

RIPARIAN NETWORK NEWS

Riparian: transitional area adjacent to a waterway

Uplands: land lying above the 100-year floodplain



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"Nature is an open book for those who care to read. Each grass-covered hillside is a page on which is written the history of the past, the conditions of the present and predictions of the future."

John Ernst Weaver, Prairie Ecologist, 1955

Land Stewardship - Start By Reading Your Land

Remember retired wildlife biologist, Steve Nelle? He spoke eloquently about riparian function after the Memorial Day flood five years ago. More recently, he has been talking about land stewardship which he defines as the relationship a person has with their land. He suggests land stewardship is "... a deeply held inner conviction that motivates landowners to care for and sustain the land entrusted to them."



So how can you become a good steward for your piece of the Wimberley Valley? The land can tell you a lot about what has happened in the past, what is happening now, and where the land is headed. So learn how to "read your land." Steve suggests starting by studying the plants that inhabit your property. So next time you walk around your property, don't just observe the pretty wildflowers. Look closely at the trees, shrubs and grasses. A healthy ecosystem needs all of these! If you don't know what something is, use the iNaturalist application (see Issue #19). When you identify a plant of special interest, mark it in some way - perhaps using surveyor tape or a flag. That way you can revisit the species often and learn to recognize the plant as it changes with the seasons. While you are at it, why not start a plant list similar to the Life List many birders keep. That way you can brag about the diversity of native plants your property supports.

Then find out more about plants you've identified and what kinds of wildlife they are likely to attract. There are lots of reference books specific to Central Texas. Steve recommends three every Central Texas land steward should own:

Trees, Shrub, and Vines of the Texas Hill Country by Jan Wrede

Grasses of the Texas Hill Country by Brian Loflin and Shirley Loflin

Wildflowers of the Texas Hill Country by Marshall Enquist

Another great resource for learning more about the plants you discovered is the Wildflower Center Plant database. You can find this great resource at <https://www.wildflower.org/plants/>.



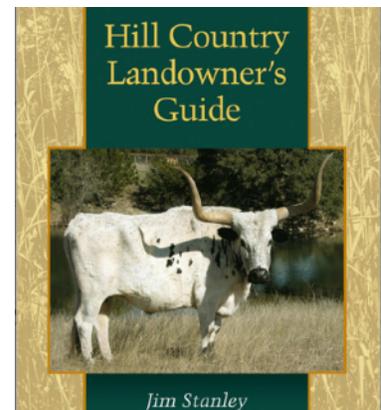
Now that you have identified the vegetation on your land and learned a bit about it, you can start using your newly gained knowledge to read your land. For example, notice the line of pink in the picture at the right. That's a grass in bloom called Seep muhly (*Muhlenbergia reverchonii*). The Wildflower Center database tells you it is "...a wonderful plant for a meadow, especially if there is a little bit of moisture such as a seep." Look around and likely you'll find the source of water that is creating a consistently moist environment where this grass can thrive.



Another muhly grass, Lindheimer muhly (*Muhlenbergia lindheimeri*), also tends to favor moist areas. If you find a place where this grass is predominant, start watching it over a period of years. Chances are the area will expand in wetter years and contract in dryer ones. Plants are also indicators of soil conditions. Lindheimer muhly tends to prefer clay soils. On the other hand, Grama grasses are happiest in areas of gravel or very little soil where they are widely spaced thus reducing competition for the moisture.

The size of a plant relative to others of the same species can also be indicative of local conditions, especially ones that are less than ideal. For example, live oaks grow larger in areas with deep soil where they can find at least reasonable access to moisture. But just upslope in an area where there is little soil and/or reduced access to moisture, trees of about the same age will be much smaller and scragglier.

Another great resource for budding land stewards is the [Hill Country Landowner's Guide](#) by Jim Stanley. Jim and his wife were part of the Hill Country Master Naturalist chapter's first class and he served three terms as their president. Jim suggests landowners "think about the land as a biologist would and invoke two of the most powerful concepts in biology and ecology: diversity and sustainability. He defines *diversity* as having to do with "... variety, in terms of both numbers of plant and animal species and sizes and ages of the longer lived species." A sustainable ecosystem Jim suggests is one where "... there is a balance of the numbers of each species so that consumers only consume as much as the land can produce over the long term."



The presence of young, middle-aged and old representatives of woody species is indicative of a system that has not and is not being hindered by grazing or browsing. Generally, much of the land in the Wimberley Valley was historically ranch land - often heavily grazed by cattle, sheep and/or goats. In recent years, deer populations here have exploded to the dismay of many landowners wanting to increase plant diversity. To understand how these animals impact an ecosystem, it is useful to understand what they eat. Cows who normally consume 85-90% grasses are considered grazers. By contrast, 85% of what deer normally consume are woody plants or forbs. Thus deer are considered browsers. Sheep and goats eat significant amounts of all three kinds of plants.

So what impact do grazing and browsing have on plant life and how can you determine if one or the other has been or is currently a problem on your property? Let's start with grazing. The impact of grazing is very similar to what happens with mowing. Native grasses can tolerate a certain level of loss in their upper foliage. So occasional "pruning" either by animal or human may be tolerable and even beneficial. But when the plant is too heavily grazed or mowed, the plant becomes weakened and may not be able to grow back. Thus, overgrazing leads to lots of bare ground resulting in erosion and soil loss. Like us humans, cattle can be picky eaters consuming mostly grasses they like. This enables less favored grasses to become dominant. Unfortunately, cows like many of our native grasses better than King Ranch bluestem, an introduced species which now dominates many Wimberley Valley landscapes. An abundance of certain native grasses like Hairy grama or Threeawn may also be indicative of overgrazing. Thus, lack of grass diversity and thin soils may mean your property was chronically overgrazed at some point in the past.

Browsing has its most significant impact on woody plants and forbs. The effect on forbs is fairly obvious to any gardener who has found themselves purchasing "deer candy." Some native plants have evolved to tolerate a moderate degree of nibbling, but will succumb if it is too much and too often. And, even if the deer don't like a plant's leaves, they may gobble up more tasty flowers thus interfering with seed production. And, like cows, deer have favorite foods and those are rapidly disappearing from our meadows. What's left are forbs often labeled as "deer resistant" - basically forbs deer consider "yucky" but may eat occasionally rather than starve. Deer also have a significant impact on woody plants by preventing the growth of young trees and shrub seedlings. As older vegetation dies, lack of replacements significantly impacts the landscape. Overbrowsing can also lead to habitat degradation as the lower layer of vegetation critical to wildlife survival are lost. Look carefully at your woody vegetation. If your property has no woody plants (other than Ashe Juniper) with leaves closer to the ground than the height a deer can reach standing on its hind legs (about 5 feet), it's highly likely the cause is over browsing.

Want to read more about reading your land? Steve Nelle has provided additional information - especially the discussion of indicator species - that can be found at:

https://www.hillcountrylandtrust.org/pdf_files/Reading_the_Land.pdf

We'll leave you with a sunflower sure to put a smile to your face in these difficult times. The Maximillian Sunflower (*Helianthus maximiliani*) is a fall blooming perennial. Each year in late winter or early spring, new stems rise from the sunflower's roots. Maximillian sunflowers are considered deer resistant. But unfortunately, both cows and deer like to eat its young growth. And over nibbling will eventually kill the roots. So, if you plant some, tuck the seeds or seedlings in high grasses where they are more likely to escape notice.



Maximilian sunflowers prefers moist ditches or other depressions. That's why where you see them most often along the edges of heavily traveled roads. Lesser Goldfinches and other birds love to eat the seeds of this sunflower. And they like to grow in dense clusters which provide good wildlife habitat for insects and other wildlife. If you love sunflowers as much as we do, another fall blooming one you might consider propagating is the Common Sunflower (*Helianthus annuus*). As its scientific name implies, this one is an annual. But Lesser Goldfinches and other birds loves its seeds too. Remember - think of your property as a bird feeder you don't have to fill!

The Riparian Recovery Network News is a periodic Hays County Master Naturalist publication covering topics of interest to the Wimberley Valley community. Back issues are available at <http://beautifulhayscounty.org/conservation-restoration/>. Share with neighbors and friends. Send questions or ideas for new topics to riparian@haysmn.org. Also use this same address to get on our mailing list.

