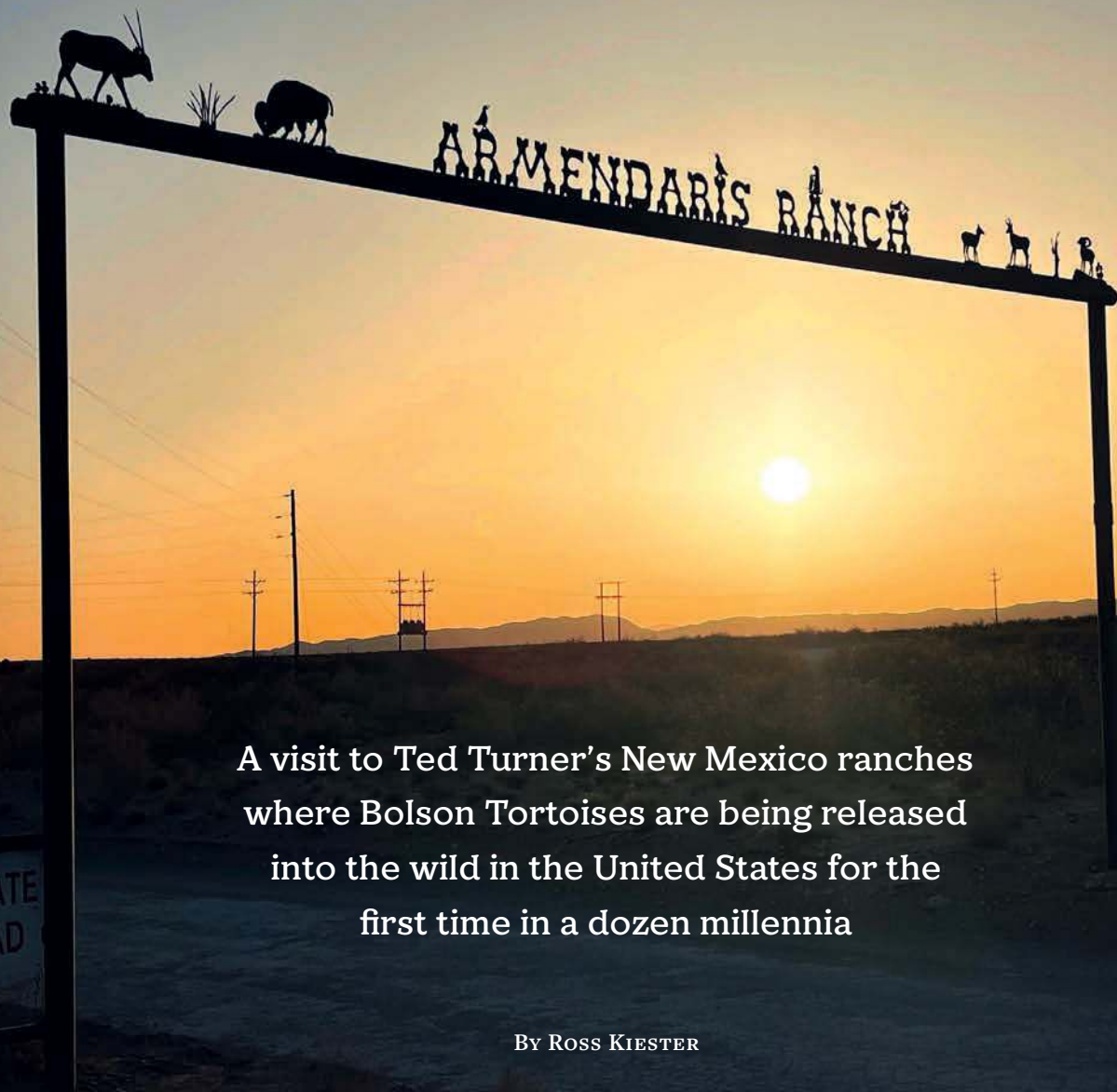




12,000 Years Later



A visit to Ted Turner's New Mexico ranches
where Bolson Tortoises are being released
into the wild in the United States for the
first time in a dozen millennia

BY ROSS KIESTER



About 12,000 years ago humans first entered the North American biome called the Chihuahuan Desert Grassland, which extends from New Mexico and Texas to central Mexico. Among the tasty items they found there were Bolson Tortoises (*Gopherus flavomarginatus*) that were quickly driven to extinction in the United States and survive today in Mexico only in the isolated Bolsón de Mapimí, an interior basin located where the Mexican states of Chihuahua, Coahuila, and Durango meet. The tortoises probably survived there because no humans were present; water was not available until the 20th century, when deep wells were first drilled and humans could move in. In fact, the species was only described in 1959 by John Legler (see the 2017 issue of *The Tortoise*, page 92), although the specimens had been in the U.S. National Museum of Natural History in Washington, DC, for over 40 years.

From its beginning, the Turtle Conservancy has been interested in this species, which is now listed as Critically Endangered by the International Union for Conservation of Nature. In 2016 we purchased the 43,540-acre Rancho San Ignacio located in the heart of the Mapimí Biosphere Reserve in Mexico that was created, in part, to help save this species. In 2019 we bought the 18,866-acre Rancho Guimbalete just to the north of the reserve. We are now managing these areas as strict preserves for the tortoise and its associated ecosystem.

In the United States starting in 1972, a group of Bolson Tortoises was brought from Mexico to Ariel Appleton's home in Arizona, where they survived until Appleton died in 2004. By then the plight of the species was widely recognized and Joe Truett and Mike Phillips of Ted Turner's Turner Endangered Species Fund (TESF) facilitated the transfer of the tortoises to New Mexico, where Turner has two ranches that are located where the tortoise likely occurred 12,000 years ago. Their

Previous spread: Classic Western-style metal signage, Ted Turner's abode on the Armendaris Ranch with a painting of him, and young Bolson Tortoises growing up to be released in the wild.

Opposite: Reintroduced American Bison on the ranches help make the conservation projects there sustainable.

goal was to breed the tortoises to create enough animals so that they could be released into the wild on the ranches (and possible elsewhere) to create viable populations (see the 2016 issue of *The Tortoise*, page 84). The breeding program has been very successful and, with support from the Turtle Conservancy, has produced over 800 baby tortoises to date. Importantly for the prospect of reintroducing the animals to the wild, the tortoises that were placed in large enclosures comprising good tortoise habitat with native forage on the ranch thrived without supplemental food, water, or protection from predators.

In 2021, the first 55 tortoises that had reached

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over four inches in length were released on Turner's Armendaris Ranch. There the tortoises appear to be doing very well, suffering the loss of only one individual (due to an unfortunate accidental entanglement in heavy vegetation) and digging their own burrows.

The lead biologists on this program, Chris Wiese and Scott Hillard, made plans to release 25 more tortoises in spring 2022 and invited the Turtle Conservancy to participate in the release. So in April 2022, the Board of Directors, along with several staff and guests of the Turtle Conservancy, traveled to New Mexico to take part in the release and see firsthand the many biodiversity projects undertaken by Turner. All of the logistics were coordinated by our colleague Mercy Vaughn, who made this trip especially memorable.

Arriving at Truth or Consequences, a small town in southwestern New Mexico, we were booked into Ted Turner's Sierra Grande Lodge & Spa. The

If you walked to the top of this distant mountain range you would see another range, far away in the distance, that is still on Turner's ranch.



TURTLE CONSERVANCY *3

Above and right: Baby tortoises are just the thing to make our research associate, Chiara Gorodesky, smile.



Above: Young tortoises are first raised in an indoor facility such as this before being placed in outdoor head-start facilities until they are large enough to be safe from many predators and can be released.

Below left: Chris Wiese and Scott Hillard are the lead biologists for Turner's Bolson Tortoise project.

Below right: Mexican tortoise biologists Gamaliel Castañeda and Sara Valenzuela-Ceballos.



next three days were spent touring the Ladder and Armendaris Ranches and participating in the release of 25 tortoises. Ladder Ranch manager Dustin Long and Ted Turner Reserves (TTR) guides Amy Morrison, Robert Carey, and Ken Stinnett gave us a thorough tour and showed us many of the species that they are working with.

Visitors face the challenge of wrapping their minds around the size of these ranches: the Ladder Ranch covers 156,439 acres and the Armendaris Ranch covers 362,885 acres, for an astounding total of 519,324 acres. Entire mountain ranges are contained within them. The biodiversity they support is staggering, and Turner wanted more and so set out to preserve sensitive species or reintroduce others that had formerly made their homes there but were now extirpated. American Bison, Mexican Gray Wolves, Chiricahua Leopard Frogs, Cutthroat Trout, Rio Grande Suckers, and Rio Grande Chub are among the species that are now doing much better thanks to these efforts.

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Ted Turner is arguably the leading private biodiversity conservationist in the United States. He owns 14 ranches in the United States and 3 in Argentina. Turner is the second largest individual landowner in North America, with approximately 2 million acres of personal and ranch land in eight U.S. states and Argentina. Many of the ranches have herds of Bison that are harvested for his restaurants that feature Bison steak and burgers—there are currently over 40 Ted’s Montana Grills in 16 states. The Bison operation plus fees for hunting and tourism (including nature tourism and bird-watching) make his ranches profitable,

so that their conservation mission is sustainable in the long term. The size of the ranches plus the sustainable funding for biodiversity management make him a leading conservationist by almost any standard.

Because the Bolson Tortoise used to occur in the United States and Mexico but the only remaining natural wild populations are in Mexico, it is important to regard its conservation as a binational project. Many Mexican biologists have worked and are now working to protect the species. We were fortunate to have Professors Gamaliel Castañeda and Sara Valenzuela-Ceballos of the University of Juarez at Durango join us for this release.

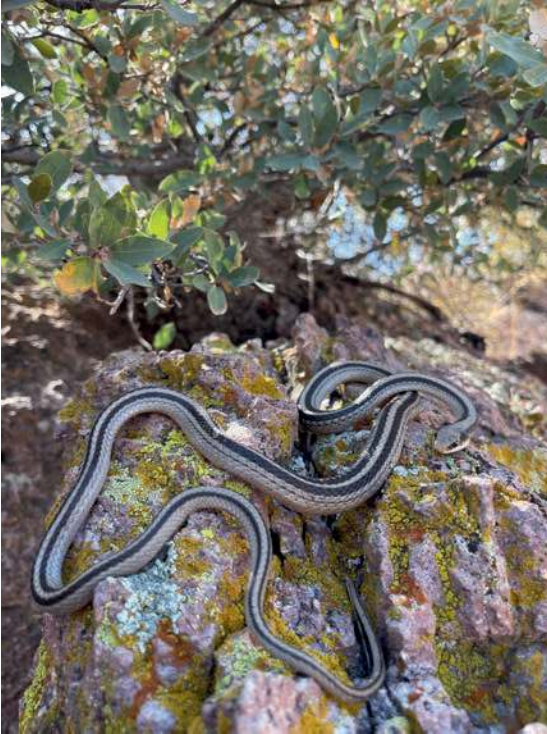
Among the many species of interest to the Turtle Conservancy that the TESS has focused on is the Chiricahua Leopard Frog (*Rana* [or *Lithobates*] *chiricahuensis*). Throughout Nevada, Arizona, and New Mexico, several populations of these frogs have expanded into desert climates by inhabiting the occasional spring or riparian area. These habitats are always at risk from drought, but also from disturbance by cattle, pollution, and introduced disease, so the frogs are frequently endangered. Additionally, similar leopard frog species got mixed into existing populations in the past, leading to hybridization that can confound conservation efforts.

On the Ladder Ranch, Chiricahua Leopard Frogs occurred in the Las Animas, Seco, and Las Palomas Creeks, among others, but populations became so reduced that Turner has begun an intensive captive breeding program. As with most frogs, the Chiricahua Leopard Frog has a complex life cycle with aquatic eggs and tadpoles, and adults that must live near water but not always in it. Turner biologists have developed a comprehensive program for this species, raising eggs and tadpoles in large specially designed tanks. Head-started tadpoles and metamorphosed frogs are then released back into the wild.

While most of the species conservation projects undertaken by Turner organization biologists are succeeding, it is important to note that there have also been failures on these New Mexico ranches. Aplomado Falcon (*Falco femoralis*) reintroductions have failed because not enough food (insects) is available to sustain a population and the birds took off for better habitat. Similarly, the Black-footed Ferret (*Mustela nigripes*) feeds almost exclusively on prairie dogs, but prairie dogs are dying off due to a plague carried by fleas.



Archaeological remains are common on the ranches and are carefully preserved. This pictograph of a large mammal is from the Mimbres culture.



Left: A Patch-nosed Snake found on the Ladder Ranch, identifiable by the large rostral, or nose scale.

Right: Aplomado Falcon, a species that was not successful in being reintroduced to the region.

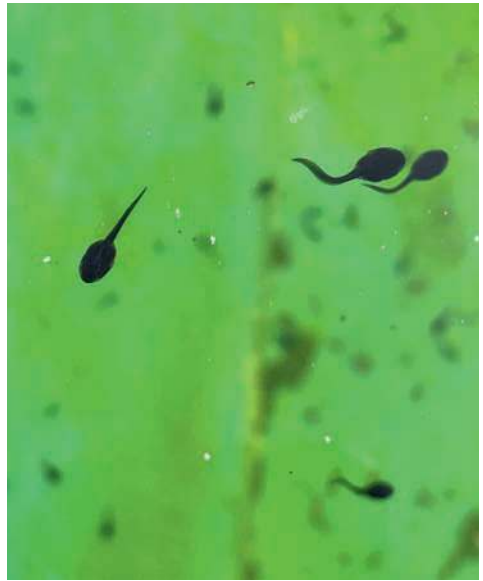
This page: Eric Goode and Mercy Vaughn release a Bolson Tortoise into the wild on the Armendaris Ranch.

Opposite: Board member Julian Sands follows a released tortoise.



TURTLE CONSERVANCY *2





Top: Riparian areas can come as a surprise in the Chihuahuan Desert, but they are critical habitat for a large number of species including the Chiricahua Leopard Frog.

Above left: Large protected tanks make up the Chiricahua Leopard Frog breeding facility.

Above right: Chiricahua Leopard Frog tadpoles.

Left: Chiricahua Leopard Frog

Until an effective and inexpensive way to control this plague is available, there will not be enough prairie dogs to sustain Black-footed Ferrets.

Neither Ted Turner nor Mike Phillips are afraid of failure. Rather, they believe that if you do not experience failure, you are not attempting to conserve enough species. Their motto is “Save Everything,” and failure means there are some species that simply cannot be restored at the ranches. But you don’t know that unless you try.

While tortoise releases on the Armendaris Ranch are well on their way to establishing the proof of concept that this species can be reintroduced into its former range in the United States, the long-term goal is to establish viable populations across southern New Mexico and the Rio Grande Valley to approximate its Pleistocene range. While there are many political and legal challenges ahead, Turner’s team believe that with the careful, slow, and steady approach they have adopted (like the Bolson Tortoise itself) they will succeed.

Our visit to Turner’s ranches was very satisfying, showing us how much Turner and his team have accomplished. But as we were leaving we were reminded of the most worrying of the threats to the tortoise and the project: climate

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change. During our visit, severe fires were burning in northern New Mexico, a situation that subsequently developed into the worst early fire season in New Mexico’s history. In March of 2022, *Nature Climate Change* published a paper showing that New Mexico and the Southwest are now in the worst drought since the year 800 CE, which is as far back as tree ring data go. This climate change is a serious threat but, given the challenges Turner’s team has already overcome, we believe they will continue to figure out how to succeed with the Bolson Tortoise. 🐢

Turtle Conservancy board, staff, and guests with Turner staff.

