

## ***RIPARIAN RECOVERY NETWORK NEWS***

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



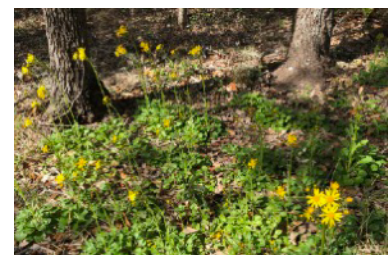
**No. 10, March 14, 2019**

### **“Normal” Floods = Healthy Waterways**



Spring started a bit early this year. Have you noticed early flowering natives like white (and sometimes purple) Windflowers and shadeloving yellow Golden Groundsel are blooming profusely around town? And we are starting to see other favorite spring flowers like Bluebonnets and Texas Mountain Laurel. Spring rains so necessary for these and other spring favorites are also on their way (hopefully). But with rains come floods. Don't panic. Most floods are not like the ones we had a few years back that left death and destruction in their paths. More “normal” floods do little damage and are critical elements to sustaining the health of our streams and the riparian areas that border them.

So what are “normal” floods and why are they important? Normal refers to moderate overbank flows that occur every few years. These moderate floods are critical to maintaining the connection between the riparian area and the creek or river. If the terrain is steep, the riparian zone will be confined to a narrow strip delineating by how high the water normally rises. In flatter areas, floodwaters spread out across a broad expanse creating a floodplain that can extend several hundred feet beyond the waterway. Sediment that drops out during floods is what builds the floodplain and makes it so fertile. Riparian vegetation is more diverse than that found in the uplands and this diversity of food sources makes for great wildlife habitat. Floods can also have a positive impact on fish production as the receding floodwaters leave behind shallow places to spawn.

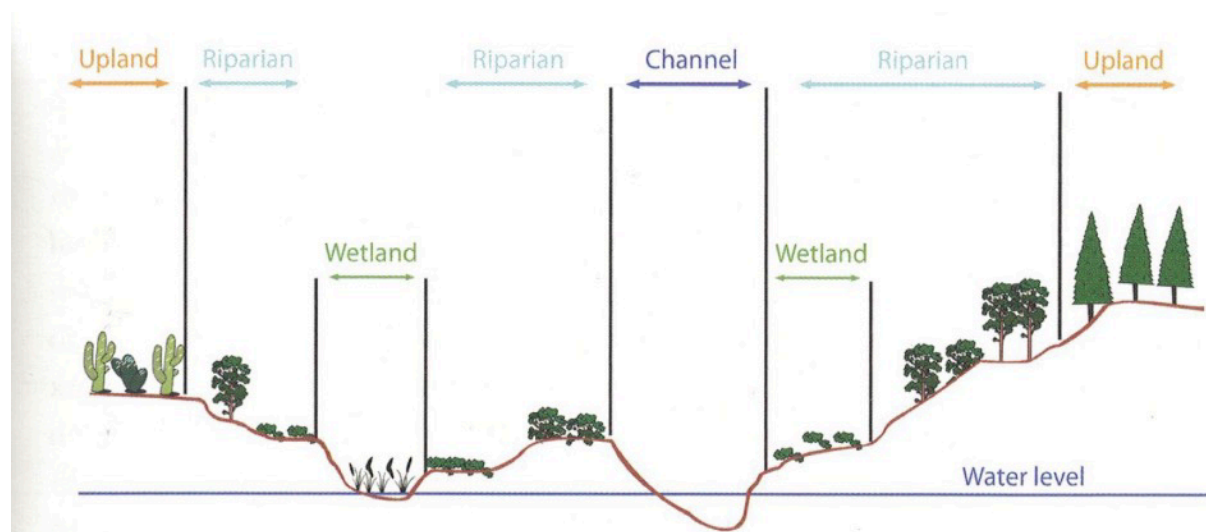


The extent of moderate overbank flows can often be discerned by the plant communities that like moist or intermittently moist conditions. This distinctiveness has a lot to do with the oxygen that resides in the pore spaces between the grains that make up soil. Oxygen inhabiting these pore spaces is consumed by roots and the microorganisms that support them. The underground oxygen is replenished by oxygen drawn from the air that flows just above the soil's surface. But, when soil becomes saturated, oxygen is replenished much more slowly.

Thus, an extended period of saturation can deplete the available supply making it hard for upland species to survive. Water-loving plants sometimes referred to as “hydrophytes” have adapted to riparian and other wetland habitats by developing various mechanisms that enable them to survive in such oxygen depleted environments.

Often ignored in discussions of rainfall is what happens to areas above perennial streams (i.e., waterways that flow all year round). Some streams referred to as ephemeral creeks only flow when it rains. But here in the karst rich Wimberley Valley, what we often talk about are “wet weather creeks.” Also called intermittent or seasonal creeks, these streams are fed by groundwater from seeps and springs and continue to flow long after the rain has stopped. Some places along seasonal creeks may remain moist for all or part of the year due to the continued flow of groundwater very close to the surface.

Look closely and you can identify such areas by the presence of hydrophytes like the Bushy Bluestem seen in the foreground of this picture taken above Jacob’s Well. In riparian areas, Bushy Bluestem is mostly found close to a stream indicating its need for a rather moist environment. Thus, it is very likely that at this location on Dry Cypress Creek water flows in close proximity to the surface. Less wet areas might be characterized by different vegetation - the kind that has adapted to alternate wet and dry conditions. For example, a small forest of mostly Cedar Elms is a clue that an area is subject to intermittent inundated by floodwaters. Lindheimer Muhly, another plant that can handle alternating wet and dry conditions, is often found on small seasonal creeks or other areas influenced by seeps.



**FIGURE 2.3.** Ecosystem schematic depicting distinction between riparian and wetland areas and areas of possible overlap (modified from Zaimes et al. 2007).

Note: The above figure appears on page 13 of *Texas Riparian Areas* (Edited by Thomas B. Hardy and Nicole A. Davis) an interesting, but highly technical book sponsored by the Meadows Center and published by Texas A&M Press.

Wetlands whether they are part of a riparian system or lie further up in the watershed are important for recharge. In addition to increasing the quantity of recharge during wet periods, wetlands also have a positive impact on water quality. Moist soils that have been depleted of oxygen are often referred to as anaerobic. Chemical mechanisms for removing many pollutants from groundwater take place in the absence of oxygen. Thus these naturally occurring anaerobic conditions mean wetlands are highly efficient at helping keep our springfed surface water clean and our groundwater safe to drinking.

### **The Riparian Recovery Network Congratulates Ally Bowman**

We are very proud of Ally Bowman who came to us for advice on her 8th grade science project. We helped out with educational materials and plants. Ally did the rest. She selected an area on a gracious friend's Blanco River property, nurtured the plants for a period of time observing what happened and then wrote up her findings. The Austin Watershed Protection Organization recognized the excellence of her work by awarding her a special certificate of recognition. Great work!



Danforth Junior High eighth grade student, Ally Bowman earned a special certificate of recognition from the Austin Watershed Protection Organization for her Regional Science Fair project.

Note: Picture as it appeared in The Wimberley View dated March 14, 2019, page A8.

The Riparian Recovery Network News is a periodic Hays County Master Naturalist publication covering topics of interest to the Riparian Recovery Network community. Please share this newsletter with friends and neighbors who would enjoy information on restoring and enjoying their riparian zone. 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

