

STEWARDSHIP WITH VISION

CARING FOR NEW MEXICO'S STREAMS





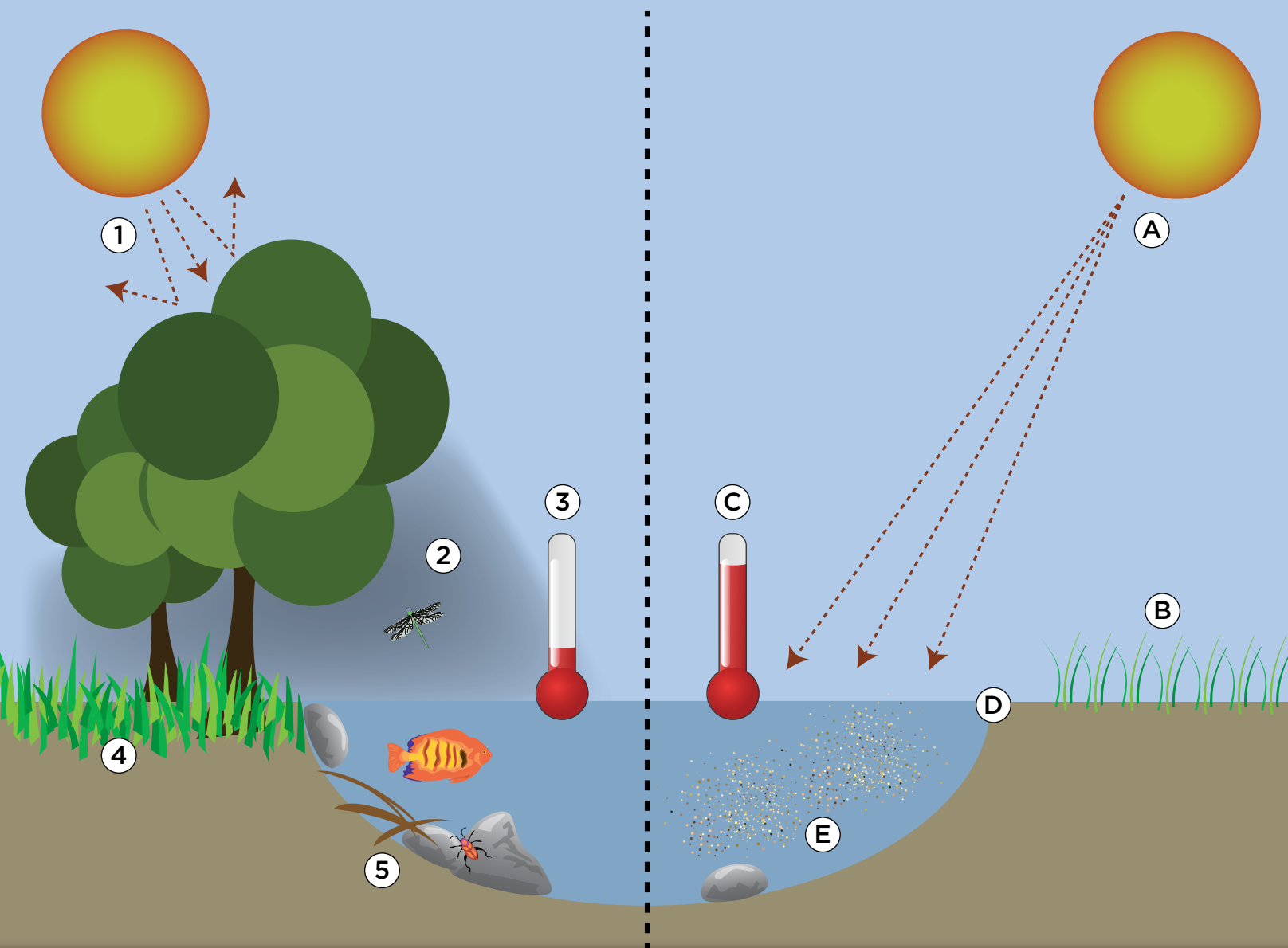
New Mexico landowners are vital to our economic and environmental future. Our food, water resources, forests, rangelands, and fish and wildlife populations depend on their stewardship. The decisions and investments landowners make today will impact the state now and for generations to come.

As New Mexico faces water shortages, declining fish and wildlife populations, changing climate conditions, and local food production needs, landowners are helping provide solutions. Public policies that support and encourage the voluntary stewardship of our shared resources benefit all New Mexicans.

LANDOWNERS ARE VITAL TO THE MANAGEMENT OF
NEW MEXICO'S WATER RESOURCES



WHY THIS MATTERS

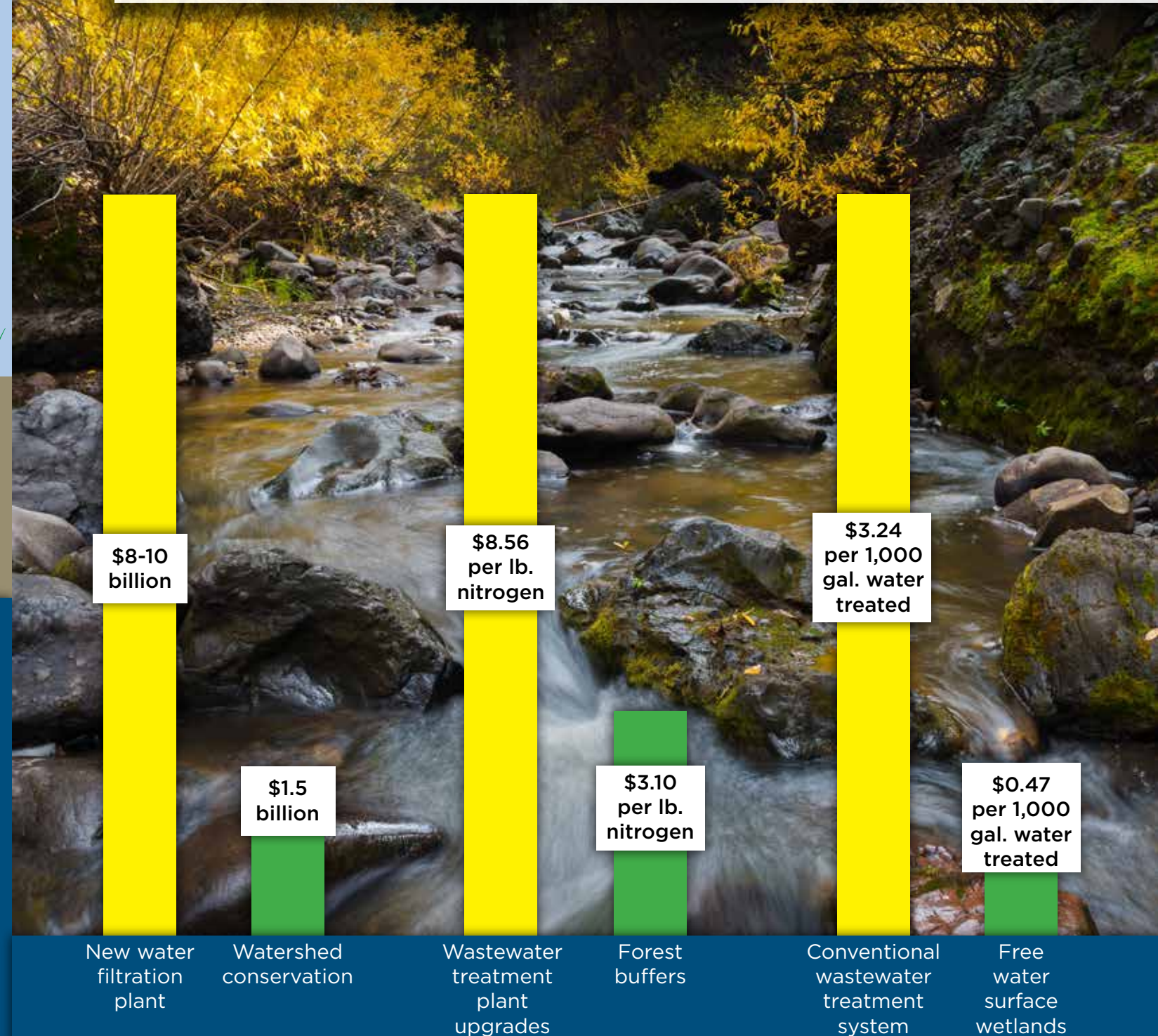


- 1 The sun's rays are reflected and absorbed by the tree canopy.
- 2 Trees provide shade to help moderate air and water temperature.
- 3 Stream water is cooler, providing better habitat for fish, amphibians and invertebrates.
- 4 Plant and tree roots hold soil in place, helping prevent erosion and runoff.
- 5 Woody debris and other substrates provide habitat for fish and invertebrates.

- A The sun's rays are not reflected and cause stream water to heat up and evaporate.
- B Invasive plants and lack of trees provide no shade and stream temperature is not moderated.
- C Stream water is warmer and less moderated, preventing fish, amphibians and invertebrates from thriving.
- D Exposed stream banks cause erosion and cut banks.
- E Increased erosion causes suspended solids in the stream channel, reducing habitat for important invertebrates.

The management of riparian areas and forests on private lands has direct impacts on public water supplies, fish and wildlife. Public benefits include reduced costs of water treatment, protection from flood damage, increased water yields, and healthy fish and wildlife populations.

Taxpayers save when landowners invest.



All amounts and figures as cited in Hanson et al. (2011). Forests for Water: Exploring Payments for Watershed Services in the U.S. South. WRI Issue Brief - Southern Forests for the Future Incentives Series, Issue Brief 2. World Resources Institute.

IMPACTS OF PRIVATE LAND MANAGEMENT ON FISH & WILDLIFE



KEY AREAS FOR CONSERVATION

- Key habitats
 - High number of terrestrial and aquatic Species of Greatest Conservation Need
 - May be potentially altered by synergistic effects that influence habitats
 - Lack long-term, legally-binding management plans protecting them from degradation



94,518 MILES
STREAMS FLOWING ON PRIVATE LANDS

30,756 MILES
STREAMS FLOWING ON PRIVATE LANDS THAT ARE CONSIDERED KEY AREAS FOR CONSERVATION EFFORTS*

1/3
OF ALL STREAMS THAT FLOW ACROSS PRIVATE LANDS ARE CONSIDERED KEY AREAS FOR CONSERVATION EFFORTS

* Stream miles calculated in geographic information system software using the National Hydrology Dataset for New Mexico. Land Ownership Data from US Bureau of Land Management (2014). Conservation Data: New Mexico Department of Game and Fish. 2006. Comprehensive wildlife strategy for New Mexico. Santa Fe, NM.

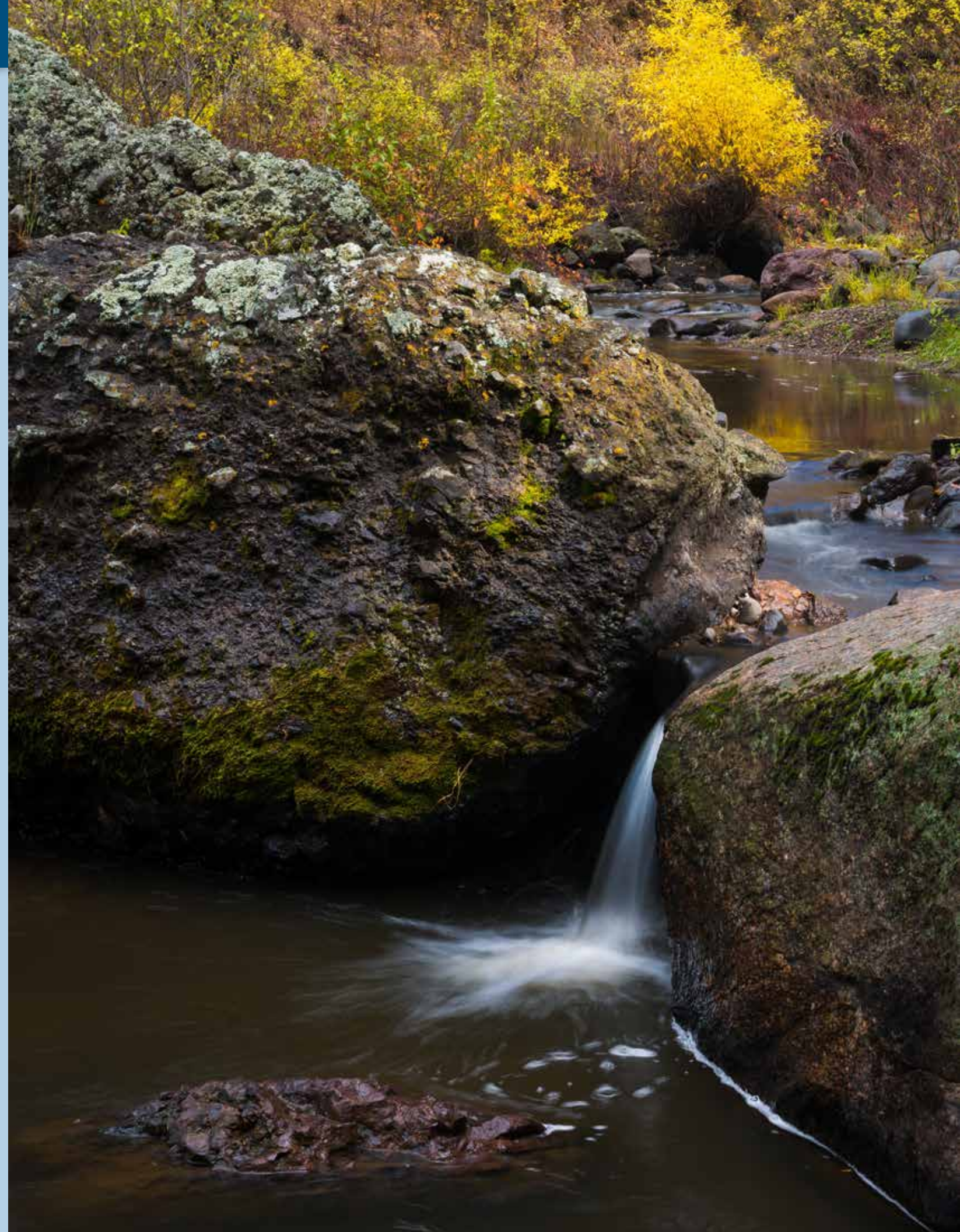
WHY THIS MATTERS



Wildlife is important both to ecological health and to the state's economy. A report released by the New Mexico Department of Game and Fish found that hunting and fishing contributed \$664 million to the state's economy in 2014.



The management of private lands directly impacts the state's wildlife, its economy and its citizens. For example, winter habitat on private land sustains game populations that migrate to public areas in warmer months.

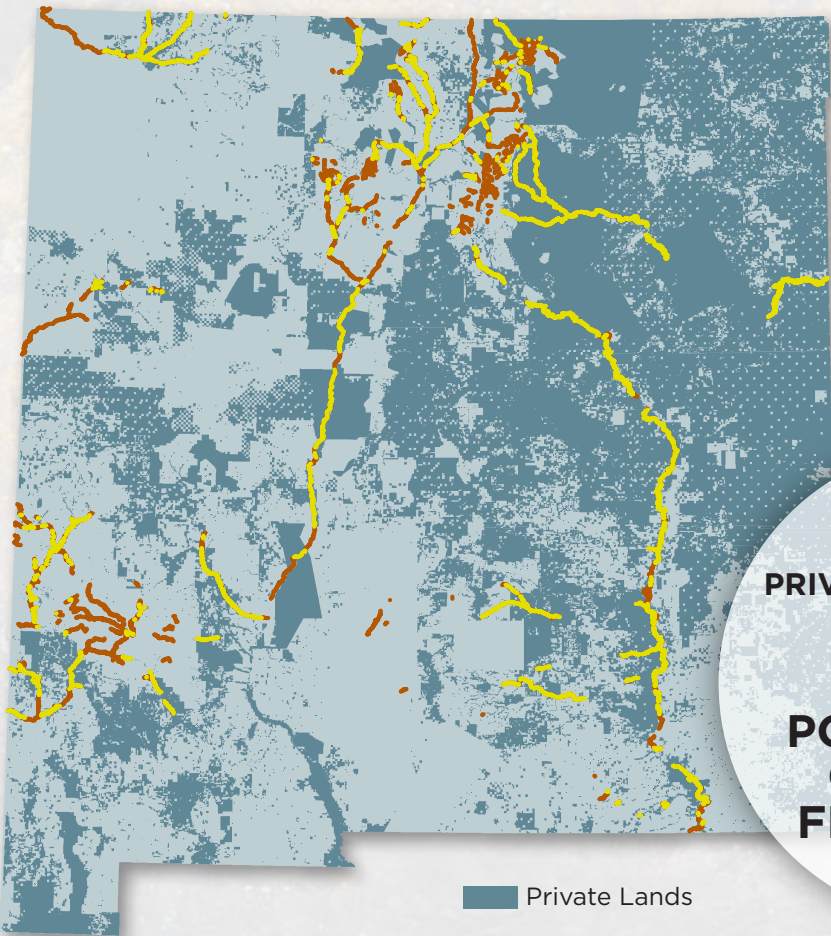


IMPORTANCE OF PRIVATE LAND MANAGEMENT FOR SUSTAINING NATIVE FISH POPULATIONS



NATIVE FISH SPECIES

- Desert sucker
- Zuni bluehead sucker
- Sonora sucker
- Flannelmouth sucker
- Rio Grande sucker
- Blue sucker
- Pecos pupfish
- White Sands pupfish
- Greenthroat darter
- Pecos gambusia
- Gila chub
- Chihuahua chub
- Rio Grande chub
- Roundtail chub
- Rio Grande silvery minnow
- Headwater catfish
- Arkansas River speckled chub
- Spikedace
- Arkansas River shiner
- Rio Grande shiner
- Pecos bluntnose shiner
- Rio Grande cutthroat trout
- Gila trout
- Colorado pikeminnow
- Loach minnow
- Razorback sucker



Streams flowing through private lands that include viable populations of native fish species

Streams flowing through public & tribal lands that include viable populations of native fish species

1,589
PRIVATE STREAM MILES
INCLUDE VIABLE
POPULATIONS
OF NATIVE
FISH SPECIES

Stream miles calculated in geographic information system software using the National Hydrology Dataset for New Mexico. Land Ownership Data from US Bureau of Land Management (2014). Fish Species Data: The Nature Conservancy (2007 and 2009), Santa Fe, NM.

WHY THIS MATTERS

Rio Grande cutthroat trout are imperiled. Landowners are helping sustain populations of these critical species by providing areas for them to spawn and survive the harsh winter months.

More private efforts to bolster these populations will help New Mexico's economy by reducing the likelihood of federal Endangered Species Act restrictions on grazing, energy production and other important activities on public lands.

CATTLE
GRAZING



OIL & GAS
DEVELOPMENT



FORESTRY
& BIOMASS



HUNTING



WIND
ENERGY



FISHING



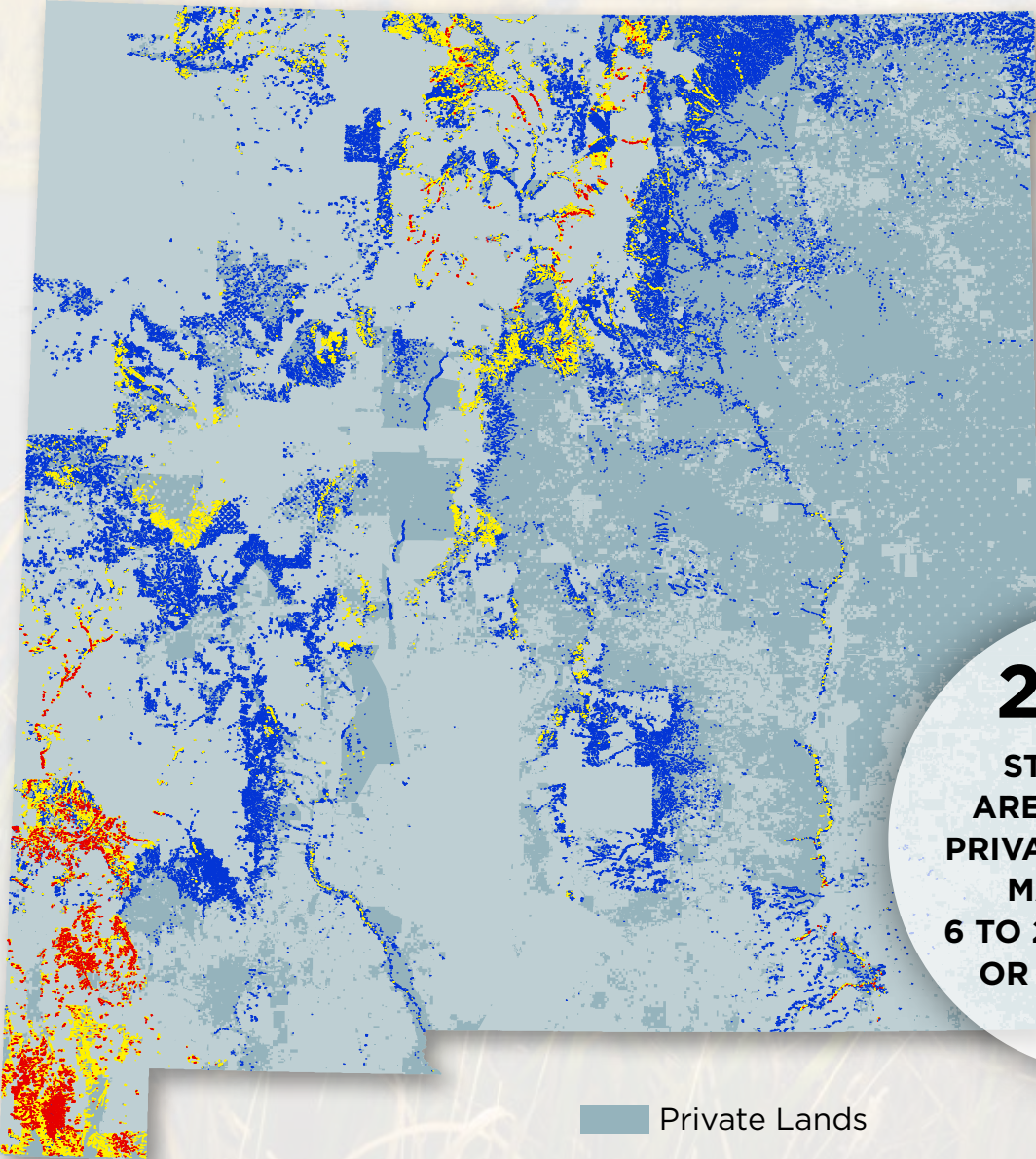
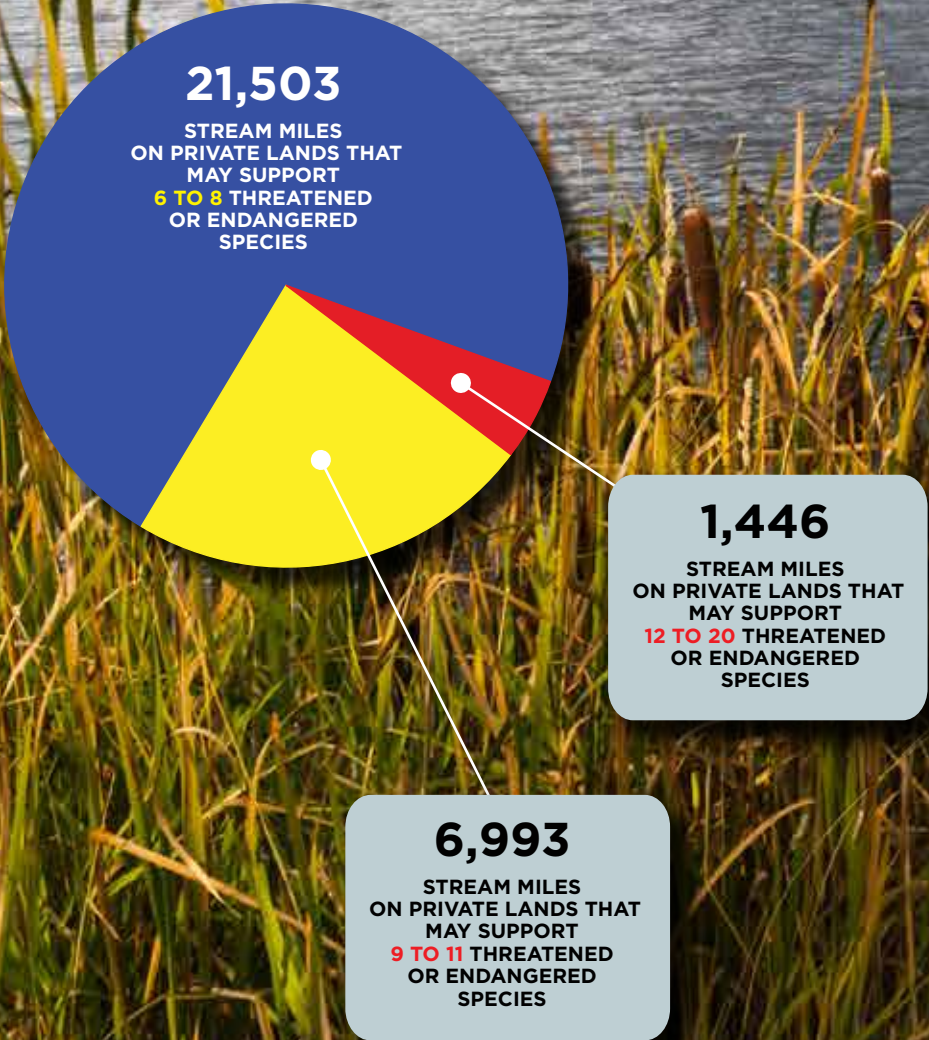
CONSERVATION



SOLAR
ENERGY



IMPROVING HABITAT FOR THREATENED & ENDANGERED SPECIES



Stream miles calculated in geographic information system software using the National Hydrology Dataset for New Mexico. Land Ownership Data from US Bureau of Land Management (2014). The T&E potential habitat models were obtained from the Center for Applied Spatial Ecology with the New Mexico Cooperative Fish and Wildlife Research Unit at New Mexico State University. The potential habitat layers are based on SWReGAP land cover data from 2001. The Nature Conservancy in New Mexico created the combined potential habitat layer in 2009.



Many of New Mexico's fish and wildlife species are vanishing. According to the New Mexico Department of Game and Fish, 118 species and subspecies are on the list of threatened and endangered New Mexico wildlife. Just as bees are vital to the pollination that enables us to grow food, all other species evolved to perform important functions in our ecosystems. As they disappear, the health of our lands, water and agricultural systems decline.

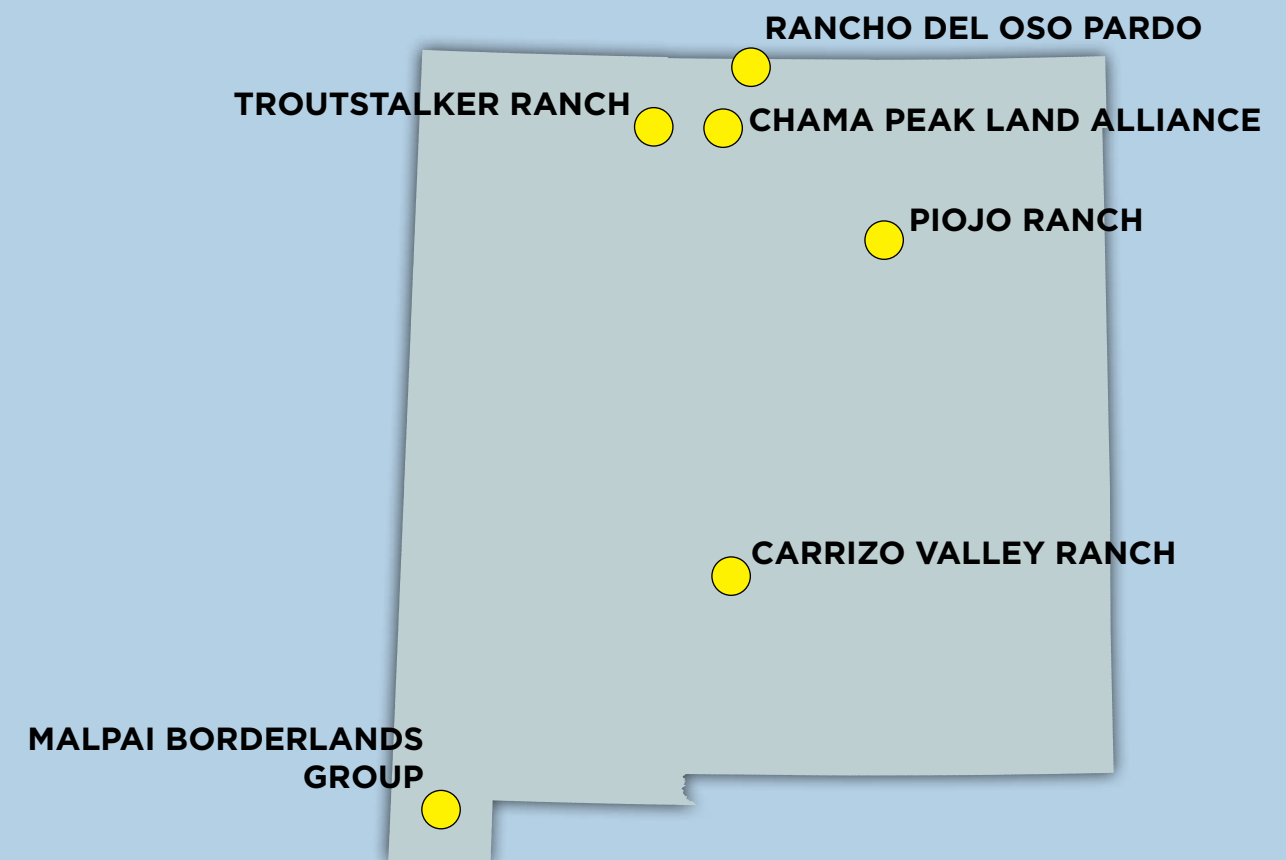
When species are reduced to such low population numbers that they become federally listed as threatened or endangered, this also impacts rural livelihoods, local economies and the abilities of landowners to manage their lands.

Landowners have a critical role to play in recovery efforts—they manage 44 percent of New Mexico's land and 40 percent of our state's streams. When landowners voluntarily manage for the conservation and recovery of native species, they provide a service to all New Mexicans. Their investments can help avoid or even reverse federal listings—a benefit to New Mexico ranchers, the state's energy industry and taxpayers.



LANDOWNERS ARE INVESTING IN NEW MEXICO

Many landowners are working around the state to ensure that resources and opportunities remain for future generations. Policies that encourage and support voluntary stewardship by private landowners will help make this possible. The following profiles feature exemplary landowners investing in their land to benefit their communities.



RANCHO DEL OSO PARDO

It's easy to see why Aaron Jones refers to segments of Rancho del Oso Pardo as a refuge. Situated just under the headwaters of the Río Chama, this 30,000-acre expanse that stretches from northern New Mexico into Colorado touts stands of young aspen, a 10-mile stretch of pristine river and one of the healthiest populations of Río Grande cutthroat trout in northern New Mexico.

Owned in the 1800s and early 1900s by the Edward Sargent and T.D. Burns families, Rancho del Oso Pardo was formed about 30 years ago with the vision to protect and restore the land and water, and in turn support habitat for fish and other wildlife. "The first thing we did was exclude grazing from the river riparian areas. Even if it meant hauling water for the cattle, we would haul water rather than let them into the river system," said Ranch Manager Aaron Jones.

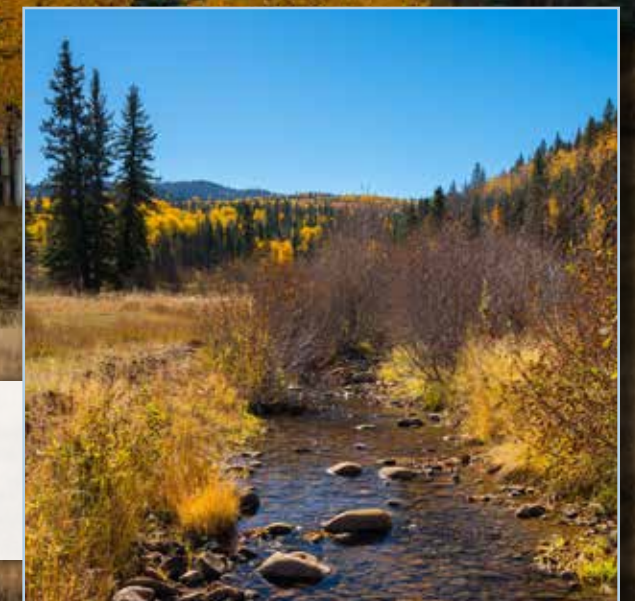
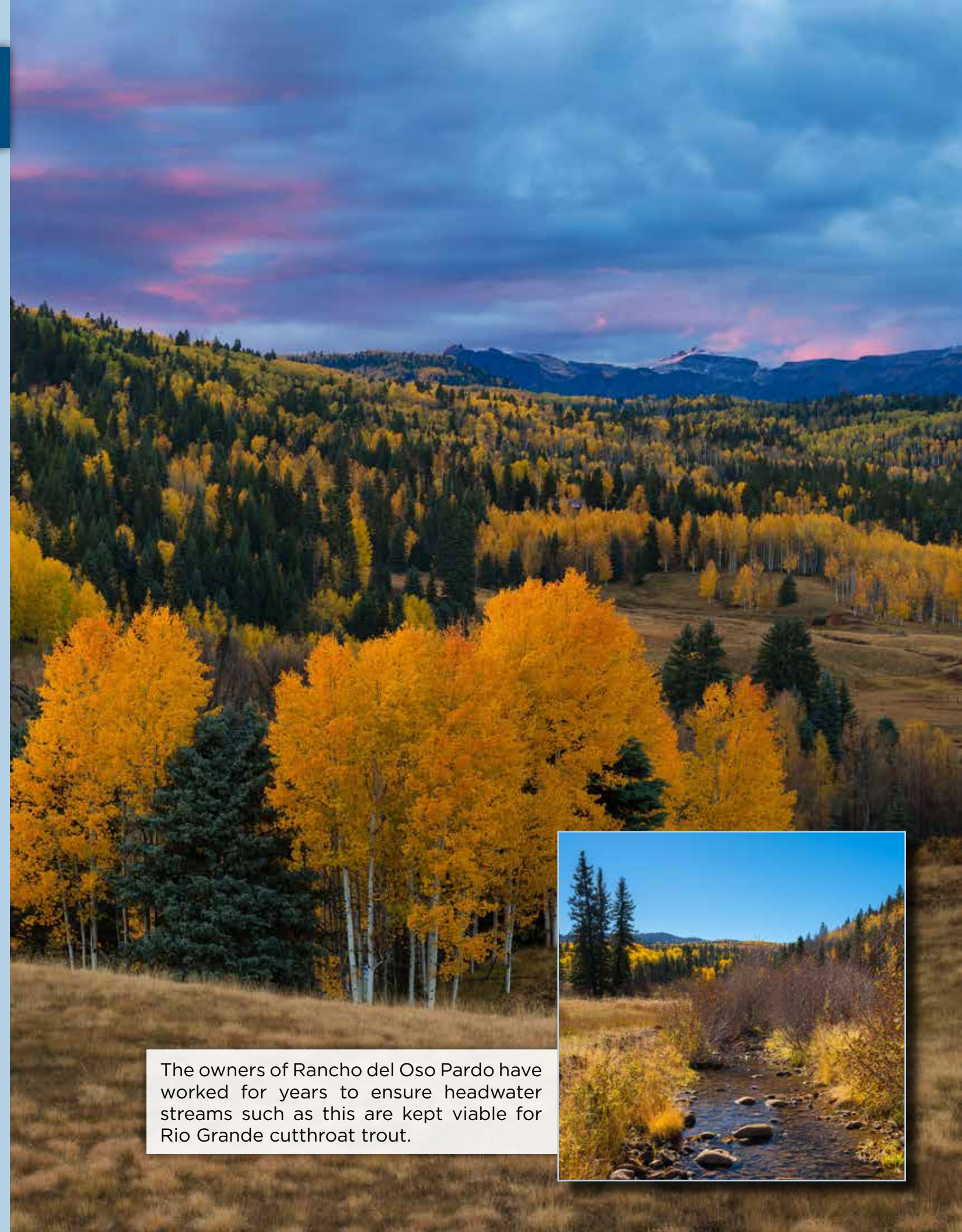
Other stream improvements include planting willows and alders, restoring eroded banks, putting in rock structures and creating pool mix habitat for fish. The ranch has a no-take policy for its rivers and streams, and only fly-fishing is allowed. Jones says that these efforts and policies "allow the fish to be fish." The Río Grande cutthroat and other species that have benefited from the ranch's restoration projects move up and down the waterways, impacting recreation outside the ranch. Like the fish, "elk and wildlife leave the property and go someplace else. It's why you find so many people on our fence line," Jones said.

The ranch is implementing a fire management and land stewardship plan, thinning and preparing the slopes above the Chama River. Jones says his "number one concern is you get a fire on these slopes, and you get all that rain and runoff and all of a sudden there's sediment" in a river that supplies drinking water to the Village of Chama, Santa Fe and Albuquerque.

Aspen regeneration has been no small task, as young aspen are "like candy" to elk and cattle. With the help of a consultant, the ranch classified aspen and identified those that needed to be cut in order to promote new growth. The results were significant, generating new growth of between 5,000 and 25,000 stems per acre. Early in the process, Jones says that ranch staff was impressed with how many trees were growing. Then, four or five years into the project, they began to wonder "how many trees can an elk eat?" The ranch changed its approach and now uses slash from timber sales to build brush fences around young stands. "We've done about 300 acres of aspen regeneration," with no plans of stopping.

The ranch has also moved quickly to beat the spread of bark beetle that has devastated thousands of acres of Engelmann spruce on public and private land. They've removed trees killed by bark beetle and planted nearly 11,000 new trees.

Rancho del Oso Pardo's practices improve recreation, water quality and the aesthetic beauty of the Land of Enchantment for all New Mexicans.



The owners of Rancho del Oso Pardo have worked for years to ensure headwater streams such as this are kept viable for Río Grande cutthroat trout.

TROUTSTALKER RANCH

Just south of Chama, the Troutstalker Ranch is a work in progress and a labor of love for Dan and Ashlyn Perry. The 1,300-plus-acre property contains 140 species of birds, including a bald eagle; seven buffalo (and, with five of them expecting, a few more on the way); a former homestead; an 11-acre lake stocked with rainbow trout; and the confluence of the rivers Chamita and Chama.

Early on, the Perrys noticed that something was not quite right about the water flowing from the Chamita into the Chama. Unlike the clear, gurgling Chama, the Chamita was a murky greenish brown. Testing revealed that the Village of Chama's wastewater treatment facility was not properly treating the water it discharged into the Chamita, creating many problems including a public health hazard and negatively impacting the fishery, an important local economic resource.

On learning that the village lacked the resources to upgrade their facility, the Perrys helped build a broad public coalition to help the village secure the necessary funds from the state legislature. With support from the New Mexico Department of the Environment, the legislature and Gov. Susanna Martinez, an appropriation was approved. To further support these efforts, the Perrys donated nine acres of the ranch to the Village of Chama for the new facility.

"Having these two rivers on the ranch is just amazing for the wildlife," Dan says, gesturing toward the sections of the Chama they've restored. "All the animals like to go down there, sleep, hide out. They have protection, they have water." It provides a vision for what the Chamita will be when the cleanup is complete.

Another challenge facing the Chamita was due to excessive irrigation diversions upstream that in some seasons dried the channel out entirely. The Perrys negotiated with the ditch association to maintain diversions within appropriate limits, thus securing more water for the river and improving the fishery.

Three hundred acres of the ranch are protected by a conservation easement, providing permanent protection for open space and wildlife. Dan says, "It was just the right thing to do."

The Perrys have also invested in improvements to the mile-long stretch of the Rio Chama that crosses their land. Their efforts have improved the natural flow and function of the river and riparian system by stabilizing the banks and restoring the river's curves, planting vegetation, improving habitat, and creating deeper areas for fish to weather the winter and the dry summer months.

The benefits of the Perrys' investments into the Rio Chama and Rio Chamita extend far beyond their property. Thanks to their leadership and stewardship, water quality, water quantity, the local fishery and related economy, wildlife habitat, and public health and safety have all significantly improved.



The Perrys have made significant progress in helping stabilize stream banks and return the Rio Chama to its natural meandering flow patterns.

PIOJO RANCH

It's the mark of a life well lived to leave things a little better than you found them. Judith McBean passed away in early November, 2014, and though her northern New Mexico Piojo Ranch is but one marker, it is a testament to the ethos by which she lived: take care of the land, keep the river beautiful, keep the animals happy, give it time.

Clint Hoss, who manages the 2,000-acre working cattle ranch, says Judith was drawn to the property 12 years ago. She grew up on a ranch in southern California, and though she'd lived all over the world, she loved this place for the climate, the access to cattle, her passion for cutting horses and the flow of the Mora River through the property. "She would come out and ride every day...help feed cattle or move them to a new pasture, look for elk, look for heron."

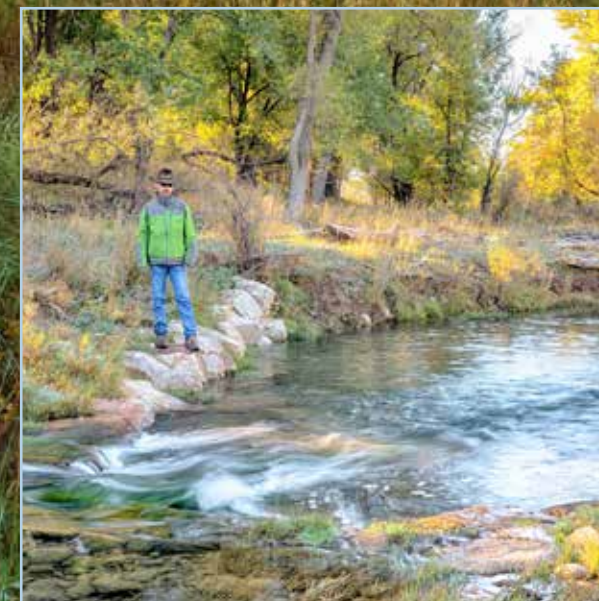
The improvements began in earnest five years ago with the realization that the operation's use of fossil fuels for mowing and tractor work were not helping the bottom line. They shifted to rotational grazing and now the property is split into 25 pastures for 300 yearlings. An additional 100 animals on nearby leased land has the ranch's organic, grass-fed beef business back to pre-drought levels. (In 2013 the drought forced the ranch to destock all but 12 of its animals.) You'll find Piojo Ranch beef at Whole Foods markets and at La Montañita Co-op.

In 2014, the ranch embarked on a river restoration project, opening the natural river channel, stabilizing the banks to prevent erosion, and improving the river bottom in order to slow the water. The restorations and improvements have aided Piojo in its recovery from the drought, as well as its capacity to weather New Mexico's flash floods. Says Hoss, "A flood came through here in August, and you don't see any damage from that water." Instead you see clean, flowing water and grasses in the floodplain.

The rocks and tree trunks that now line the river bottom and banks were already on the ranch. The dirt that came out of the old river channel was feathered back in along the banks and riparian areas, creating a natural appearance and function.

Hoss says the real fruits of their labor will unfold over time. "Everyone who puts something in wants to see it right away, you know the next day, and the biggest thing is just to give it time."

With Judith's passing, ownership of the ranch shifts to her daughter Natasha Hunt, who will continue working with Hoss to complete the final phase of the river restoration project, thereby taking care of the land, keeping the river beautiful and the animals happy over the course of time.



Clint Hoss and his crew opened up the river channel and stabilized its banks to help slow the water and ameliorate the effects of drought.

CARRIZO VALLEY RANCH

When Sid Goodloe purchased his Carrizo Valley Ranch in 1956, he was a ranch hand looking for a place where “the cattle could harvest the grass instead of me.” What he found were swaths of the 3,500 acres overrun with juniper, ponderosa, and pinion, some so thick, “you couldn’t ride a horse through it.” To the untrained eye, rolling hills covered with trees in such close proximity to the Capitan Wilderness and Lincoln National Forest might seem like the natural order of things. But to Sid Goodloe, something was amiss. “This was originally a savannah.”

He’s spent the last 58 years restoring the ranch’s open grasslands through rotational grazing and restoring natural cycles of fire through prescribed burning. “After the civil war they brought hundreds of thousands of sheep and cattle out here and they took all the fuel off the ground and we didn’t have any fire so these ponderosa came in here.” Since the 2012 Little Bear fire that destroyed over 40,000 acres and more than 300 homes, the Forest Service has restricted the use of fire, and so Sid has returned to heavy equipment, chainsaws and herbicide to combat invasive trees and restore the land to its natural state.



He’s brought this same intentionality and care to the ranch’s water by restoring riparian zones, converting a dry channel to an ephemeral stream, stabilizing (and in some cases, recreating) riverbanks, and retaining water on the land. What was a raw, boulder-strewn canyon is now a stand of willows along a creek, the area fenced off for now to protect it from growing season overuse. He’s planted nearly 1,500 willows on the property. Thanks to these efforts, the water table has risen, benefiting land health, agricultural productivity and wildlife.

Sid and his wife Cheryl have conserved portions of Carrizo Valley Ranch through a conservation easement, in which a landowner donates or sells their development rights. Donated easements can qualify for tax credits and also reduce the estate tax burden. In this way, Sid’s children and grandchildren can remain on the land without having to sell portions of it in order to pay the estate taxes – a challenge for many ranching families. “I wanted this to stay a ranch because I wanted my great-grandkids and their kids and their kids to be able to grow up in a rural environment and teach them values that they never get in the mall – dependability and work ethic and things like that.”

Though Carrizo Valley Ranch has been known for its natural, grass-fed beef, the Goodloes have scaled back their operation due to three years of drought. The summer and fall of 2014 have changed the look of the ranch because of adequate rainfall. Fee hunting for mule deer and elk have become a significant source of income. He has a sawmill on site and sells lumber, firewood, and vigas. He also sees the ranch as a kind of outdoor classroom and welcomes those who want to know more about the conservation techniques he’s implemented.

“We’ve found it profitable to work with nature,” he says.



DRYLAND STREAM RESTORATION

(Photos courtesy of the Goodloes)



The Western Landowners Alliance is a West-wide network of landowners advancing policies and practices that sustain working lands, connected landscapes and native species. Because private lands occupy the most agriculturally productive and biologically diverse portions of the landscape, landowners have a critical role to play in shaping the future. We provide a collective voice, peer network and shared knowledge base for landowners striving to keep the land whole and healthy.

The Western Landowners Alliance advances solutions that:

- Strengthen the economic viability of our lands while ensuring ecological integrity and wise resource use.
- Balance energy development with other resource needs.
- Conserve our water resources.
- Respond to a changing climate.
- Ensure that the biological diversity that sustains our ecosystems and our human communities can endure into the future.
- Pass healthy lands and the knowledge to manage them down to future generations.

Working together, the members of the Western Landowners Alliance are demonstrating that conservation and productive working lands can be synonymous, and provide significant benefits to landowners, ecosystems and the public.

WesternLandownersAlliance.org | 505.466.1495

CHAMA PEAK LAND ALLIANCE

This association of conservation-minded landowners works collaboratively to practice and promote ecologically and economically sound land management in the southern San Juan Mountains of Colorado and northern New Mexico. The quality and availability of more than 30% of New Mexico's water supply depends in great part upon their land and resource stewardship. Learn more at www.chamapeak.org.

In New Mexico, landowners in the Malpai Borderlands Group and the Chama Peak Land Alliance are improving the health and prosperity of their working landscapes through collaborative stewardship.

MALPAI BORDERLANDS GROUP

Based in southwestern New Mexico and southeastern Arizona, the goal of ranchers in the Malpai Borderlands Group is to restore and maintain the natural processes that create and protect a healthy, unfragmented landscape to support a diverse, flourishing community of human, plant and animal life in the borderlands region. Their efforts have lead to the restoration of fire, the support of profitable ranching operations, habitat improvements and the conservation of numerous wildlife species. Learn more at www.malpaiborderlandsgroup.org.

POLICIES THAT SUPPORT PRIVATE LAND STEWARDSHIP BENEFIT ALL NEW MEXICANS & SAVE TAXPAYERS MONEY

For water security, agricultural productivity, wildlife management, and rural livelihoods, New Mexico depends heavily on private lands. Voluntary stewardship on the part of landowners benefits all New Mexicans, saves taxpayers money and improves our economy.

We need policies and financial incentives that enable landowners to:

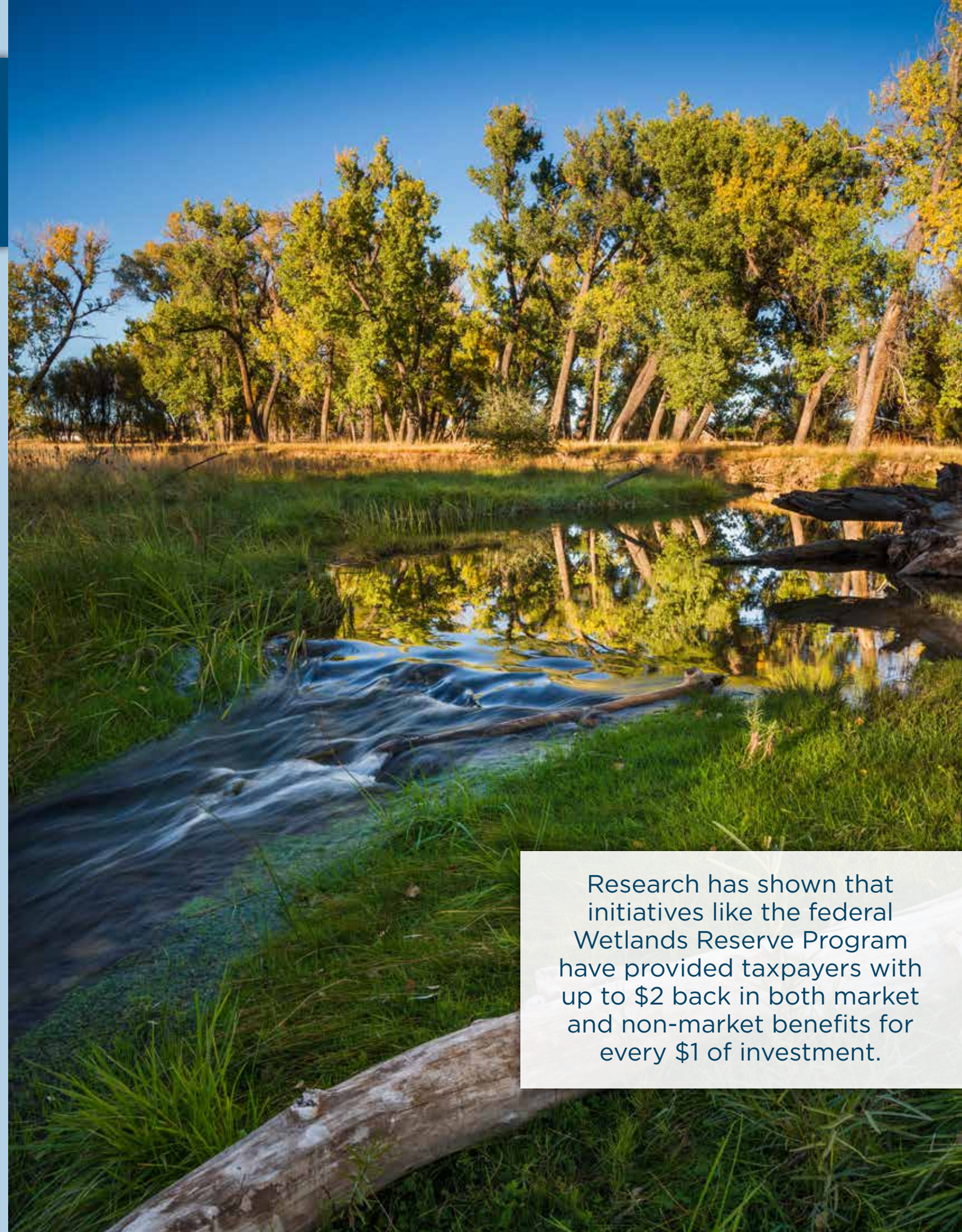
- Conserve water and manage for healthy streams and watersheds
- Maintain acequias and agricultural productivity
- Participate in developing ecosystem services markets
- Manage for multiple objectives and diversified income opportunities
- Partner with state and federal agencies on priority conservation efforts
- Keep lands whole and in the family
- Conserve wildlife habitat and help recover imperiled species
- Maintain New Mexico's open space, scenery and places of special cultural value

Because numerous public benefits flow from well-managed private lands, programs that support and incentivize good stewardship make financial sense.

According to the tax watchdog group, Taxpayers for Common Sense, "simple conservation practices taken by farmers can provide taxpayers with a positive return on investment. USDA reports that minimum conservation standards and voluntary programs have significantly reduced soil erosion, protected wetlands, and enhanced water quality."

With increasing pressure on our lands and natural resources, there is a greater need than ever to work together. There are also emerging opportunities such as wetlands mitigation banking, habitat exchanges and other forms of ecosystem services payments that can help conserve New Mexico's land and water while also creating jobs and supporting ranchers and farmers.

Financial incentives, new economic opportunities and policies that support the conservation and stewardship of private lands can create a resilient and prosperous future for New Mexico.



Research has shown that initiatives like the federal Wetlands Reserve Program have provided taxpayers with up to \$2 back in both market and non-market benefits for every \$1 of investment.



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