

What Enclosures Can Tell Us about Our Native Habitats

One of the tools that range scientists use to observe and study habitats is to erect fences around small areas to exclude browsing and grazing animals, and to then observe the changes inside these enclosures compared to adjacent areas outside the enclosures.

We essentially did this when we built our house 16 years ago and put up a high fence around it.

Over the years I also planted a number of native trees and put cages around them as well as around a few other places where I found newly sprouted small trees to protect them from browsers. But all of these were small (6 to 10 feet in diameter).

So several years ago I decided to make a larger enclosure in the pasture near our home so I could easily watch as changes occurred. I put up a fence in a 24 x 30-foot area that contained three post oaks and three small, but mature, live oaks. The area has been and continues to be a somewhat overgrazed and overbrowsed pasture.

Unfortunately, I can't find my notes as to exactly when I put up the fence, but I think it was about 8 years ago. What I do know is that other than the oak trees the only thing growing in the enclosure was a few native grasses. It is a fairly shaded area, with mottled sunshine.

Today I went out and took an inventory of what was growing inside the fence, in addition to the original oaks. This is what I found.

There are nine live oak root sprouts, ranging in size from one-foot tall to one that was two feet and one that was three feet tall. There are ten cedar bushes ranging from 1.5-foot tall to three feet, while a couple are in the 4 to 5' range.

There are now two hackberry trees, one about one-foot tall and one about five-feet tall. There is a 6.5-foot escarpment black cherry, a grape vine and two greenbrier vines. There are also three little bluestem plants and one yellow indiagrass.

Looking around the pasture in the larger area outside the enclosure revealed the complete lack of any of these small woody species except for the cedar. Little bluestem can be found very widely scattered in the larger pasture, but none were seen anywhere in the general area of the enclosure. Yellow Indiagrass would be a very rare find anywhere in the pasture.

Nothing that I observed inside the enclosure was any surprise to me. My previous experience with enclosures as well as what I have observed inside our homestead fence over the past 16 years led me to predict exactly what I found.

Given the location of the live oak sprouts and the property of live oaks to put up numerous root sprouts, I assume that those I observed are all part of the larger trees.

Interestingly, although the three live oaks inside the enclosure are near the fence, there are no root sprouts outside the enclosure.

The nearest escarpment black cherry is over 500 yards away and there is no hackberry even that close, so I assume these plants came from seed brought in droppings of birds or small animals. Likewise, the cedar, grape and greenbrier, as well as the little bluestem and the yellow indiagrass.

What I observed is Mother Nature renewing vegetation as it has always done for eons. Plants grow, bloom, and produce seeds, and animals distribute the seeds and a very small fraction of these seeds germinate and become new plants and a few of them even mature into large trees.

So if the normal native processes are still at work, why are there not any small live oaks, hackberries, cherries, young grape or greenbrier vines, or the really desirable grasses little bluestem and yellow indiagrass, outside the enclosure? The answer is, obviously, we have by our actions caused the numbers of grazers and browsers to greatly exceed the carrying capacity of the habitat for those animals and they are consuming all of the small immature plants before they can make seed and propagate, thus the declining population of hardwood species in the Hill Country.

Cedar, being at the bottom of the browser food preference list, is less affected, and so we have the encroachment of cedar in many areas.

But if we could control the animal numbers, we would find these replacement plants throughout the habitat, not just in enclosures, and the habitat would be healthy and more diverse.

Until next time...

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