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First name: Greg

Last name: Munther

Organization: Montana Backcountry Hunters & Anglers

Title: Volunteer Board Conservation Director

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The Montana Chapter of BHA

PO Box 9257

Missoula, MT 59808

montana@backcountryhunters.org

406-926-1908

Forest Supervisor Matthew Anderson

Bitterroot National Forest

Attn: Forest Plan Amendment

1801 North First Street

Hamilton, MT 59840

Re: Amendment to Bitterroot NF Elk Habitat Objectives

Dear Mr. Anderson:

The Montana Chapter of Backcountry Hunters & Anglers welcomes the opportunity to comment on the purported need to amend the elk habitat objectives of the current Bitterroot Forest Plan. Our 3,250 dues-paying Montana members rely significantly on the public land hunting opportunities currently provided by the Bitterroot National Forest. Our members are primarily public land hunters and anglers, so the outcome of any amendment as it affects public land elk and elk habitat is of great concern to the future opportunities of our membership. The Multiple Use Sustained Yield Act of 1960 was the first law to have the five major uses of national forests contained in one law equally, with no use greater than any other. Much like water quality must be protected during logging operations, wildlife habitat - including elk habitat - must be protected during planning and execution of vegetation management projects. While we appreciate the Bitterroot's interest in managing forest vegetation, elk and elk habitat cannot be partitioned into convenient corners without serious adverse consequences. Conversely, elk will prosper with no more effort than protecting elements of their habitats and taking steps to provide security from additional human encroachments.

We have watched with dismay as the Helena-Lewis and Clark Forest has proceeded to amend their Forest Plan from firm effective big game standards similar to the Bitterroot and replaced them with aspirational guidelines that are subject to wide variety of interpretations and are not assuring the public land owners that our public land elk habitat is being well managed. We are extremely concerned that this Bitterroot amendment effort may be directed similarly. We request and expect the public land managers working on this amendment process to incorporate the best elk and elk habitat science, and to use elk scientists to improve, not to degrade, elk habitat. We also request that any resulting Forest Plan direction via this amendment be quantifiable and measurable, with regard to cover, patch size scale and travel route density.

We've found that the December 2019 the Bitterroot elk amendment scoping letter challenges some principles of established elk management, including:

Scoping Letter: "The extent to which hiding cover influences seasonal distribution is unknown."

To the contrary, the need for elk hiding cover is indeed well established. From a multiyear study of elk in similar habitats of the Elkhorn Mountains (DeVoe et al., 2019): "We used a resource selection model to define characteristics of areas used by male and female elk during the hunting seasons, and we found that both female and male elk selected for areas farther from motorized routes and with greater canopy cover. Based on thresholds derived from our resource selection model, we recommend that definitions of elk security in the Elkhorn Mountains include objectives of canopy cover values = 23-60% and distance from motorized routes =

1,846-3,679 m, which represent the thresholds for areas that contain 75% and 50% of the elk use on the landscape, respectively." Further, Lowery, et al (2019) emphasizes that "canopy levels at the upper end of this scale are preferred as security habitat. Although elk may use MPB-affected areas less than prior to MPB infestation, these forests maintained a high degree of canopy cover relative to Douglas fir and ponderosa pine forest." Further, Lamont et al. (2019) reported that during the summer female elk avoided pine beetle-infested forests during nearly all parts of the day and "selected for intact coniferous forests during daytime. The selection for intact forests during daytime in summer highlights the need for thermal refuge, which may be compromised in pine beetle infested forests."

Lyon (1979) reported on a pellet group analysis based on eight years of data collected in western Montana. He found that elk use, as indexed by pellet groups, was consistently lower near open roads than in similar habitats further from roads. The effect size he noted was dramatic and was higher in areas of low tree canopy cover; in areas with less than 25% tree cover, predicted elk use declined by approximately 50% at open road densities as low as one mile of road per square mile. Lyon (1983) revisited his previous analysis, adding additional datasets from Washington and Idaho, using more sophisticated analyses, and including consideration of the age of the road. His results confirmed that elk use consistently declined in areas near open roads across three large, non-contiguous western landscapes. As road densities increased above two miles of open road per square mile, habitat effectiveness (i.e., percent of expected use) declined rapidly (loss of 55-80% habitat effectiveness). Lyon and Jensen (1980) also documented that elk use of clearcuts, a preferred foraging habitat, was strongly influenced by perceived security; use was clearly depressed in proximity to open roads, relative to use nearby clearcuts further from such roads.

Furthermore, the Montana Chapter of Backcountry Hunters & Anglers submits the following additional Bitterroot elk habitat issues and requests that all of these issues be addressed and resolved during the amendment process:

Displacement of elk from public lands to private lands has implications throughout Montana and already occurs on the Bitterroot National Forest. This displacement impacts private land uses including agricultural production, but also deprives forest users of a full complement of wildlife for viewing, hunting and their ecological role. Such displacement hinders hunter access to elk, thus reducing desirable harvests to meet state population objectives set by Montana Fish, Wildlife and Parks. Such displacement reduces hunter opportunity and associated recreational activities (Haggerty and Travis, 2006). Incorporating Forest direction to acknowledge seasonal elk distributions and movement behaviors is important - as wildlife managers strive to balance concerns of private landowners and hunters regarding elk distributions and managing elk numbers within population objective levels. Elk provide strong economic benefits to Bitterroot communities and businesses, providing huge net benefits while requiring little capital outlay. Motels, grocery stores, sporting goods stores and others benefit significantly by an abundant and available elk herd. Elk hunting and associated camping may be the most popular recreational activity on the Bitterroot National Forest. Also, many residents came to or stayed in Ravalli county and grew their businesses because of elk and elk hunting opportunities. Harvested elk benefit Montana families and pursuit of elk on public lands is culturally important to western Montana families. Sufficiently large public land elk security areas facilitate both a five-week archery season and a five-week general season; such liberal seasons could be at risk if secure areas for elk on public lands are compromised or lost.

Elk displacement from public lands occurs when there is insufficient security habitat in archery and general hunting seasons. Security is defined by both distance from motorized access and size of continuous hiding cover. Ranglack, D., et al, 2018 provides the following science supported recommendations: "In order to create security areas on public lands during archery season, we recommend managing for areas with $\geq 13\%$ canopy cover that are $\geq 2,760$ m from motorized routes, and identifying and managing for areas of high nutritional resources within these areas. During the rifle season, we recommend managing for areas with $\geq 9\%$ canopy cover that are $\geq 1,535$ m from motorized routes, and are at least 5,000 acres. Lastly, given increased elk avoidance of motorized routes with higher hunter effort, we recommend that to maintain elk on public lands managers consider increasing the amount of security habitat in areas that receive high hunter effort, or hunting seasons that limit hunter effort in areas of high motorized route densities." Of course, these security areas must be distributed across the Forest. Amendment Issue: How will proposed elk habitat objectives assure elk are not increasingly displaced to private land by human uses during and outside of archery and general hunting seasons?

Amendment Issue: How will amended objectives provide secure habitat necessary to assure elk will not be displaced to private lands during hunting seasons?

Human intrusions into elk habitat reduce the effectiveness of otherwise suitable habitat. That is a principal concept of the elk habitat effectiveness model (Lyon 1979). Human intrusions are quantified in Lyon's model as density of roads open to motorized travel. Hurley and Sargeant (1991) explored bull elk habitat use in Idaho, specifically relating bull elk use of cover to the distribution of roads during hunting seasons. They found that bull elk in well-roaded areas used dense cover more than bulls in areas further from open roads. Hunting pressure often displaced bulls from more roaded areas.

Since the 1987 Forest Plan was completed, more roads have been constructed and mechanized and motorized travel use has exploded. In addition, the Bitterroot Travel Plan allows ORVs to use otherwise "closed roads," and many roads are open to any motorized travel throughout both the summer as well as the five-to-six-week archery season. Some user-created ATV routes have been legitimized and added to the travel system. Mountain bike use has enabled recreationists, including hunters, to rapidly penetrate formerly secure habitat easily and more rapidly on both "closed" roads as well as system and non-system trails. E-bikes threaten to dramatically increase both speed and ease of backcountry travel. Wisdom, et al. (2018) documented regular displacement of elk due to motorized vehicles as well as other human disturbances. Since the 1987 Forest Plan, archery hunting has increased in popularity, with a 98% increase in archery license sales in Montana since 1985 (Montana FWP unpublished data) but current travel plan allows ATVs to use roads during the archery season that are closed to motorized vehicles during the general hunting season. The Bitterroot has a high density of roads open to motorized travel during the archery season, and currently there are now nearly 50,000 archery hunters in Montana. DeVoe, et al. (2019) adds that, "Incorporating our results that elk also selected strongly for areas farther from motorized routes, we recommend that managers aim to provide security areas during the archery and rifle hunting seasons for both sexes that are comprised of canopy cover values = 23-60% and = 1,846-3,679 m from motorized routes, which represent the thresholds for areas that contain 75% and 50% of the elk use on the landscape during the hunting season, respectively."

In addition to the extensive road and trail network, enforcement of use restrictions is abysmal. Gates are routinely circumvented, and some closures are non-functional due to vandalism. Yet new roads will likely be constructed. Roads are easy human walking or stock conduits into otherwise secure habitats. Every road not only fragments habitat but also encourages humans to penetrate this habitat.

Amendment Issue: What effective road and trail management standards and quantifiable measures will be incorporated into elk habitat objectives to assure elk can use their preferred habitats without displacement by the current and projected increases in both mechanized and motorized disturbances?

Amendment Issue: Given that road and trail use restrictions are necessary to provide secure elk habitat, what changes in road management and enforcement will be part of any new elk habitat objectives?

Relying on aspirational, non-quantifiable elk habitat guidelines will doom elk habitat in light of the continual and abundant funding that encourages and enables large landscape scale timber and fuels management projects. It is always easy to discount the importance of project level provisions for elk habitat, instead relying on other landscapes to provide elk habitat. Yet the march of projects has already compounded cumulative effects, rendering significant and lasting negative effects on elk habitat. Much of the otherwise preferred elk habitat of the Bitterroot is now roaded, thinned or both. Public confidence in Forest management depends on measurable and quantifiable habitat attributes as well as regular accountability of such habitat conditions.

Amendment Issue: What quantifiable and measurable elements of elk habitat objectives will be regularly incorporated into projects?

Amendment Issue: How will such attributes be monitored and provided to the public to assure the public that public land managers are optimizing Bitterroot elk habitat?

Recent stand replacement fires have reduced both cover and elk security extensively across the Bitterroot, but most noticeable in the East and West Forks of the Bitterroot. Many of these stand replacement events left little cover over large landscapes, and therefore adjacent unburned landscapes are especially important to elk during the entire year. Given the size of burned landscapes, the adjacent unburned landscapes are extremely important as elk habitat to provide security for elk using the perimeter of these burned areas. During both archery and general hunting seasons, any elk using these burned landscapes are soon displaced to suitable cover and

security. The importance of retaining integrity of adjacent forest canopy following removal of canopy, such as stand replacement fire in some adjacent landscapes is recognized by DeVoe, et al. (2019): "Nonetheless, the management of adjacent or nearby intact forests may become increasingly important in providing security as infested stands mature and potentially become inadequate for providing elk security." We recommend that in the Elkhorn Mountains and other areas recently impacted by MPB, adjacent, intact forests be managed for elk security to ensure that elk have secure cover available. Suitable cover and security allow elk to utilize the browse benefits of burned landscapes if they are available."

Amendment Issue: How will the elk displacement effect of large stand replacement burned landscapes be incorporated into amended elk habitat direction on adjacent unburned landscapes?

Understory vegetation removal, including thinning and underburning in ponderosa pine and Douglas-fir habitats, often leaves a residual overstory shade condition that virtually prevents hiding cover from being reestablished once removed. Sight distances are dramatically increased and hiding cover values virtually eliminated. While small patches of such thinning projects are accommodated by elk if satisfactory cover is nearby in sufficient quantity, large-scale thinning projects render such habitats unusable to elk under most conditions. DeVoe, et al. (2019) found vegetation treatment areas had reduced use by elk, and any use of these treated areas occurred primarily at night: "Across nearly all seasons where elk use occurred, the proportion of post-treatment locations in the treatment projects occurred primarily (= 50%) during night (Figure 55); however, the number of locations during some seasons was extremely low. In the Crow Creek Vegetation Treatment, the average percent of locations that occurred during the night was 66.8% ($\pm$ 4.9%). In the Bighorn and Elk Habitat project, 60.0% of locations during the winter occurred during night. The remaining seasons had very few (= 1) locations. In the Pole Creek Prescribed Burn project, 53.8% and 100% of locations during the winter and rifle season, respectively, occurred during the night. The remaining seasons had very few (= 6) locations that primarily occurred during night. In the 1988 Elkhorns Habitat project, 88.5% of locations during the summer occurred during the night. The remaining seasons had very few (= 6) locations." These findings suggest that reduced hiding cover from vegetation treatments limits subsequent elk use.

Amendment Issue: What elements of amended elk habitat objectives will assure such vegetation thinning treatments are at size and scale to maintain elk security/hiding cover within a landscape?

The Bitterroot has a diversity of terrain with a wide range of habitats. Much of the Bitterroot has relatively low elk habitat quality due to elevation, topography, steepness, shallow soils and rock. The best elk habitat with gentle slopes, lower elevation, mesic conditions and deeper soils with better vegetation is also the most attractive and feasible for thinning and fuel-treatment projects. In landscape planning, it would be easy to rely on low-quality habitat to sustain elk and to accommodate thinning, timber and fuels projects on the best and most productive elk habitat; our concern is that this approach could happen here.

Amendment Issue: How will amended elk habitat objectives assure higher quality elk habitat will not be sacrificed by relying on poorer quality elk habitat in a landscape?

The entire Bitterroot National Forest is a fire-dependent forest. Naturally occurring fire has provided a diversity of landscape mosaics favorable to elk for thousands of years. A mixed severity fire provides a mosaic of seral vegetation with unburned or lightly burned residual patches without associated roading conduits. Successful fire suppression has reduced elk habitat quality and certainly habitat diversity.

Amendment Issue: Given the Bitterroot NF is a fire dependent forest, and elk habitat is often optimized following wildfire, how will wildfire be incorporated into the elk habitat amendment process and allow fire to be managed to optimize elk habitat?

Invasive plant species have widespread impact on forage production necessary to optimize elk habitat. This is especially true on winter ranges and spring transitional ranges. Roads, disturbed sites and burned areas are especially vulnerable to invasive weed spread. Given the years-long viability of weed seeds, noxious weed control post-fire needs to occur for at least a decade.

Amendment Issue: How will invasive plant species management be incorporated into elk habitat objectives?

Amending the current Forest Plan science based, measurable and quantifiable Elk Habitat Objectives puts the future of elk habitat and elk in your hands. It will take strong, quantifiable and measurable Objectives to protect elk habitat in light of political pushes and abundant funding for vegetative manipulation, as well as simply more humans pushing for easy access into the best elk habitat. We encourage you to ensure that the needs of elk

frame both short-term and long-term decisions through any Forest Plan Amendment you may develop.

Sincerely,

s/ greg munther

Greg Munther, Volunteer Board Conservation Director
The Montana Chapter of Backcountry Hunters & Anglers

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