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Scientists: Livestock damage Cascade-Siskiyou monument

By Paul Fattig

Cattle should be permanently retired from grazing on the Cascade-Siskiyou National Monument, according to a study conducted by a team of 10 scientists hired by an environmental group.

The researchers, who studied the impact of grazing on the monument for spring through fall from 2003 to 2006, found that it harms riparian areas, promotes noxious weed invasion, disrupts predator-prey dynamics and alters the soil.

The findings were presented late Monday afternoon to the U.S. Bureau of Land Management, which manages the 52,947-acre monument located where the Cascade and Siskiyou mountains intertwine east of Ashland. The conclusions came from scientists hired by the Ashland-based National Center for Conservation Science & Policy. The scientists studied the monument spring through fall from 2003 through 2006.

The research was done in collaboration with the BLM whose own grazing research is expected to be released this fall.

"We're incorporating their findings with all the information we received that's pertinent to evaluating rangeland health and whether grazing is compatible with the proclamation," said John Gerritsma, Ashland Resource Area manager for the BLM's Medford District.

Under the presidential proclamation when the monument was created in 2000, the agency is required to protect "objects of biological interest." The monument was the first in the nation created solely on the basis of its rich biodiversity.

The proclamation also directed the BLM to retire the grazing allotments "should grazing be found incompatible with protecting the objects of biological interest."

The science work was done in a both independent and transparent manner, stressed researcher John Alexander, executive director for the Klamath Bird Observatory who monitored birds in the monument.

"If you do science right and bring anybody to the table who is interested in the science end of things, then the science will be able to best inform any decision that is made," he said during a tour of the monument Monday morning.

The researchers worked with the BLM as well as scientists at Oregon State University to come up with appropriate study designs, he noted.

The diversity of the monument can be seen in the fact it has at least 114 species of butterflies, representing more than two-thirds of all the butterflies found in Oregon, observed researcher Erik Runquist, a doctoral candidate in ecology at the University of California-Davis.

His three-year study concluded there are fewer butterfly species in areas heavily grazed by cattle.

Fellow researcher Aaron Johnston, who recently completed his master of science degree at Oregon State University, also found that heavy grazing in the areas studied reduced the number of small mammals found there.

"There were significantly fewer small mammals in heavily grazed oak woodlands," he concluded.

The ill effects of grazing

The following are some of the key findings reached by scientists studying the impact of livestock grazing on the Cascade-Siskiyou National Monument:

- Mixed conifers, oak woodlands, small springs and riparian areas showed signs of livestock damage, including soil compaction, reduction of streamside vegetation, increased delivery of sediment to streams, elevated temperatures and reduced dissolved oxygen levels in springs.
- Small mammals showed the greatest losses from grazing with 38 percent lower cumulative biomass (total weight) and 20 percent lower abundance in heavily grazed areas. Livestock related losses were greatest to harvest mice, woodrats and long-tailed voles.
- Livestock grazing may have negative effects on predator-prey dynamics by reducing abundance of small mammals that are important prey of the threatened northern spotted owl in southwest Oregon, particularly woodrats and deer mice.
- Bird communities in heavily grazed areas had fewer long-distance migrants, foliage gleaners and shrub-nesting species but higher numbers of ground nesters.
- Small springs used heavily by livestock had significantly higher temperatures and lower dissolved oxygen concentrations.

But not all the research was bad for livestock grazing. For instance, Brian Barr, an aquatics scientist with the center who studied seeps and springs within the monument, found that springs snails were not affected by cattle grazing.

But the preponderance of the research concluded a negative impact, estimated Dominick DellaSala, research project manager and the center's executive director.

"The minuses outweigh the pluses," he said.

If the agency doesn't retire grazing on the monument and decides to modify grazing by protecting sensitive areas, the center estimates it would cost at least $4 million over a 10-year-period to build and maintain some 148 miles of fencing needed, he said.

That $4 million is in comparison to the $3,664 the agency now receives annually from grazing on the monument and slightly more than $36,000 it could expect to receive in a decade, he said.

"That's a pretty expensive slice of beef," DellaSala said.

The estimated public cost of buying out the ranchers with grazing allotments on the monuments is about $814,200, he said. Ranchers have also supported the buyout effort.

While he appreciates the research, Dave Willis, chairman of the Soda Mountain Wilderness Council which seeks to create a wilderness within the monument, said it doesn't require a scientist to determine that cattle grazing is detrimental to the monument.

"How could hundreds and hundreds of introduced exotic species over the years, each weighing half a ton, help sustain natural ecosystem dynamics?" he asked, adding, "I'm not sure it takes million of dollars for a scientific study and dozens of Ph.D.s to figure this out."