Stories from the Range

Ranching and Sage Grouse Conservation

Stories from the Range

Ranching and Sage Grouse Conservation

The following stories, authored by Stephen Laubach, Ph.D, with an introduction by Kevin McAleese, of Sand County Foundation, highlight crucial work on sage grouse conservation by many individuals and organizations. While several are named here, it is important to note that we were not able to mention all involved due to space limitations. We wish to thank all those playing a role in conserving this species and the habitat it depends on.

About Sand County Foundation

Sand County Foundation is a non-profit organization dedicated to working with private landowners across North America on voluntary, ethical and scientifically-sound land management practices that benefit the environment.

Author: Stephen Laubach, Ph.D

Production and Design: Theoharides Consulting.
www.theoharidesconsulting.com

Sand County Foundation
131 W. Wilson Street
Suite 610
Madison, WI 53703

Website: sandcounty.net

Table of Contents

Introduction **3**

O'Keeffe Ranch, *Warner Valley, Oregon* **5**

Taft Ranch, *Parker Mountain, Utah* **11**

Fulstone Ranch, *Smith Valley, Nevada* **17**

Pitchfork Ranch, *Tulelake, California* **23**

Ladder Ranch, *Savery, Wyoming* **29**

Lava Lake Ranch, *Hailey, Idaho* **35**

More than 40 years since the Endangered Species Act (ESA) was passed, our nation's signature law for protecting rare species is about to face its most significant challenges on Capitol Hill and in the courts.

Controversy surrounding a possible listing of the Greater sage grouse is one significant factor that is focusing national attention on the ESA. With populations spanning 11 energy- and agriculture-rich western states, the sage grouse is an icon of the West. By some estimates its population has been reduced from millions to perhaps 500,000 today. Sage grouse are predictors of land health and of the presence of other species. Pronghorn, mule deer and hundreds of other plants and animals thrive where sage grouse thrive.

A congressional rider to the 2015 federal spending bill forestalled any immediate action to list the showy, chicken-sized bird, as threatened or endangered. This stopgap action can at best buy more time, but sagebrush ecosystems can take decades or longer to recover from fire and other disturbances. This hasn't stopped determined people in the West from working to restore millions of acres of habitat.

Since 2010, USDA's Natural Resources Conservation Service and its partners in the innovative Sage Grouse Initiative (SGI) have invested nearly $425 million on voluntary, cooperative efforts to restore 4.4 million acres of habitat for sage grouse while maintaining working landscapes. By 2018, SGI expects to have invested more than $750 million to protect, restore and manage habitat for sage grouse across the west.

None of this successful conservation work would have been possible without the active engagement of private landowners. The lessons that emerge from hundreds and thousands of private landowners working in concert with federal agencies, businesses, states and local governments can serve as a guide to the next generation of species conservation. Private property owners and private enterprise have the flexibility and expertise to try new ideas and drive innovation.

Too often the debate over Greater sage grouse, and other species of concern, is whether to list or not to list. However, neither decision on its own is the answer to improving species populations. We hope the conservation success stories in this publication shine a light on the kinds of questions we should be debating. How do we encourage public-private partnerships? How do we incentivize more proactive conservation by private landowners and public land agencies? What will inspire states and businesses to invest in recovery efforts? What are realistic recovery goals for different species? And how can we spend finite resources to the greatest effect for the most species?

One of America's most influential conservationists, Aldo Leopold, once said, "Conservation will ultimately boil down to rewarding the private landowner who conserves the public interest." More than 60 percent of America's lands are privately owned, and most rare species depend upon these private lands for their survival. America must encourage, empower, and learn from the efforts of these "conservation entrepreneurs" if we hope to pass along healthy land and abundant wildlife to future generations.

SAND COUNTY FOUNDATION

O'Keeffe Ranch, *Warner Valley, Oregon*

John O'Keeffe grazes beef cattle in prime sage grouse habitat near the small town of Adel in southeast Oregon. His family's fourth generation ranch sits in the Warner Valley, surrounded by peaks of over 7,000 feet. The O'Keeffes have access to 120,000 acres of permitted federal grazing land in addition to their own 18,000-acre property. "It's regular high desert—sagebrush, bunch grass community to the east, and ponderosa pine forests to the west." This variety of habitats allows him to keep his animals happy throughout the year. As grass becomes dry by June and July, he brings his cattle to the higher elevation forested land. As the early winter winds arrive in October he moves them to the family's deeded land.

The O'Keeffe ranch originally began as a sheep operation in the early 1900s before the family converted it to cattle in the 1950s. John O'Keeffe took over the business from his father in the early

1980s and has since assumed several leadership roles. These include stints as chairman of the Public Lands Committee, Oregon's Director of the Public Land Council, and his current position as President-Elect of the Oregon Cattlemen's Association.

Jeremy Maestas, state biologist for the Natural Resources Conservation Service (NRCS), notes that O'Keeffe has been a key part of an innovative sage grouse conservation project involving multiple partners. According to Maestas, O'Keeffe saw the value of restoring habitat for both sage grouse and livestock and convinced several neighbors to join the partnership through his on-the-ground actions removing juniper trees. In the Warner uplands, juniper crowds out sagebrush and is a primary threat to sage grouse, mule deer, and other species dependent on sagebrush. To counteract this trend, habitat improvements on private lands are matched with juniper removal on public lands managed by the Bureau of Land Management (BLM). In all, about 50,000 acres are being improved by treating all of the encroaching trees in this 100,000-acre landscape.

In an unusual opportunity, the BLM started monitoring seasonal bird use well before the project's habitat restoration phase began. They were able to collect data from before and after the restoration, which is one of the strongest designs for field studies. "We had all the right ingredients for us to invest in the science." The project involved multiple partners, including the BLM, the state of Oregon Department of Fish and Wildlife, universities, and the Natural Resources Conservation Service's Sage Grouse Initiative (SGI).

Partners first established a plan for long-term collaboration through research agreements with the University of Idaho and Oregon State University. The five-year University of Idaho study of sage grouse response to juniper removal involved wildlife biologist Dr. Kerry Reese and John Severson, a Ph.D. candidate in Reese's lab. Maestas makes a case for sustained research studies, cautioning that achieving an increase in grouse populations requires a long-term commitment. "Getting to actual population change is going to take time. We wouldn't expect population-level effects for at least a decade."

Through its research, the group has identified factors that hurt sage grouse populations. Severson and project partners published a paper examining the relationship between tree cover and mating grounds,

referred to as leks. Out of 152 leks in their study, not a single one remained active when there was more than four percent tree cover surrounding it. "That was an early indication that they're particularly sensitive. That's not a lot of trees out there, but this species really doesn't like that type of structure in its habitat. And that is a population level parameter that we pay attention to. When we remove trees we can improve the amount of habitat and potentially make it a more successful place for them to make a living."

The tight-knit ranching community around Warner Valley keeps a watchful eye on other factors that can irrevocably alter grazing areas and sage grouse habitat. Invasive species like Medusa Head Rye, Russian Knapweed, and Mediterranean Sagebrush, for example, form monocultures unpalatable to wildlife and livestock. "I have found medusa head patches the size of a saddle blanket out there," O'Keeffe observes. "They're not there anymore. There's not medusa head within 10 miles of those sites. That's what you get with ranchers that are covering the ground looking for cattle and doing their day-to-day work."

O'Keeffe and his neighbors also monitor each other's land to ensure that their sage-steppe habitat is protected from abnormally hot fires. While fire once renewed such ecosystems, it now poses a challenge because of modern development patterns, introduced species that ignite more easily, and accumulated juniper brush that burns at higher temperatures. These intense fires threaten sage grouse and grazing habitat by sterilizing soil and encouraging colonization by invasive plant species following a burn.

Grazing animals, O'Keeffe explains, are part of the solution to limit fire size and severity because they reduce the amount of fuel on the landscape. "This is an environment that evolved in fire. But now that we have exotic grasses and the fact that we put out fires to protect highways and schools and dwellings—fire just isn't working like it was pre-settlement. So we manage fire, and part of that is grazing. The other part of that is that we've got to keep the fires from getting big." For this they rely on rural fire associations. By putting out fires before they become a major conflagration, the group saves millions in federal fire fighting dollars and keeps the sagebrush system intact.

Ranchers as well as project partners at all levels of government are thus working hard to protect sage-steppe habitat for wildlife and livestock. The ranching community in Warner Valley remains concerned, however, about the impacts of an Endangered Species Act (ESA) listing of the sage grouse. O'Keeffe explains that each loss of access to grazing allotments reduces the viability of his operation.

If a ranch goes out of business, O'Keeffe contends, it's not just about one operation being replaced by a similar one. "When these places sell, they don't sell to another rancher who does it just a little different. They'll sell to somebody that wants to ranch, but he's got to chop off several parcels at development prices to make his ranch cash flow. So habitats that are up in these mountain meadows are going to have a hunting lodge, a couple dirt bikes and some dogs, a power line going in, and another road. It'll take away from the intact landscape needed for ranching and wildlife."

All of this points to the importance of a balanced approach to conservation that includes voluntary conservation partnerships working toward tangible outcomes. Maestas notes that the Warner Valley ranchers have definitely made an impression on those involved in a decision about listing sage grouse. "In our conversations with the Fish and Wildlife Service and others, they're very impressed with the level of engagement, the level of actual on-the-ground conservation that's going on. And half the battle's not just proving that you're right, but ensuring that you have a structural change in how you implement and monitor and evaluate your actions. What we're trying to do is demonstrate that we're invested not only in strategic implementation but in the science to measure it over time."

Referring to balancing regulation with voluntary conservation, Maestas believes that there's room for more partnership building. "It's definitely a complex issue in terms of whether we can change the model of conservation from more of a regulatory approach to a proactive and voluntary approach as really having equal footing." He asserts that the formation of the SGI in 2010 is an example of that new model. "I get a little philosophical about this because I think we're in the midst of a paradigm shift in how we can deal with at-risk species challenges. Prior to 2010 I would say most of what we did was random acts of kindness. Met with ranchers who were willing, did good things on those parcels. But you know, there really wasn't the collective will among all the partners to cooperatively do enough. The scale really changed in 2010. We have engaged people to care and to recognize that when we do good things for sage grouse, it isn't just about sage grouse. It's about rangeland health. It's about the future of the rural west. When ranchers like John O'Keeffe work with us, they know that it's for that future generation that they want to pass the ranch on to."

Andy Taft has a deep connection with sage grouse on his family's ranch in Parker Mountain, Utah. "They're a species I've lived with all my life, hunted all my life, and they add color to my life. I want to see them, I want to co-exist with them. There's no question about that." The landscape around Taft's ranch is a high arid plateau ideal for sage grouse and brimming with rugged beauty. "We slope from 7,000 feet and we go uphill to about 11,000 feet on top of Boulder Mountain. Most of it is around 9,000 feet." Precipitation in these mountains ranges from seven inches to thirteen inches—"quite high and dry."

To do his part for sage grouse conservation, Taft has been part of an eighteen year cooperative conservation project involving multiple partners. Originally coordinated by Utah State University Extension professor Terry Messmer and now by fellow extension professor Dave Dahlgren, the effort connects private landowners with local, state, and

federal agencies and university-based scientific research. Their work and the research published reporting the results has demonstrated it is possible for sage grouse and ranching to co-exist. Taft can rattle off figures about grouse populations going back several decades. "There's clearly ups and downs, but we have a rolling 10-year average since 1965 of an increase in population here."

These findings are key to building public support for continued voluntary conservation measures. "The fact that we're making an effort and having success goes a long way to garner public trust." A 2010 study by Dahlgren, Messmer, and their colleague David Koons found the highest sage grouse chick survival rate ever recorded, lending further support to Taft's claim that habitat conservation and ranching can thrive together.

Taft's fondness for sage grouse extends beyond personal appreciation for wildlife or a goodwill conservation gesture to the public. For him, sage grouse provide insights into the wellbeing of the community. "The health of the bird is also an indication of the health of the range," Taft asserts. "If the bird numbers are increasing, that probably suggests that the range is in good shape. And on that theme, if numbers are increasing, then the range conditions are improving."

Taft grazes 1,500 ewes on a mix of private and public land that stretches nearly 25 square miles. Several

other ranching families also make a living there. "In our little valley, the Fremont River runs through it. That's where the private land is. All mountains around are public owned or state owned. The area I graze is about three percent private land, so we're very dependent on public grazing to hold our water rights, and to maintain ownership of our private land in the valley. There's quite a relationship between public and private here."

Taft's family has been grazing this land for five generations. "I'm actually living on the original patented ground from the federal government that was homesteaded by my great-great grandfather," he explains. Taft's son wants to continue that tradition. To keep their land in the family, it's essential they maintain use of public lands for grazing.

Since he began working with Utah State Extension, Taft has taken several approaches to improving sage grouse habitat on his land. "I run sheep, and sheep are browsers. And so part of the problem we have around here is some of the sagebrush tends to get old." When that happens, understory grasses and flowers that sheep and grouse feed on get shaded out. To solve this problem, Taft treats sagebrush to allow more sunlight to reach undergrowth. He has also used targeted grazing to keep sagebrush and grasses at optimal heights for sage grouse. By grazing nesting areas that supported the bird in the past before their preferred plants were crowded out by mature sagebrush, he rehabilitated those sites.

Other similar measures include using federal grants to make habitat improvements through the NRCS Wildlife Habitat Improvement Program, or WHIP (now called Environmental Quality Incentives Program, or EQIP). "With WHIP money we treated some areas and the birds love those. We've built additional ponds for dispersing of livestock." Other practices involve adjusting his fences and grazing rotation to prevent overgrazing. "We've removed fences in some areas and then we've improved fences in other areas so we can get a good pasture rotation."

Taft has worked closely with local Farm Service Agency director Paul Pace to manage his grazing lands. Regarding the possible listing of the sage grouse as a threatened or endangered species, Taft and Pace prefer a strategy that builds on the success of ranchers, local conservation districts, and researchers in the Parker Mountain area rather than a regulatory approach. "If they looked at this range out here and they tried to make this Wyoming, we

couldn't function." Taft explains that reaching sage grouse population levels like those in the neighboring state to the northeast, which is home to the largest contiguous tract of sage grouse habitat in the West, wouldn't be possible in central Utah even if they didn't graze at all.

"The federal regulation generally says one size will fit all, and all decisions will be far removed from the local impact of the decision," Pace contends. "If they can change that management style, the operators of these ranches love to conserve and be partners in a positive outcome. They just need to be given a chance to demonstrate their willingness."

Pace concludes that one rancher who should definitely be consulted on building a broad base of support for conservation on Utah's working lands is Andy Taft. He describes Taft as a convincing spokesperson for ranching that is compatible with sage grouse and other wildlife. "He is an incredible leader in our community. Not only in Wayne County, but across the state."

Fred Fulstone knows a thing or two about the ranching business. Born in 1920, he remains actively involved in his family's Nevada-California sheep grazing operation that dates back to European settlement in the 1850s. "Our family first came here in 1855 and settled in Carson City, and in 1856 settled in Genoa, Nevada. We were one of the first to take up land here in Nevada." His grandfather served as an early senator for Ormsby County and moved to Smith Valley, Nevada in 1903.

Reflecting on his youth, Fred recalls, "We worked pretty hard those years, pretty tough. The roaring '20s was good but then we had the depression in 1929 and we went bankrupt and that was pretty tough because the banks came in, took our livestock." His mother was a doctor, one of few women in the profession. She traveled far and wide for little pay, earning a living during those difficult years by bartering. "She was practicing medicine but there was no money. Once in a while they gave her a chicken or a sack of potatoes or something."

Things finally turned around in the 1940s, allowing the family to pay off bills and buy back land. At that time they consulted their local U.S. Forest Service range conservation officer and realized that they needed to expand their land base in order to prevent overgrazing and soil damage. They proceeded to buy more land and leases—"whatever we could pick up in order to have plenty of grazing for our sheep."

Since that time, their ranch has survived and thrived, adapting to new challenges such as conserving water and protecting rare wildlife. A major concern in recent years was a possible listing under the ESA of a distinct population of the greater sage grouse known as the Bi-State sage grouse. This geographically isolated population lives in the central section of the Nevada and California border. Because it was recommended for consideration before the greater sage grouse, a listing decision on this small population preceded that of the greater sage grouse. In April 2015, United States Secretary of the Interior Sally Jewell announced that conservation efforts had been successful enough to merit not listing the Bi-State sage grouse .

In spite of uncertainty surrounding a possible listing, the Fulstones forged ahead with ranch operations while protecting wildlife and resources. In this semi-desert landscape just east of Lake Tahoe, water is a precious commodity to be managed with care. Grazing allotments on federal land are often reduced in dry years, and only optimally-managed ranches with quality water sources can survive a drought.

The restored grazing land benefits sage grouse and sheep. Moreover, with the water-hoarding junipers removed, natural springs have begun to flow again and ensure a more regular supply of food for wildlife and livestock.

Given the longevity of their family business, the Fulstones meet this high standard for running a ranch. This bodes well not only for water conservation but also sage grouse. Along with carefully tended federal grazing allotments on public land, they have springs and streams on their property that are critical habitat for sage grouse as they rear their young. According to Fulstone's daughter Marianne, who is involved in the family ranch along with her son Kristofor, sheep and grouse use these riparian areas for drinking. The family puts forth a significant effort maintaining springs on their property, and this wetland habitat benefits grouse during brood rearing season. Humans, wildlife, and domestic animals coexist on their ranch: sage grouse nest alongside sheep, and are protected from predators by guard dogs and sheepherders.

As Bi-State sage grouse have gained attention because of their population status, ranch staff increasingly help monitor and protect the species by using their detailed knowledge of the bird's location and leks. "We know where all the leks are," Marianne explains. "We know where the sage hens are because we are out there 24/7 with the sheep." They adjust sheep grazing times to take into account grouse activity so they're not in competition with each other. In one case they worked with the BLM to bring their sheep to pasture on a different side of a lake in order to leave the other side for the birds. That way "they have their little bit of time to do their mating, to do their hatching," she adds.

The family has also cooperated with state and federal wildlife biologists by supplying data about grouse in an effort to learn how to sustain their populations. "We

would send our men up to count them," Fred notes. "You got to be there before daylight to see them."

In addition to changing their grazing plans to protect the bird, they have also removed juniper trees that have encroached on ranchland across the West as fire has been removed from the landscape. Trees that were once kept in check by natural fires, such as junipers, have encroached and are shading out grassland species.

Although fire is viewed more favorably now, it is still not practical in many areas. The Fulstones have turned to other approaches to restore grassland habitat for his sheep and for wildlife. One method involves the laborious removal of juniper trees that form a dense overstory and outcompete everything else. Once the invasive conifers are removed, according to Marianne, the grasses, flowers and shrubs come back. The restored grazing land benefits sage grouse and sheep. Moreover, with the water-hoarding junipers removed, natural springs have begun to flow again and ensure a more regular supply of food for wildlife and grazing animals.

Thad Heater, Nevada state wildlife biologist for the NRCS, points out that ranchers in the Bi-State region and across the West have gone out of their way to protect wildlife by paying for water developments and range improvements to the landscape. These were paid for "out of their own pocket." The intent of these efforts was to improve forage quality for livestock, but another important result has been to sustain the landscape on which wildlife depend.

Ultimately, Heater believes that agriculture and wildlife can coexist and thrive in ranch landscapes. "The U.S. Fish and Wildlife Service has stated that the ranching operations have been key. They want to see these ranches continue to operate. Without the ranches I think that there would be a huge habitat loss." Heater asserts that ranchers provide a vast amount of unfragmented grasslands, wet meadows, and riparian areas. Grazing and mowing of the meadows, if done at the right time, can actually enhance habitat for sage grouse. They also benefit from the attention ranchers give to federal grazing land. Furthermore, Heater concludes, the Fulstones' ranching activities improve overall habitat quality. "Sage grouse is a focal point, but there are a lot of other species that benefit at the same time."

Pitchfork Ranch, *Tulelake, California*

Mike Byrne's northern California ranch lies on a semi-arid plateau east of the Cascade Mountains and an hour northwest of the small town of Alturas. Mount Shasta looms in the distance as a prominent landmark. The majority of his family's grazing operation is grassland interspersed with sagebrush and juniper. Irrigation ensures a supply of lush forage for their herd of one thousand beef cattle. "Where we run cattle we have a thousand acres of irrigated agriculture that we use to grow feed for the cows. Some of it's well irrigated and some of it's an irrigation project," he says, referring to the ditches and other water infrastructure that dot the countryside. Counting leased land as well as his son Matt's ranch north of Sacramento, the family's total rangeland amounts to 150,000 acres.

Byrne strongly believes in giving back to the community. He's chairman of the California

Since the project began, sage grouse populations in the area have rebounded. According to Bridget Nielsen of the US Fish and Wildlife Service, "we've gone from almost nothing to coming back toward a sustainable population."

Cattlemen's Association's Public Land Committee and president of the local Resource Conservation District. During his six decades in the business, he has worn a few other hats as well. He served as president of the Public Lands Council and also the federal lands chairman for the National Cattlemen's Beef Association. He frequently participates in discussions on irrigation because of the area's limited water supply.

Like many ranchers, Byrne is committed to living in harmony with the land his family has owned for five generations, including the insects that dwell in the fertile but fragile soil. "As far as I'm concerned, we have a symbiotic relationship with wildlife, and that goes down to macroinvertebrates. We try to do what's good for the land." Considering the multi-generational history of their ranch, it's clear that they take care of the land. "My ancestors put me in a good place," he remarks appreciatively.

Byrne carefully manages precious resources such as water, soil, and grass. To reduce the need for power lines he has installed eight solar wells on the public land he grazes. He moves his cattle frequently using portable fencing and he has fourteen pastures for two different herds. His cattle forage on different pastures at different times every year to reduce grazing impacts and soil erosion. Such rotational grazing promotes grassland plant diversity. Once the cattle arrive at an area, he doesn't leave the animals there very long, moving them to new pasture every thirty days.

When Mike was growing up, sage grouse were plentiful. "When you went down this road at dusk there were so many of them that they'd fly up and block out the sun." Over the last three decades, however, the bird has become scarce. He attributes this to juniper encroachment resulting from the elimination of fire on the landscape.

Although fire can be used to help prevent encroachment, it is often not practical as a management tool. Byrne has instead turned to other approaches to restore grassland habitat for cattle and wildlife, such as cutting down juniper trees. Compared to the challenges facing sage grouse in many of the eleven Western states in the bird's range, Byrne contends that northern California has "one of the simplest sage grouse problems to solve." Once area landowners removed juniper, "the habitat repaired itself." Other Western states such as Wyoming and Idaho, by contrast, face pressure to develop land for subdivisions or energy infrastructure, which can be a more difficult conservation barrier.

To restore the sagebrush ecosystem on which the grouse depend, Byrne has participated in a voluntary landowner conservation project with the USFWS, the Clear Lake National Wildlife Refuge, and a host of local, state, and federal partners. The California State Fish and Wildlife service supplemented the sage grouse population by translocating radio-collared birds beginning in 2005. By tracking these birds, they could see where the birds moved at different times of the year, what type of habitat they used, and whether they survived.

Armed with information about sage grouse land use patterns, project members made targeted decisions about where to remove the juniper. "When we designed our juniper cutting programs with the botanist and the biologist, we'd look at the data and say 'Well, they really like it there.'" Another important step the partners took was to ignore property boundaries between private and public land. "We sort of just erased them where it's not my land and not your land." This allowed the group to view the landscape from the point of view of sage grouse, not the county assessor. The group worked on creating habitat corridors and reducing perches for birds of prey. As a result, the grouse populations began to increase. Pointing to a map of leks, Byrne notes a series of dots that represent sightings of sage grouse.

Since the project began, sage grouse populations in the area have rebounded. Bridget Nielsen of the USFWS observes, "We've gone from almost nothing

to coming back toward a sustainable population. And that's the key to this. As long as the Clear Lake Working Group continues to partner in a collaborative way doing targeted juniper removal, they might be able to reconnect that population with the population to the southeast down by Alturas." This would be the best-case scenario, because it would allow two separate groups of the Greater sage grouse to interbreed. According to Nielsen, those genetics could interchange and create a more robust population of birds.

Byrne is proud of the accomplishments of this cooperative venture and grateful for federal assistance to help cover the cost. He estimates that the project has helped to reinvigorate the ranch habitat for 50 to 100 years. "I think it's a symbiotic relationship. The grass and the grouse like simple things. When the cows eats the grass, it regrows." Byrne notes how the nutritional value of the new grass goes up and that the fresh shoots have "a nice juicy, luscious flavor. Plus the bugs love it, and the birds like the bugs." If the grass grows too much, on the other hand, it "gets decadent. It falls over and dies. There's not any value to the grouse in that."

In the opinion of Byrne and other partners, voluntary cooperative work with ranchers is a far better alternative to the regulations and mistrust that an endangered species listing would trigger. Byrne cites past events in offering a word of caution in the case of sage grouse. For two decades he's been dealing with the repercussions from a federal listing of a salmon species and two species of sucker. In his experience, once an animal is listed, the landowner's flexibility in land management disappears. For this reason, he explains, "we try to be as proactive as we can."

Byrne now hopes to educate the public about their voluntary conservation efforts. Those outside the ranching community need to understand that private landowners are cooperating with local, state and federal efforts and making financial sacrifices in doing so. "We're putting our own money in, we're putting our own land in." Ranchers in the area are "doing everything we can" to show the agencies that the results are better for the species in question when a cooperative spirit prevails. The danger, Byrne cautions, is that such goodwill evaporates with a listing. He concludes that sage grouse conservation would lose vital generational expertise following a listing because ranchers would pull out of cooperative projects. In the end, eroding support from ranching families would lead to a lack of support from the grazing industry, which plays a key role in the stewardship of public land.

The Fish and Wildlife Service's Nielsen sees voluntary private-public partnerships as an important component to preventing habitat loss and an essential way to maintain populations of sage grouse and other wildlife. "It's going to be incumbent upon partners to deliver conservation across a vast landscape. It's definitely a group effort. There's no one magic bullet for any of this." Preventing a listing will require "all of us working together. And really where it starts is at the grassroots level, with great people like Mike Byrne."

Pat O'Toole can name every creek flowing from his property in Wyoming south to the Colorado River as he describes the high country he's worked on for most of his life. His wife Sharon's family has operated the Ladder Ranch in the Little Snake River Valley since the late 1800's. It lies at the headwaters of the Colorado River on a tributary called Battle Creek. "We have about five miles of deeded land along the Creek. We're the first private land off the continental divide, so it's pretty high up." Downstream, Battle Creek gives way to an assortment of rivers leading to the mighty Colorado that he appears to visualize in conversation—the Little Snake, the Yampa, and the Green.

The couple's grandchildren are the sixth generation on this landscape. They count themselves lucky because two of their three adult children, and their spouses, have chosen to live and work on Ladder Ranch. Daughter Meghan Lally and son Eamon

O'Toole are active managers in the business and are involved in the many issues related to ranching. They are raising their six children on the ranch and eagerly look to the future.

A mosaic of public and private parcels surrounds Ladder Ranch. Part of the total acreage is "in common," meaning that public holdings are shared among multiple ranching families. The family has access to Bureau of Land Management areas that their animals browse mostly in the winter. They use US Forest Service parcels in the summer, and private property with irrigated pasture. Adding up all the land they graze encompasses a vast stretch totaling over a half million acres that is prime habitat for the world's largest concentration of sage grouse.

The family makes their living by grazing 6,000 sheep and 800 cows. Pat details the seasonal movement of their animals: "We trail the sheep 150 miles each way from the forest to the high desert and back and we have a lot of different landscapes in between. But there's a lot of sage brush." Along with the sagebrush are extensive numbers of Greater Sage Grouse. "Pretty much everywhere we can have them, we do have them."

Decades of surveying the ranch on horseback have yielded many observations about sage grouse mating areas, referred to as leks. "I've always known there were grouse there. Twenty years ago I didn't know what a lek was, I just experienced them all the time. Now as we're getting more sophisticated in our understanding for the last ten years or so, there's been a discussion about endangered species issues. But we've always felt comfortable that grouse are a part of our landscape."

O'Toole notes that modern ranching practices maintain prime habitat for grouse. His family moves their herd over large areas and uses rotational grazing to allow pastures to regrow. The rotational grazing also prevents species such as juniper from overtaking historic grassland. He points out that these techniques benefit wildlife on working lands. "It's on multiple levels that whatever we do to try to protect our sheep and cattle, especially the sheep, seems to have a positive relationship to the grouse."

Furthermore, family members and staff have developed an unparalleled knowledge that can be harnessed to conserve sage grouse. The ranch employs several sheep herders from Peru who tend the animals to protect them from predators and to move them from one grazing area to another. "The other thing we're learning is that nobody knows more about where the grouse are than the sheep herders, because they're out 24 hours a day in the country observing. I never really asked them that much about how many and where, I just knew they were there. Now we're asking 'How many are you seeing?' 'Where exactly are they?' 'Where's the lek?' and 'Where are they dancing?' Every sheepherder will have a list to tell me where the grouse are, and all the different places. It'll be probably the best count I ever had."

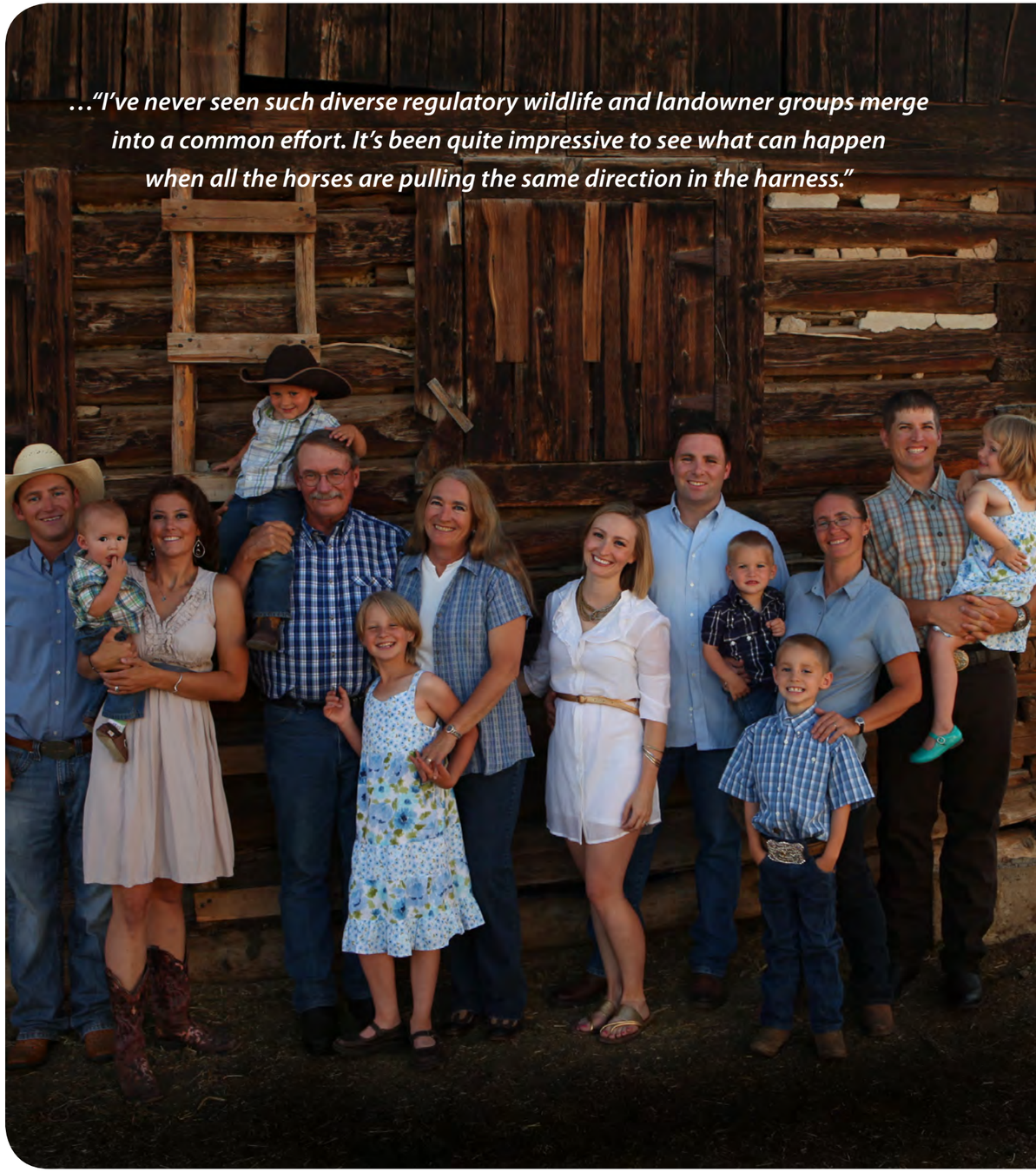
O'Toole's commitment to conservation keeps him connected to national policy in the areas of energy, food production, and conservation. He has been involved in discussions about energy development given the significant gas and mineral deposits in Wyoming that put pressure on sage grouse conservation. Pat and Sharon contend that any decisions about sage grouse conservation in Wyoming must involve representatives from the energy industry. According to Sharon, "it's a fine line to walk, balancing habitat needs, the state's financial needs, and national energy demand." Pat has also been part of a food policy think tank called "AGree" (foodandagpolicy.org). Participants are in year three of a long-term dialogue on how to sustainably feed the Earth's growing population.

Closer to home, the O'Tooles feel fortunate to have expert leadership through their local conservation

district, Natural Resources Conservation Service (NRCS), and USFWS offices. The O'Tooles' ranch is part of the Little Snake River Conservation District. The District's Natural Resources Director, Larry Hicks, explains that sage grouse rely on large areas beyond that which a single landowner manages. "The very nature of sage grouse is they're a landscape scale species," Hicks notes. "The idea that we're actually counting grouse on Pat and Sharon's land is difficult from a standpoint that it doesn't have very many leks. Counting birds on leks is how the census of sage grouse is done. We know these mating areas are close to their land, and that we have a lot of hens nesting on their property. It's almost impossible to go out and get a census count of hens, but the surrogate method is to count the strutting males on those leks that are in close proximity."

Overall, the O'Tooles are pleased with the cooperative measures they've implemented and assert that proactive public-private partnerships are preferable to listing the sage grouse as an endangered species. According to Hicks, the Endangered Species Act has the potential to eliminate or reduce grazing on public lands and "interjects uncertainty into their economic enterprise." Hicks contends that the O'Tooles should instead be recognized for conserving not only grouse but also a multitude of species and landscapes.

Advocating for alternate cooperative conservation approaches such as the Sage Grouse Initiative recently implemented by the NRCS, Hicks marvels at the progress that has been made. "The amount of effort that's been poured into sage grouse conservation is unprecedented, especially when you look at the cooperation between federal land management agencies, state wildlife agencies and private landowners. We're talking about very divergent groups who historically haven't always had the best working relationship. In my entire career working on natural resources I've never seen such diverse regulatory, wildlife and landowner groups merge into a common effort. It's been quite impressive to see what can happen when all the horses are pulling the same direction in the harness."



Lava Lake Ranch, *Hailey, Idaho*

As a young man, **Brian Bean** dreamed of owning a place in the country. During his many years working in finance, he longed for experiences in nature like those he enjoyed in California while growing up. "I've always loved the outdoors. My dad took us camping in a small teardrop trailer in California's Antelope Valley when we were kids." He recalls with fondness his initial trip to Idaho after getting his driver's license. "I first visited Idaho in '69. We wound up at Lake Walcott in the Minidoka National Wildlife Refuge on the Snake River on Jeep-sized two-track dirt roads. We took that Jeep and drove from Crystal Ice Cave up to Arco through a sagebrush sea. I'd never seen so much open country."

Three decades later, Brian and his wife Kathleen, who at the time worked as development director for The Nature Conservancy in California, considered buying ranchland in Wyoming following years of regular visits

to Jackson Hole. With their keen eye for conservation, they didn't see a parcel that grabbed their interest. "They were just pieces of ranches that had been broken up. There was no real ranching flavor to them." In frustration during a conversation with a friend who was helping them in their search, Brian grabbed a brochure with a scenic ranch on the cover and said, "Well, what about this?" It turns out the land in the brochure was the ranch that the couple ended up visiting and then buying in 1999.

It is obvious why Bean was attracted to return to a landscape that first caught his eye on an epic teenage road trip. The area includes a vast sage-steppe on the Snake River Plain. Several stream corridors harboring terrific amounts of biodiversity crisscross the rugged intermediate elevation country. Wildlife migrates between these riparian corridors and the higher elevations of the Pioneer Mountains, whose peaks are part of the Salmon-Challis and Sawtooth National Forests. The upper elevation of Lava Lake Ranch's forest reserves is 11,800 feet. The Beans don't graze that high but the forested areas are on majestic undeveloped land.

Although the lands they purchased were historically used for sheep, previous owners had switched to beef cattle. The Beans converted their holdings into a sheep operation, which allowed them to pursue several sage grouse conservation measures. Much of the fencing necessary for cattle was no longer needed for sheep, which was good news for the bird species. "Fences are not friendly to sage grouse. They're pretty big birds. When they take off they're not usually jumping up 25 feet and then shooting over those fences. In too many cases, the birds crash into fences with typically lethal effect." For the remaining fences they put up metallic flagging that was sufficiently reflective for birds to see and avoid even at their rapid rate of flight.

Lava Lake Ranch has many other practices in place to ensure they are not disrupting sage grouse leks. "Our herders don't use leks for sheep bed grounds. We don't run our sheep over leks. If there is sensitive brood rearing habitat, we don't graze it while sage grouse are using it. We won't move animals through that until the sensitive period is over. Other areas we avoid altogether. Our objective is that we don't graze the same acre twice in a year. And in many cases our sheep don't see that same acre more than once every few years." This means the prime source of food for sage grouse gets a "rest" from grazing, which allows for higher quality habitat for the bird.

Soon after they founded Lava Lake Ranch, the Beans established the Lava Lake Institute, a nonprofit organization dedicated to studying the ecology of the area in conjunction with state and federal agencies and other cooperators. In its early years the organization joined in several pioneering studies of this remote area and it continues monitoring studies with the Idaho Department of Fish and Game as well as other partners such as the local nonprofit, Pioneers Alliance. They realized little was known about the biology of the area and pursued several seasons of fieldwork inventorying plant and animal species. "These guys tramped over everything. It was a wonderful time for us because the element of discovery was really high. We found red-legged frogs and golden salamanders at over 8,000 feet where they shouldn't be able to survive."

According to Lava Lake Science and Conservation Program Director Tess O'Sullivan, these surveys provided an opportunity to learn more about sage grouse populations, which hadn't been studied much in this area of the bird's range. As in other states with sage grouse, the main way scientists estimate populations is to count the number of birds on leks. "The leks that we were finding were new, and so it's hard to document a population trend because we kept locating more leks." She notes that long-term studies are needed to determine the degree to which sage grouse populations in the Pioneer Mountains are stable or increasing.

Another species in the Pioneer Mountains that receives a lot of attention are pronghorn, which undergo seasonal migrations in groups of up

to several hundred animals. Like sage grouse, pronghorn studies galvanized interest in landscape scale conservation. One study, supported by Lava Lake Institute and several other collaborators, used radio collars to track the whereabouts of pronghorn doe, showing that pronghorn in the Little Wood River area migrated more than 100 miles in the fall, returning each spring. As a result of this research, the National Park Service removed eight miles of fencing in Craters of the Moon National Monument to make it easier for the animals to migrate. In places, the route is scarcely 200 meters wide.

The Beans have been active participants in the SGI. Fence removal and fence flagging are just two examples of SGI-funded work in the area. "There are a lot of worthwhile paid projects that defray or partially defray the cost that would otherwise be entirely borne by the landowner. It's a way for a public good to be delivered through a public-private partnership. I don't think it's lost on anyone that we're all doing our part for sage grouse proactively and in partnership. If those actions collectively contribute to a healthier grouse population, then the hope would be that a listing isn't necessary." Bean is unsure what would happen in the event of a listing but imagines that it could interfere with a number of grazing permits Lava Lake holds on federal land, potentially unbalancing the operation.

When asked why he implements conservation practices that might cost more in the short term, Bean cites several reasons. "Number one, it's the right thing to operate in a landscape in a way that is sensitive to the 'other residents' that are there. That's important to us. It's not just livestock numbers, it's not just what our permitted capacity is. It might be an allotment where we don't turn out early even though the agency might allow it, because we just don't think it's ready yet."

From a strictly business perspective, there are positive ramifications of conservation practices. "We have a brand. We sell product nationally that people eat. A lot of our customers live on the East and West Coasts. We don't want an article in a trade journal or in the New York Times saying our herder camped out on this particular nesting ground for a week. We operate in a world where there's a lot of sunshine on Lava Lake. Pragmatically speaking, we won't do things that would negatively impact our image, which would result in lower sales and deteriorated brand equity."

Beyond the Lava Lake brand, there is the question of developing a good working relationship with those in charge of approving permits on federal grazing land. "We don't want to be doing things that make it more likely for us to have issues maintaining our grazing preferences across this large landscape. That would be a train wreck for the business. If you're doing the right thing, then you're going to be seen as a collaborator. You're going to be seen as part of the solution, not part of the problem. You're going to have agencies welcome the opportunity to work with you, as opposed to, 'This guy's an outlaw. Watch him.'" This approach also means less litigation directed at Lava Lake Ranch or at an agency overseeing Lava Lake's allotments. "There's plenty of litigation that affects us, but it's not about us. Nobody points a finger and says 'Jeez. Look at these guys.' When you work together, you come out with the best possible approach."

Photo credits

Front Cover: A male greater sage grouse struts at a lek, near Bridgeport, CA to attract a mate. Photo by Jeannie Stafford, U.S. Fish and Wildlife Service (USFWS) (https://flic.kr/p/pLa7Kr); **Page 1:** Ladder Ranch, Savery, WY, Photo by Pat O'Toole; **Page 2:** Greater Sage Grouse Flying with Marked Fence in Background. Seedskadee National Wildlife Refuge (NWR). Photo by Tom Koerner, U.S. Fish and Wildlife Service (https://flic.kr/p/qdAhKb); **Page 4:** Photo by Tom Koerner, U.S. Fish and Wildlife Service (https://flic.kr/p/pPHzAK); **Page 5:** O'Keeffe Ranch, Warner Valley, Oregon. Photo by Andy Rieber; **Page 6 – 8:** O'Keeffe Ranch. Photos by Andy Rieber; **Page 10:** Male sage grouse on a lek in Butte County, South Dakota. Photo by Steve Fairbairn, U.S. Fish and Wildlife Service (https://flic.kr/p/cmboAj); **Page 11-15:** Taft Ranch, Parker Mountain, Utah. Photos courtesy of Andy Taft; **Page 16:** Sage grouse in Cokeville Meadows NWR. Photo by Keith Penner, U.S. Fish and Wildlife Service (https://flic.kr/p/kEUcRf); **Page 17:** Fulstone Ranch, Smith Valley, Nevada. Photo courtesy of Fred Fulstone; **Page 18:** A sage grouse hen flies to a night roost on Seedskadee NWR. Photo by Tom Koerner, U.S. Fish and Wildlife Service (https://flic.kr/p/o5d1Kc); **Page 19:** Tom Koerner, U.S. Fish and Wildlife Service (https://flic.kr/p/ktpkTR); **Page 20 -21:** Fulstone Ranch. Photos courtesy of Fred Fulstone; **Page 22:** Sage Grouse Tail. Photo courtesy of Dam Dzirizin, Creative Commons; **Page 23:** Pitchfork Ranch, Tulelake, California. Photo courtesy of Matt Byrne; **Page 24 – 27:** Pitchfork Ranch, Tulelake, California. Photo courtesy of Matt Byrne; **Page 28:** Sage grouse hens: Photo by Tom Koerner, U. S. Fish and Wildlife Service; **Page 29 - 33:** Ladder Ranch, Savery, WY. Photo courtesy of Pat O'Toole; **Page 34:** Sage grouse lek. Photo by Jeannie Strafford, U.S. Fish and Wildlife Service; **Page 35:** Lava Lake Ranch, Hailey, Idaho. Photo by Glen Oakley; **Page 36-39:** Lava Lake Ranch, Hailey, Idaho. Photo by Phoebe Bean

SAND COUNTY FOUNDATION

This publication was made possible through the generous support of The Lynde and Harry Bradley Foundation.