

Collaborative Restoration to Benefit Native Species in the Owyhee Canyonlands

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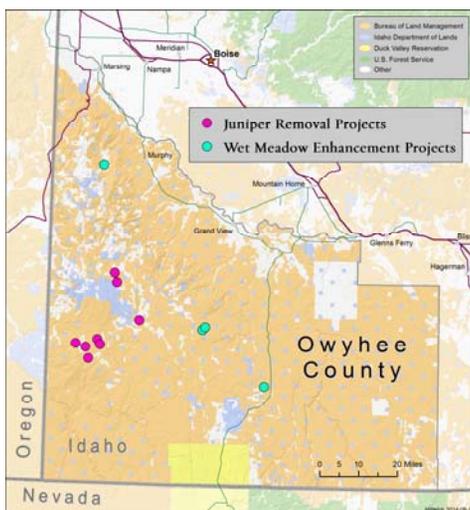
Western juniper encroaching on the Josephine Ranch.

Motivation

Habitat loss and fragmentation are the leading threats to the Greater Sage-grouse. Conifer encroachment in sagebrush communities reduces both plant diversity and cover, and degrades habitat for many wildlife species including sage-grouse.

The rugged and remote Owyhee Canyonlands of southwest Idaho provide critical habitat for sage-grouse. The expansion of western juniper (*Juniperus occidentalis*) has diminished important sage-grouse breeding, nesting, and brood-rearing habitat. Besides impoverishing local plant communities, juniper trees provide perches for avian predators and as a result sage-grouse abandon encroached areas.

Using low-impact methods to remove encroaching juniper trees, we can restore native plant communities and improve wildlife habitat (Baruch-Mordo et al. 2013). We can also take direct actions to enhance rare wet meadows, which are key sage-grouse brood-rearing habitat.



Owyhee Sage-Grouse Working Group with participating ranchers.



"Overhead" masticator in action.

Actions

The Nature Conservancy and partners use a variety of approaches to restore and enhance sagebrush communities in Idaho.

The Conservancy collaborates with local ranchers, land management agencies, the Owyhee Sage-grouse Working Group, and other partners to control western juniper on both private lands and lands managed by the Idaho Department of Lands. Since 2009, we have completed projects on eight ranches (refer to map). These projects have focused on improving nesting and brood-rearing areas near sage-grouse leks ("courtship areas").

To minimize soil disturbance and impacts on shrubs, individual trees were masticated ("ground up") using low-impact mechanical techniques. Small trees were removed using a roller-drum masticator and larger trees with an overhead masticator (photo above).

Removing trees increases the availability of water for native shrubs, grasses, and forbs, and recovery of these plants can be rapid and striking. Also, we enhanced wet meadow habitat by constructing low-profile berms to reduce soil erosion and increase lateral movement of water (photo below), and installed fences to better manage livestock grazing. We have completed meadow-enhancement projects on four ranches (refer to map).



Low-profile berm construction along Jack's Creek (2013).



Wet meadows along Jack's Creek 1 year after enhancements (2013).



Greater Sage-grouse hen.

Next Steps

In the Owyhee Canyonlands, we and others have used aerial imagery, remote-sensing tools, and sage-grouse field observations to identify and prioritize areas for future western juniper removal and wet meadow enhancement.

Juniper removal projects are currently planned for lands managed by the Idaho Department of Lands and the Bureau of Land Management, in addition to private lands.

Thinning dense stands of western juniper can reduce the risk and intensity of large wildfires, which also threaten sage-grouse habitat, and improve recovery of sagebrush communities following fire.

The Nature Conservancy is committed to the protection and enhancement of sagebrush communities in Idaho.



Foreground: Recent juniper mastication. Background: Encroaching juniper.



Native plant community 1 year after treatment.



Native plant community 2 years after treatment.



Removal of encroaching trees leaves more water for other native species.

Literature Cited: Baruch-Mordo, S., et al. 2013. Saving sage-grouse from the tree: A proactive solution to reducing a key threat to a candidate species. *Biological Conservation* 167: 233-241.

