



Oregon Natural Desert Association

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VIA EMAIL AND U.S. MAIL

Lindsay Davies  
Bureau of Land Management  
28910 Hwy 20 West  
Hines, OR 97738  
Lindsay\_Aschim@blm.gov

Re: Scoping Comments on Five Creeks Rangeland Restoration Project

Dear Ms. Davies:

Please accept these comments from the Oregon Natural Desert Association and Northwest Environmental Defense Center on the BLM's Five Creeks Rangeland Restoration Project Notice of Scoping (Dec. 21, 2005, 1792 OR-025).

The Oregon Natural Desert Association is a non-profit public interest organization whose mission is to protect, defend, and restore forever, the health of Oregon's native deserts. ONDA has a long history of interest and involvement in BLM activities with respect to wilderness, grazing, riparian areas, water quality, and fish and wildlife. The members and staff of ONDA use and enjoy the public lands and natural resources on Steens Mountain -- the northern end of which is included in the planning area -- for recreational, scientific, spiritual, educational, aesthetic, and other purposes. ONDA and its members also participate in information gathering and dissemination, education and public outreach, agency land use planning, and other activities relating to the BLM's management and administration of the public lands of eastern Oregon.

The Northwest Environmental Defense Center is a non-profit public interest organization whose mission is to protect the environment of the Pacific Northwest. NEDC has a long history of advocating for land protection and regularly participates in land planning, public commenting, litigation, and engages in outreach providing education about law and policy. The staff and members of NEDC use and enjoy public lands and natural resources on BLM land, including within and adjacent to the planning area, for recreational, scientific, spiritual, educational, aesthetic, and other purposes.

In general, the Oregon Natural Desert Association and Northwest Environmental Defense Center (collectively referred to hereafter as “ONDA”) are supportive of the project’s basic goals to encourage natural fire regimes, reduce hazardous fuel levels, and restore and/or increase system functionality, including improving water and soil nutrient retention and restoring shrub-steppe, aspen, and riparian plant and animal communities. There certainly are areas on Steens Mountain which would benefit from some degree of juniper removal. However, treatment of western juniper, particularly over the wide temporal and geographic scope of the proposed project, should be tempered by current scientific research on the issue. This would include paying close attention to the current and historic causes of juniper expansion. Land managers throughout the interior western United States often have relied heavily on assertions that the spread of western juniper reduces water infiltration, dries up springs and streams, increases erosion, reduces biodiversity, and reduces livestock and wildlife forage, in order to support large-scale juniper control on public and private lands. While it is clear that juniper woodlands have expanded greatly in the past century, including on Steens Mountain, it is not necessarily a foregone conclusion that these expansions are one-hundred percent undesirable. Studies of pinyon-juniper woodlands throughout the Southwest and the Great Basin have rejected similar assumptions about the ecological degradation of juniper expansion. See A.J. Belsky, “Western Juniper Expansion: Is It a Threat To Arid Northwestern Ecosystems?” 49 *J. Range Mgmt.* 53 (1996).

In June 2005 the Oregon State University Agriculture Experiment Station published a study entitled “Biology, Ecology, and Management of Western Juniper,” which acknowledges that “the impacts of... woodland expansion are not always clear or consistent across sites.” Miller *et al.* (2005), at 4. ONDA encourages the BLM to review this study and apply it to the Five Creeks project. It is available online at <http://eesc.orst.edu/agcomwebfile/edmat/html/tb/tb152/tb152.html>. It represents “a synthesis of what is know about the history, biology, ecology, and management of western juniper” and seeks to “dispel some of the myths, identify knowledge gaps, sort out some of the issues related to woodland expansion, and increase the overall understanding of western junipers’ place and function in the northern Great Basin.” *Id.* at 6. The study also provides clear guidance for defining management goals, setting management priorities, and developing management strategies related to western juniper. *Id.*, and at 54 and 57.

As an initial matter, ONDA believes the BLM should prepare an EIS for this project. As you know, the agency must prepare an EIS for all major federal actions that “may significantly affect the quality of the human environment.” 42 U.S.C. § 4332(2)(C). The BLM may first prepare an EA to determine whether the action may have significant environmental effects. 40 C.F.R. §§ 1501.4, 1508.9. The factors used to determine significance are “context” and “intensity” and include consideration of the uniqueness of the geographic area, public controversy, and the uncertainty of the project’s possible effects. 40 C.F.R. § 1508.27. Because the proposed Rangeland Restoration Project:

- (1) encompasses over 70,000 acres (approximately 26,000 acres of the Steen’s Mountain Cooperative Management and Protection Area (CMPA) and 34,500 acres of the Riddle Mountain and Kiger Herd Management Areas/Area of Critical Environmental Concern);
- (2) would be implemented over a five to ten year period;
- (3) includes broad-scale vegetative (and habitat) manipulation and treatment:

(4) and almost half of the project activity would take place within the Steens Mountain CMPA, which covers one of the most beloved areas of public land in all of Oregon, this certainly is the type of project that requires an EIS rather than an EA.

The EIS should begin with a detailed review of historic and current distributions of juniper within the planning area and beyond. This information should be viewed in relation to land use practices that have caused or contributed to the spread of juniper. The primary such land use obviously is domestic livestock grazing. See Miller *et al.* (2005), at 10. For example, if there are any places within the planning area where livestock no longer graze, there will no longer be a grazing-induced reduction of fine fuels that can carry natural fires. As a result, the natural fire regime should be permitted to return the area to a natural ecological state. As well, the BLM should pay close attention to identifying those areas—especially areas of old-growth juniper—that actually increase biodiversity by increasing the number and diversity of birds, mammals, reptiles, and insects that are dependent on juniper for berries, foliage, perches, thermal cover, and other woodland features. No old-growth juniper should be removed or otherwise treated. *Id.* at 41. The EIS therefore should provide a detailed map showing the approximate age structure of the juniper to be removed.

Related to this, the BLM should quantify the proposal by vegetation type. This is important in order to examine the effects of the proposed action and alternatives on different elements of the vegetative regime in these areas. For example, the Mountain big sagebrush along the edge (within a quarter mile or so) of aspen is critical habitat for deer and elk fawning/calving, and for Preble's shrew, sage thrashers, and many other wildlife species. These areas are often a top priority target for prescribed burning because they burn easily. Although these areas account for a small percentage of the acres potentially at issue in this project, the BLM should be leaving some of these areas because they are critical to wildlife. It is similarly important to quantify the proposal by woodland transitional state. "The state of woodland development directly affects plant community structure, composition, seed pools, wildlife habitat, and ecological processes including hydrologic and nutrient cycles." Miller *et al.* (2005), at 24.

The project should be explicit with respect to setting a goal of restoring native plant species in all areas where juniper is removed. As such, the BLM should carefully consider the possibilities for invasive species invasions following tree removal. While juniper removal would be expected to increase the productivity of understory shrubs and herbaceous plants, this increase may include undesirable weedy annuals and shrubs. Because of the key role livestock play in the spread of weeds, and because they may graze down desirable species so as to reduce their ability to compete with weeds, areas where juniper has been removed should be rested from all livestock grazing until they have fully recovered to native species plant communities. Current research suggests this may take as long as a decade or more and that the BLM's frequent decision to rest such areas for only two years is inadequate. See, e.g., U.S. Forest Serv., Restoring Western Ranges and Wildlands, RMRS-GTR-136, Vol. I at 194–198 (Sept 2004). It will be particularly important to isolate these processes at the outset of the project, in order to determine this specific landscape's response to juniper removal without the significant influence of livestock grazing. See, e.g., Belsky (1996), at 57.

Regarding seeding, ONDA would support a proposal to actively restore native species in areas that have been previously seeded to crested wheatgrass and other introduced forage species. However, the proposal should be clear in recognizing that restoration is meaningless without the attendant prevention of factors that caused the problem in the first place. Prevention is separate from detection, response, and restoration, and will be critical to developing a plan of action that will allow the permanent recovery of these lands. Healthy areas and recovered areas should be managed to: (1) prevent their conversion to weed-dominated communities, (2) prevent loss of biodiversity, (3) prevent changes in fire frequencies and intensities, and (4) prevent the conversion of grasslands to shrublands and of shrublands to woody thickets. The number one land use impacting the BLM's ability to recover these lands permanently, so that inevitable invasive plant species and juniper expansion are not simply temporarily delayed, is livestock grazing. In fact, domestic livestock are probably the major cause of weed invasions in the arid West. See A.J. Belsky & J.L. Gelbard, *Livestock Grazing and Weed Invasions in the Arid West*, Oregon Natural Desert Association (2000), available at <http://www.onda.org/library/papers/index.html>.

If management after restoration is not altered, the original problems will return. For example, if weeds have invaded an area because of disturbances to the soil by livestock, or if grasslands have been converted into shrublands because livestock had overgrazed the grasses necessary to carry fire between shrubs, then recovery activities will be a futile effort without the cessation of these activities. The weeds will simply re-invade and the shrubs and trees will return, no matter how much effort and money was spent originally to restore these lands. Pinyon-juniper control in the Southwest in the 1950s and 1960s is a case in point. After large amounts of money were spent to remove the trees from grasslands, they simply reestablished themselves once the original management activities resumed following a short period of protection. Grazing management must not be prescriptive, but flexible, and allowing for constant reassessment to achieve restoration goals. This requires that grazing be structured to permit both short *and* long term successional response. In the short term this means allowing existing plants to grow and set seed, an event which tends not to occur until two or three years after control has been implemented. Long-term considerations should be the germination and establishment of new desired individuals. Miller *et al.* (2005), at 50–51.

Because livestock grazing and trampling are the major causes of damage to upland and riparian plant communities and western ecosystems, and because they are also the major factors preventing the recovery of these systems, livestock must be drastically reduced in numbers or completely eliminated for the restoration of these lands. This reduction is necessary for the prevention or re-degradation of vegetative communities after costly restoration efforts. The evidence is undeniable that early grazing practices were highly destructive and that western public lands have improved since the abandonment of historic grazing practices. However, recent studies document that livestock grazing remains a key factor in the continued degradation of uplands. See A.J. Belsky *et al.*, "Survey of Livestock Influences on Stream and Riparian Ecosystems in the Western United States," 54 *J. Soil and Water Cons.* 419 (1999), available at <http://www.onda.org/library/papers/index.html>. There is no way these lands can be fully restored or recovered without significant changes, including removal, in livestock grazing management.

The scoping notice also identifies riparian vegetation and water quality as potential concerns. Again, the BLM should pay particular attention to the main causes of watershed degradation, especially grazing practices. The numerous ways livestock have damaged the morphology, geology, and ecology of streams are complex and interconnected. See Belsky (1999). The effectiveness of the elimination of livestock is evident inside every riparian enclosure in the West. Because the soil is moist, riparian enclosures are nearly immediately colonized by hydric and mesic species, stream bottoms begin to decrease in depth, stream bank incisions and morphology begin to recover towards normality, and water quality and quantify improve.<sup>1</sup> Although the studies cited in Belsky (1999) often lack adequate replication and statistical design, the replication represented by plant regrowth and hydrological changes in literally hundreds of enclosures throughout the United States gives power to the data.

In addition, disturbances to soils should be minimized. Disturbed soils act as natural seedbeds that are vulnerable to exotic plant invasions. A major cause of such disturbance is livestock trampling, which disturbs the soil and microbiotic crusts. Livestock graze selectively on native species, leaving the less palatable, introduced weed species behind. They also weaken native plants by compacting soil, and enhance weed growth by creating nitrogen hotspots with their dung and urine. Livestock enhance weed growth in so many ways that it is difficult to prevent weed invasion and rapid weed growth in the presence of livestock. As indicated above, areas where soils have been disturbed (such as after juniper removal by mechanical means) should be closed to livestock grazing until native vegetation has been fully reestablished and the soils have been fully restabilized.

Please also consider in the EIS whether such extensive juniper removal is consistent with the Steens Act's establishment of the Wildland Juniper Management Area (WJMA). The purpose of the WJMA is for "experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and native vegetation communities on Steens Mountain." 16 U.S.C. § 460nnn-91(b). Therefore, there is some question whether such extensive juniper treatment would be consistent with the Act under alternatives that propose that treatment outside of the WJMA. Why is the type of extensive treatment under consideration in this proposal not first proposed solely within the WJMA? Unless there are ecological reasons for doing otherwise, such as the preservation of aspen clones or to otherwise preserve wilderness values, juniper control should be limited in wilderness areas, Wilderness Study Areas (WSAs), and proposed WSAs until the BLM has developed appropriate ecological criteria and treatment protocols as envisioned in the WJMA.

As well, please be sure to discuss fully effects to sage grouse populations and habitat within the project area. This includes providing detailed maps of sage grouse lek locations and

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<sup>1</sup> See Belsky *et al.* (1999), for nearly 200 references showing the effects of livestock on western streams and riparian zones. See also Jay E. Anderson & Richard S. Inouye, Landscape-Scale Changes in Plant Species Abundance and Biodiversity of a Sagebrush Steppe Over 45 Years, 71 *Ecol. Monographs* 531 (2001) (documenting recovery of native vegetation on a large non-grazed tract of land, and refuting state-and-transition model opinions that shrub-dominated high desert habitats are stable over the long-term and would not recover following removal of livestock, and instead finding that perennial grasses increased significantly over a 45-year period and that adequate native species cover can make semiarid vegetative communities more resistant to exotic species invasion).

sage grouse habitat. The proposed action must be consistent with the BLM's Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines (hereinafter "Guidelines"). For example, the Guidelines indicate that with respect to vegetation treatment: vegetative manipulations should benefit the long-term health of sage grouse habitat; the BLM should avoid treatments in areas highly susceptible to cheatgrass or other exotic species invasion; restoration should involve reseeding to native vegetation that will recover ecological processes and habitat features; and the BLM should avoid using prescribed fire in Wyoming big sagebrush and lower-elevation basin big sagebrush unless such treatments are highly likely to improve sage grouse habitat.

Finally, it is critically important to ONDA that the EIS present and analyze the effects of the proposed action on wilderness values. This discussion should include effects on the proposed WSA additions recommended in ONDA's September 2002 wilderness inventory report and recommendations to the BLM. From the initial maps provided, it appears that the project would impact a significant percentage of the Riddle Creek Headwaters Proposed WSA, which lies west of and directly adjacent to the Lower Stonehouse WSA. Because the BLM recently declined to analyze these wilderness values at the RMP level of land use planning, the only remaining place to address these issues is in the context of site- or project-specific analyses such as this. Therefore, the EIS should present and discuss the significant wilderness values documented in detail in the wilderness inventory reports and consider whether any aspect of the proposed action would impact wilderness values or these areas' ability to be designated as wilderness in the future. The EIS should also include detailed maps showing the locations of the ONDA-inventoried areas, as compared to the project proposal areas, current WSAs and wilderness areas and other similarly important information.

Thank you for considering our comments. Please add both our groups to the mailing list and send us any further planning documents. For ONDA, please add both our Portland office (address below) and our Bend office (16 NW Kansas, Bend OR 97701). If you have any questions regarding these comments, please feel free to contact us.

Sincerely,

s/ Kristin Ruether  
Oregon Natural Desert Association  
917 SW Oak Street, Suite 409  
Portland, OR 97205  
503-525-0193

s/ Joanna Wagner and Dave Theriault  
Northwest Environmental Defense Center  
10015 SW Terwilliger Blvd.  
Portland, OR 97219

## LITERATURE CITED

Jay E. Anderson & Richard S. Inouye, Landscape-Scale Changes in Plant Species Abundance and Biodiversity of a Sagebrush Steppe Over 45 Years, 71 Ecol. Monographs 531 (2001)

A.J. Belsky, Western Juniper Expansion: Is It a Threat To Arid Northwestern Ecosystems?, 49 J. Range Mgmt. 53 (1996), available at <http://www.onda.org/library/papers/index.html>

A.J. Belsky & J.L. Gelbard, Livestock Grazing and Weed Invasions in the Arid West, Oregon Natural Desert Association (2000), available at <http://www.onda.org/library/papers/index.html>

Richard F. Miller, Jon D. Bates, Tony J. Svejcar, Fred B. Pierson, and Lee E. Eddleman, Biology, Ecology, and Management of Western Juniper, OSU Technical Bulletin 152 (2005), available at <http://eesc.orst.edu/agcomwebfile/edmat/html/tb/tb152/tb152.html>