

The Evolution of Thinking About Cedar

When my wife and I first began searching for property to buy in the Hill Country, over 20 years ago, we heard a lot about a couple of “problems” landowners have in the Hill Country: oak wilt and cedar encroachment. And what seemed to be the prevailing view of cedar (Ashe juniper) was that it intercepted an inordinate amount of rainwater and prevented it from reaching the ground, and that it should all be removed.

Once we moved here and I had an opportunity to attend various presentations and to read some of the research papers on the subject, I was able to understand the basis for the concern about cedar. Probably the most widely quoted evidence against cedar was the experience of some landowners who cleared cedar and found springs returning to the property after years of having none.

But then as the years went by, I also heard that more recent research had found cedar didn't intercept or use quite as much rainwater as had been reported earlier, and it turned out that other landowners who also cleared cedar didn't see any new springs. The differences in results could be the size of the property, the underlying geology, as well as a combination of factors.

There is no doubt that cedar does intercept more rainwater than, say grasses, if for no other reason than that cedar is a bigger plant with more leaf area than grass. And it is certainly an undisputed fact that in light showers, cedar, as well as all other trees and shrubs, intercepts a large portion of the rainfall, but in heavy, sustained rain events, the percentage of rainfall prevented from reaching the ground is quite small.

And to complicate matters even more for the landowner, quite apart from the rainwater interception and use by cedar, is the fact that dense stands of cedar (cedar brakes) are poor habitat for most any native species as well as reducing the amount of grazable acreage for ranchers.

It is important to know that cedar is native and has been part of the Hill County habitat for thousands of years. What changed beginning with settlement was that not only were the grasslands overgrazed but that wildfires were reduced in frequency and acres burned. This led to an encroachment of cedar onto what was originally largely flatter, upland, grassland and savannas instead of the slopes and valleys it originally occupied pre-settlement.

So landowners have good reason to manage cedar and control its encroachment in order to better maintain a healthy native habitat and a productive rangeland. And of course if removal of cedar from their property results in a new spring, all the better.

The problem of removing cedar, in addition to the expense, is that with most all mechanical means used, a lot of bare ground is exposed which can lead to severe erosion and invasive weed growth before a good grass cover is established.

Most experts these days talk about “controlling” or “managing” cedar, not eliminating it. Individual cedars are a natural part of the habitat and contribute to diversity and thus are not really detrimental. And removing cedar from steep slopes is not recommended by most experts because of the difficulty of doing so without severe erosion. Steep slopes are where it used to be anyway.

Current thinking these days seems to be that it is best to remove cedar from small areas in a random pattern over several years to minimize damage from erosion and invasives and disruption of native habitats.

Finally, I have to acknowledge that there are some who advocate conducting widespread, large-scale removal of cedar, without any effort to quickly re-establish grasses, in order to increase the amount of water flowing into our rivers and creeks. Others argue that such a practice severely increases erosion and silting of reservoirs and degradation of native habitat.

One point to make about this is data for the flow of water in the Pedernales river. In the past 100 years, the cedar cover in the Pedernales river watershed has increased significantly at the same time as the population using water from its underlying aquifers has also increased significantly. One would expect that if reducing cedar cover on a landscape scale would increase river flow, then certainly increasing cedar would have the effect of reducing flow. As would increasing the population. But the flow rate down the Pedernales river has been unchanged in the past 100 years.

As a scientist, the evolution of our understanding of a problem and of the consequences of possible solutions doesn't surprise me. As our experience grows and new people come along with new techniques and capabilities, the science is refined and we get closer to the truth with time.

Until next time...

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