



## **RIPARIAN RECOVERY NETWORK NEWS**

**Riparian: wetlands adjacent to rivers or streams**



**No. 13, June 6, 2019**

What are the the purple blooms you see in the picture above? They're Broadleaf wild leek (*Allium ampeloprasum*) - one of the many plants found in the Cypress Creek Nature Preserve and discussed in Issue 11. The photograph was taken a few weeks ago in the field between the Leaning Pear and Cypress Creek. You might have also noticed these delightful purple blooms in the ravine at the corner of Ranch Roads 12 and 3237.



### **May 2019 Flooding and Its Impact**

Last month the Wimberley area experienced two floods within less than a week. Actually, technically the first event wasn't a flood. Rather it would more properly be called an "out of bank" event. On May 4th, the Blanco River crested at 12.57 feet as measured at the Ranch Road 12 Bridge. The National Oceanic and Atmospheric Administration (NOAA) calls that an "action event" which means the crest was above 10 feet. But to qualify as an official flood the water level needed to rise about 5 inches more to 13 feet. Four days later on May 9th the Blanco River did just that cresting at 14.57 feet.



What happened at Jackaroo Ranch during that one week period is instructive as to how even minor floods can alter the landscape. Ryan McGillicuddy from Texas Parks and Wildlife reported that the most damage was to the upstream berm that shapes the bioswale created to slow surface runoff and protect the Blanco from pollutants. This was likely due to its location on the property - the berm sits on the downstream side of the low water crossing at Little Arkansas. He suspects the eddying force of water pouring over the crossing is what eroded the berm. But fortunately, as the picture on the left illustrates, the switchgrass planted there performed its stabilizing function preventing further erosion.

Ryan and Jackaroo's land manager were both pleased with how, overall, the site handled both events. Despite local scouring, there were lots of places where the native vegetation captured sediments. At first glance, the area pictured at the top of the next page appears to

have been scoured. But Ryan dug down 4-6 inches and found White-top sedge and other vegetation. This particular area lost up to 3 feet of soil in the 2015 flood. The covered plants will grow up through the soil that was deposited on top of them - thus illustrating the importance of riparian vegetation in rebuilding banks after catastrophic flood events.



The other damage was to the river access area shown in the before and after pictures below. In the before picture on the left you'll notice a Bald Cypress planted on the far side of the patio. In the after picture you can see that the small tree was swept away by the floodwaters. This containerized tree was planted just a few years ago and did not have sufficient time to extend its roots both laterally and vertically. Thus, it was more vulnerable than trees of similar size growing up naturally. The bare area between the mown area and the river was scoured, but the vegetated portion held up remarkably well. Note that the gravel removed by this most recent flood was actually deposited there by the 2015 flood. Consideration is now being given to extending the vegetated area down to the water's edge using the same combination of Nimblewill and Thunder Turf as was used on the upper portion.



### **More on Helping Mother Nature**

Last month's issue suggested ways property owners/managers can assist Mother Nature with flood recovery. A local Master Naturalist shared his observations and techniques developed in the 15 years he has owned his property on one of Wimberley's many creeks. His first years of ownership saw moderate flooding but little damage to riparian vegetation. Then came a period of severe drought. When rain returned in September of 2009, the riparian vegetation responded quickly. However Tropical Storm Hermine hit in September of 2010 causing modest damage and stimulated his first efforts to speed flood recovery. Three years later the Halloween flood of 2013 caused more significant damage to an area that had not yet recovered sufficiently. This damage included lots of high energy scouring and imported gravel from upstream. Just two years later almost to the day, a third major flood caused even more devastation. Today he reports the area is "recovering nicely" and hopefully will have more time to heal before the next major flood event.

So what has our observant Master Naturalist learned over the course of three 100 year floods in just five years? One insight is that different plant species use varying strategies to counteract raging floodwaters. To illustrate, he contrasts the impact of a flood on two kinds of

trees that inhabit his riparian zone. River walnuts are brittle and more would be lost if it weren't for the readiness with which they shed their leaves to protect their trunks. But that's not a problem as within a few weeks lost leaves are quickly replaced. By contrast, Persimmons hang on to their leaves and compensate by being very flexible. So their trunks rarely break, but right after the flood they "looked like a Christmas tree in a sock" as illustrated in the left hand photograph below. The leaves coupled with dense branching collect smaller flood debris that often includes small fish, rocks, onion plants, etc. and the multiple trunks become braided in response to the swirling waters.



The prostate Persimmons would eventually straighten up on their own as the flood debris dried up and was removed by the wind, birds and other critters. That's undoubtedly what happened before he moved to that stretch of creek in 2004. But our hard working Master Naturalist and his wife chose to accelerate the process by removing the debris and gently persuading the trees to stand more upright. He observes the tree will tell you when it is time to stop - when you start feeling too much resistance. The pair actually waits a few weeks after flooding to begin the unwrapping process because dried debris is easier to removed and often can be dislodged by simply shaking the tree. And don't worry about losing some leaves or removing all of the debris. Mother Nature will take care of the rest before the next spring comes around. The middle picture above shows the same Persimmon after the debris has been removed and the one on the right is the same tree today.

You might also want to remove organic material from other trees and shrubs. But, in most cases, that is purely an aesthetic decision. The important question is what do you do with the debris you removed? Obviously you will want to carry out any man-made refuse. But the organic material can be "recycled" nearby. One place to start is with placing debris on the upstream side of the Persimmons and other plants you might want to protect from future, hopefully smaller, floods. Organic material can also be used to fill nearby scours and cover exposed roots. The beauty of this procedure is that the material itself will disappear as new plants take hold and begin to trap sediment during future out-of-bank events.

What else does our wise Master Naturalist suggest? His last piece of advice is, over the next months and years, watch for flood introduced non-native, invasive and/or noxious species. The last issue talked about some of the invasive plants that can be spread by floods. Floods also spread opportunistic native plants you might want to prevent from getting a foothold. A good example is Texas Bullnettle whose painful spines make removal a challenge. But don't despair, there is a "painless" method our friend is willing to share. Just e-mail us at [riparian@haysmn.org](mailto:riparian@haysmn.org) and we will pass on his wisdom.



The Riparian Recovery Network News is a periodic Hays County Master Naturalist publication covering topics of interest to the Wimberly Valley community. Please share this newsletter with friends and neighbors. Send any questions you might have or ideas for future topics to [riparian@haysmn.org](mailto:riparian@haysmn.org). And, if you are not currently on our mailing list, use this same address to request your name be added.

