



## Watching Grass Grow at the Ranch

By Jan Cleere

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The National Audubon Society Appleton-Whittell Research Ranch is not a place upon which one accidentally stumbles. I meandered through the wine country of Elgin and maneuvered down dirt roads that forked and curved enough to confuse the most seasoned trailblazer until I drove through the gate of the 8,000-acre Ranch, one of the most diverse grassland areas in the world.

With Director Dr. Bill Brannan off on assignment, I put my ecologically-challenged mind in the hands of Assistant Director Dr. Linda Kennedy who has been at the ranch since 1999, possesses a handful of degrees in botany and biology and describes herself as “independent as a hog on ice.”

The 15 square-mile Ranch, established in 1969 by the U.S. Forest Service and Arizona State Land Department, operates today under the combined efforts of the National Audubon Society, U.S. Forest Service, Bureau of Land Management, the Appleton family (who originally owned the land) and the Research Ranch Foundation. It spreads across a part of southeastern Arizona containing four major American bioregions: the Sonoran and Chihuahuan deserts, and the Rocky Mountain and Sierra Madrean forests.

The Ranch consists of broad semi-desert grasslands, oak savannah, oak woodlands and riparian habitats, a virtual sanctuary for native plants and animals. On a clear day, seven mountain ranges can be seen from atop the grassy knoll outside Ranch headquarters. At 5,000 feet elevation and about a 17-inch annual rainfall, the O’ Donnell, Post and Turkey Creeks trickle across the Ranch replenishing cienegas and ponds that years before were devastated by cattle, drought and floods.

The 1827 San Ignacia del Babacomari land grant brought Mexican cattle ranchers into the area and their livestock relished the untouched lush grasses. When the ranchers left after ratification of the Gadsden Purchase in 1848, abandoned cattle freely roamed the land. By 1880, railroads brought new ranchers west with more cattle. Nonnative grasses were planted to improve forage, but the early 1890s brought years of drought depleting the soil, hydrology and biotic communities even further. Then came the rains. Seasons of severe flooding washed away floodplain vegetation, and erosion of the land seemed irreversible.

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The Research Ranch came into existence via the efforts of the Appleton family who purchased an old cattle ranch in the Sonoita Valley in 1959. At the time, they had no intention of turning their land into a research facility, but as they grew to understand the diversity of the area, how devastated the soil, wildlife, even the fish in the streams had become, they decided an effort should be made to return the rangeland to its original state and reintroduce native plants and grasses. Their first act was to remove all cattle from their land. No grazing has occurred on Ranch lands since the late 1960s.

Today, neighboring cattle ranchers dispute the benefits of banning livestock from Audubon Ranch lands. Some view it as disruption of their livelihood and displacement of cattle while others seek out Ranch personnel for solutions to soil and plant problems. "We're in a position to be taken as the opposition," says Dr. Kennedy. "New generations of ranchers out of land grant colleges are the ones much more likely to come to us."

In restoring the mixed grassland to its historic past, researchers encourage the growth of native grasses such as blue grama, plains lovegrass and sacaton. Cottonwood and sycamore trees sprout along bubbling waterways where scraggly mesquite used to grow. With over 500 plant species on the Ranch, many research projects concentrate on plant diversity by comparing flora growing inside Ranch boundaries with those found outside the perimeter fencing. Each plant is photographed in its environment, dried and added to a burgeoning herbarium notebook providing baseline data for ongoing projects.

Researchers also examine the lifestyles of critters. Ever wonder about the nesting practices of Botteri's sparrows or the habitat characteristics of Montezuma quail? How about the pollution and predator habits of beetles and grasshoppers? The migration routes of bats, skunks and rodents are followed to determine which ones live within or pass through the Ranch, what they eat, how many young they have and what diseases they suffer. Then there are the herpetologists who delve into the lives of snakes, lizards and amphibians.

According to Dr. Kennedy, all research projects must meet the criteria of helping to protect semi-arid grasslands and be non-destructive to the environment.

In April 2002, the Ryan fire burned across 90% of the Ranch land leaving blackened soil, skeletal cactus and fragmented trees although little wildlife was lost. Researchers assessed the destruction and continue studying the land's reaction, noting how rapidly the grasses and oak savannahs are returning.

The Audubon Ranch is an independent field station relying on volunteers and college interns to help maintain the property. As with most non-profit organizations, money is an ever-present issue but as Dr. Kennedy points out, "We're here to protect the resource," raising money is secondary.

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Volunteers and interns completed one of the more time-intensive projects by erecting a 17-mile wildlife friendly fence around the entire Ranch. Wildlife friendly fencing consists of a smooth bottom wire, at least 16 inches from the ground, that allows non-jumping critters enough head clearance. Top and second strands, spaced about 12 inches apart, accommodate the spindly legs of larger leaping animals. Volunteers also removed over 25 miles of old rusty fencing on the grasslands, the remains of several ancient ranches, to ensure safer passage for wildlife traveling through the area.

Drs. Brannan and Kennedy conduct local plant identification and creepy crawler workshops, and have instituted a “Get Grass Rooted” program that emphasizes the benefits of living gently on the land.

With ongoing conservation, research and education the primary goals of this Sonoita Valley preserve, visitors or volunteers wanting an educational ecological experience in a pristine setting of billowing grasses and a myriad of critters are encouraged to call ahead before venturing down the dirt road to The Appleton-Whittell Research Ranch (520 455-5522). Access is restricted and directions are a definite necessity.