



Native juniper trees encroach on Steens Mountain rangeland, a result of reduced fire frequency, past land use practices, and ideal climatic conditions. (K5408-1)

Harmonizing Rangeland Interests

Technology transfer brings foes together.

As he worked on his latest journal article at the Eastern Oregon Agricultural Research Center in Burns, ARS range scientist Tony Svejcar was frustrated. "I didn't feel satisfied just doing the research and publishing it in a scientific journal. If it wasn't used out on the land, it didn't seem that meaningful," he says.

An unlikely meeting of ranchers, environmentalists, and U.S. Bureau of Land Management (BLM) range conservationists held at the Burns Credit Union in the summer of 1991 solved his problem—and theirs.

At the meeting, they formed the Malheur Lakes Basin Working Group, or MLBWG. A small but growing number of such groups, comprising ranchers and environmental group members tired of meeting in court, is sprouting up around the West.

The argument was over 500,000 acres of public and private land on the north side of Steens Mountain, about 60 miles south of Burns. The mountain supports cattle and a wide variety of wildlife, including bighorn sheep, pronghorn antelope, and sage grouse.

Environmental groups were calling for a national park designation excluding cattle, which would put dozens of ranching families out of business.

Both groups realized the land could be improved—understory grasses used by wildlife and cattle for forage were becoming sparse, and soil was eroding from hillsides. But neither group had facts pinpointing the cause, so they asked Svejcar to bring his scientific perspective to the 12-person MLBWG steering committee. The committee represents hundreds of Oregonians inter-

ested in the fate of the mountain, some from as far away as Portland.

One of the major problems turned out to be a natural resident—juniper—growing amok. Oregon State University range scientist Rick Miller, who also works at the ARS/OSU center, was already studying juniper when Svejcar arrived at Burns in 1990.

Miller's research indicates that before settlement, there were only one or two juniper trees per acre. Miller says ideal climate conditions, overgrazing in the early 1900's, and a decline in fire frequency altered the natural balance. Today, 1 acre can contain between 200 and 8,000 juniper seedlings.

Svejcar and Miller believed that the juniper trees were sucking up the available water and nutrients. "Juniper holds its foliage, while the grasses have to regrow leaves every year. As soon as

the soil temperatures get high enough, the juniper starts extracting moisture. Because it uses the moisture before a lot of other species can, juniper creates a drought at the site for everything else," Svejcar says.

To test their theory, they set up eight 2-acre test plots on the mountain, on land provided by rancher Fred Otley. They cut down all the juniper in half of each plot; the other halves were left alone. In the first year, 1992, the cut plots produced twice as much grass as the uncut plots.

In 1993, the end of a 5-year drought brought plentiful rainfall and the difference between the plots was even more dramatic. While uncut plots yielded 30 to 40 pounds of forage per acre, cut plots produced 300 pounds per acre. Grasses, such as basin wild rye, that

reached only 3 inches on the uncut plots towered over Svejcar's head on the cut plots.

Cal Brantley, who represents the Oregon Native Plant Society in the MLBWG, says that before the research, most environmentalists didn't believe that juniper was a problem. But when the scientists brought the steering committee members up to the test plots, the committee was convinced. "Everybody at the meeting, including me, stood there looking in awe," he says.

Creating a Vision

Once the group agreed on the problem, the next step was to develop a vision of what they wanted Steens Mountain to look like. "If you don't know what you want to see, you can't design a plan to get there," Svejcar

A Working Vision for Steens Mountain

"We seek to: 1) sustain a stable community which has a healthy, diverse economy that supports a sound infrastructure; 2) develop an atmosphere of respect that fosters open and informative dialogue and trust; and 3) maintain and perpetuate the cultural aspect of rural agriculture, as well as aesthetic values of natural and altered environments."

"We seek to blend environmental and economic needs in a fashion that allows for: clean water, clean air, fish and wildlife, diverse recreational opportunities, profit from livestock ranching and community business, and an aesthetically pleasing environment."—**Malheur Lakes Basin Working Group**, Burns, Oregon.

MICHAEL THOMPSON



ARS range scientist Tony Svejcar (right), Oregon State University range ecologist Rick Miller, and a Steens Mountain working group visit a test plot where juniper trees were cut to encourage growth of forage plants. (K5409-1)

MICHAEL THOMPSON



Controlled burning will restore forage plants squeezed out by juniper invasion. (K5411-1)

says. Because group members view Svejcar as unbiased, he often serves more than just a scientific role in the group. After the group agreed on basic principles, Svejcar compiled the vision statement. He also served as a liaison to local landowners.

The group turned to BLM, the agency with jurisdiction over public land on the mountain, to convert their vision to a management strategy. This, too, was an uneasy alliance. Neither the ranchers nor the environmentalists trusted the BLM to come up with an acceptable plan and stick to it.

Svejcar says that BLM range conservationists transferred between BLM offices frequently, making it difficult to follow through with management plans. BLM natural resource specialist Mark Sherbourne says the transfer policy was designed to spread the expertise among offices, but now they try to stay in one place longer, for management consistency.

The other problem dogging the BLM was accountability. "The law requires a lot of planning on the front end, in the form of environmental assessments, but it demands no follow-up on the back end," Svejcar says. "Most

MICHAEL THOMPSON



Two years after juniper cuttings, Tony Svejcar inspects regrowth of tall basin wild rye in a Steens Mountain test plot. (K5410-1)

agencies have money to go out and do projects but not to monitor what they've done to see if it was the right thing or not." Svejcar and OSU researchers will provide that accountability for the juniper project on Steens Mountain. Next summer, BLM, the

Nature Conservancy, and the Burns research center will hire college students to sample and monitor several juniper management treatments designed by the researchers, such as cutting and prescribed burning.

Control plots will be monitored along with the treated areas to measure the success of the program.

An Unexpected Direction

When Svejcar started his ARS career in 1983, he expected to lead the lonely life of a field researcher. "I assumed we were just going to do straight research, and I didn't know how important sharing information—technology transfer—was going to become," he says. "But from a personal standpoint, it's much more satisfying to see the results of your research applied than to just assume that someday somebody's going to use it."

Svejcar says other ARS researchers in fields ranging from range science to genetic engineering would also have things to offer working groups. "It's our responsibility to take the scientific information and synthesize it in a way that can be applied. There are also indirect benefits that we can't easily quantify," Svejcar says, such as increasing public knowledge about environmental benefits from ARS research.

While the process has its critics, those involved believe it can change both the land and the people who live on it. Brantley, of the Native Plant Society, recalls that one rancher wouldn't let him onto his land. "He thought the only thing we were interested in was shutting him down. Now he's joined the society and he's one of my best friends."—By **Kathryn Barry Stelljes**, ARS.

Tony Svejcar is at the USDA-ARS Range and Meadow Forage Management Research Laboratory, Star Rte. 1, 4.51 Hwy. 205, Burns, OR 97720; phone (503) 573-2064, fax (503) 573-3042. ♦