

Unkempt May be Healthy

By Robert Fears

Unkempt, overgrown, shaggy riparian areas usually mean that they are healthy. Big wood, downed trees and deep-rooted vegetation dissipate flood water energy, filter sediment and stabilize soil on banks and within channels. Riparian systems depend upon specialized plants to recharge ground water and keep rivers flowing during dry times. Plants work together as a community to hold stream banks together and cradle streambeds above the water table. A riparian area is like a big sponge that collects, stores and slowly releases water. The action of the sponge can be restricted or destroyed by soil compaction or disturbance.

Riparian health is evaluated by observing species and characteristics of plants that are present. Plant wetness indicators, presented in the United States Fish and Wildlife Service (USFWS) Region 6 Wetland Plant List, give us the status of a riparian system. An abundance of obligate wetland plants (OBL), which are almost always found in very wet locations, and facultative wetland plants (FACW), which are usually found in wet locations, show that the riparian zone is healthy. It is acting as a sponge by storing water, has a high water table and stays wet for much of the year.

Three additional wetness indicators are facultative plants (FAC) which are found equally in wet and non-wet locations; facultative upland plants (FACU) which are usually found in non-wet locations; and obligate upland plants which are almost always found in non-wet locations. Riparian zones that do not have OBL and FACW plants are probably not storing water very effectively. The absence of these plants can also be a sign of water table decline.

A stability rating (SR) is assigned to each plant in the USFWS guide and is based on its observed ability to withstand erosive forces of water. Each plant is rated on a scale of 1 to 10 where SR1 is equal to bare ground and SR10 is equal to stability of anchored rock. SR 6 to 7 is considered to be the minimum ratings necessary to provide adequate bank stability. Stability ratings of individual plants are multiplied when they grow as interconnected colonies.

Plants have also been divided into functional groups to aid in assessing riparian zone health. These functional plant groups are classified as colonizers, stabilizers, and gravel bar pioneers.

Colonizers are the first to appear in a plant succession during the repair of a riparian system. These plants grow fast, spread quickly and put down a mat of stolons or rhizomes. They trap sediments which create niches for deeper-rooted plants to take hold. Colonizers usually grow right at the water's edge or even in the water. Early stage colonizers are weak-rooted with a primary function of spreading as quickly as possible. They are critical to recovery of riparian areas. Late stage colonizers have stronger roots

but do not grow or spread as quickly as the early colonizers. These plants function as late colonizers and early stabilizers.

Stabilizer plants become established in an environment created by the colonizers. The stabilizers are tall, upright plants with a strong, dense root mass. Since these plants can be woody as well as herbaceous, they are slower to establish. Once established, however, they are much stronger and more permanent. Most stabilizer plants have large stout top growth which helps to dissipate floodwater energy. When flowing water velocity is reduced, sediments are dropped and trapped in the vegetation and become incorporated into the bank or floodplain. When left in place, fallen trees can become lodged in the streambed and bank to provide stability indefinitely.

Gravel bar pioneers become established in gravel and are mostly FAC and UPL plants with a mix of colonizers and stabilizers. Barren gravel deposits provide a harsh environment for plant growth because of the lack of shade and soil resulting in poor water-holding capacity. It takes a special plant to start a plant community on these sites.

If misuse of riparian zones is discontinued, nature has a wonderful way of repairing them through plant succession.

Wetness Indicators¹

Name	Abbreviation	Description
Obligate Wetland Plants	OBL	Almost always found in very wet locations
Facultative Wetland Plants	FACW	Usually found in wet locations
Facultative Plants	FAC	Found equally in wet and non-wet locations
Facultative Upland Plants	FACU	Usually found in non-wet locations
Obligate Upland Plants	UPL	Almost always found in non-wet locations

¹Based on Region 6 United States Fish and Wildlife Service Wetland Plant List

Some of the Colonizers¹

Common Plant Names	Wetness Indicator	Stability Rating	Stage
Water primrose	OBL	3	Early
Watercress	OBL	3	
Smooth bidens	OBL	5	
Water hyssop	OBL	3	
Pennywort	OBL	3	
Mint	FACW	3	
Frogfruit	FAC	4	Late
Spikerushes (most)	OBL	6	
Flat sedge	OBL	6	
Knotgrass	FACW	6	

¹Adapted from “Your Remarkable Riparian – A field guide to riparian plants within the Nueces River Basin of Texas,” A publication of the Nueces River Authority.

Some Stabilizer Plants¹

Common Plant Names	Wetness Indicator	Stability Rating	Plant Type
Emory sedge	OBL	9	Herbaceous
Sawgrass	OBL	9	
Switchgrass	FAC	9	
Eastern Gamagrass	FAC	9	
Big sacaton	FAC	9	
Common reed	FACW	9	
Gulf cordgrass	FACW	9	
Lindheimer muhly	FAC	7	
Water willow	OBL	7	
Spiny aster	FACW	8	
Bald cypress	OBL	9	
Button bush	OBL	8	
Black willow	FACW	7	
Arroyo willow	FACW	7	
Sandbar willow	FACW	7	

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Gravel Bar Pioneers¹

Common Plant Names	Wetness Indicator	Stability Rating
Roosevelt baccharis	FAC	6
Sycamore	FAC	6
Lindheimer indigo	FAC	5
Little walnut	FAC	6
Desert willow	FACU	6
Gravel bar brickelbush	UPL	5

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