

Rancher Takes a Chance on the Black-footed Ferret —Official Release held September 26, 2018 on the Wagon Mound Ranch

Rancher Greg Moore is a land steward in the true sense of the word. Every decision made, every action taken on his 25,000-acre Wagon Mound Ranch in the northeastern part of the state is done with consideration of the health and improvement of the land for all those who depend on it, including himself, his herd of 400-some cows, and the wildlife that live on and pass through the ranch. The ranch is under conservation easement, held by NMLC, “to protect it from development,” Greg explains, and to preserve all the improvements he’s made on the property over the years.

Greg is a keen observer. He sees things on his land, sees changes, makes connections between various causes and effects, notices the impact of man’s and nature’s interaction on the ranch. And he’s willing to take some risks, to practice some perhaps “alternative” approaches to ranch management that may be misunderstood by those less willing to work *with* nature.

“I consider myself more of a resource manager than a rancher,” Greg states. As such, he is committed to managed grazing, among other practices, which have improved both the land and the condition of his cattle. But it goes deeper than that.

“If it’s good for wildlife, it’s good for cows,” Greg contends, based on his observations that the two aren’t mutually exclusive, and can complement each other, if managed correctly. Which leads to Greg’s most recent land management project.

Who’s the villain?

Greg has a prairie dog town on the ranch, with about 6,000 prairie dogs thriving on (and beneath) 600-700 acres. Unlike some ranches where the prairie dog towns cover huge areas of now-bare ground, Greg’s prairie dog town is mostly covered with some growth. But the prairie dogs are

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Photo by Robert Muller

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Message From Our Director

Dear Friends,

Well, it's that time of year again. The leaves are turning, the first snow has fallen and the holidays are just around the corner.

Our country and state are facing a number of important issues ranging from the economy, our environment, health, education and immigration. What is very clear from the number of negative ads and all the social media commentary surrounding the recent elections, is that the country is very divided and polarized right now on how best to address these issues.

I can honestly say that I find a great degree of personal satisfaction and solace from doing exactly what we do at the New Mexico Land Conservancy ... quietly protecting and conserving land. It's rewarding because it's tangible,

it's permanent and it's so necessary and relevant in these trying and challenging times.

Without a doubt, our state needs economic development and with that development will come a certain amount of new population growth and associated infrastructure. As a land trust, we've never been opposed to that – we just want to make sure that it's well planned and that it ideally occurs in the right (most appropriate/suitable) places. But as this economic development and growth is occurring, we want to ensure that we are not compromising the environment and valuable natural and cultural assets in such a way that we are permanently undermining and potentially sacrificing what makes New Mexico such a special place to live.



Our role as a land trust is to assure that, as the state develops and grows, we are also taking into consideration and protecting those special places, including significant, viable, representative samples of our biological/ecological diversity, and ensuring the sustainability of critical resources/assets like wildlife, productive agricultural land, cultural resources, scenic vistas and perhaps most importantly, water. We also believe that, if economic development is going to have significant, negative impacts on our land, water and resources, those impacts should be minimized to the fullest extent possible or at least equitably mitigated, offset and/or compensated for.

The state's economy is largely driven by and dependent upon oil and gas development, which occurs primarily in the northwest and southeast parts of the state. Oil and gas currently generate between \$10-\$15B in combined annual revenue, which produces approximately \$2B in annual tax revenue for the state. This source of revenue is expected to grow substantially over the next few years with projected increases in oil and gas leasing and drilling in the Permian Basin alone.

The question is, what are we willing to sacrifice to satisfy our energy and economic development needs? Earlier this fall, as part of its *Unearthed Series – Exploring Oil and Gas Issues in New Mexico*, the non-profit organization CAVU hosted a film premier and panel discussion in Santa Fe entitled – *Is New Mexico Ready to Become the Next Saudi Arabia: A Conversation on the Oil Boom in New Mexico*. While acknowledging the incredibly important role of oil and gas to the state's economy, the film and discussion drew attention to the associated social and environmental impacts and externalities of the industry in the northwest and southeast parts of the state. Increasing levels of production have essentially overwhelmed the capacity of responsible federal and state government agencies to enforce existing environmental regulations, as well as the capacities of local communities and state

to provide and maintain water, infrastructure, housing and basic services.

There was a lot of discussion about the need to transition from fossil fuels to renewable sources of energy like wind and solar, but also a recognition that something will have to bridge the gap because oil production is a multi-billion dollar industry, generating \$2 billion in tax revenue alone for the state while wind and solar is just a multi-million dollar industry, currently generating on average only \$7 million of tax revenue by comparison. It has been noted that New Mexico has tremendous potential to scale up wind and solar production, but, in order to do so, we must significantly expand the existing transmission grid. Renewable energy development and the associated transmission lines will come with their own impacts and tradeoffs.

So, again, we are back to the question – what are we willing to sacrifice? With projected increases in oil and gas production, if managed properly, New Mexico stands to benefit from hefty annual surpluses in the \$500M - \$1B+ range. But New Mexico needs to use these kinds of resources wisely to support good planning combined with conservation and protection of our land and water. New Mexico needs to be thinking ahead and figuring out how best to transition to more renewable forms of energy development in ways that maximize existing infrastructure and minimize impacts to critical resources, and that ensures long-term protection for and conservation of the very attributes that make New Mexico such a special place to be.

For every dollar of revenue generated from energy production, we'd like to suggest that at least 10 percent be set aside and invested in land and water protection, conservation and restoration in New Mexico. It's something for recently elected officials, government representatives and citizens alike to be thinking about going into the state legislative session early next year.

For our land and water,



Scott Wilber, Executive Director

"I can honestly say that I find a great degree of personal satisfaction and solace from doing exactly what we do at the New Mexico Land Conservancy ... quietly protecting and conserving land.

It's rewarding because it's tangible, it's permanent and it's so necessary and relevant in these trying and challenging times."

Photo by Kerry Sherck

NMLC attends 'Wind Energy & Wildlife in New Mexico'

—A workshop organized by the American Wind & Wildlife Institute (AWWI)

A substantial portion of New Mexico from north to south is within what has been identified as a prime wind corridor in the West, triggering a surge of wind development in the state. Wind energy is inevitable and considered "clean," but there can be substantial impacts to wildlife, particularly birds and bats, if the turbines are not properly sited and designed. To address this, the American Wind & Wildlife Institute (AWWI) organized a two-day workshop in Albuquerque earlier this fall, bringing together wildlife biologists, govern-

ment agencies, conservation nonprofits, and representatives from a handful of wind development corporations currently operating (or seeking to) in New Mexico, to present research and share information and concerns.

The AWWI workshop was intended to increase awareness and explore potential solutions to the wildlife affected by both the increasing size and impact of the wind turbines themselves and by the greater number of turbines necessary to generate the projected energy demands.

Per its website (awwi.org), "AWWI was founded in 2008 by leaders from the wind industry and conservation and science organizations with the vision of achieving wind energy's full conservation potential through sound science and collaboration. AWWI's founding partners provided expertise and financial backing to build a new, independent organization to carry out this vision."



(Photo courtesy of the National Renewable Energy Laboratory (NREL), a national lab of the US Department of Energy.)

In Memory of Moo Thorpe

This summer, we lost a valued board member and friend, Moo Thorpe, who passed away on June 9, 2018, after what she called a six-year "dance" with cancer.



Moo was a native New Mexican whose family owned and operated Bishop's Lodge in Santa Fe for many years. She grew up hiking and running the trails around Santa Fe and northern New Mexico. After obtaining a degree from Middlebury College in Vermont, Moo returned to Santa Fe and developed a very successful career in real estate. When she wasn't working, she enjoyed spending time with her family, the outdoors, and singing while playing her guitar and banjo.

Moo served NMLC as board member from 2009 until January 2018, several of those years as board Treasurer. Moo's passion for the land, combined with her professional experience and expertise, helped NMLC expand its capacity and achieve greater conservation successes during her tenure. She will be greatly missed.

In lieu of flowers, Moo's wishes were that donations be made to the New Mexico Land Conservancy or to another local nonprofit, the Upaya Zen Center, in Santa Fe. To date, NMLC has received more than \$10,000 in donations in memory of Moo from her loving friends, family and business associates.

We are deeply grateful to Moo and to all those who honored her memory with a contribution to our mission: to preserve New Mexico's land heritage by helping people conserve the places they love.

New Mexico

—A cultural heritage as diverse as the land it inhabits

By: Stephen S. Post, Archaeologist

Traces of past humans moving across and living on the landscape are virtually everywhere in New Mexico. Paleoindian hunters spear points, Archaic hunter-gatherer dart points and grinding tools, Ancestral and Historic Puebloan village mounds, and house foundations marking Spanish, Territorial and Statehood settlements, homesteads and ranches define a cultural heritage as diverse as the land it inhabits.

Covering 77 million acres, ecoregions of temperate sierra, mountain forests, deserts, and grasslands offer a rich biotic and geologic diversity that sustained and shaped New Mexico's seasonal and permanent residents for 12,000 years.

New Mexico's arid climate preserves durable items left on the surface or buried. Preservation and visibility of archaeological sites has attracted archaeologists to New Mexico for 130 years. A site can be most broadly defined as a physical or material manifestation of human presence on the land. Thoughtful and rigorous analysis of the materials and built features found on sites leads to interpretations of the cause and effects of human to environment and human to human relationships. Often the distribution of archaeological sites across a landscape or the repeated use of a place over thousands of years can inform on patterns of stability and change in past environments and eozones.

To date, archaeologists have registered 193,000 sites with the New Mexico Cultural Resource Information System.

Considering that archaeologists have surveyed only 12% of New Mexico lands, there may be more than a million sites yet to be documented – and the majority are likely to be found on private land.

On privately owned land, preservation of archaeological sites is a landowner choice. I have found that most landowners are well

informed about local and state history and already know where the important sites are located on their properties. Many will manage their activities to avoid and protect the sites, which is responsible stewardship. Sometimes landowners, who are unsure of their archaeological site locations, will go the extra step and seek the advice of or a limited study by an archaeologist.

Preservation of cultural resources is a defined conservation value. Therefore, on land where cultural resources or significant archaeological sites are known, initial documentation is key to their integration into management practices and long-term protection. With accurate site documentation, landowners and conservation easement holders work with the same expectations and goals. In recent years, NMLC has reached out to me to help them identify and understand the significance of archaeological properties on existing and potential conservation easements. This early step helps to determine if the archaeological sites constitute a valid conservation value and begins the conversation about how they can be protected and preserved.

Preserving a 5,000-Year Legacy

The Forked Lightning Ranch is owned by Kim and Scott Sheffield who have an ongoing interest in their ranch's history and the 30 archaeological sites documented by the University of New Mexico in the early 1980s. Abutted by Pecos National Historical Park on the north, the Pecos River winds through a broad canyon with high palisades and wooded uplands bordered by grassy pastures. Scatters of chipped stone, pottery, factory-made artifacts and architectural remnants define the archaeological sites dating from 3000 BCE (*Before Common Era*) to 1940.

In particular, the Sheffields have generously supported my initial research at three sites located on grassy benches above the Pecos River. The sites consist of cobble foundations from adobe-walled houses, sheds, and stables and scatters and concentrations of household refuse. Occu-



ried intermittently from 1814 to the 1920s, by 1870 they were home to 19 mixed-descent families of vecinos (tax-paying citizens), genízaros (detribalized Indians), and recently arrived Anglo-Americans. These and two other nearby sites I'm studying, formed a community identified in historic documents as Las Ruedas or "The Wheels."

Las Ruedas was initially settled in 1814, by one of three families who were awarded the Los Trigos Grant by the Santa Fe cabildo (city council). The families were instructed to plant, cultivate, fence, and occupy the land.

Unsafe conditions caused by periodic Indian raids interrupted and delayed settlement until the early 1840s. From the 1870 New Mexico Census for San Miguel County, we learn family members worked as blacksmiths, housekeepers, seamstresses, and farmers and farm laborers. On-site the artifacts tell us family kitchens had Puebloan-made bowls and jars and dishes obtained from merchants in San Miguel del Vado after the 1820s. Irrigated and cultivated bottomland produced fruits and vegetables, while sheep and goats were raised and butchered. Any surplus was traded to neighbors or bartered with merchants for an increasing supply of factory-made goods from the east.

By analyzing the artifacts found on these sites, I hope to learn about how these families coped with rapidly changing political and economic backdrops and how they interacted with the economic changes that came with the Santa Fe Trail trade and the completion of the Atchison, Topeka and Santa Fe Railway in 1879. The artifacts and house foundations present an opportunity to look at a community in constant transition who relied on social institutions and relationships to maintain their traditional identity and cultural practices.

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Right: Pueblo-made cooking and storage jars and Eastern factory-made table wares from a Las Ruedas household.

The artifacts and house foundations present an opportunity to look at a community in constant transition that relied on social institutions and relationships to maintain their traditional identity and cultural practices.

Photos Top & Center: Stephen Post overlooks turn of the twentieth century standing slab and block house walls on the Forked Lightning Ranch.



Right: Fragment of an unusual micaceous cooking jar from a Las Ruedas kitchen.



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A Recent Find by Fire

The Wagon Mound Ranch is 25,000 acres of short-grass plains, rolling hills and sandstone canyons cut by tributaries of Carrizo Creek, which empties into the Canadian River. Ranch owner Greg Moore is knowledgeable about the rich array of anciently occupied caves and overhangs, turn-of-the-twentieth-century sheep stations, and stone-tool making locations that mark 10,000 years of human movement across his land.

Last summer Greg invited NMLC's Connor Jandreau and me to see an archaeological site he exposed while burning cholla and juniper to regenerate grass for his cattle. Greg had found and correctly identified a cluster of 50 to 60 partial and complete rings and arcs of sandstone blocks and slabs once used to weigh down the edges of hide tents or tipis. He astutely surmised that smaller ones were left by the Plains Apache dog nomads and their predecessors and that larger rings were left by horse-adapted Apache and Comanche bands.

In July 2017, I spent a day with my colleague Chuck Hanaford marking and recording the rock alignments and associated flaked stone, pottery, and plant-processing artifacts. In rapid succession we mapped and measured 118 potential stone rings complete or partly dismantled, ranging from 8 to 17 feet in diameter within a 7.3-acre area along the south rim of the Cañon de los Cuevas. Water, forage, riparian bottomlands, and presence of fuel wood long attracted extended families of dog and horse nomads to this place.

We found corner and side-notched arrow point fragments, which were in use from 1100 to 1700 CE (*Common Era*). Sherds of a pottery type called Perdido Plain, which is



found along the short-grass plains and mesa/montane interface of Northeast New Mexico, allowed us to refine the occupation dates to 1500 to 1700 CE. The sherds remain from pottery jars left by Apache families during their transition from dog to horse nomadism. Stone flakes of Alibates flint and Jemez obsidian bracket a 270-mile territory for the nomads' movement between and interaction with other bands in the Texas Panhandle and villages along the Rio Grande Valley. A long occupation history, association with dog and horse nomads, and evidence for long distance movement and participation in cross-cultural relationships make the site important in local and regional history. While other large, undocumented stone ring villages undoubtedly exist in the Canadian River basin, this is the largest reported to date.

Landowners like Greg Moore and Kim and Scott Sheffield make a conscious choice to invite an archaeologist onto their cherished land. I look forward to, and hope for, more opportunities to share my knowledge of New Mexico's past while learning from those who preserve and protect it.

* * *

Archaeologist Stephen Post is a former Deputy Director for the NM Office of Archaeological Studies. Over the last 40 years he has studied more than 500 sites spanning 12,000 years of New Mexico's past.

Photo Top: Steve Post records a stone ring on the Wagon Mound Ranch. Left: Overview of Cañon del as Cuevas from the site. While other large, undocumented stone ring villages undoubtedly exist in the Canadian River basin, this is the largest reported to date.



The Legacy of Cara Madre Ranch



Brooke Gamble named her ranch Cara Madre – “mother’s face” in Spanish – in honor of her mother, Betty Gamble, who made the purchase of the property near Santa Rosa, NM possible.

“My mother was a conservationist and loved nature,” Brooke explained. “Years ago, she said to me, ‘rather than leave money when I die it would be wonderful if you can find a piece of land to buy, to enjoy now and to preserve for future generations.’”

In 2000, after three years of actively searching throughout the state, Brooke found the right place – nearly 5,200 acres of deeded land in Guadalupe County. “It’s a magical place – a mini grand canyon tucked away amidst the plains of eastern New Mexico,” Brooke said.

The real beauty of the gift was that prior to her death in 2012, Brooke’s mother was able to share in the joy of the land. “I would send her pictures of wildlife, the old cemetery, the artifacts we found . . . it was a wonderful experience,” Brooke added.

When Brooke first bought the property, “it was nothing but cow patties and dirt!” she laughs. About 300 cows had grazed the land bare. Her husband Bob thought the ranch wasn’t very attractive, but Brooke said, “Give it a few years to recover.” And now, with a little rain and rest from grazing, the grass is high and wildflowers abound. “The land heals if you let it,” Brooke added.

NMLC has nearly completed the due diligence for a conservation easement over the entire property at Brooke’s behest. “Although the tax benefits are a very nice perk,” Brooke acknowledged, “the reason [for the easement] was solely to preserve, in whole, a beautiful piece of land – for wildlife, for the environment, for future inhabitants of this world. My mom taught me to love nature from the get-go. Nothing moves me more than the natural world,” she added, “so how cool to be able to keep this little chunk healthy and intact.” The easement includes limited agricultural use of portions of the property, with grazing management requirements spelled out clearly at Brooke’s request.

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‘It took my husband and I ten years to spot our first arrowhead, but after finding the first one, the eye learns what to look for and now they’re much easier to see.’

Land rich in history . . .

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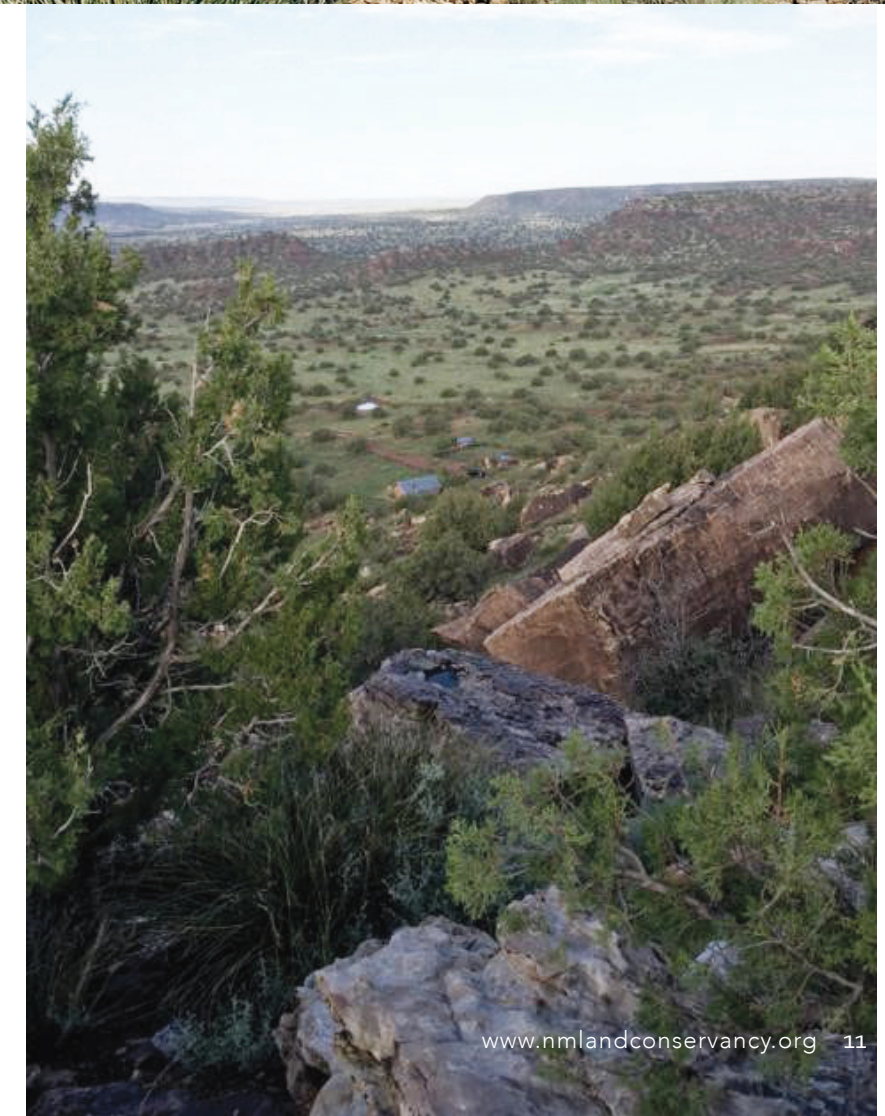
The property is rich with history and contains numerous pre-Columbian Native American sites as well as several relic dwellings of the early settler period which are culturally and historically important reminders of the early and continued use of the land by humans for millennia. The old San Ignacio church (circa mid 1800s) and cemetery are entirely contained within the property. Artifacts dating back to the Clovis period have been found on the ranch, and numerous archeological sites have been documented. Informal surveys by archeologists have revealed significant surface and subsurface artifacts and features associated with the Archaic period as well as other, rather peripatetic tribes such as the Comanche, who would hunt, stay awhile and move on.

"It took my husband and I ten years to spot our first arrowhead," Brooke said, "but after finding the first one, the eye learns what to look for and now they're much easier to see."

As part of the Baseline Document Report required for a conservation easement, a licensed state archeologist will formally survey and provide a report of the cultural conservation values found onsite. Meanwhile, Brooke continues to explore the property and find artifacts with histories as yet unknown.

Brooke reflected, "When I experience the quiet and stand in the vastness of the grass and sand and sky, I am in awe at the tenacity of the people who lived here before – those who built their adobe and stone homes and dry-land farmed watermelon and squash – amazed that there were enough homesteaders to build a church in this dramatic, but harsh canyon land. And they were the newcomers! When I sit at mesa's edge, and know that native peoples sat in the very same place a thousand years ago – because I just found a spear point or a mano in that very spot – I am amazed and humbled and grateful. Grateful to a mom who had a vision and grateful to have the opportunity to preserve and conserve the Cara Madre." #

'When I experience the quiet and stand in the vastness of the grass and sand and sky, I am in awe at the tenacity of the people who lived here before. . .'



Photos: Top left & center: Remnants of the original church, circa mid-1800s, and cemetery. Bottom far left: a cistern located near an old homestead onsite. (Photos by Connor Jandreau)

Top right: Brooke on horseback overlooking the Cara Madre. Left: Pintada after a rain. Bottom right: The ranch greened up following the rains. (Photos by Kim Richardson)

... Black-footed ferret release on the Wagon Mound Ranch

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there, "And when they stay too long in one spot, they can do some damage," Greg points out.

Greg's observations of the prairie dog area led him to an interesting conclusion: "I noticed that the cows and the wildlife liked to be there, on the prairie dog town – they would stay on it, grazing, and I got to thinking, maybe the prairie dog isn't the villain after all."

It's Greg's premise that lack of managed grazing is the real problem – that the grazing ungulates, wild and otherwise, are attracted to the forage that has been enhanced by the prairie dogs – then the prairie dog gets all the blame for the overgrazing. Greg speculates that if their population density is kept in check by natural predation, and they're encouraged to move, the prairie dogs can continue to help the grasses and especially the forbs that wildlife and cows need at different times of the year—and that it's the loss of the predator species that has thrown the prairie dog population out of balance with the environment.

So, Greg began to research the logistics of reintroducing the missing predator on his ranch. After more than a year of planning and waiting, this fall, the U.S. Fish & Wildlife Service (USFWS), working with New Mexico Game & Fish (NMGF) made good on its commitment to reintroduce the endangered black-footed ferret in New Mexico on Greg Moore's prairie dog town.

Restoring Balance

The black-footed ferret was listed as endangered in 1967. At one point there were only 17 known animals left alive



in the wild. Prairie dogs were dying off in great numbers from sylvatic plague, thereby eliminating the ferret's sole food source. Ferrets also caught the plague, decimating their populations further.

USFWS biologist and black-footed ferret recovery coordinator, Pete Gober, explained that in the early 1980s one last wild ferret colony was discovered in northwestern Wyoming, but it, too, was impacted by plague. "The few animals that were left had to be pulled into captivity," he said, which launched the USFWS's captive breeding program, located at the National Black-footed Ferret Conservation Center near Ft. Collins, Colorado. Together with five partnering zoos throughout the country, the program maintains around 300 ferrets and produces between 100-200 ferrets a year for reintroduction in the wild. Today, there are an estimated 300-400 ferrets living in the wild in the U.S.

The Wagon Mound Ranch release marks USFWS's 30th to date. While ferret rein-

Photo top: Rancher Greg Moore kicks off the event. Left: Jim Stuart, New Mexico Game & Fish, gives it a try.

troductions have been successful in other states, not so in New Mexico; most releases here have ultimately failed due to plague and drought.

Release Day!

Greg enthusiastically invited teachers, school children, neighboring landowners and other interested parties to the release, held on September 26, 2018.

"We want to thank Greg Moore for this opportunity," said NMGF non-game mammologist, Jim Stuart, who has been involved from the start of this project and is hopeful this reintroduction will be successful. Pete Gober drove down that day from the

USFWS Ft. Collins facility with eight ferrets – the number of ferrets determined by multiplying the estimated number of prairie dogs per acre times the number of acres in the prairie dog town. The ferrets have been vaccinated against plague, and NMGF plans to distribute treated food pellets for the prairie dogs throughout area to inoculate them as well.

Releasing the ferrets is a curious event. The little creatures arrive onsite, each inside a piece of flexible black tubing (as used in plumbing), each tube placed inside a small carrying case much like a cat carrier. The tube feels comfortable to the ferrets who naturally live in tunnels, and the tube makes it easier to direct the animals into existing prairie dog tunnels from the carrier.

As adorable as a child's stuffed animal, these cute-faced ferrets should not be underestimated. Their powerful bite can easily take off a human finger.

Jim selected eight prospective prairie dog holes and marked each with an orange flag. A ferret cage was positioned near the opening of each hole.

Photo right: Guess who? There are an estimated 6,000 of them on Greg's prairie dog town on the Wagon Mound Ranch.

"I noticed that the cows and the wildlife liked to be there, on the prairie dog town – they would stay on it, grazing, and I got to thinking, maybe the prairie dog isn't the villain after all."

Then one cage at a time, the door is opened, with the ferret facing forward, its head visible inside the black tube. The cage is tilted up, hoping the ferret will kind of "pour" down the hole. With all the commotion and visual distractions coming from the large crowd, however, the ferrets were reluctant to come out. When prodded gently with wooden sticks, the ferrets fired out LOUD startling chatters and retreated deep into their tubes.

Eventually, the ferrets did slip down the holes, often then popping their heads back up to swivel-scope out their new terrain. One ferret went down the hole, came back up, looked around, scrambled out, and ran off into the proverbial sunset. "We've got a runner!" said Pete. Evidently not uncommon, he added. "They usually just find a hole more to their own liking."

Jim Stuart and NMGF staff will follow up in a month to survey the area at night by "spotlighting" – using high powered lights to search for the ferrets' emerald eye-shine (reflection of the spotlight in their eyes). The ferrets have been microchipped. After spotlighting a ferret in a prairie dog burrow, a ring reader is placed over the entrance of the burrow to read the transponder chip when ferrets later poke their heads out of the hole.

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“We've got a runner! It's not uncommon. They usually just find a hole more to their own liking.” —*Pete Gober*



Photos: Left: Ferret makes a run for it. Pete Gober, US Fish & Wildlife Service, explains the ferret reintroduction program to the visitors. Above: Greg Moore visits with Joshua Miner, Resource Manager of nearby Fort Union Ranch.

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Why Save the Ferret?

Greg has gotten his neighbor landowner and ranch manager interested in the ferret reintroduction. “If we could get more ranchers to do this,” Greg said, “we could not only save the ferrets, but we could prevent a lot of other species that depend on the prairie dogs from becoming endangered, and not have to go through all that misery as landowners with the endangered thing.”

Pete added, “Greg’s point about why save the ferret is a good one, because if you conserve enough prairie dogs in enough places, you’ll help a lot of other species on the coattails of the ferrets,” including the swift fox, golden eagle, burrowing owl, mountain plover, and ferruginous hawks, to name a few.

Update:

NMLC just learned that Jim Stuart from NMGF and his team conducted the first night of what was supposed to be a 3-night survey on Greg Moore’s prairie dog town, spotlight searching for the eight black-footed ferrets previously released. Three ferrets were seen in their holes and identified by their microchip tags. Torrential rains for the next two nights, however, made it impossible to continue the survey, so Jim and his team will try again in early November. Stay tuned!

Below: Prairie dog town on the Wagon Mound Ranch.

Fun Facts from the USFWS website www.blackferret.org

- Black-footed ferrets are members of the weasel family which includes: minks, badgers wolverines, otters, and domesticated ferrets.
- They are the only ferrets native to North America and differ from domesticated ferrets you can find in the pet store.
- Male ferrets are called “hobs,” females are called “jills” and baby ferrets are called “kits.”
- Ferrets weigh 1.5 to 2.5 pounds and measure 18 to 24 inches.
- Ferrets live about 1-3 years in the wild.
- Black-footed ferrets are solitary animals except during mating season and when mothers raise their young.
- Black-footed ferrets rely solely on prairie dogs for shelter and food.
- One ferret will consume up to 100 prairie dogs in a year!
- Breeding season is March-April and four or five kits are born in May or June. #

(Photo by Robert Muller)

Greg invited local school children to participate in the the event.



Photos this page by Scott Wilber



Bringing the Water Back

—Cinda & A.T. Cole Restore a Historic Ciénaga on their Pitchfork Ranch

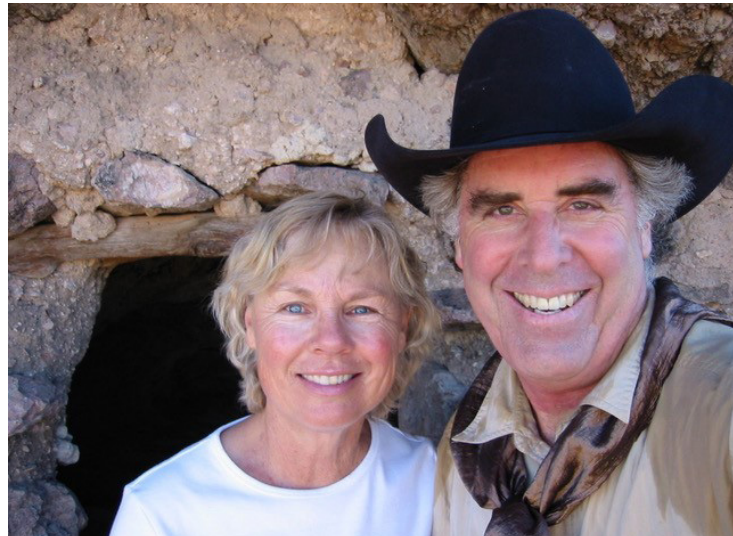
The Pitchfork Ranch lies just west of the Continental Divide, about an hour south of Silver City in southwestern New Mexico. The 11,100-acre (of which the 5,100 deeded acres are under conservation easement held by NMLC) ranch of mostly rolling Chihuahuan grassland has been in continuous cattle production for over a century.

The Burro Ciénaga is a significant riparian zone and the ranch's major feature. Ciénaga is defined as "slow moving water or marsh" in Spanish. The northern-most 1.5 mile portion of the ranch's 9-mile reach of the 48-mile long Burro Ciénaga is historic ciénaga and perennial. This corridor is habitat for many plant and animal species, including deer, javelina, coatimundi, golden eagle, great horned owl, and many more. The current landowners have invested this chapter of their lives and substantial resources in restoring the property, particularly the ciénaga and associated riparian area, while maintaining agricultural activities on the ranch. The following story is edited from a recent NMLC film interview with the ranch owners.

How it all started

In their younger years, A.T. and Cinda Cole did a lot of backpacking and outdoor volunteer work for various nonprofits. "We decided that we wanted to preserve some remote land of our own – that was our retirement plan," says A.T., "but as soon as we retired, we found out quickly that the 'remote land' for sale mostly meant cattle ranches, so we bought the Pitchfork Ranch in 2003 and moved here in 2004."

Immediately after purchasing the property, "We put a conservation easement on it," A.T. said. "It was important to us to preserve this land and to avoid the fragmentation that's happening to the Southwest. From our perspective,



that's one of the reasons why keeping cattle ranching alive in the Southwest is so important – not stockyards, but cattle ranching – because it avoids the fragmentation."

In addition to helping keep properties intact, conservation easements are critical in preserving the time, effort and resources invested in the restoration. "And the tax benefits are pretty remarkable," A.T. adds. "The government has really made an effort to encourage habitat restoration [and protection of agricultural production and our future food supply], by virtue of conservation easements, and there's money to be realized."

With the easement in place, the couple started restoration work in earnest in 2005. Since then, the Coles have been awarded 14 grants that they've used for various projects. Restoration of the ciénaga is their primary focus. Cinda explains, "There are only 155 known ciénagas in the entire Southwest, and we have one on our ranch, so we're restoring it. That's the core idea."



As a side benefit, Cinda points out, the Coles have hired local young people to help do the restoration work, providing them an income source as well as an education opportunity.

And of course, there's the benefit to wildlife. As part of the restoration work, the Coles have worked with state and federal agencies to reintroduce a few endangered or threatened species such as the Chiricahua leopard frog, Gila topminnow and the Aplomado falcon.

"We're feeling the effects of climate change," A.T. says, definitively, "and I know that there are people who are skeptical about it, but it's very real to us here – there's no question about it. We've lost 15 to 20 percent of our juniper trees, and we've had two of our six wells go dry this year. Our neighbor has lived here 76 years now, and he told us that well has never been dry. When we moved here there wasn't a dead juniper on this ranch – we hadn't lost any naturally, and now 15-20 percent are gone. So, this climate change-thing that we're contending with, we're seeing it in a lot of different ways."

Before and After Restoration

The Coles have been taking same-location photographs at 11 specific points along the ciénaga every year for 13 years to demonstrate the changes that have occurred from their restoration work.

"We've hardly planted anything," A.T. says, pointing to the now-lush vegetation along the recovering ciénaga. "This is just from bringing the water back, because the water is the key. When you get the water, then you get the plant life. When you get the plant life, you get the bugs. When you get the bugs you get the birds, when you get the birds you get the wildlife. . . ." [not to mention healthier cattle with heavier calves, using less inputs such as fertilizer and weed control].

One of the restoration techniques A.T. employs is called hinge felling – an inexpensive way to install a grade control structure. "Two guys can do it," he says. "We use a chain saw to cut a series of five notches, ranging from one-inch to no deeper than half way through the lower trunk of a willow tree, and then push it down over the water course. Eventually the branches end up being new trees, and when there's a flood or even now when the water is at low flow, in effect you've got a perpetual grade control structure; a place to capture detritus and soil, which in turn slows the water down."



The effect is remarkable. "When we moved here, there was nothing over there," A. T. says, pointing to vegetation so green and thick you can hardly walk through it. "There was just a creek-like water course and a little bit of growth of a few trees, but they weren't very tall. Now there's this ceiling of vegetation all the way across the flood plain."

Pictures worth a thousand words

"The reason we moved here was to do restoration," Cinda concludes, "and we hope – we would like for other people to get equally as enthusiastic about what we're doing here and to do it themselves."

The results on the Pitchfork Ranch are influencing others. NMLC recently completed a conservation easement on the neighboring Prevost Ranch, which can be seen from the Coles' property, thereby adding permanent protection for another three miles of conserved ciénaga, its floodplain and associated riparian areas to the section already restored by the Coles. The Prevost Ranch conservation easement is critical to restoring the 56-square mile Burro Ciénaga watershed, A.T. points out, because the headwaters and initial three miles of the ciénaga are there.

"The combination of restoration and these two conservation easements is exciting," A.T. adds, "because – it's the beauty – these two treatments have not only saved but preserved forever something so remarkably special. How many places are there in the desert Southwest that have water and this kind of vegetation." #

'Before & After' photos continued on next page . . .

Photos left page: The Coles have constructed a variety of structures to restore the ciénaga including a step-down-woven weir (far left) and a process called hinge felling. "We use a chain saw to cut a series of five notches, ranging from one-inch to no deeper than half way through the lower trunk of a willow tree, and then push it down over the water course."

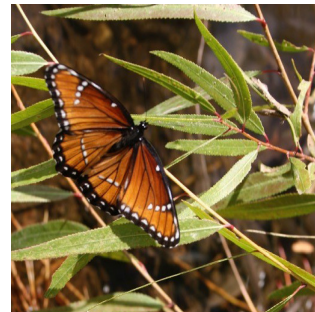
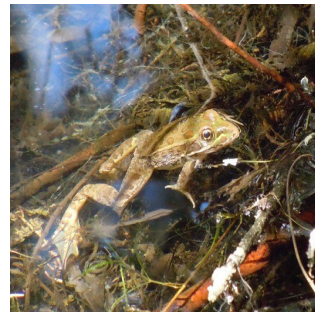
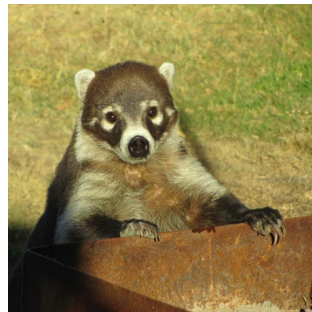
Photo top right: Cinda Cole next to biomass now present as a result of hinge felling.



From scant to flush riparian area in less than a decade using grade control structures.



The water visible in 2005 (above) was an olympic-pool size straight-away, which rushed all the water out of the area when it rained. Same location in 2017 after years of restoration work, using grade control structures and hinge felling, the ground through there is even, and a lush riparian area now holds water and provides habitat for a variety of species.



A coatimundi, Chiricahua leopard frog and a Viceroy butterfly as seen on the ranch.

'Before & After' demonstrations of restoration

The Coles have been taking same-location photographs at 11 specific points along the ciénaga every year for 13 years to demonstrate the changes that have occurred from their restoration work.

Cinda Cole explains, "There are only 155 known ciénagas in the entire Southwest, but even that small 155 number of arid land ciénagas is easily misunderstood, because only 70 of the 155 are either functional or restorable; the other 85 are either dead or beyond repair. And some of the ciénagas that still have water, like this one, are incised and function like a creek. Absent restoration, they would continue to incise and eventually dry up, like the 85 others already lost. In contrast, the bed of this ciénaga has been raised as much as four feet in some reaches, and at least two feet throughout the entire nine miles."

Photos courtesy of A.T. and Cinda Cole | Pitchfork Ranch



The 2005 photo (above left) shows a 2+ foot vertical wall that had been cut away over time. Using grade control structures, the land is now filled in, and the vegetation is thick and dense, and functioning as a healthy riparian area.



In 2005 this area had been used as a rough track through the property. Using step-down water weirs and hinge felling, the ground has been raised and leveled off, and is now thick with trees and lush vegetation.

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