlife associated with old growth is clearly a misrepresentation to the public of the actual science.

The claim that logging will maintain old growth on the Lewis and Clark National Forest even for vegetation conditions is also misleading to the public. This forest actually completed a monitoring project on old growth characteristics on the forest. Whitford (1991) reported that old growth stands on the forest were characterized by a 55% canopy cover, at least 20 snags per acre over 10 inches dbh, 195 logs per acre, 206 small trees per acre, 413 seedling trees per acre, and 62 trees per acre over 10 inches dbh. It is unlikely that logging would retain these characteristic conditions for old growth. Logging down to the minimum number of large trees as per Green et al. (1991) (barely a dozen large trees) would not provide the density of

larger trees found in typical old growth. Overall, Whitford (1991) noted that secondary characteristics of old growth, including snags, seedlings, small trees, and shrubs, are an important part of the old growth habitat. Logging and burning old growth down to a few large trees, identified as the “minimum characteristics” in Green et al. (1991) will not maintain the old growth habitat even by vegetation conditions defined by a specific study on the Lewis and Clark National Forest (Whitford 1991).

Whitford (1991) also defined a variety of shrubs that occur in old growth, including common juniper. This important wildlife shrub would be removed with underburning of these stands, along with the number of small trees and seedlings. Thus underburning will drastically change the typical condition of old growth defined by Whitford (1991).

Whitford (1991) also defined old growth as complex stands that develop over time, and include early phase, middle phase, and late phase old growth; he noted that all these phases are important to wildlife, by creating diverse habitats. Yet the Forest Service did not amend the 1986 Forest Plan to address this monitoring. Whitford’s (1991) recognition that old growth has many development phases is consistent with the old growth definitions by the Southwest Region of the Forest Service. This report noted that there are “early phase” and “late phase” old growth conditions; early phase old growth consists of seral species in the overstory, with only a few climax species in the understory, while late phase old growth consists of climax species in the overstory (USDA 1993). This is consistent with the Region 1 descriptions of old growth, where lodgepole pine old growth would be “early phase” old growth with climax species as Douglas-fir and subalpine fir and spruce slowly taking over stands over time.

Forest thinning of old growth stands will also reduce the production of conifer seeds that are key to many wildlife species, including the Clark’s nutcracker (a Montana Species of Concern) and the crossbill (Montana Partners in Flight 2000).

Forest thinning of old growth will also reduce snag sizes and numbers. Forest thinning has been shown to reduce larger snags by 58% (Holloway and Malcolm 2006). A Forest Service research publication also noted that snag densities are greater in more dense forest stands (Bull et al. 1997). Snags have been identified as an essential component for birds not just for nesting, but for foraging as well. Thus old growth is key to the 25% of forest

birds that require snags for nesting and foraging (Bull et al. 1997). Recent research has reported that the majority of snags, up to 96%, are not suitable for cavity construction due to hardness (Vizcarra 2017; Lorenz et al. (2015). This means that high snag densities are required for cavity nesting birds. Monitoring on the Helena National Forest reported that the three-toed woodpecker, an MIS for the Lewis and Clark National Forest, nests in beetle-killed stands that contain up to 70 snags per acre, due to abundant forage resources (Saab et al. 2012).

It is likely that many early phase old growth stands of lodgepole pine will be clearcut in the Horsefly Project. This loss of old growth is never identified in the NEPA analysis. This clearcutting of lodgepole pine will exacerbate the existing shortfall of old growth in this landscape, to the serious detriment of long-term viability of associated species, an impact that is never disclosed in the EA or draft DN for the project. The agency also failed to identify that clearcutting of lodgepole pine stands will have long-term effects on habitat diversity for wildlife. Malcolm (2012) noted that lodgepole pine stands infested with pine beetles likely impact a critical, limiting feature in forest stands, of high structural diversity. Without clearcutting, these stands gradually progress in to late phase old growth, with subalpine fir regenerating in the understory. ~~This does not when lodgepole pine stands are clearcut.~~ **In effect, the pine beetle can be defined as a “keystone species” for wildlife by creating high-quality habitat.**

The current Forest Plan direction for snags in the Lewis and Clark Forest Plan is outdated by almost 40 years, or recommendations provided by Thomas and others in 1979. Forest Service research noted that the strategy of retaining snags in harvest units would not maintain wildlife associated with snags, since this would not provide adequate foraging habitat, nor will most cavity-nesting species nest in open forest stands and clearcuts (Bull et al. 1997). Yet there was no Forest Plan amendment completed for the Horsefly project to incorporate an actual valid conservation strategy for the 30 bird species that nest in snags (USDA 2018, Table 3-89). In fact, the Lewis and Clark National Forest recognizes the lack of validity in the Forest Plan snag strategy. The 2011 Forest viability assessment noted that for the three-toed woodpecker, an MIS for this forest, 84% of inventoried nests in Idaho and Montana were in unlogged forests. Implementing such a large-scale logging project using the existing Forest Plan direction will ensure that highly adverse cumulative impacts will occur to snag-associated wildlife, an impact never identified in the project NEPA analysis, or in an EIS. Without

the adequate provision of old growth habitat on the landscape, where suitable snag habitat will be provided, this large suite of at least 30 bird species dependent upon snags will be severely reduced on landscapes affected by timber harvest due to invalid conservation strategies in the Lewis and Clark Forest Plan.

The amount of old growth on noncommercial forest lands will not provide very much old growth for wildlife. The 2004 report notes that all old growth is 12.06% of the forest lands, with 9.67% occurring on commercial forest lands. Thus the majority of the old growth on the Forest occurs on commercial forest lands (80%). For the 700 timber compartments in 2006 monitoring report, most old growth (83%) occurs on commercial forest lands (Table C-8a, with 7149 of 8605 old growth acres located on commercial forest lands).

Without long-range planning, it will be impossible to do vegetation management while preserving wildlife species associated with snags, old growth, and undisturbed forest habitat. As noted previously, habitat areas for the three-toed and black-backed woodpecker, or 'woodpecker management areas,' need to be from over 500 to almost 1,000 acres in size (Goggans et al. 1989). Even the small old growth species, the brown creeper, has a recommended patch size of old growth at 250 acres (Wiggins 2003). For the pileated woodpecker, Bull and Holthausen (1993) recommend landscape patches of management areas of 2700 acres, or enough for 3 nesting pairs. Management recommendations for the boreal and great gray owl on the Targhee National Forest call for 40% landscape old growth level in their territories (3600 to 1600 acres) (USDA 1997). And for the goshawk, the current best recommendations call for over 1000 acres of old growth within the 5400 acre foraging area, and what would likely be another 1000 acres of "early phase" old growth provided in many mature forest stands. (Reynolds et al. 1992). These habitat features cannot be provided without long-range planning. Under the current Lewis and Clark Forest Plan direction, all old growth and snag-associated species are threatened with local extinction, including in the Horsefly Project Area.

The Lewis and Clark National Forest has completed monitoring that demonstrated that the goshawk is not a good MIS for old growth (Whitford 1991). Yet no suitable MIS for old growth has been identified, and as such, the persistence and health of old growth-associated species monitored since the Forest Plan was completed in 1986. Continued implementation of the

plan's old growth strategy is clearly being done without any actual analysis data as to its impacts and effectiveness, and thus environmental impacts.

4. The Horsefly NEPA analysis failed to provide any accurate analysis of project impacts on big game species based on current science, and as a result, misrepresented project impacts as well as their level of significance to the public.

The standard definition of hiding cover, which conceals 90% of an elk within 200 feet, was not used in the analysis (Black et al. 1976; Weber 1996). The agency instead used a new definition which is not included in the Lewis and Clark Forest Plan, which is a 40% canopy cover. The actual impact of the project on hiding cover was therefore never disclosed, or involved a "hard look" on this important elk habitat feature. Even the impact on the revised definition of hiding cover was never displayed in the analysis, leaving as question as to how the agency determined no significant impacts would result on elk hiding cover with this project. Although a Forest plan amendment was made for hiding cover, actual impacts of this amendment remained unknown since the definition of hiding cover was falsely applied to the project. The agency's revised definition of hiding cover as a stand with a 40% canopy cover allows a significant misrepresentation of the treatment effects on elk hiding cover, including understory removal along with canopy thinning. This false definition of hiding cover assists the agency in concealing significant adverse impacts of the project on elk, an MIS for the Forest. In the 2013 collaborative set of management recommendations for elk between the Forest Service and the MFWP, it was noted that the canopy of forests hides elk from above (across drainages) while ground hiding cover hides elk from a ground position. This makes it clear that these 2 types of hiding cover are not synonymous. The Horsefly NEPA analysis did not cite any actual published elk management recommendations where hiding cover is defined by a 40% canopy. This is an "in-house" unverified definition of hiding cover that serves to conceal vegetation treatment impacts on elk by allowing severe loss of horizontal hiding cover without any actual recognition of this loss.

The agency also applied a false definition of elk security to the project analysis, so that real impacts of this important public issue are unknown but clearly much more severe than reported by the agency. The Hillis Paradigm (1991) requires contiguous patches of forest cover over 250 acres. Also, the

MFWP definition of elk security is consistent with the Hillis Paradigm (Proffitt et al. 2013). Region 1 of the Forest Service also defines elk security as areas of coniferous cover large enough to provide security (Christensen et al. 1993). This security definition was based in part by a master's thesis by Weber (1996) where he reported that in the hunting season elk selected for areas that provided substantial hiding cover; he noted that secure habitat must provide hiding cover in large enough areas to ameliorate the effects of concentrated hunting pressure; elk survived in large forest patches with high canopy cover and substantial hiding cover. Weber (1996) defined hiding cover by the standard definition, or conceals 90% of an elk within 200 feet. Also, Lyon and Canfield (1991) noted that elk select for large, connected forest blocks of similar canopy structure. However, the hiding cover requirement for elk security was not included in the Horsefly analysis. Instead, only open road measures were included, which means the security analysis does not provide an accurate level of impact of this project. This false definition of elk security clearly supported the agency's claim that no significant impacts will result to elk security from the project.

The Hillis Paradigm on the importance of hiding cover in security areas was accurately defined in the Lewis and Clark Forest's 2011 monitoring report. The reason for the changed definition for the Horsefly project was never addressed. The science behind security definitions not requiring hiding cover was never identified as well. The 1985 elk-logging study was relatively consistent with the importance of hiding cover for elk security, where they defined good cover as at least 66% of the entire landscape (Lyon et al. 1985).

The agency has clearly misrepresented the significance of the project on elk security, which actually requires an EIS. In turn, an EIS is required because the management of elk security on public lands is a well-documented management concern due to the inability of the Montana Department of Fish, Wildlife and Parks (MFWP) to control elk numbers due to their finding refuge on adjacent public lands (Lundquist 2014; Dickson 2015; MFWP 2014). In 2015, elk populations in Montana were too high over MFWP objectives in 80 of 138 elk management areas, which is 58% (Dickson 2015). In 2017, it was estimated that Montana's elk population needed to be reduced by about 29,000 elk (Byron 2017). As was cited by a MFWP employee in Byron (2017), elk seek heavily forested terrain or private lands in the hunting season. Loss of elk security, or blocks of contiguous forest habitat at least 0.5 miles from an active motorized route, causes elk to

abandon public lands for the safety of adjacent private lands (MFWP 2014). This displacement problem has also been recognized specifically for the Lewis and Clark National Forest. In the agency's 2011 viability report, it was noted that elk populations in 18 of 21 hunting districts that overlap this forest are exceeding MFWP population objectives. Even in the Forest Service-MFWP collaborative recommendations for elk management (USFA-MFWP 2013), it was noted that elk displacement to private lands is a primary management issue.

The Horsefly Project also failed to provide an accurate analysis of active motorized routes on elk during the summer. This is defined as habitat effectiveness, and has been defined in Region 1 recommendations for elk management (Christensen et al. 1993) as well as the Lewis and Clark National Forest's FEIS for their travel management plan (USDA 2007). It appears that the agency has limited any assessment of motorized route densities on elk because the 40 miles of new temporary roads will not be open to the public. The claim that only public motorized use displaces elk was not supported with any actual science, however. The Forest Service-MFWP collaborative report (USFS-MFWP 2013) clearly notes that it is the traffic level, not whether it is public or private use, that affects elk displacement. For example, this document notes that consistent, frequently used non-public routes or temporary roads used in the hunting season affect elk security; low intermittent administrative use could be excluded from habitat effectiveness on routes closed to the public, but consistent, frequently used nonpublic routes or temporary roads will detract from habitat effectiveness in the summer; there is strong evidence that elk use declines as traffic volume increases (cited 5 research reports); Johnson et al. (2000) reported that elk avoid roads with more than 204 vehicle trips per 12 hours. A Region 1 Forest Service publication also notes that any road with motorized activity affects elk (Christensen et al. 1993).

It is clear that the Horsefly project will significantly displace elk in the summer by having very high active motorized routes due to agency and timber industry activities over an estimated 20 years. The addition of 40.7 miles of new temporary roads equates to adding 1.24 miles of new motorized route per section in the project area. Total roads needed for the project are 91.4 miles, which equates to a motorized route density of 2.8 miles per section. The minimum active motorized route density needed to avoid significant displacement of elk is 2 miles per section, which provides a habitat effectiveness level of 50%; this means that only 50% of the habitat is

available to elk. Densities above 2 miles per section of active motorized route means that elk management is not occurring (Christensen et al. 1993). It is clear that the Horsefly project will likely cause a significant displacement of elk in the summer, along with a significant displacement of elk in the fall due to a lack of security. These significant impacts were never disclosed in the Horsefly NEPA analysis, which means that triggers for requirement of an EIS were not factually addressed.

One of the rationales for the agency's failure to address habitat effectiveness for elk is due to the Lewis and Clark Forest Plan recommendations for management areas, where only routes open to the public are considered. The agency thus relied on invalid Forest Plan criteria to avoid addressing displacement impacts to elk in the summer. The agency also claims that breaking down the project area into smaller activity units will allow them to avoid high active motorized route densities over the 20-year timeline. However, there is no actual information as to what this design will be for a mitigation measure. The NEPA requires that this mitigation measure be fully defined to the public, rather than provided as some vague undefined management process. In general, with the vast acreages of proposed treatments, including multiple treatments in logging units due to prescribed burning, as well as extensive overlap of proposed treatments, it seems highly challenging that some areas will consistently be managed for active motorized routes for the benefit of elk, and all the species they indicate, including the wolverine. There is also the issue that time-lines for prescribed burning are highly variable due to limited periods when burning is possible. There is also subsequent road closures, and weed management along these roads, etc. With almost 50% of this 21,000 acre project area to receive some type of vegetation treatment, the agency needs to clearly define where the elk displacement areas will be for the next 20 years, so that the public can see this will actually be done. The NEPA requires that "high quality" information be provided to the public, and this needs to include a full, complete definition of the mitigation measure for elk displacement for the next 20 years.

5. The agency failed to define what the impacts will be to big game species due to the expansive burning program planned on winter ranges; these impacts appear to be highly adverse and significant, which requires completion of an EIS as well as a Forest Plan amendment to identify to the public that the

agency is implementing a large-scale program to remove mule deer winter range across large landscapes; this removal program, or a program to reduce mule deer populations on the Forest, was never identified as a mule deer management objective in the 1986 Lewis and Clark Forest Plan.

There is no information on where big game winter ranges for elk and mule deer occur in the project area, or what the habitat objectives are for these areas are for forage and cover, especially thermal cover. There is no information as to what vegetation will be burned in the thousands of acres of planned burning, and why this vegetation is being removed. It is unknown how this burning will attain habitat objectives, especially for mule deer. There is also no information on the amount of thermal cover that will be managed for big game on their winter ranges, since extensive logging is planned at lower elevations that are most likely mule deer winter range. Even though the Forest Plan has been in effect since 1986, there was no monitoring information provided in the Horsefly NEPA analysis as to the need and results of burning and logging on big game winter ranges.

In general, the prescribed burning of big game winter ranges will be severely detrimental to mule deer based on a loss of forage, hiding cover and thermal cover. Small dense clumps of trees, including juniper can provide thermal cover for mule deer (Coe et al. 2018; Black et al. 1976). Recent research in Oregon has noted that mule deer strongly selected juniper forest cover during the winter; mule deer selected areas with 60-70% forest cover in the winter (Coe et al. 2018). This cover reduces predation as well as provides thermal cover, and also reduces snow depth, while the openings provide different forage. Thermal cover has been identified as a key factor for mule deer. Parker and Gillingham (1990) reported that thermal cover for mule deer creates cooler microclimates in the summer, and warmer microclimates in the winter; shade may reduce temperatures by 20 degrees, and in the winter, increase temperatures by 15 degrees or more; the areas of thermal cover reduce thermal stress for mule deer during all seasons, and as a result, increase productivity.

Burning trees and shrubs also eliminates an important forage resource for mule deer in the winter. Douglas-fir trees can be an important forage resource for mule deer in the winter, especially when snow depths cover other forage (Lovaas 1958; Dawson et al. 1990). Dawson et al. (1990)

recommended that areas of mature and overmature Douglas-fir forests should be protected on mule deer winter range.

It is notable that a mule deer forage study was conducted in the Little Belt Mountains where the Horsefly project is planned to burn an undisclosed acreage of mule deer winter range. Lovaas (1958) identified common juniper and creeping juniper as the dominant forages used by mule deer in the winter, although other trees, including Douglas-fir, were also used to some extent. It should also be noted that Figure 3 in this publication provides a photo of typical mule deer winter range in the study. It contains the typical dispersion of conifer trees upslope from the riparian area. These woodlands were providing key forage to mule deer in the winter, even though the Forest Service defines these areas as “unnatural” and thus must be removed with slashing and burning. The Lovaas research clearly contradicts this management strategy, which clearly will have severe adverse impacts on mule deer.

What is also notable in the Horsefly project, in addition to the direct destruction of mule deer winter habitat with burning, is what appears to be massive burning of sagebrush habitat as well. During NEC’s field visit to this area, it was clear that sagebrush was widely distributed across this landscape. The rationale for burning sagebrush, along with the woodlands of juniper and Douglas-fir, was never clearly identified for wildlife management. This is just the continuation of a long-standing effort by the Forest Service to remove sagebrush, in spite of the adverse impacts to wildlife, and in this case, mule deer winter range. The importance of sagebrush to mule deer is well known (e.g., Wambolt 1998; Petersen 1995). Wambolt (1998) noted that sagebrush comprised 52% of the mule deer winter diet. Sagebrush provides 13% crude protein while grass contains only about 4% crude protein in the winter (Petersen 1995; Wambolt 1998). In a Memorandum of Understanding between the MFWP and the Beaverhead-Deerlodge National Forest, areas of mature sagebrush on big game winter ranges, calving and fawning ranges were identified as “priority areas” to protect sagebrush from burning to increase forage for cows (USDA/MFWP 1998).

The large-scale destruction of mule deer winter range in the Horsefly project clearly requires a Forest Plan amendment, including an EIS, to identify that this is a new agency management program to the public, as well as to identify that mule deer populations are planned for reduction as a result;

these reductions may be significant, especially in localized areas as the Horsefly project area.

6. The agency failed to evaluate the impact of logging, understory removal, and burning/slashing of ecotone woodland/shrub areas on many bird species, including Montana Species of Concern; the planned removal of thousands of acres of bird habitat is clearly a significant action that requires completion of an EIS so that this severe adverse impact is fully disclosed to the public, especially given that ongoing, severe long-term declines of birds in North America is a documented problem.

There is ample evidence of severe and ongoing declines of birds in North American. In 2007, Audubon identified 20 common bird species that were in decline, including the Loggerhead shrike, a Montana Species of Concern (Montana Natural Heritage Program/Montana Fish, Wildlife and Parks 2009). In 2016, Scientific American published a short story that the number of breeding North American birds had plummeted by approximately 1.5 billion birds over the past 40 years; 46 species had lost at least half their populations. In 2019, Rosenberg et al. (2019) published a summary of multiple and independent monitoring networks that compared the avifauna over the last 48 years, including the use of continent-wide weather radar systems; they found that bird populations had declined by 29% since their 1970 abundance, which equates to a loss of about 3 billion birds. This study was repeated in a number of newspaper articles, including one by Fitzpatrick and Marra (2019) in the New York Times; their report noted that bird populations are a barometer of environmental health, and are signaling that biological systems are in trouble, including due to habitat loss. The Bozeman Daily Chronicle also reported on this study. The Week magazine also reported on this decline of birds, including over a billion forest birds. However, this issue was never addressed in the Horsefly project. This failure to address this severe environmental problem promoted the agency's conclusion that the project will have no significant environmental effects, which has resulted in a clear misrepresentation of project impacts on North American birds to the public, as well as a failure to take a hard look at project impacts to birds.

These impacts will clearly be severe. The woodland areas of Douglas-fir, juniper and limber pine that will be slashed and burned will remove habitat for a host of bird species, including Montana Species of Concern like the Loggerhead shrike, Pinyon Jay, Brewer's sparrow, sage thrasher, sage sparrow, Cassin's finch, for example. Over 70 species of birds are known to be associated with juniper woodlands, in part for nesting, hiding and thermal cover, but also for the huge forage resource that juniper berries provide, including during migration and in winter habitats as they are not buried by snow (Balda and Masters 1980). One of these species, the Pinyon jay, is one of the landbirds declining the fastest and most persistently (Boone et al. 2018). Thinning of juniper woodlands has been demonstrated to reduce pinyon jays, as well as other species of concern as the Clark's nutcracker (Magee et al. 2019).

The rationale for slashing and burning woodlands in ecotones used by the Forest Service is that these areas are "unnatural" and would have not existed except for fire control; the contention is that these areas were historically grasslands due to repeated fire. This is clearly not correct, as Pfister et al. (1976) has defined any area that grows more than 10 trees per acre as a forested habitat type. In the case of woodland ecotones, most of these in southwest Montana are a limber pine habitat type, where limber pine grows with a number of other conifers, including juniper and Douglas-fir, at lower elevations adjacent to grasslands. Limber pine woodlands are believed to be a counterpart to the pinyon-juniper woodlands in the southwest (Pfister et al. 1976). Limber pine, just as pinyon pine, provides high quality seeds to wildlife. Id. Pfister et al. (1976) notes that these limber pine woodlands have a historically low fire frequency, which conflicts with Forest Service claims that historically these areas burned frequently.

The agency's objective to burn low elevation woodlands of juniper, Douglas-fir and limber pine also promotes the burning of sagebrush, a highly valuable component of many ecotone areas. For example, in addition to the forage value of sagebrush to mule deer as was noted previously, sagebrush is key to the viability of several Montana Species of Concern, including the Loggerhead shrike, Brewer's sparrow, sage sparrow, and sage thrasher. At least 3 of these species are known to prefer large patches of unfragmented sagebrush (Montana Partners in Flight conservation plans for the Brewer's sparrow, sage thrasher, and Loggerhead shrike, 2000). There is actually no mapping of sagebrush and limber pine habitats in the Horsefly project, nor is there a tally of total acres, as well as acres planned for

removal. And there is no analysis, including a tally of acres to be removed, for bird species, including Montana Species of Concern.

This habitat removal program for Montana Species of Concern was never identified in the 1986 Lewis and Clark Forest Plan. It is a new program that has never had public involvement as a forest-wide management program. Until this is done, and cumulative impacts evaluated and disclosed to the public, no such programs should be implemented on the Helena-Lewis and Clark National Forest. At a minimum, the agency needs to define why extensive habitat loss for North American birds is an agency management objective, and why the public should pay taxpayer dollars to have bird populations reduced in spite of the ongoing crisis for bird populations.

7. The agency needs to complete a site-specific biological evaluation for the wolverine, one which identifies that this species will be adversely impacted by the proposed project; the current best science needs to be used in this analysis rather than the standard claim that wolverine only use “rocks and ice” habitat, and no lower elevation habitat, including big game winter range; Forest monitoring data on the wolverine contracted by the agency needs to be applied to this analysis as well.

The agency falsely concluded that this massive project will not have any significant impacts on the wolverine in this landscape, in spite of scientific information to the contrary, in violation of the ESA and the NEPA. Monitoring data obtained on the Helena National Forest clearly demonstrated that wolverine use low elevation habitat, depending upon habitat conditions, and can substitute higher elevation conditions like late spring snow with cold boulder fields with late summer ice (Gehman et al. 2014). The Gehman monitoring report also noted that this low elevation use was promoted by heavy cover, which provided security to wolverine; low elevation use was also associated with use of carrion on big game winter ranges, including carcasses made available to other predators. Other prey species used by wolverine included snowshoe hares, which were available in the heavy low elevation cover, as well as red squirrels and woodrats. This wolverine use differed from reports that they are limited to areas with persistent snow most years, and the authors noted that heavily-used

wolverine habitat in their monitoring would not be considered wolverine habitat by existing recommendations. This information was ignored in the Horsefly wolverine analysis. That analysis claims that the project will not affect wolverine because no high elevation habitat will be impacted, when in fact, severe impacts will result from several factors. One includes the large-scale removal of mule deer winter range, areas that are known to be important to wolverine due to carrion. Scraford and Boyce (2018) reported that in Alberta, wolverine use large prey events in both summer and winter, including moose carcasses, and other ungulate carrion in the spring as well.. In Montana, wolverine also prey on elk calves, which means they continue to use low elevation areas in the spring along with the winter (Kuglin 2015).

A second factor that will have severe adverse impacts on wolverine from this project is the massive increase in roads (40.7 of new road miles). Roads and the associated disturbance (human footprint) has been clearly identified as an adverse, displacement impact on wolverine (Scrafford et al. 2018; Stewart et al. 2016; Fisher et al 2013).

A final severe impact of this project on wolverine will be an increased displacement of elk from forest lands in the fall hunting season, which will mean fewer hunter gut piles available to wolverine. This use of hunter gut piles has been noted in Alberta (Scrafford and Boyce 2018). These researchers identified what the conservation strategy for wolverine needs to be: managers need to manage for the availability of large prey for the wolverine. This includes protection and optimization of a variety of factors, such as high quality big game winter ranges for both elk and mule deer, protection of these areas in the winter from human disturbances, including snowmobiles, retention of good thermal cover for moose in the summer so that moose populations will be present during the winter, protection of elk calving areas from human disturbance so that wolverine can prey on elk calves in the spring, and maximizing elk security areas on public lands in the fall to optimize the availability of hunter gut piles for wolverine during the hunting season. This latter issue is especially important as a matter of urgency because the longer that elk abandon public forest lands in the fall for the security of adjacent private lands, the greater the chance that these use patterns will become permanent behavior by elk (Proffitt et al. 2013).

The Horsefly Project has no strategy for promoting the conservation of the wolverine, and the analysis is based on outdated claims that wolverine only use high elevation habitats throughout the year. The agency needs to provide

an accurate analysis to the public about how this project will severely degrade wolverine habitat, as is required by the NEPA.

B. Carry-over and Inclusion/Incorporations of Violations of the NEPA, the NFMA, the APA and the ESA cited in NEC and AWR comments submitted on February 10, 2020 on the Preliminary Environmental Assessment.

1. The size of the proposed project conflicts with management information provided in the 1986 Lewis and Clark Forest Plan; all projects identified in the 1986 Plan were much smaller and would occur over a much shorter time line; this is a significant chance to management on this forest, and requires new public involvement, a new NEPA process, and a Forest Plan amendment since wildlife standards have to be exempted for the new strategy.

Over 50% of the 21,000 project area will be treated in the proposal. There were no such large project planned in the Lewis and Clark Forest Plan. This is a new management strategy that needs to be addressed with a significant Forest Plan Amendment. This new strategy is not just limited to the Horsefly Project. It has recently been implemented, as well, for the Castle Mountains project. The agency is violating the NEPA and NFMA by making significant changes to the Forest Plan without completing a new analysis, including a changed condition for Forest Plan standards for elk. Both the Horsefly project and the Castle Mountains projects exempt projects from the elk standards because these standards are inconsistent with the new management strategy being implemented on the Forest. This new management strategy is clearly inconsistent with the current Forest Plan, and thus requires a significant amendment to address changed conditions for wildlife, including elimination of elk habitat standards.

2. The proposed project is too large for the agency to provide a reasonable level of detail to the public.

There is a severe lack of specific information in the NEPA analysis, due to the size of the project (roughly 10,000 acres of treatment). Examples include identification of habitat effectiveness over the 20 year time frame; although the agency claims that mitigation will avoid severe displacement effects to elk by segmenting the project, how this project will be implemented over the next 20 years is never identified. This mitigation measure is thus simply window-dressing, with no clear information provided to the public how it will be achieved over the next 20 years. There will be over 40 miles of new road construction, The total miles required for the project is over 90 miles. The management of this high density of roads has not been identified to the public. Nor has the agency defined how all the multiple treatments, which include logging followed by burning, and burning adjacent to logging units, will be implemented over time. There is also the issue of a limited time for burning projects. These cannot be specifically planned in time. Overall, the complexity and size of this project prevents the public from having any actual knowledge of how severe displacement impacts to wildlife can be avoided.

3. The timeline for the project, which is 20 years, is outside the scope of the NEPA and the monitoring requirements of the NFMA.

NEPA timelines are roughly 5 years, since conditions may change beyond that period that could impact environmental effects. An example is the possible listing of species under the ESA, as the wolverine. Also, Forest Plan monitoring, which is required by the NFMA, would require adjustments to project activities; monitoring is required over a much shorter time frame than 20 years. 20 years is also over the timeline for implementation of Forest Plans. How can a site-specific project exceed the timeline of a Forest Plan? Also, this project is being implemented under the 1986 Lewis and Clark Forest Plan, which is already severely outdated. Implementing a 20-year project under an outdated Forest Plan ensures that environmental harm will occur as a result, as this would entail applying Forest Plan standards that would be 54 years old!

A recent example of the problem with 20-year projects is the identification of the drastic declines of North American birds reported since 2016, and more recently in 2019. These declines are considered a biological crisis, one that requires new strategies for managing public forest lands, which have suffered a decline of a billion birds since 1970. Management of public lands needs to be sensitive to environmental issues that are continually identified.

4. The agency is increasing the disturbance impacts on the landscape 24 times over the level planned in the 1986 Forest Plan without completing and/or applying any monitoring results for logging and burning impacts on wildlife.

There is almost no monitoring data that has been gathered for the 1986 Forest Plan on logging and burning impacts to wildlife, including the MIS goshawk, the MIS three-toed woodpecker, and big game winter range. The rationale for greatly increasing the impacts of management activities on these MIS and big game winter range for the Horsefly (and Castle Mountains Project) is not supported by any monitoring data. In fact, monitoring on goshawks has indicated that this species is very sensitive to logging, especially with postfledging areas (PFAs). And the three-toed woodpecker clearly requires dense, older forest habitats, not just a few snags in harvest units as per the Forest Plan direction. Nor is there any information ever obtained on why prescribed burning of mule deer winter ranges, including ecotones, benefits mule deer populations. Since the agency failed to complete the monitoring requirements of the NFMA for the 1986 Forest Plan for wildlife as per impacts of vegetation treatments, there is no basis for expanding either logging and burning of mule deer winter ranges in new projects, including Horsefly as well as the Castle Mountains projects.

There has been some monitoring information provided on vegetation treatment impacts on wildlife, including the impacts on goshawks in the PFAs, the requirements of the three-toed woodpecker (nesting in habitat with 70 large snags per acre as per Saab et al. 2012), and the specific habitat use of wolverine on the Helena National Forest identified by Gehman et al. (2014), none of which has been applied to the Horsefly Project. So even the limited monitoring that has occurred is not being applied to vegetation management projects.

5. There is an inadequate range of action alternatives, including one that follows the current Lewis and Clark Forest Plan direction for elk or promotes wildlife habitat as requested by NEC and AWR.

The Preliminary EA claims that our request for a wildlife alternative was not developed because it would not meet the purpose and need of the project. One would assume that meeting Forest Plan standards for wildlife would be part of the purpose and need for the project. There was no alternative developed and evaluated that would meet the elk standards in the 1986 Forest Plan. This would require applying mitigation measures to increase existing hiding cover levels where it is deficient. The NEPA does not allow the agency to disregard public input by claiming this public input would not meet the purpose and need of the project. This strategy is simply a means of dismissing public input, which is a violation of the NEPA. Since the public issues include management of wildlife habitat to prevent environmental harm, inclusion of at least one alternative that satisfies public issues is required by the NEPA. The purpose and need of the project could simply be expanded to include protection and management of wildlife habitat, based upon public input.

6. The Forest is violating the Forest Plan direction for Management Area (MA) C by including clearcutting.

The Forest Plan requires that clearcutting and precommercial thinning may occur if it meets the MA objectives for MA C. Since MA C emphasizes wildlife, clearcutting is a direct adverse impact that does not promote wildlife. Clearcutting will be in large openings that will destroy any elk security cover and elk concentration areas. Clearcutting will require the deletion of the elk standards for MA C. So it is not possible that clearcutting is consistent with MA C objectives, in violation of the Forest Plan.

7. The Forest is violating the Forest Plan direction by not identifying and protecting important elk concentration areas.

There is no information the NEPA analysis for the Horsefly Project that identifies where important elk concentration areas are so that they will be protected. These areas are not mapped or evaluated as to how they will be protected when about 50% of the project area will have vegetation

treatments, and 1.24 miles of new road (40.7 miles of new temporary road) will be constructed. These areas would not be allowed in important elk summer concentration areas, but there is no information if this protection will actually occur, as is required by the Forest Plan.

8. There is no information ever provided in the project's NEPA analysis as to why prescribed burning and logging will maintain mule deer winter range.

All of the MAs impacted by the project require either that big game winter ranges be maintained, or impacts minimized. However, the project will burn and log roughly 1400 acres of this mule deer winter range. Due to a lack of Forest Plan monitoring on the impacts of vegetation treatments on mule deer winter range, the agency has only the current best science to predict the impacts on mule deer from this logging and burning. As we noted in Section A of this Objection, there is no current science that indicates burning trees and sagebrush, and logging on mule deer winter range, benefits this big game species. The agency has failed to meet the requirements of the NEPA to provide high quality information to the public on the management of mule deer winter ranges.

9. The maintenance and/or minimization of impacts to raptor nesting sites was not demonstrated for the project, in violation of the Forest Plan.

All of the affected MAs for this project require either maintenance and/or minimization of impacts to raptor nesting sites. There were no sites identified for the great gray owl, boreal owl or saw-whet owl, all which are likely present in this landscape (Carlson 1991).

10. The agency is violating the NFMA by using a site-specific exemption to escape the management area direction required by the Forest Plan, and is violating the NEPA by exacerbating ongoing significant impacts to wildlife as a result of a Forest Plan exemption.

The current Forest Plan notes that site-specific exemptions; page 5-3 notes that exceptions to the Forest Plan are allowed if this is the best way to meet

forest plan goals. This is clearly not the case for the Horsefly project, where failure to follow the elk standards will exacerbate current documented problems with elk security (e.g., MFWP 2014; USDA 2011). The Forest Plan goal is to provide high quality elk habitat, which will be violated with the exemption of elk cover standards. In addition, simply exempting a standard for MA C, which emphasizes elk and other wildlife, does not change the requirement that this MA emphasizes wildlife. So the exemption results in a violation of the MA direction to emphasize elk and other wildlife.

It has been well documented that elk security on the Helena-Lewis and Clark National Forest is deficient, and is resulting in a significant problem of elk displacement to private land refuges in the hunting season (e.g., MFWP 2014; Dickson 2015; Byron 2017; Lundquist 2014). This problem was acknowledged by the Lewis and Clark Forest in their 2011 viability assessment for the Forest Plan, where it was noted that 18 of 21 hunting districts that overlap the Forest are exceeding the MFWP population objectives for elk. This problem is triggered by elk displacement to private lands where the population cannot be controlled by harvest. The exemption for elk hiding cover standards in the Horsefly Project will add to existing significant effects on elk displacement, and thus requires an EIS for this amendment.

11. The agency has provided false information to the public that the exemption of the elk hiding cover standards is just for this project.

The Forest Service has recently implemented a vegetation treatment project in the Castle Mountains of the formerly Lewis and Clark National Forest. This project lies just to the southeast of the Horsefly Project. Yet the cumulative effects of these planned exemptions on elk displacement were not addressed in the Horsefly Project.

The Helena National Forest has implemented numerous exemptions for elk hiding cover as well. This is the same pattern of Forest Plan exceptions that are being applied to the Horsefly Project, as well as the Castle Mountains Project adjacent to the Horsefly Project. It is clear from a cumulative impact perspective that these serial exemptions for elk security have resulted in significant displacement issues on these public lands. Thus any planned

exemptions need to address the cumulative effects of this proposed action, as it is not happening in a vacuum.

12. The agency is violating the Lewis and Clark Forest Plan by failing to address 2 current wildlife management issues for the Horsefly Project.

The Lewis and Clark Forest Plan at 5-6 notes that the agency needs to monitor existing and emerging public issues and management concerns to ensure they are being adequately addressed, including significant issues that affect the land and resources. As early as 2007, the Lewis and Clark National Forest recognized that logging and road construction was impacting elk security on the forest. The Little Belts Travel Plan noted there was a problem of elk displacement from the forest to adjacent private lands. This issue was also noted in the 2011 viability assessment for the Lewis and Clark National Forest (USDA 2011). It is a violation of the NEPA for the agency to thus complete an EA where elk hiding cover standards are exempted, when it is clear these exemptions will exacerbate existing significant displacement issues regarding elk.

13. The agency is violating the NEPA by claiming that the over-populations of elk are an indicator of success in elk management, when the exact opposite is true.

The agency claims that the high elk population numbers on and adjacent to the Lewis and Clark National Forest indicate that elk management on the forest is satisfactory, when in fact, high numbers are an indicator of significant elk displacement from these public forest lands in the hunting season. This is a clear misrepresentation of management conditions on the Forest, which is used to conceal the adverse impacts that the project will have in regards to elk displacement on public lands. The agency is clearly misleading the public about the actual impact of this project on elk hunting opportunities on public lands, as well as game damage and potential infection by brucellosis on adjacent private lands due to this displacement, which will be significantly exacerbated by the proposed project which will remove additional big game hiding cover on 50% of the project area.

14. The rationale for reducing cover on the edges of meadows, while at the same time exempting elk hiding cover standards

and reducing vast acres of cover across the project area, was never identified to the public.

There is no information provided in the NEPA analysis for this project as to why conifer cover along the edges of meadows is going to be reduced, which will be allowed by the exemption of hiding cover standards for the Horsefly project area. Monitoring on the Lewis and Clark Forest clearly demonstrates this will be an adverse impact to the MIS goshawk. It will also exacerbate the elk displacement condition on this forest as well. The benefits to wildlife of this conifer reduction were never identified, or shown as to how these benefits will balance out adverse impacts to nongame and game wildlife on the Forest.

15. It is not clear that the agency is currently in compliance with the 2007 Little Belts Travel Management Plan, and if not, why significant impacts do not currently exist in this landscape, including the Horsefly project area.

There is not actual analysis as to the level of noncompliance with the 2007 Little Belts Travel Management Plan in the Horsefly project area. If noncompliance is occurring, then it is unclear why significant impacts do not currently exist, impacts that will be exacerbated with this project, including construction of 40.7 miles of new roads.

16. The agency failed to provide any accurate assessment of elk habitat effectiveness and hiding cover levels that currently occur in the project area, or will occur after project completion, in violation of the NEPA and the 2007 Little Belts Travel Management Plan.

We could not determine what the current or planned level of elk habitat effectiveness is for the Horsefly project area, or what the current and planned levels of hiding cover will be as well. The NEPA requires that high quality information be provided to the public in NEPA assessments. Elk habitat was clearly an identified issue with NEC and AWR, and a full disclosure of project management of habitat effectiveness and hiding cover is required.

17. The agency is violating the Lewis and Clark Forest Plan by failing to identify how the monitoring requirement for elk habitat effectiveness has been attained, including within the Horsefly Project Area.

The Lewis and Clark Forest Plan requires that habitat effectiveness (HE) will be monitored annually, with declines of over 10% identifying a need for management consideration/action. HE is defined in the Forest Plan in Appendix F, as well as in the 2007 FEIS for the Little Belts Travel Management Plan (2007). It is also defined in the 2013 collaborative elk recommendations which included personnel from the Lewis and Clark National Forest (USDA/MFWP 2013), and in a Region 1 Forest Service publication (Christensen et al. 1993). There is no information provided in the Horsefly NEPA analysis as to how this monitoring requirement has been met, and how it addresses the massive increase in roads required for the Horsefly project. Given that the current best science notes that any motorized activity on roads displaces elk (e.g., Christensen et al. 1993) as well as very limited motorized activity displaces elk (USDA/MFWP 2013), a valid monitoring effort for this HE standards requires that it include any active motorized route that has more than 2-4 vehicle trips within a 12 hour period (USDA/MFWP 2013).

18. The Horsefly Project is a violation of the NEPA because it does not discuss or assess the impacts of the project on elk displacement.

The issue of elk displacement from public lands is clearly well documented in Montana (e.g., MFWP 2014; Lundquist 2014; Dickson 2015; Byron 2017). Yet the impact of the Horsefly Project on elk displacement was mostly ignored, even though the project will exacerbate significant ongoing impacts of vegetation management on elk displacement on the Lewis and Clark National Forest (USDA 2011).

19. The agency has violated the NEPA by providing a false definition of elk security, which results in a concealment from the public about project impacts on this key management issue and public concern.

The Horsefly NEPA analysis used a false definition of elk security because the contiguous block of hiding cover portion of the definition was not included. This results in a very misleading analysis of vegetation treatment impacts on elk security, since the removal of hiding cover from logging, fuels treatments, and precommercial thinning is counted as no change in elk security values. The agency is misleading the public by providing false management of elk where only roads need to be managed to provide elk security. In section A of this objection, we noted that there are no published elk management recommendations or results from elk management proceedings where the hiding cover component of elk security has been removed.

20. The agency provided no actual analysis as to why the creation of many openings over 40 acres in size will not significantly affect the quality of wildlife habitat in the Horsefly Project Area.

There are many potential impacts of large clearcuts on wildlife (11 units noted in the PEA at 21), including the loss of elk security areas, the loss of goshawk foraging habitat, the creation of barriers to wildlife, including juvenile goshawks, and the reduced ability of the landscape to provide large blocks of older, undisturbed habitat that are essential to most wildlife species. Any valid NEPA analysis of large openings requires an assessment of existing and planned large blocks of unmanaged natural habitat, and how the clearcuts will fragment the landscape and reduce the potential for providing this key habitat feature (large blocks of forest habitat) for up to 125-150 years in lodgepole pine forests (Johnson 2015). Clearcuts are essentially an irretrievable impact on wildlife of any size, but large ones exacerbate the fragmentation impacts on wildlife as well. The Horsefly NEPA analysis claims there will be no significant impacts to wildlife from the large proposed clearcuts without providing even a minimum of analysis as to how this was determined, in violation of the NEPA.

In particular, the agency ignored the information in Appendix F at 7 that large openings of up to 100 acres may be suitable in elk habitat PROVIDED that these do not reduce security. Already, there is appears to be a lack of elk security in the Horsefly Project area, although a valid assessment has not been provided. The project will eliminate any elk security areas if they currently exist. Thus the creation of large openings is directly counter to the

management recommendations provided in the Appendix F of the Lewis and Clark Forest Plan.

Since an exemption of the Forest Plan hiding cover direction for elk is being implemented for the Horsefly project it is clear that the creation of many large openings will require degradation of elk hiding cover. It is unclear why exemptions of this Forest Plan direction will not trigger significant impacts on elk, impacts that will be even more severe with the creation of large openings.

Monitoring on the Lewis and Clark National Forest has also indicated that clearcuts within goshawk PFAs are highly detrimental by creating movement barriers for juvenile goshawks. Monitoring of goshawk PFAs has demonstrated that on average only 2% of these areas have been clearcut (USDA 2004, 2006). This means that clearcuts will remove any PFA habitat for a forest MIS, with the adverse impact increasing with clearcut size.

Large openings are clearly a significant adverse impact on wildlife, and the Horsefly Project did not identify this conflict between timber management and wildlife, and the significant adverse impacts large openings will create.

21. The agency needs to provide a clear description of hiding cover before and after the proposed project.

The public needs to know what the current and projected hiding cover levels are in the Horsefly Project for the next 20 years while the project is being implemented, including hiding cover within elk concentration areas.

22. There was no alternative that implements the Lewis and Clark Forest Plan, addresses public issues, and implements monitoring information on the goshawk.

The agency needs to provide an alternative that meets the elk cover direction in the forest plan, as well as the recommendation in Appendix F that large clearcuts do not adversely impact elk security. This alternative also needs to meet the recommended 30% elk security in the project area, using the valid definition of elk security defined by the Hillis Paradigm. This alternative needs to implement the recommendations for goshawk PFAs identified with Forest Plan monitoring, and meets Forest Plan direction for protecting owl

nesting habitat through completion of valid owl surveys. This alternative needs to meet the minimum habitat effectiveness recommended for elk, with no more than 2 miles of active motorized routes occurring on the landscape at any time.

23. The PEA did not identify which areas planned for logging are located on unsuitable timber lands.

The logging of unsuitable forest lands is prohibited by the Lewis and Clark Forest Plan unless it benefits other resources, including wildlife. These lands are not identified in the Horsefly NEPA analysis. If the agency is logging unsuitable timber lands, this requires identification and an analysis as to why wildlife will benefit from this logging. This is particularly relevant to the large clearcut openings that are planned. If these are located on unsuitable timber lands, they are clearly a violation of the Forest Plan, are large openings do not benefit any wildlife species.

24. The agency failed to provide a complete inventory of old growth, including as is defined by monitoring work done on the Forest.

Whitford (1991) did a study of old growth on the Lewis and Clark National Forest, where he noted that old growth needs to be defined by different structural characteristics that occur in early, middle and late old growth. These different classes of old growth were not identified in the Horsefly Project Area, even though they define old growth habitat. Failure to use monitoring data to improve the old growth information, including to the public, is both a NEPA and an NFMA violation.

25. The success and impact of treatments in whitebark pine were not identified, nor were the impacts of these treatments on elk security evaluated.

It is unclear how treatments in whitebark pine have been evaluated based on past vegetation treatments by the Forest Service. As such, it is not clear these treatments actually benefit whitebark pine, or habitat use by wildlife, including the snowshoe hare, wolverine, and secure habitat for elk. If these treatments are experimental, the wildlife costs need to be considered.

Experimental treatments that cause significant habitat impacts to wildlife, including the wolverine, should not be implemented.

26. The agency did not provide any actual information or rationale for the thousands of acres of prescribed burning, including on big game winter ranges or habitat for many Montana Species of Concern.

The agency is planning to burn thousands of acres of wildlife habitat without any actual analysis of this program. The public is not told what the vegetation conditions are within these various burning units. The public is not told why this vegetation removal will improve wildlife habitat, including mule deer winter range, or ecotone habitat for many Montana Species of Concern. Without any inventory of habitat or wildlife, the implementation of this large-scale burning program is a violation of the NEPA, as the impacts are not known, and as well, cannot be disclosed to the public. As we noted in Section A of this objection, burning of woodlands and associated vegetation, including sagebrush, has severe adverse impacts on wildlife. The rationale for this large-scale habitat removal for wildlife needs to be both defined to the public, and impacts to wildlife disclosed.

27. A stand-alone Forest Plan amendment is required before the agency implements a large-scale burning program to remove wildlife habitat, as this was never included as a management program in the 1986 Lewis and Clark Forest Plan.

The current Forest Plan has a few references to burning to "improve wildlife habitat," but what these improvements entail is never defined. In addition this Plan does not evaluate the impacts of any burning on wildlife. Thus the huge increase in burning proposed for the Horsefly Project is clearly outside the scope of the 1986 Forest Plan and associated FEIS. An updated analysis that identifies the new programmatic direction for burning of wildlife habitat, including the adverse impacts expected on wildlife, needs to be done before any such program is implemented, including in the Horsefly project.

28. The agency needs to complete a Forest Plan amendment that ensures that snag and old growth habitat is managed to conserve wildlife.

As we noted in Section A of this objection, the current Forest Plan direction for snags and old growth ensures extinction, rather than conservation, of associated wildlife species in areas managed for vegetation treatments. Continuation of this severely outdated Forest Plan direction is clearly a significant adverse impact, and requires at a minimum completion of an EIS where the severe impacts on wildlife is clearly noted and identified to the public.

29. Logging old growth down to minimum characteristics is a violation of Forest Plan.

The Lewis and Clark National Forest completed a monitoring program for old growth (Whitford 1991) where it was noted that old growth includes both primary and secondary characteristics. The secondary characteristics were identified as an important quality of old growth. Thus the agency's claim in the Horsefly project that logging can maintain old growth is clearly false. The same is true for prescribed burning, as the secondary understory characteristics (seedlings, saplings, logs, shrubs) will be removed. Also, logging and underburning old growth would be a NEPA violation, because old growth wildlife values will be severely degraded, as we noted in Section A of this objection.

30. We could not actually determine is the level of old growth, or its classifications as per Green et al. (1991) were accurately provided in the Horsefly NEPA analysis.

As noted by Whitford (1991), the characteristics of early, middle and late old growth are important for management. These 3 categories for old growth are not defined in the Horsefly NEPA analysis. It is also not clear that the levels of old growth reported for the Horsefly analysis are correct. Forest Plan monitoring reports in 2004-2006 show a much lower level of old growth for this landscape that is reported in the Horsefly NEPA analysis. If the agency is misrepresenting the amount of old growth present in this analysis area, this is a violation of the NEPA. It also makes compliance with the Forest Plan uncertain as well.

It is also unclear where old growth habitat is located in the project area, or which stands are slated for logging and underburning. The overall management of this key wildlife habitat in the project area is therefore never provided to the public. At a minimum, all stands need to be mapped and identified by acres as per the old growth definitions provided by Green et al. 1991.

31. Although Forest Plan monitoring has identified the management of goshawk PFAs as very critical to goshawk persistence, the Horsefly NEPA analysis does not provide even a minimum of important information of these areas or their planned management.

There is no map of goshawk PFAs, or of historical goshawk nesting area in the project area. The vegetation structure of these PFAs is also not provided, either before or after project implementation. The monitoring on this forest has provided average vegetation conditions within PFAs, but this information was never cited or used for management guidance for this project. The impact of this project on persistence of these goshawk PFAs is thus unknown due to a lack of analysis and disclosure to the public.

32. The Horsefly analysis did not evaluate the impact of the project on goshawk foraging habitat, even though these impacts will clearly be severe.

In Section A of this objection, we identified what the impacts of logging will be in goshawk foraging habitat. These impacts in the Horsefly Project Area will likely be severe, with also severe impacts on the persistence of the active goshawk territories in this landscape. Although the Forest has been monitoring goshawks for over 30 years, they still have not provided any recommendations for management of goshawk foraging habitat, which averages about 5400 acres surrounding the PFA (Reynolds et al. 1992). It will be impossible for the agency to define the level of impacts on the goshawk that will result from the Horsefly Project based on Forest Plan monitoring. However, the current best science could have been used, but was not used, in the analysis of the project on goshawk foraging habitat. As

such, the NEPA analysis for this project on goshawks was entirely inadequate, and a violation of the NEPA.

33. There was no analysis of cumulative impacts of the Horsefly Project with respect to the larger landscape surrounding this project, where a number of other logging and burning projects have been implemented.

This landscape, totaling about 60,000 acres, has had numerous other vegetation projects implemented in recent years, including the 2009 Sheep Creek aspen project, the 2015 Upper Sheep Creek Vegetation Project, the 2017 Moose Creek logging project, and the Miller Fuels project. Some of these projects actually overlap the Horsefly project area. There have also been a number of logging projects in the past in this 60,000 acres landscape, including the Southern Sunrise, Little Moose, Jack Daniels, and Corridor4 vegetation projects. At a minimum, the agency should have evaluated the cumulative impacts of these projects on elk security and goshawk PFAs, as well as old growth Forest Plan standards, since these existing habitat conditions would inform the agency as to the additional impacts of the Horsefly Project, and may have influenced alternative development.

8. Relief Requested

Due to the large number of violations of various laws, including the ESA, the NEPA, the NFMA and the APA, the Horsefly Project should not go forward. The massive triggering and exacerbation of adverse impacts to wildlife habitat are far outside the scope of the current Forest Plan, as well as far outside the scope of an Environmental Assessment, and far outside the level of impacts that have been reported to the public.