

## “It Ain’t What We Don’t Know That Pains Us So”

Years ago, a rather philosophical colleague of mine would stop by my office occasionally and we would talk about our work and usually solve one or two of the world’s problems as well. One of his favorite sayings, that seemed to apply in a lot of situations, was:

“It ain’t what we don’t know  
That pains us so  
But the things we know  
That just ain’t so”.

I think about this saying often because it seems to apply to a lot of situations having to do with land management and the way we humans interact with native habitat. And I can think of no issue where that saying is more appropriate than in the area of riparian area management. We humans tend to do the very worst job of land management when it comes to riparian areas. Riparian areas are the most important part of the land and the areas that are the most easily, and most often, abused.

Riparian areas can be defined as the area of the flood plain along both sides of a creek or river. I attended a day-long symposium on riparian and stream ecosystems in which one of the speakers presented a list of “myths and misperceptions” about creeks and rivers. The list included the ideas that floods, droughts, and vertical banks are all bad, that removal of trees will result in greater streamflow, that rivers should be wide and straight, that large downed logs should be removed, and that humans have to “fix” damaged creeks.

A lot of these misperceptions are based on a lack of understanding, or misunderstanding, of the physics of water flowing in a stream and picking up and depositing sediment and the storage of water in the banks of the floodplain.

So what constitutes a healthy riparian area, as opposed to one that is unhealthy? The simple answer is vegetation. A healthy riparian area will contain an abundance of several types of native vegetation ranging from small sedges and grasses along the water’s edge to larger grasses and shrubs and finally deeply-rooted large trees.

The important functions of this vegetation are to hold the soil in place, even during a flood, to reduce erosion, to catch and hold sediment washing down from upstream, and to maintain the soil in a healthy, porous condition allowing for deep infiltration of water into the water table which maintains the base flow of the stream.

Other functions of this vegetation are to shade the stream, thus keeping the water temperature at healthy levels for fish and other aquatic species, to provide habitat for

numerous birds, butterflies, dragonflies, and all the larger larger animals, and forage for grazers and browsers.

Riparian vegetation is generally classified as either “colonizers” or “stabilizers”. The former are generally small plants that can become established in damaged areas and grow roots quickly to help hold the soil in place until stabilizer plants that are better able to hold the soil permanently can get established.

Stabilizer herbaceous plants include larger sedges, such as Emory sedge and sawgrass, large grasses such as switchgrass, eastern gamagrass, Lindheimer muhly, and bushy bluestem, and perennial forbs such as American water-willow. Woody stabilizer plants include buttonbush, bald cypress, black willow, baccharis and sycamore.

While all of these species have different abilities to stabilize the soil, it has been shown that combinations of several different types together provide far more stability than any one species alone. Think of the root systems of these stabilizers as the “rebar” holding together the riparian soil.

The porous riparian soil holds huge quantities of water which is what provides much of the base flow to the creek in dry times, so the condition of this soil is critical to stream flow. Soil that is stripped of its vegetation by mowing or grazing or that is compacted by animals or vehicles will contain much less moisture.

Healthy riparian areas usually have the densest vegetation, from big trees to an abundance of shrubs, forbs and grasses. Put simply, you can't see the water from a distance in most healthy riparian areas of small streams, because it is obscured by vegetation.

If you are fortunate enough to have property on a creek, I urge you to call the Nueces River Authority at 800-278-6810 and ask for a copy of the booklet “Your Remarkable Riparian”. You will be glad you did.

Until next time...

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