The Fox Ranch;

A Success Story for Ecology, Wildlife, Cattle Producers,

Conservationists, and Communities in Northeast Colorado

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LOCATION/HISTORY/WATER RESOURCES

The Fox Ranch; it's a unique partnership between The Nature Conservancy located in Boulder, Colorado, and a local ranching family in Yuma County, Colorado, with a shared commitment to preserve wildlife, managing native ecosystems, growing pastures, and still producing both cattle and crops. The ranch was purchased by The Nature Conservancy in two phases from 1998 to 2000 through funds from Great Outdoors Colorado (also known as GoCo Funds from the Colorado Lottery). A local ranching family (Nathan and Laura Andrews) manage and lease the preserve with guidance from TNC, and the Colorado Wildlife Heritage Foundation holds a conservation easement on the property. In addition, one local farmer (Brad Terrell) farms about 150 acres of land in dryland crops. This really is a story of so many groups working together for both the sake of agriculture and conservation!

The Fox Ranch is a 14,000 acre property located along the Arickaree River in the Republican River Basin, and atop the Ogallala Aquifer in the Northeast corner of Colorado, only miles from both Nebraska and Kansas. The 1000 acres of the property that are adjacent to the Arickaree River boast the best example of this type of riparian community in the world, and the Fox Ranch owns more than half of the Arickaree River's current perennial reach. On their website, The Nature Conservancy boasts that the Arickaree River may be "the last intact example of a relatively free-flowing plains river." In addition to the surface water in the river basin, there are 21 current well permits issued to the ranch, of which approximately 19 are pumped for stock tanks. There is a house on-site along with several outbuildings and shops, which are primarily used by the Andrews family, and pastures are fenced with a combination of barbed-wire and high tensile fencing.

VISION/PRIORITIES/GOALS

The Nature Conservancy has set a number of visions/goals that tie ecology and rangeland management together.

1. Maintain or improve the ecological condition of the loess prairie
2. Maintain high quality and diverse riparian communities and improve the condition of the floodplains
3. Maintain the native aquatic community including the full suite of native fish
4. Improve the condition of the sandsage prairie
5. Reduce the impact of invasive plant species
6. Support research and natural resource management
7. Support the use of Fox Ranch for educational and outreach purposes

WILDLIFE

The Fox Ranch hosts many acres of sandsage prairies that provide excellent habitat for many grassland wildlife species. Over 170 species of birds inhabit or visit the ranch annually. Perhaps the most exciting bird, however, is the Greater Prairie Chicken, which has established at least seven leks on site. The ranch also hosts mountain plovers and Cassin's sparrows. The ranch supports prairie dog communities, herds of Pronghorn Antelope, and a population of Ornate Box Turtles. In the ranch's riparian area there is an aging Cottonwood population that hosts beavers and their dams, which are vital for creating ponds for native fish species.

The Fox Ranch strives to continue to be the best riparian community in the world of its type, and in order to do so, they must continue to maintain the native aquatic community as well. While at one time 16 fish lived on the property, currently 11 of those remain today. The Arickaree River runs through Fox Ranch, and the small ponds on site host native fish like the Plains Minnows and Orange-Throated Darter.

Surprisingly, one of the biggest threats to the area is the growing population of the bullfrog, which seems to be causing a decline of the native Plains Leopard Frog and the

Northern Cricket Frog which has now been extirpated. Controlling bullfrog numbers doesn't have an easy solution, but the ranch continues to investigate any techniques and is willing to use them if appropriate.

CONSERVATION EASEMENT

As part of the land protection plan, the Nature Conservancy has partnered with Colorado Wildlife Heritage Foundation to prevent irresponsible use of the land. The Fox Ranch can be used for sound farming methods, responsible hunting, and livestock grazing. In order to accomplish those tasks, roadways, fencing, water wells, and other infrastructure can be maintained. Any actions that detract from the sound stewardship of the natural resources on the ranch are prohibited by TNC.

NATIVE ECOSYSTEMS

Because the ranch is so large (housing 9000 acres of sandsage prairie and 2,500 acres of shortgrass prairie), it's hard to generalize all of the pastures and range management situations. However, one of the primary range management goals for the ranch has been to maintain the balance of cool and warm-season grasses, sedges, rushes, and forbs in riparian areas, while at the same time maintaining the dominance of sand bluestem and prairie sandreed (a few of my personal favorites)!

A sand sage prairie north of the Arickaree River contains 9,400 acres. The acres are composed of wind deposited materials (eolian), and the climax community is mainly comprised of sand sagebrush, sand bluestem, and prairie sandreed with smaller amounts of needle-and-thread, western wheatgrass, and side oats grama in the plant composition. On the other hand, the ecological sites in the floodplain contain varying amounts of switchgrass, big bluestem, Indian ricegrass, Canada wildrye, and prairie cordgrass. When evaluated in 1996 by

the NRCS Site Assessment Team, the sandsage community on the ranch declared it to be in “fair to good” condition. For me, this was very interesting because as a fellow range judger, I got to see the connection between the data we collect during an simulated FFA contest, and actually reading about how others have gone through the same steps to make the same determination on a professional level! After touring the ranch in January, 2022, I can almost 100% guarantee that the final evaluation would be in the good or excellent condition.

On the other hand, the riparian area closest to the river looks to be in great condition and includes Sandy Bottomland and Sandy Meadows as ecological sites. Unfortunately, during the most recent NRCS assessment in 1996 the riparian area only rated a “fair” rating because of the low proportion of cool season grasses compared to the climax community. Again, because of Nathan’s management with guidance by TNC, I believe that score would be much higher today.

LOCAL RANCHING PRIORITIES

Grazing of livestock is considered a “compatible use” and will continue under the management plan and a grazing plan; after all, TNC wants communities and agriculture to live with the land, not separate from it. Nathan and TNC pride themselves on how well they grow the pasture from the ground up, rather than the amount of beef produced on the land. The grazing is conducted so that the quality of the prairies is improved and native species found in these prairies and riparian woodlands can thrive over time. The Fox Ranch hopes to maintain the dominance of sand bluestem and prairie sandreed on the sandsage prairie.

The Nature Conservancy hires local ranch managers to create relationships and partnerships within the community, and as mentioned before, the Andrews Family holds the

current lease on the land. Nathan Andrews and the TNC work hard together to maintain the Fox Ranch. As a team, Nathan and his family do the labor and make decisions about the paddock rotations, stocking rates, watering and mineral placement, fencing, and other cattle management decisions. On the other hand, TNC representatives work closely alongside the Andrews family to give recommendations on how to improve native grasslands, determine key plant species indicators (they have chosen sand bluestem as their indicator plant), how to manage lands for the Greater Prairie Chickens and other wildlife, and managing the entire ecosystem through planned grazing.

Through the use of "holistic management" and planned grazing, the two parties have created an almost perfect example of what nature can do when given the time and space to recover. In order to make grazing decisions for his cattle, Nathan creates a six-month "Grazing Plan and Control Chart" that includes a day by day schedule of not only which pasture the cattle will graze, but also includes details like the start and end of cool and warm season plant growth, breeding times for the Greater Prairie Chicken, and the number of days of rest given to each paddock. In any given year, Andrews can look back on the pattern of grazing, how long each pasture was grazed and extenuating circumstances, and then make decisions on whether he can expand/decrease the size of the herd based on available grass left for the year. In the end, Nathan hopes that very brief periods of intensive grazing in each paddock will restore prairies to their native glory, much like wildlife did thousands of years ago.

CONCLUSION

Through research online, extensive study of the management plan, and personal interviews with both Nathan and Terri (Senior Conservation Manager), I am a firm believer that

TNC, with the help of a progressive local rancher, can restore pastures to their native state. This partnership has resulted in several outstanding ecosystems that nurture humans, livestock, wildlife, and prairies. The Nature Conservancy and the Andrews family have a true 14,000 acre gem in the center of Yuma County, Colorado.

REFERENCES

Andrews, Nathan. Personal Interview. 15 January, 2022.

Fox Ranch Management Plan." Boulder, Colorado. Written in 2017, updated November, 2020.

Schulz, Terri. Personal Interview. 18 January, 2022.