

Lance Okeson
Boise District BLM
3948 South Development Ave.
Boise, Idaho, 83705

Reference: Tri-state Fuel Breaks Project, Draft Environmental Impact Statement

Dear Mr. Okeson,

The Oregon Chapter of the Wildlife Society (ORTWS) appreciates the opportunity to comment on the Draft Environmental Impact Statement for the Tri-state Fuel Breaks project (DEIS). The Wildlife Society is an international organization founded in 1937, representing nearly 10,000 professions, including scientists, managers, educators, technicians, planners, consultants, conservation officers, students, and others who manage, conserve, and study wildlife populations and habitat. In Oregon, the Oregon Chapter of The Wildlife Society represents nearly 500 such professionals from many areas of public and private enterprise. Our mission is to promote wise conservation and management of wildlife resources in Oregon by serving and representing wildlife professionals. A central purpose of ORTWS is to aid public discussion of natural resource management in our state by communicating sound science to entities engaged in management decisions. Thank you for this opportunity to submit the following comments and recommendations.

Without question, the Great Basin is undergoing enormous ecological change. These changes are driven in large part by increases in invasive annual grasses, a changing climate, and more frequent and intense rangeland wildfires. These factors and more have negatively impacted sage grouse, mule deer and the more than 350 other species that are dependent on the sagebrush ecosystem. This context creates complex challenges for proper land management.

Managing these sagebrush habitats to reduce the likelihood of these 'mega-fires' and the invasive annual grasses that fuel them through projects such as fuel breaks is expected to benefit sagebrush obligate species by reducing habitat loss from fire. Yet, the activity itself causes local negative effects to the habitat and increases fragmentation for these same sagebrush obligate species (DEIS, section 3.5.3.2). This type of habitat manipulation to prevent further loss is considered a 'conservation paradox' (Shinneman et al. 2018) and the implementation of such a large-scale project needs to be carried out strategically. The negative impacts from fuel breaks include: disturbance and noise during construction, direct habitat loss, increased fringe habitat, fragmentation due to vegetation reduction along up to 1500 miles of roads with 410 to 430-foot-wide fuel breaks (DEIS, preferred alternative 2 description) and impacts resulting from road improvements and subsequent increases in human traffic including the spread of invasive weeds, direct disturbance, and potential for human caused ignitions.

Due to the potential local impacts to the wildlife and the ecological functions they rely on, the implementation of fuel breaks should be carried out in a very strategic manner over an appropriate time period in order to adequately address and weigh the benefits and impacts of such a project. This is especially important given that tens of thousands of acres are directly affected across the 3.1-million-acre planning area. As stated in the introduction of the DEIS, the primary purpose of fuel breaks is the protection of ecosystem function and wildlife habitat. Unfortunately, based on the information included within the DEIS, The Oregon Chapter of the Wildlife Society is concerned that the alternatives presented will not address this purpose as strategically as is possible. Our main concerns and recommendations are outlined below.

General Comments and recommendations

ORTWS appreciates that the DEIS includes the specific criteria employed to select fuel break routes under Alternative 4 that analyzed and minimized the effects of fuel breaks on wildlife. The BLMs preferred alternative (2) is the most aggressive approach among the alternatives and would have the greatest direct loss of habitat and fragmentation. We urge the BLM to select a more cautious approach among alternatives. Under alternative 2, up to 1,539 miles of fuel breaks would be built along existing roads, 73,920 acres of direct habitat loss would result from the manipulation alongside of the roads, and up to 950 miles of roads would receive blading and improvements to the routes to restore them to their designated maintenance level.

According to the DEIS in section 3.1.2.5:

*“Fuel break research and monitoring demonstrates that fuel breaks can change fire behavior by limiting spread and intensity. Modeling of fuel break treatment and non-treatment conditions has shown that fuel break networks can result in meaningful reductions in area burned and burn probability. Using simulation modeling, Oliveira et al. (2016) found that a proposed fuel break network in southern Portugal would reduce fire size by up to 17% and burn probability between 4% and 31%. In another study, researchers examined the efficacy of fuel breaks over 28 years including 144 wildfire intersections in Chaparral shrublands on the Angeles, Los Padres and San Bernardino Forests in California (Syphard et al. 2011a). Over that period, fuel breaks were able to stop fires up to 49% of the time. Firefighter access was shown to directly improve the outcome of fire suppression on all three forests (Syphard et al. 2011a, Syphard et al. 2011b). **No similar research yet exists for fuel breaks within sagebrush landscapes, where limitations in data collection have precluded quantitative study of fuel breaks’ effects on fire behavior (Shinneman et al. 2018), (emphasis added).**”*

Due to this lack of this lack of data collection within sagebrush ecosystems, we urge the BLM to choose an approach that ensures the implementation of this project is carried out in a way that allows for further study and extensive monitoring. The BLM should implement this project in a way that offers an opportunity to study fuel breaks in the Great Basin by working closely with the USGS, state agencies, universities and other entities to design experiments and answer needed monitoring questions. In addition, we urge the BLM to better analyze how they will ensure they receive proper funding and personnel to maintain such an extensive network of fuel breaks and roads over time. Studies have shown that fuel breaks will only remain effective if they are maintained at least every 5-10 years (DEIS, appendix H). Most fuel breaks among alternatives would use mowing as the tool to remove vegetation along the roadside. Mowing big sagebrush has been shown to increase invasive annual grasses and exotic forb cover of the species (Davies et al. 2011, Davies et. al 2012). Since there is a potential for mowed fuel breaks to become invaded by annual grasses and other invasive species it is important that additional monitoring objectives are developed for these fuel breaks to reflect annual and perennial grass cover or density thresholds similar to seeded fuel breaks. In addition to monitoring, it should be considered by the BLM to conduct pre-emergent herbicide treatments (e.g. Imazapic) along all mowed fuel breaks to limit opportunities for invasive annuals. This should be done immediately post-mowing and then at a regular interval thereafter as a maintenance activity. This not only would limit invasive annual grass abundance but also enhance fuel break function by reducing fine fuel continuity between perennial bunchgrasses. Multi-year annual grass treatment could also deplete seed sources and help reduce spread along road corridors.

As the BLM develops the network of fuel breaks within this large planning area, the agency should continue to utilize partner tools such as the new vegetation cover data from the Natural Resources Conservation Service's [Rangeland Analysis Platform \(RAP\)](#). See the attached map (Figure 1) that shows the 'landscape cover of annuals' and aims to aid strategic regional planning to address invasive annuals. This map and the RAP tool may help to inform a nuanced strategy for fuel break application within the planning area. As one example, landscapes that are already heavily compromised by invasive annual should emphasize and support strategic fuel breaks, whereas, areas with a low amount of annuals would be places to locate fuel breaks along the edge, but not within the intact habitat where invasive annual percent is low. This doesn't mean the intact areas should be ignored, but the tactics for managing invasive annuals and fire risk change to emphasize projects with less ground disturbance such as herbicide treatments.

Finally, the influence on riparian and mesic meadows/systems was minimally discussed and analyzed and it is not clear how they will potentially be impacted or enhanced. Riparian areas should also be analyzed and utilized as natural features to deter fire and built into the network mapping and models influencing fires across the fuel break network. Ultimately, the impacts from implementation of this DEIS have the potential to be permanent. As such, we recommend that before any fuel breaks are created under this DEIS, the BLM demonstrate that the agency can reasonably monitor and maintain them through time to ensure their benefit and effectiveness remains permanent as well.

Road Bed Vegetation Removal and Improvement:

Under Alternative 2, up to 63% of the roads within the project area may require roadbed vegetation removal, or 419 of 731 miles in Idaho and 558 of 808 miles in Oregon. Many of the roads that would require vegetation removal and blading are primitive routes within the planning area. Since implementation of fuel breaks has been rare to date within sagebrush ecosystems (DEIS, Section 3.1.2.5), we urge the BLM to begin creating these breaks along the most well-travelled and developed roads first before creating fuel breaks on more remote, primitive, two track roads.

According to the DEIS in section 3.5.2.5;

*"Effects would be greatest for these animals in sagebrush communities within the fuel break that are intersected by narrow two-track roads (approximately 10 feet wide), which would be manipulated (i.e., removal of roadbed vegetation plus mowing or seeding up to 200 feet on each side of the road). **Effects would be significantly lower along well-traveled roads** (e.g., paved or gravel) where there is existing fragmentation associated with road disturbance. Habitat fragmentation would negatively affect wildlife due to increased predation risk along corridors of replacement habitat or habitat edges (emphasis added)..."*

If fuel breaks are first constructed along well travelled routes and a system of monitoring is implemented immediately, lessons may be learned to help alleviate the negative costs associated with fuel breaks within the more remote and primitive areas of the planning area. Additionally, by improving the most well-travelled routes first, you will maximize the response time of fire resources throughout the planning area.

Once fuel break construction and associated vegetation removal, blading, and road maintenance begins on the more primitive routes throughout the planning area, access to these more remote regions will be

improved. These actions would have the effect of creating hard breaks in fuel continuity, and improve access for fire fighters, however as stated in the DEIS, Section 3.5.3.2:

“Where roads have not been regularly maintained, road maintenance has the potential to increase access to some remote areas within the project area. In these affected areas, this could result an increase in human presence, recreation, and motorized vehicles, particularly during the hunting season. Wildlife would be temporarily (flush response) or permanently (avoidance) displaced due to human or motorized disturbance (Knight and Gutzwiller 1995). Due to human presence, motorized vehicles, and disturbance, impacts from road maintenance on wildlife would vary with location, season, and type of road maintenance.”

The DEIS, in the same section, also anticipates a continued growth in nearby populations and an interest in the public recreating and visiting the planning area. Further, roads and vehicles serve as a vector for invasive plants (Christen and Matlack 2006). Local studies within Oregon suggest that medusahead rye transmission and spread is facilitated by roads and the associated vehicle travel (Davies et al. 2013). If road improvements occur, increased vehicle travel would likely cause an increase in the spread of medusahead rye and other invasive plant species.

Due to the likelihood of increased travel and disturbance caused by the improvement to these roads in these remote regions and the associated potential for the spread of invasive weeds and increased human caused wildfire ignitions, ORTWS urges that the BLM construct fuel breaks along already improved routes before implementation of the project throughout the region’s primitive routes. Additionally, ORTWS urges that the potential negative impacts described above be better incorporated into the monitoring and adaptive management plan anywhere fuel breaks and vegetation removal in the roadbed occurs. As one example, pre- and post-implementation monitoring of vehicle use of fuel break roads should be conducted; if an increase of vehicle traffic occurs, adaptive management actions such as weed monitoring, treatment, and enforcement and education regarding responsible motorized travel and the risks of human caused fires should be implemented.

Section 3.5 Wildlife/Special Status Species

A primary purpose of the DEIS is to reduce the occurrences of rangeland fires within the project area for the protection of sage-grouse habitat and other sagebrush obligate species. The DEIS recognizes potential impacts to sage-grouse and proposes design features to minimize these impacts (Appendix G). However, direct loss of habitat for sage-grouse and other species will occur under all the alternatives and cannot be avoided even through application of design features. The DEIS estimates that under alternative 2, 242 occupied or pending sage-grouse leks (91 percent) lie within 4 miles of the fuel breaks (Table 3.5-9), mostly in Oregon. The DEIS states that fuel break construction and maintenance may adversely affect the core areas of 181 leks or 68% of leks within the Sage-Grouse Analysis Area (SGAA). Yet, the DEIS goes on to say (section 3.5.2.6):

“Overall, Alternative 2 is not likely to affect sage-grouse populations because the potential effects on the amount of sage-grouse habitat is small compared to the amount of available habitat within 4 miles of occupied or pending leks within the SGAA, i.e. 2% of nesting habitat potentially affected. Furthermore, only 2% of all designated sage-grouse habitat in the SGAA would be affected under Alternative 2, including 2% of PHMA (Table 3.5-2), and the reduction of sagebrush landscape cover under Alternative 2 would be minimal.”

This is because under the analysis, the BLM is only considering the direct habitat loss that would occur 200 feet out from either side of a road where a fuel break is constructed. While compared to a potential wildfire this might be a small area of habitat loss, in localized areas impacts may be larger than portrayed in the DEIS, especially under Alternatives 2 and 3.

According to ODFW's analysis of this project, 3 active leks, would be directly mowed over in alternatives 2 and 3, and 28 additional occupied or pending leks occur within 0.5 miles of the proposed fuel breaks (Lee Foster, personal communication). This indicates that the fuel break network as proposed under Alternative 2 would have a disproportionate impact on certain sage-grouse populations in Oregon. Additionally, these routes are not arranged strategically to protect sage-grouse habitat. Following wildfire, sage-grouse lek attendance declines for both burned over leks, as well as for leks in close proximity to burned areas (<1.5 km; Steenvoorden et al. 2019). Sage-grouse hens also select for large blocks of unburned habitat during the breeding season following wildfire (Foster 2016). If fires are stopped at fuel breaks in close proximity to leks, it is likely that those leks will decline in population size in a similar manner to burnt-over leks. Thus, fuel breaks developed with a goal of protecting sage-grouse habitat should attempt to form blocks of protected habitat centered on lek sites where possible.

Conclusion

In conclusion, we strongly recommend that the BLM more closely involve state wildlife agencies - and other agencies and fire districts as needed – as cooperating partners from the beginning of the modeling/planning process for fuel break strategies, locations and implementation and monitoring as projects are begun. Fuel breaks should not compromise the ecological integrity of the ecosystem itself or specific habitats like migration corridors, critical winter range, sage grouse leks, or other important habitats identified by the state wildlife agency and the BLM. Indeed, Secretary's Zinke and Bernhardt have discussed and directed agencies within DOI to work more closely with the states and utilize their recommendations and we see a perfect opportunity to partner with the states on this DEIS finalization and implementation.

The ORTWS greatly appreciates you considering our perspectives and recommendations on this draft DEIS for fuel breaks within the Tri-State region. We look forward to continuing to work with the BLM and states on balancing fire management and ecological integrity of species and habitats in the Great Basin that maintains wildlife and the habitat they rely on.

Sincerely,

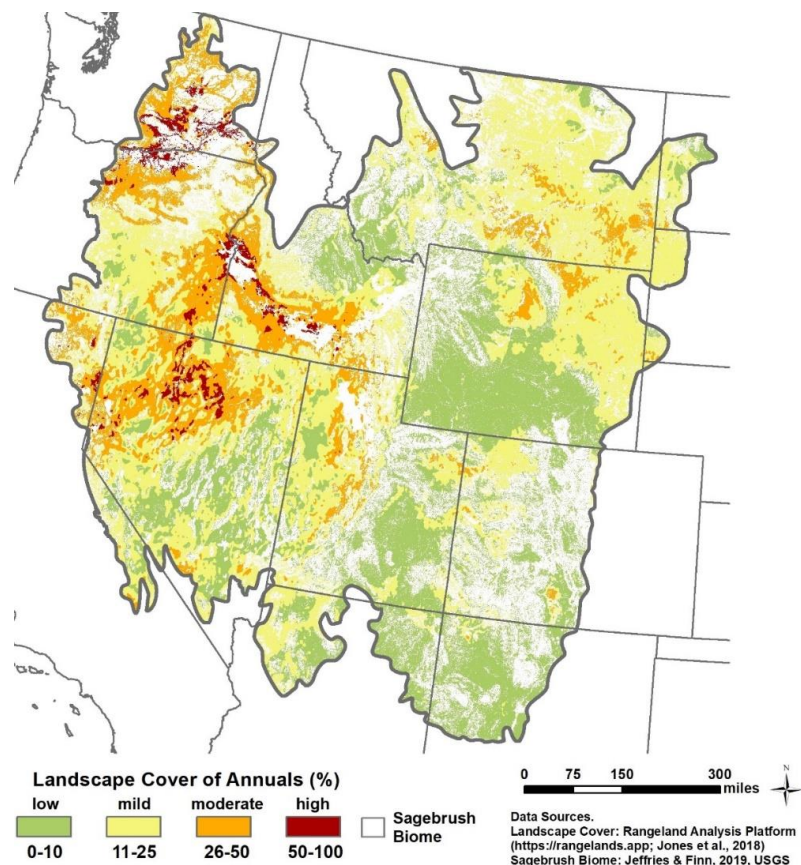


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Maps:



Annual Grasses and Forbs cover displayed here is the 3-year maximum from 2016-2018. The mean of a 300m x 300m moving window was calculated using the original 30m resolution data to produce landscape cover at 300m resolution.