Rangeland Can Improve With Grazing

Degraded rangeland can recover just as quickly with managed, moderate grazing as with no grazing at all.

That's the conclusion of a study spanning 50 years in the sagebrush steppe of eastern Oregon. Sagebrush and bunchgrasses dominate this type of rangeland, which covers over 100 million acres in nine western states.

"There's a perception that grazing is bad, but it's just not that simple," says ARS rangeland scientist Tony Svejcar. He works at the Eastern Oregon Agricultural Research Center in Burns, which is operated jointly by ARS and Oregon State University.

"Grazing can have negative effects if unmanaged, but it can also be environmentally compatible," Svejcar says. "Before the experimental range was established in the 1930's, grazing was an unrestricted free-for-all. Wild horses, cattle, and sheep had damaged most of the vegetation. Sagebrush, Sandberg's bluegrass, and larkspur were the main plants hanging in there."

The study compared thirteen 5-acre research plots, set aside in 1936 to exclude grazing, with surrounding rangeland.

In 1991 and 1993, Svejcar and university colleagues repeated vegetation measurements that had been taken initially in 1936. Both grazed and ungrazed areas in the later measurements supported dozens of shrubs, grasses, and wildflowers. In the 1990's, they also compared soil conditions in the grazed and ungrazed plots.

"In grazed areas, the plants are smaller, but there are more of them," says Svejcar. "In ungrazed plots, there are fewer, larger plants, and the soil is not broken up as much. But both areas seem to be healthy, functioning rangeland," he says.

Two measures of rangeland health are the abundance of plant cover, which protects the soil from wind and water erosion, and the species of plants on a particular site.

More significant than grazing was the year-to-year effect of weather. In 1991, the area received only 9.6 inches of rain and snow, while 1993 had 21.1 inches—a 50-year high. About one-third more annual grasses and flowers grew in both grazed and ungrazed areas in the wet year than in the drought year.

Svejcar says that because most of the sagebrush steppe was grazed early in the century, the researchers don't have pristine rangeland to compare to the experimental plots.

But he says the current health of the area implies that it is also in good condition for wildlife. There are slightly more little wildflowers and other forbs in grazed areas than in ungrazed areas. These plants are important to ground-nesting sage grouse and other wildlife, Svejcar says.—By **Kathryn Barry Stelljes**, ARS.

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Tony Svejcar is in the USDA-ARS Sustainable Management of Great Basin Rangelands Unit, Eastern Oregon Agricultural Research Center, HC 71, 4.51 Hwy. 205, Burns, OR 97720; phone (503) 573-2064, fax (503) 573-3042. ◆

BRIAN PRECHTEL

Over 58 years ago, scientists fenced off thirteen 5-acre exclosure areas on what is now called the Northern Great Basin Experimental Range. Grazing has been barred ever since in the exclosure to the right of the fence but allowed on the range at left. The cover and plant composition are similar on both sides, except the green patch at right center is an annual that does well in wet years. The 65 to 70 percent of bare ground is typical of this cold desert environment. (K5978-13)