

Public - Private Partnership

Ranchers Improve Biodiversity on Public Land

Byrne Brothers Ranch

Mike Byrne and Dan Byrne - Tulelake



Brothers, Mike and Dan

In Northeastern California, two brothers' cattle ranching operation has influence over the health and vigor of over 100,000 acres of public and private lands. The ranch is headquartered outside of Tulelake in Modoc County, a place where cattle actually outnumber people. Mike and the late Dan Byrne's cattle graze on private irrigated pastures and meadows, along with public land sagebrush at low elevations and Western Juniper uplands. The public lands are managed in close conjunction with private lands to enhance the vegetative community across the entire landscape.

Historically, ranch management was an 11-month cattle herding cycle within a 50-mile radius of public lands, with one month spent on the ranch headquarters on private lands. In the 1950s, the ranch was fenced into several pastures, a very progressive feat for the time. These pastures allowed for the creation of a rotational grazing system.

In the late 1980s, Mike and Dan began working with the U.S. Forest Service to enhance the rotational grazing system, increasing the number of pastures to mimic historic herding regimes. Through the implementation of an enhanced rotational grazing system, the Byrnes, like a number of other California ranchers, have witnessed a positive change in weaning weights and production while providing better management for natural forage.

To improve their grazing management on Forest Service allotments, they have also developed 10 solar wells in uplands, providing reliable off-stream watering for livestock and wildlife. Installation of the wells and

watering troughs has also led to better distribution of livestock and removed grazing pressure on streams and riparian areas.

The Byrnes' conservation practices have also improved water quality by increasing vegetation in riparian zones, which has resulted in sediment entrapment. The enhanced riparian vegetation also shades stream courses, resulting in cooler water temperatures that are beneficial to fisheries.

The biggest effort the Byrne family is undertaking today to improve western rangelands is control of juniper

trees. This invasive tree can grow up to 80 feet tall, crowding out understory plants such as bitterbrush and bluebunch wheatgrass that provide forage for wildlife and cattle. Juniper trees also can lead to erosion, fuel catastrophic fires and consume vast quantities of water on the arid landscape. Some studies have shown that a single juniper tree can consume 30 gallons of water in a single day; other research suggests that this figure is closer to 150 gallons.

Over the past five years, the Byrnes have removed juniper trees on more than 3,000 acres. Removal of trees is localized to promote wildlife migration. This project has been made possible, and deemed a success, due to cost-share funding from the Natural Resources Conservation Service (NRCS) Environmental Quality Incentives Program and Wildlife Habitat Incentives Program.

"There is nothing that makes me happier than seeing the positive impacts from thinning juniper trees," stated Dan. "By removing them, we are increasing our range productivity to benefit our operation and wildlife, such as the deer herds that thrive on the bitterbrush."

Tree selection is key. Junipers located in rock outcropping are left for wildlife habitat, because they likely would not historically have burned by natural occurrence. Once juniper trees are removed, the Byrnes work with range specialists to ensure there is adequate understory vegetation and soil depth to respond to such treatment.

Attention to detail, passion for conservation and a cooperative attitude to work with agency personnel to meet management objectives on public land have contributed to continued grazing by Byrnes on the U.S. Fish and Wildlife Service (USFWS) Clear Lake National Wildlife Refuge. On the refuge, cattle are used as a tool to meet the management goals of the publically-owned land. This refuge is an active breeding habitat for sage grouse, and the management of the land and cattle support the species by promoting preferred habitat that is dominated by sagebrush and a diverse understory of bunchgrasses and forbs.

"Biologists know what they want, and we are able to help them reach that outcome," states Mike. "We work closely with agency

**Attention to detail,
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Sage Grouse



RIGHT: Cattle grazing irrigated pasture.

LEFT: Cow standing next to an invasive juniper tree and sage brush.

employees to meet their objectives.”

On private land, the brothers have undertaken numerous projects in cooperation with the USFWS Partners for Fish and Wildlife Program. Together, they have treated hundreds of acres of juniper-infested lands to promote revegetation with native plants. Wetlands fed by natural streams have also been restored, creating a prime migratory waterfowl habitat that continues to be grazed sparingly to control plant accumulation.

“The family has been very progressive, willing to look at new ideas and not get stuck in a rut,” says Bridget Nielsen, USFWS Partners for Fish and Wildlife Program biologist. “They are doing these projects to stay in business and to protect wildlife.”

In cooperation with USFWS, Forest Service, NRCS, University of California Cooperative Extension and Tulelake High School, the Byrnes also monitor their riparian systems. The monitoring consists of identifying the type of ground cover along a line between two permanent points and recording stream temperatures to evaluate the effects of increased shading. Riparian habitat is also monitored to track successful willow regeneration and plant community composition.

Mike and Dan have been recognized on many occasions for their conservation practices by organizations and by fellow cattlemen. “The Byrne family has been ahead of their time in understand-

ing how the grass, trees, cattle and different species could work together,” notes Lee Bailey, representative of the Western Video Market, a livestock marketing firm.

But aside from being revolutionary cattlemen, Bailey says it is their willingness to work with diverse entities that has been unprecedented.

“They can cooperate with anyone, including organizations that others would not have considered working with. And they do it not only for the benefit of their family ranch, but for the benefit of the surrounding ranches as well,” confirms Bailey.

The Byrnes’ management of thousands of acres of rangeland in the extreme northern part of California has, for more than a century, supported their family, deer, sage grouse, antelope and myriad other species. Beyond that, they have also increased plant diversity and reduced soil erosion because of their aggressive management practices.

Public investment in conservation efforts to enhance natural resources clearly provides a public benefit. This is a symbiotic relationship benefiting both sides – the land manager and those concerned about our state’s natural resources.

The experience of the Byrnes’ and other ranchers has shown that many projects can benefit the land and wildlife. However, these projects don’t necessarily pay for themselves on the basis of beef production alone, making it imperative that cost-share conservation programs remain flexible and well-funded so they continue to help ranchers implement projects that improve and enhance the ecological value of public and private land.