Grazing in Riparian Areas

UNION COUNTY ASSESSMENT

Riparian areas in the Western United States make up less than 2 percent of the landscape, but they are as vital to the ecosystem as blood vessels are to humans. A riparian area is the region bordering a creek or river that is influenced by water.

And with ever increasing concerns about water quality and fish habitat, society has focused its attention on the management of riparian areas. In Oregon, the Ag Water Quality Management Act has put even more emphasis on riparian area management.

In response to the water quality and fisheries concerns, federal and private land managers have instituted a series of management changes to protect these critical areas. These practices include exclusion fencing, creation of riparian pastures as part of a rotational grazing system, off-stream water and various other activities.

The objective of this assessment was to measure vegetation in a number of areas that have experienced management changes. Some of the changes have just been put in place while others were begun up to 20 years ago. With this information we hope to help guide the future decisions of land managers toward the best management options.

McCoy Creek, Spring 2004.

SITES ASSESSED

Chicken Creek

We assessed an area on the lower end of Chicken Creek right before it enters Vey Meadow and joins the Grande Ronde River. The area is a flat open meadow with conifer trees scattered through it. In the early 1990s the meadow was fenced and cattle were excluded for six years. For the last three years cattle have grazed the upper and lower portions of the meadow, but the center portion is still excluded from livestock. We assessed the vegetation above and below the exclusion area and in the exclusion itself.

Sheep Creek/ Squaw Creek

We assessed an open meadow about midway down the length of Sheep Creek near the U.S. Forest Service boundary. Cattle have been excluded from this area for about 15 years. We could not locate a grazed area available to us on Sheep Creek. Therefore we assessed nearby Squaw Creek. This creek runs through small open meadows that are interrupted by thick stands of conifer forest. We focused our measurements on the open meadow areas where cattle had access to the riparian area.

McCoy Creek

McCoy Creek is the largest of the creeks we studied in Union County. It is also different in that the Forest Service erected a 12-foot high fence to exclude both cattle and elk from grazing an open meadow where the creek runs through. This was installed about 10 years ago. Just below the high fence is an area where both cattle and elk graze.

Key Findings

- We could detect only minor differences among the un-grazed and well managed grazed areas at all the sites we studied.
- The meadows we assessed consist mostly of a Nebraska sedge plant community type.
- Even with complete exclusion of all grazing, shrubs are slow to re-establish along these creeks.
- Each creek is unique and management decisions should be made on a case-by-case basis.

Methods

We selected a spot along the creek at random or where there was a significant change in topography or management. We then recorded the vegetation community in a three-foot wide swath along the stream bank for approximately 300 feet. With this information, we could calculate the percentage each plant community type occupied in that particular riparian reach. We measured at least two plots in each management unit.

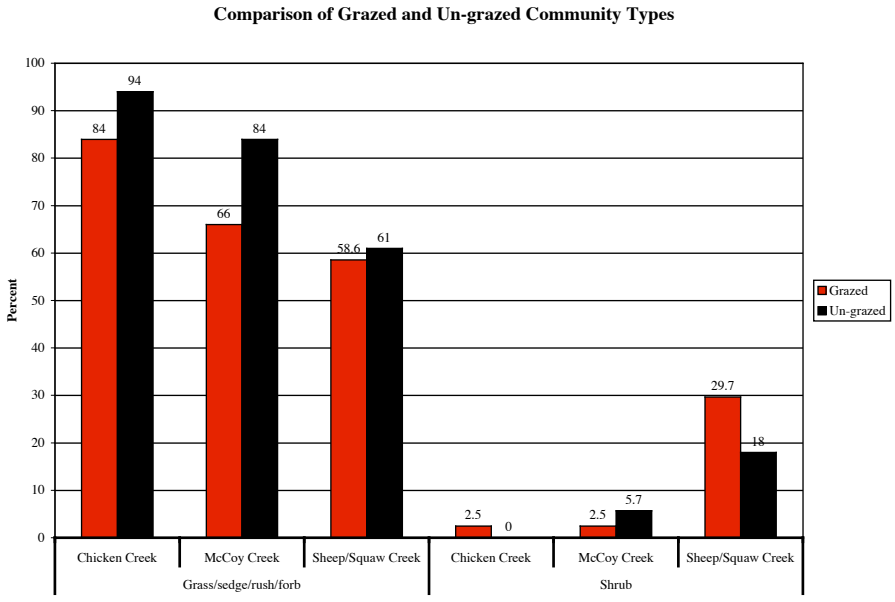
Results

The vegetation communities we sampled are relatively simple. A grass/sedge/rush/forbs community occupied the vast majority of the riparian zone in both the grazed and un-grazed areas. This may be typical of meadows in this region. Scientists have developed plant associations for wetlands and creeks in this region. They identify a Nebraska sedge community type that fits these meadows well. They found this to be a widespread community type.

Because the McCoy Creek exclusion kept both elk and cattle out it gives us an opportunity to compare this situation to ones where only cattle have been excluded, Sheep and Chicken Creek for example.

Perhaps the most notable difference among the three areas was in the shrub component. We recorded none in the Chicken Creek exclusion, 2.7 percent in McCoy Creek and 18 percent in the Sheep Creek exclusion.

Elk are having an impact on willows and other shrubs in the Chicken Creek area. Elk sign was most readily apparent in the exclusion area. Elk have access to the Sheep Creek exclusion, but apparently they are not using the area to a great extent at this time. Shrubs are slowly establishing in the McCoy Creek exclusion. Soil type may be the key factor slowing shrub establishment here.



The un-grazed section along Chicken Creek is the most recently installed, followed by McCoy Creek and then Sheep Creek. The fence along McCoy Creek excluded both cattle and elk.