Native Plant Society of Texas

News

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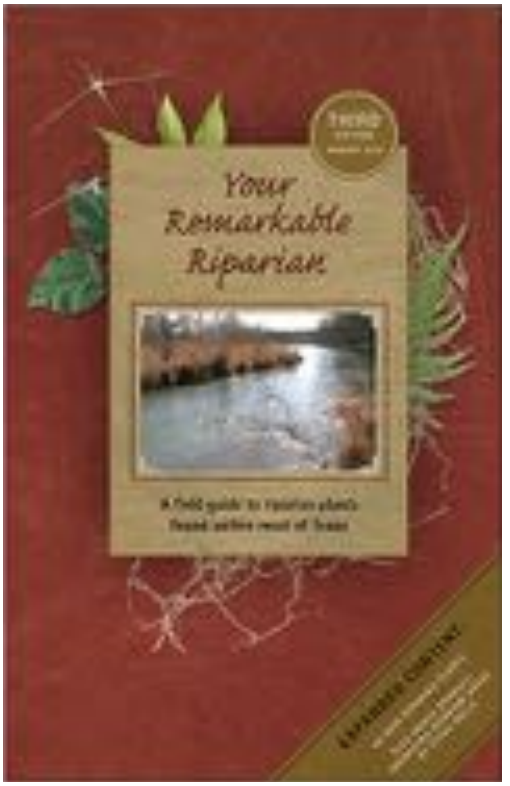
Your Remarkable Riparian

An educational journey toward A Field Guide to Riparian Plants



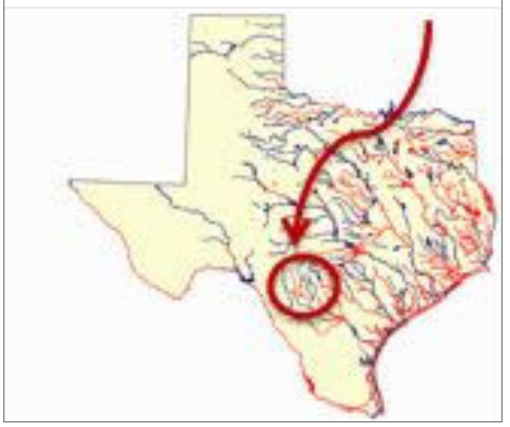
By Sky Jones-Lewey

This is a story about our journey from learning how to pronounce the word "riparian" to developing an educational tool that puts riparian plants at the forefront of understanding how rivers work. I have lived and worked on Texas rivers for most of my life, and they have taught me a thing or two. But the people I've met along the way, those who have sharpened my eyes for observation, are the true heroes of this story.

It all started in 2000 when we began to observe the consequences of off-road vehicles using riverbeds for sport and competition in the Nueces basin headwaters. Instinctually, I knew this kind of use, abuse really, of our pristine, spring-fed waterways was not good. What I saw was the annihilation of plants and structure that once allowed the river to manage flood and drought and deliver the things we value about Texas Hill Country waterways—like beauty, habitat and spring flow.

Several years of intensive effort from the Nueces River Authority and other conservation and wildlife groups resulted in the passage of a new Texas law in 2003 that banned motorized vehicles from state-owned riverbeds. And then I watched as the river began to repair itself. A succession of plants started to appear, take hold on the banks, recapture sediment, and rebuild a stable bank and floodplain.

Nueces headwaters streams and rivers



I was on to something, but I wasn't sure what. The lights really came on when I attended a riparian workshop put on by the USDA in Kerrville where I met Steve Nelle, Kenneth Mayben and Ricky Linex from NRCS and two members of the National Riparian Service Team from Oregon, Janice Staats and Wayne Elmore. They became mentors and then teammates as we developed a program called the Riparian Landowners' Network and delivered over 40 workshops and one-on-one landowner consultations in the Nueces basin. We met in a multitude of living rooms, barns and riverside structures, and I truly believe these neighbor-to-neighbor functions were the best way to start our outreach on the importance of the riparian landscape. I saw lights go on in the landowners in every one of these workshops.

I recall that Steve Nelle was able to cobble together an impressive list of important riparian plants identifying their stability rating and wetland indicator status. Very soon, it became clear that riparian plants had everything to do with the proper functioning condition, PFC as we called it, of our rivers. We decided that there was a better way to help foster understanding and help people fall in love with the amazing palette of riparian plants, as I had.

In the spring of 2005, we began to build our visual catalog for a Guide to Riparian Plants in the Nueces Basin. Mary Kate Rogers and I created a makeshift, riverside, scanning photo shop under the tailgate of my truck, and we pulled and

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scanned more than 80 plants against a black velvet background. It was the best and only way we could truly capture the beauty, freshness and intricacies of these special plants.

We talked with our creative design team on how best to portray the plants within a printed booklet. Quickly we dashed the idea of a rigid template with 2-inch by 2-inch plant photos, and opted for a more fluid treatment that would highlight special features and call out some historical and unique uses of the plants. We wanted to create a plant book that not only delivered facts about all the functional aspects, but that also showed the beauty through unique treatments. I wanted readers to fall in love with riparian plants, just as I had.

In 2006 we released the first edition of Your Remarkable Riparian: A Field Guide to Riparian Plants in the Nueces Basin featuring a basic introduction to riparian function with about 90 plants categorized and grouped by type and function. Two thousand copies were gobbled up in less than a year. Thanks to grants from the Dixon, Meadows, and Shield-Ayres Foundations we were able to give the beautiful books away to all who asked, and to some who didn't but needed them anyway.

The next year we reprinted 10,000 copies and continued to hand them out freely to individuals and groups like Master Naturalists and rural neighbor networks. Clearly this was not a sustainable approach, but the demand for the books was growing. For the third edition, released in 2016, we expanded the scope to include 22 new pages on "learning to see the bull's eye" education and 180 riparian plants found in most of Texas—more than double the content in the first edition.

While we are no longer giving away the riparian plant guide compendium, we have paired it with an Owners Manual, written by Steve Nelle that delivers more than 20 pages of detailed education for riparian landowners on management guidelines and troubleshooting. The Remarkable Riparian book sets can be reviewed and ordered at YourRemarkableRiparian.org.

These books have been a labor of love for me over the past decade, and would not have been possible without my dear mentors and those who helped me become a keen observer of what happens on the banks of our rivers and creeks. Riparian plants have a job to do and they do it beautifully. I am so grateful for the privilege to share my love of riparian plants and all the good things they can do for our Texas rivers and streams.

Nueces River
2007

Nueces River
2014

Texas Riparian Organizations & Resources

Hill Country Alliance Riparian Management
Texas Riparian Association
The Meadows Center for Water and the Environment
Texas Waters Resources Institute & Texas A&M Institute of Renewable Natural Resources
Texas Chapter of the Society for Ecological Restoration
Texas Living Waters Project

Featured Riparian Plants

Keep your eyes open for these water-loving beauties and stabilizers

Maidenhair fern
Adiantum capillus-veneris
Photo by Michael Eason
A delicate fern found near springs and creeks, often shaded and on limestone bluffs.

American water-willow
Justicia americana
Photo by Ricky Linex
An erect-growing perennial found in streams, rivers, ponds or shallow water areas. Colonies spread by a dense network of rhizomes and rooting from the nodes of lower stems.

Dwarf palmetto *Sabal minor*
Wharton county riparian
Photo by Steve Nelle
One of only a few palm trees native to the U.S. Indigenous to damp, shady areas, and grows in damp alluvial soil found in swamps, river bottoms, and in flood prone areas throughout Texas.

Top Right Column
Photos and plant descriptions by Ricky Linex

Buttonbush *Cephalanthus occidentalis*
The branches of buttonbush form a dense, low growing shrub that can reach 10 to 15 feet in height. It has value as a well-rooted stabilizing plant for riparian areas. Buttonbush is found growing in creeks, riparian areas, sloughs, lakeshores and wet areas across all of Texas. Buttonbush is occasionally seen in upland areas, and when found there is an indication of an available perched water table. This could be caused by clay or rock layers holding the water near the surface.

Emory sedge *Carex emoryi*
A riparian stabilizing plant that has tremendous root mass which resists the erosive nature of floods. There are many native sedges that offer riparian value but few are better than Emory sedge.

Frogfruit *Phyla nodiflora*
With prostrate, four-angled stems, frogfruit creeps along the ground, rooting at the nodes, branching and forming dense mats several feet in diameter. The plant rises only 3 to 5 inches above the ground but may have runners up to 3 feet long. Frogfruit is considered a desirable riparian colonizer, helping to provide an initial mat of roots on fresh sediment deposits. The plant is especially well liked by butterflies.

Water Primrose *Ludwigia peploides*
This perennial can be seen crawling across mud flats or floating in creeks and rivers and occasionally found around edges of ponds and lakes. Stems are glabrous, numerous and often branching and rooting at the nodes with lengths reaching 2 to 4 feet.

Late flowering boneset *Eupatorium serotinum*
A native perennial wildflower that commonly grows in creek bed gravel deposits, often colonizing in disturbed riparian environments. Blooms in late summer, early fall and is an excellent source of nectar for butterflies. Can reach 3-5' tall.

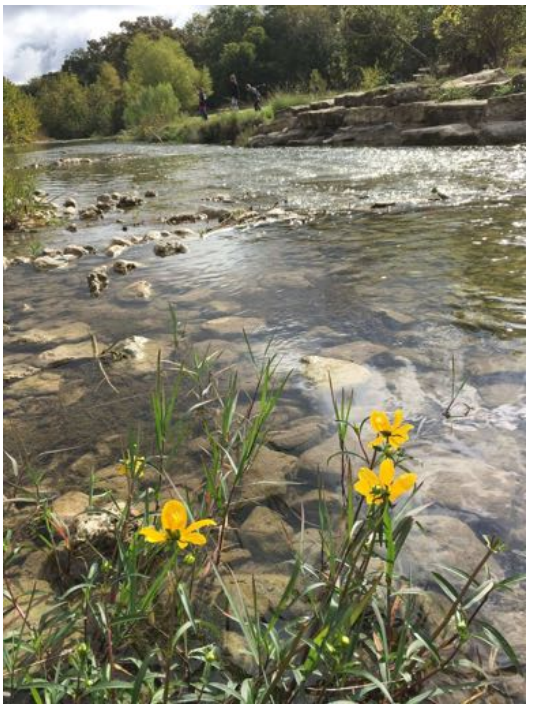
American elderberry *Sambucus canadensis*
This multi-stemmed shrub spreads by seeds, stolons and rhizomes. It can be a small tree, but is rarely seen taller than 9 to 12 feet due to browsing. Elderberry is found growing along perennial creek banks and in bottomland areas. It can grow in full sun or in the dappled shade under mature trees.

A stroll along Salado Creek

By Kim Conrow

Near the Bell County rest stops on I-35 where our Society has installed Monarch Waystations is the a quaint town of Salado. This historical town has many amenities such as boutique shopping and historical sites like the Stagecoach Inn. The water's edge of Salado Creek is among the places where a weary traveler can be refreshed. A stroll along this riparian area last October was just the activity needed on the Fort Worth to San Antonio drive. We found many beautiful native plants in bloom. Here are just a few of the botanical beauties we saw.

Smooth bur marigold *Bidens laevis*, blue mistflower *Conoclinium coelestinum* and late flowering boneset *Eupatorium serotinum*



Salado Creek, Salado, Texas

" The rivers flow not past, but through us, thrilling, tingling, vibrating every fiber and cell of the substance of our bodies, making them glide and sing." John Muir

Tarleton State University leads in riparian research

By Dr. Allan Nelson

Riparian restoration is occurring more often than ever before as people become educated about how plants in these areas prevent erosion, serve as wildlife habitat, and act as corridors for animal movement and plant seed dispersal. It has become a billion dollar industry across the United States and will likely continue growing as urbanization increases. In Texas, there is little information available about what kinds of plants to use in riparian restoration within different ecosystems.

Our research team at Tarleton State University has the most complete riparian plant community descriptions from the Bosque and Colorado rivers in Texas. We know that in the West Cross Timbers ecoregion, the most common riparian trees are cedar elm, sugarberry, and green ash. Common shrubs and woody vines include Texas persimmon, chittamwood, and various wild grapes. Broadleaf herbs like frostweed, pigeon-berry, and giant ragweed are common. Canada wild rye is the most common grass along the Bosque and Colorado rivers and broadleaf wood-oats are common in ungrazed areas. We also have data from a total of 15 rivers across Texas that have been examined for dominant trees in riparian areas. As we make this data available, we hope that native plant nurseries start to provide plants for riparian areas in the different ecoregions of Texas. Our data indicates that different plant communities occur in riparian areas across our Texas ecoregions, which vary in soils, climate, and topography. If we carry out restoration across the state without considering these different plant community compositions, our restored riparian areas will be less aesthetically appealing and less adapted to the animals they support.
If you are interested in this article and would like to obtain published papers regarding native riparian plants in Texas, contact Dr. Allan Nelson at nelson@tarleton.edu for more information.

Dr. Randy Rosiere and a student compare data from a riparian vegetation study site on the Texas Colorado River.

Above: Tarleton students gather data on plant community composition from riparian areas along the Texas Colorado River

Wimberley Valley Flood Recovery

In the Wimberley Valley, flood recovery brings a new appreciation of riparian plants.

By Christine Middleton with Suzanne Davis and Dell Hood, Hill Country NPSOT chapter members

It's long been said that "Texas weather consists of droughts interrupted by intermittent floods." In recent years, the Wimberley Valley has experienced its share of both. But one positive outcome of so much tragedy is a growing appreciation of the importance of native plants growing along the Blanco River and its many tributaries. These include Cypress Creek which flows through the heart of downtown Wimberley, a popular tourist destination, as well as two ecologically sensitive areas that have over the past decade or so been developed as parks, Blue Hole Regional Park and Jacob's Well Natural Area.

Healthy creeks and rivers depend on a specialized group of riparian plants that form a system for filtering and storing water releasing it in times of scarcity and slowing flood waters in times of overabundance. Much land bordering Wimberley's waterways was subdivided long ago and developed as vacation communities. Recreation was the primary goal and often much of the riparian buffer, all except the tall stately bald cypress and other tall trees, was sacrificed in favor of mown St. Augustine grass. Then came the Memorial Day flood of 2015 and many of these trees were uprooted or otherwise damaged beyond hope of survival. The people of Wimberley were devastated as much by the loss of their trees as by the damage to their homes and personal possessions.

But help rushed in to fill the void. Workshops were held enlightening the community to both the beauty and importance of native riparian buffer zones. Early on Native American Seed developed a "Riparian Recovery Mix" specifically to help rebuild stream bank ecosystems. This mix includes a variety of native grasses, wildflowers as well as saw grass, a very showy native sedge. Among the grasses are switchgrass, eastern gamagrass, both prairie and Virginia wildrye, sideoats grama, bushy bluestem, and broadleaf wood-oats. Among the wildflowers are many butterfly attractors including maximilian sunflower, cardinal flower, clammyweed, and frogfruit.

Then, to jumpstart recovery, Texas Parks and Wildlife (TPWD) and Treefolks stepped in with a multitude of seedlings. In the spring of 2016, TPWD with the help of local Master Naturalists distributed almost 15,000 bank stabilizing plants—Emory sedge, spikerush, whitetop sedge, and switchgrass. Then came Treefolks who in response to a request by Hays County developed a plan to reforest the 61 mile stretch of the Blanco impacted by the flood. Using a combination of volunteers and contractors, thus far Treefolks has planted over 45,000 saplings with a goal of 100,000 by the end of this planting season. These include tall trees like bald cypress, sycamore, and cedar elm as well as smaller varieties like buttonbush, elderberry, and roughleaf dogwood.

While much has been accomplished, the challenge remains to create a new norm that celebrates the native plants that grow along Wimberley's waterways. It can be overwhelming for those wanting to create riparian buffer zones to figure out how to get started, what to remove and what to encourage, where to acquire plants to increase diversity, how to maintain the area with no or infrequent, correctly timed mowing, etc. To fill this void, members of the Hill Country Chapter of NSPOT together with local Hays County Master Naturalists are facilitating the formation of Riparian Restoration Network. Site visits, social gatherings, workshops, and other activities are being used to connect individuals with each other and with experts who can assist them in their efforts to use native vegetation to improve the health of Wimberley's waterways.

This page beginning top left: Frostweed was one of the first things to bloom at a site being developed by TPWD to demonstrate the use of native plants in a riparian setting. At Blue Hole Regional Park, broadleaf wood-oats were planted under bald cypress that lines the popular swimming hole. Sawgrass growing along the edge of Cypress Creek.

Left page: The day after the Memorial Day Flood, the devastation is evident at a creek flowing into the Blanco River. The same property in the fall of 2017 after considerable restoration efforts on the part of the homeowner.

"Whatever the water touched was riparian: that moist layer of air and rich earth along the shore was an Eden for many forms of life." Brian K. Friesen, At the Waterline

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