



Issue: Healthy Riparian Areas



HCA is a passionate community caring for the unique features, spring-fed streams, heritage ranch lands, spectacular beauty and culture of the Texas Hill Country for the benefit of future generations.

“A riparian area that is functioning properly will support a heavy stand of densely-rooted vegetation. Riparian plant species have different rooting characteristics than upland plants. Root systems of riparian plants are often stronger and denser than upland species. A strong interconnected root mass is one of the critical factors in maintaining bank and channel stability. In functioning condition, the riparian ‘root basket’ can act like a cradle holding the streambed above the bedrock and protecting the banks.”

Steve Nelle, Natural Resource Conservation Service

The values we appreciate about hill country streams - namely clean flowing water, fish and wildlife habitat, groundwater recharge, recreational and scenic enjoyment are the result of healthy functioning riparian areas. They are special and deserve preferential treatment.

A riparian area is often described as the “river bank” but it is much more, it’s the interface between land and water along a body of water. Dense vegetation (native trees, shrubs and grasses) and an active floodplain are necessary to slow water down (dissipate energy) and trap mobile sediment. This is the first step toward riparian health. Interlaced roots and trapped sediment, rich in water storing organic material; help to stabilize banks and conserve flood water and delivering it back to the channel in the form of clean base flow.

Often, the best approach for managing this system is to do nothing, observe and let nature do the work. Where riparian function has become impaired it is important to recognize any on-going activities that may be hindering recovery and to change (usually stop) them from continuing. Some heavily disturbed areas may require restoration in order to speed the natural recovery process. When you consider the quandary we face with dwindling water supplies and note the flashy flood-prone nature of Hill County streams it’s easy to understand the value of healthy functioning riparian areas.



“Vegetation contributes to unique water-sensitive ecosystems that perform a variety of ecological functions. Healthy riparian zones can mitigate erosion, maintain water quality, enhance wildlife habitat and sustain stream flow during dry times.”

~Sky Jones Lewey, Nueces River Authority



Ecosystem Services Provided by Healthy Riparian Areas

Provide habitat (food, shelter and water) for aquatic and terrestrial organisms. **HABITAT**

Intercept direct solar radiation, create shade and increase the depth to width ratio to help maintain or restore suitable water temperatures for fish and other aquatic organisms while providing a milder microclimate for wildlife. **KEEP THINGS COOL**

Improve and protect water quality by reducing the amount of sediment and other pollutants, such as pesticides, organic, and nutrients in surface runoff as well as nutrients and chemicals in shallow ground water flow. **CLEAN THE WATER**

Provide food, in the form of plant detritus, for aquatic insects which are important food items for fish. **GROW FISH FOOD**

Help stabilize the channel bed and stream bank and provide room for watercourses to establish geomorphic stability through meanders. **CONTROL EROSION**

Serve as wildlife corridors to provide landscape linkages between existing habitats. **WILDLIFE CORRIDORS**

Sequester and store atmospheric carbon. **CLEAN THE AIR**

Catch and store floodwaters (bank storage) (riparian sponge) releasing it slowly as base flow to streams and recharge to groundwater aquifers during drought. **SAVE WATER**

Activities that can hinder the natural recovery of a riparian area:

- Farming too close to the bank
- Mowing, spraying close to the creek
- Manicured or highly Artificial manipulation of banks / sediment
- Excessive vehicle traffic in creek altered landscapes next to the creek
- Grazing concentrations in creek areas
- Excessive deer, exotics, hogs in creek areas
- Burning in riparian area
- Removal of large dead wood
- Low water dams
- Poorly designed road crossings / bridges
- Excessive recreational foot traffic in creek area
- Excessive alluvial pumping or other withdrawals
- * Proliferation of invasive non native species, in some instances

Only 1.3% of Texas land surface is riparian but the health of this land determines quality and quantity of water in 100% of Texas streams.

Soil that is rich in organic matter can hold eight times as much water as depleted soils. Proper resource management for riparian health will provide much needed water supplies for future generations.



Healthy Riparian Area



Degraded Riparian Area

To learn more about this issue, visit www.remarkableriparian.org.
A digital resource for riparian understanding or www.hillcountryalliance.org/hca/RiparianManagement

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