

Effects of long-term exclosures on riparian vegetation composition

The Situation

Lemhi County is home to 9,064 miles of streams and rivers. They are considered critical habitat for Chinook salmon and steelhead. It has become common practice to fence livestock out of riparian areas to protect the area from the impact of grazing. There are 30 miles of riparian exclosures as a result of projects completed by Upper Salmon Basin Watershed Program within the Lemhi watershed. This does not include exclosure projects from Idaho Department of Fish and Game, United State Forest Service or Bureau of Land Management. Some of these exclosures have been in for over 15 years.

Ranchers in Lemhi County have been pro-active in protecting habitat and improving riparian areas since 1992 when the Lemhi River, Pahsimeroi River and East Fork of the Salmon River were designated as critical habitat. Funding agencies for habitat improvement have dictated that a minimum set-back for riparian fencing projects on streams and rivers would average 35 feet from the average high water mark. In some cases this has created long narrow corridors along the waterways that have had little or no management practices since the exclosure fence was erected. The question was asked repeatedly if the exclosures were meeting the goal of improved vegetation.

Our Response

During the summer of 2012, we did a study to examine the vegetation behind nineteen exclosure fences in Lemhi County, Idaho. Sites were selected based on exclosure age and land manager cooperation. Exclosure age classes of young (0-4 years exclusion), medium (6-12 years exclusion), and old (15+ years) were identified, and locations with more than one age class located on a single creek were favored for better trend detection. Each exclosure or riparian pasture



Kenny Creek, particularly within this 8-year-old exclosure, is heavily infested with common tansy and Canada thistle.

contained 7 transects extending between the channel and the exclosure fence perpendicular to the channel. Data taken included photo points, densitometer reading, Daubenmire cover class readings, point intercept, and belt transect reading.

Program Outcomes

No differences in cover or shrub density were observed over time of the grazing exclusion. Trends were seen among individual creeks, but these trends were not consistent across the study despite similarities in plant communities.

Overhead cover was not influenced by how long grazing had been excluded from the area. Shrub density, woody species cover, woody debris cover and total herbaceous cover were less affected by time of grazing exclusion.

Site observation suggested that weed cover, which included common and noxious weeds, was higher in

medium-aged exclosures than either young or old exclosures. It is also unclear how much exclosures were impacted by site health before livestock exclusion occurred. Although grazing exclosures may be used as a tool for successful recovery in these systems, we see no absolute superiority of grazing exclusion over grazing in the long term, depending on management objectives. Long-term monitoring of exclosures, with grazed control areas, would help establish truer relationships. More work should also be done to help determine what changes in vegetation characteristics occur in systems with less overhead cover and which more rapidly transition into upland vegetation.

FOR MORE INFORMATION

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