

Riparian Notes

Note Number 10, February, 2005

Steve Nelle, NRCS, San Angelo, Texas

The Right Kinds of Riparian Plants

One of the key attributes of a properly functioning riparian area is the relative stability of banks and channels. That stability will only be provided when banks are covered by the right kinds of riparian vegetation. Riparian species, in general, are extremely well rooted and are able to withstand the extreme erosive forces of turbulent floodwaters.

The right kinds of vegetation for riparian stability are those native plant communities that are well suited to frequently flooded bottomland situations and will normally consist of a variety of grasses, sedges, forbs, shrubs and trees. These riparian plant communities will be distinctively different from adjacent upland vegetation. One way that riparian species can be determined is by looking at the "National List of Plant Species That Occur in Wetlands" and the Indicator Categories assigned to each plant species. This list can be found at: <http://www.nwi.fws.gov/bha/list96.html> or <http://www.charttiff.com/WetlandMaps/WetlandPlants/plantlists.html> Using this system of classification, all plants are assigned into one of five categories as described below:

- OBL *Obligate Wetland* species almost always occur in wetlands (greater than 99% probability).
FACW *Facultative Wetland* species usually occur in wetlands (67% - 99% probability), but are occasionally found in non wetlands.
FAC *Facultative* species are equally likely to occur in wetlands and non wetlands (34% - 66% probability).
FACU *Facultative Upland* species usually occur in non wetlands (67% - 99% probability), but are occasionally found in wetlands.
UPL *Upland* species almost always occur in non wetlands (greater than 99% probability) and almost never occur in wetlands.

On perennial creeks, OBL and FACW and some FAC species are considered to be riparian species. These are usually the plants that have the necessary dense root masses capable of withstanding high flow events. On seasonal creeks, some OBL or FACW species should be present, but the dominant riparian plants may be FAC and some FACU species. Riparian areas dominated by FACU and UPL species will very likely not be functioning properly.

Another rating system has been developed to estimate the ability of plants to resist erosion and stabilize creekbanks. A rating of 10 would provide the maximum stability and is equivalent to the strength of anchored rock. A rating of 1 is equivalent to bare ground. Generally, if riparian areas are dominated by combinations of plants rated 6 - 9, stability would be considered adequate.

Draft Stability Ratings have been proposed for some of the key species in west and central Texas and this list is available by contacting steve.nelle@tx.usda.gov The abbreviated list below shows the Wetland Indicator Category and Proposed Stability Ratings for some of the more common plants found in riparian areas. By looking at these classifications, the riparian manager can begin to more clearly understand what the right kinds of vegetation are.

Emory sedge	OBL	9	Bermudagrass	FACU	5	Buttonbush	OBL	7
Sawgrass	OBL	9	Texas wintergrass	FACU	4	Indigobush amorpha	OBL	7
Bulrushes (most)	OBL	9	King Ranch bluestem	UPL	5	Black willow	FACW	6
Spikerushes	FACW	5/6	Water willow	OBL	8	Baccharis, seepwillow	FACW	6
Knotgrass	FACW	6	Scouring rush	OBL	7	Cottonwood, Fremont	FACW	6
Bushy bluestem	FACW	6	Spiny aster	FACW	8	Sycamore	FAC	6
Rabbitsfoot grass	FACW	3	Frogfruit	FAC	4	Little walnut	FAC	6
Switchgrass	FAC	9	Tall goldenrod	FACU	7	Roughleaf dogwood	FAC	6
Eastern gamma	FAC	9	Maximilian SF	FACU	6	American elm	FAC	6
Deergrass muhly	FAC	9	Common ragweed	FACU	2	Hackberry	FACU	5
Big sacaton	FAC	9	Juniper	UPL	5	Mesquite	FACU	5