

PFC Definition:

A properly functioning riparian area will have adequate vegetation, landform or large wood to:

reduce erosion / stabilize banks dissipate the energy of floodwater slow floodwater velocity drop sediment / trap sediment develop floodplains provide flood-water retention provide ground-water recharge provide water storage in banks and floodplains sustain base flow

Five General Types of Riparian Plants:

- Sedges / Rushes
- Grasses
- Forbs
- Shrubs
- Trees



Two Functional Groups of Riparian Plants:

- 1. Colonizers
- 2. Stabilizers







Stabilizers

Strong, robust plants

Able to withstand high energy flows

Strong, deep, reinforcing root systems

Provide bank protection and energy dissipation



Stability Ratings of Riparian Plants Scale of 1 - 10

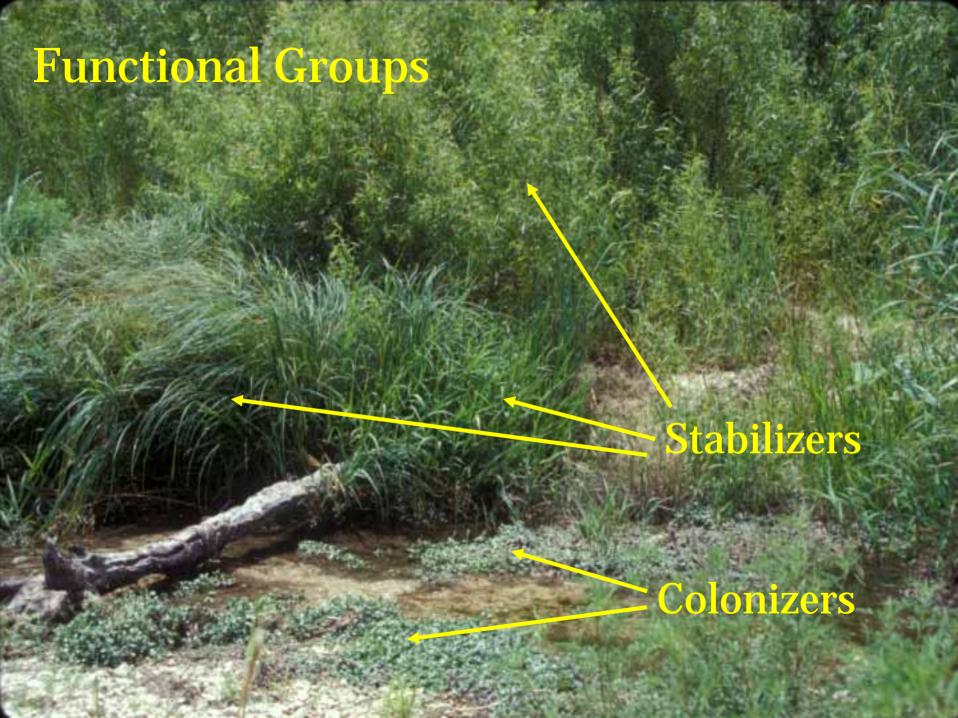
- 1 = Bare ground
- 10 = Anchored rock or large anchored logs
- 7 = Acceptable riparian stability (or 6)

Five Wetness Categories

4		7	
	Obligate V	veriand	OBL
	Obligate V	Ctiaira	

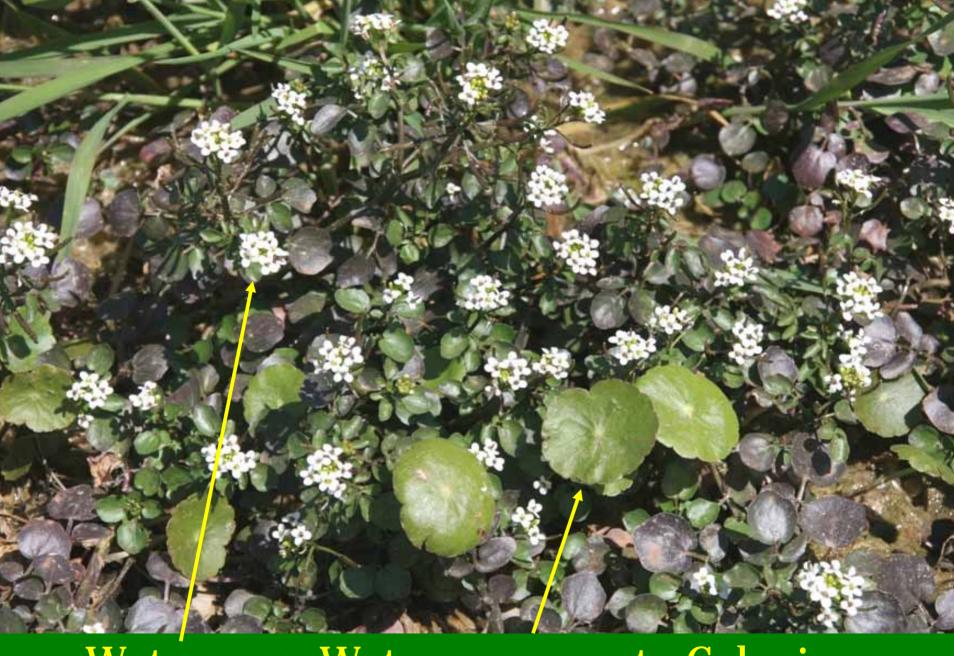
- 2. Facultative Wetland FACW
- 3. Facultative FAC
- 4. Facultative Upland FACU
- 5. Obligate Upland UPL











Watercress; Water pennywort - Colonizers

























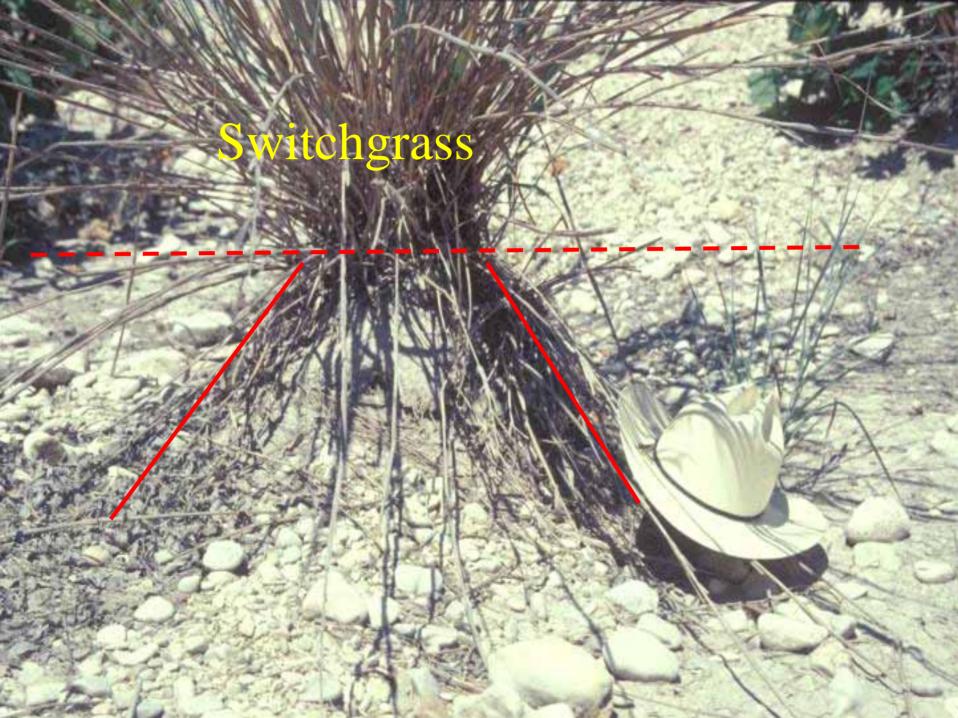




Switchgrass





















Gulf Cordgrass FAC SR = 9

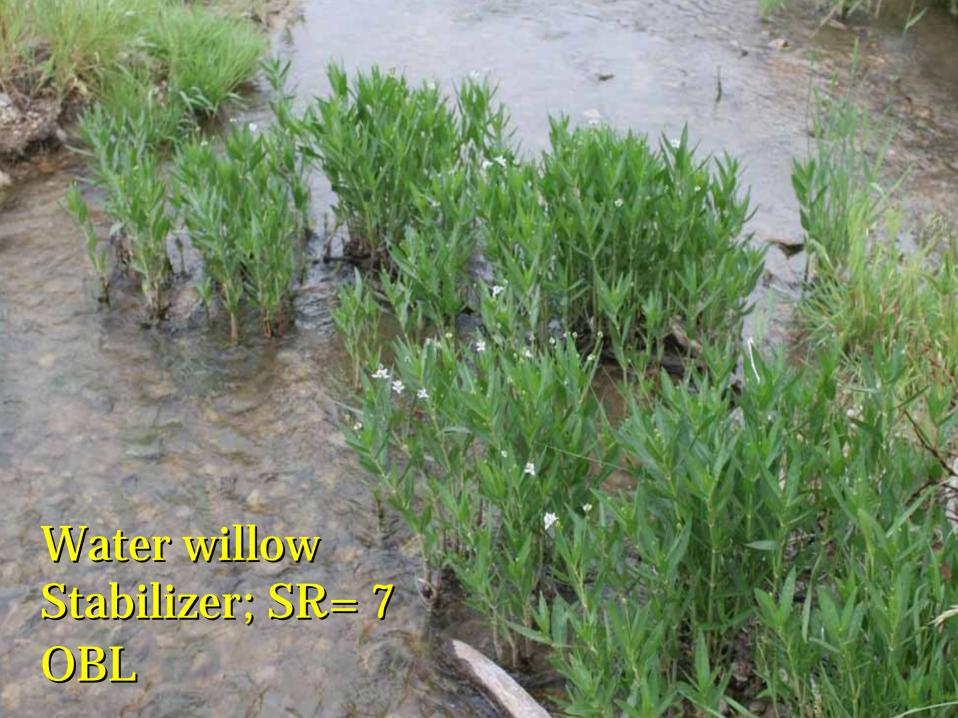


Big Sacaton FAC SR = 9



























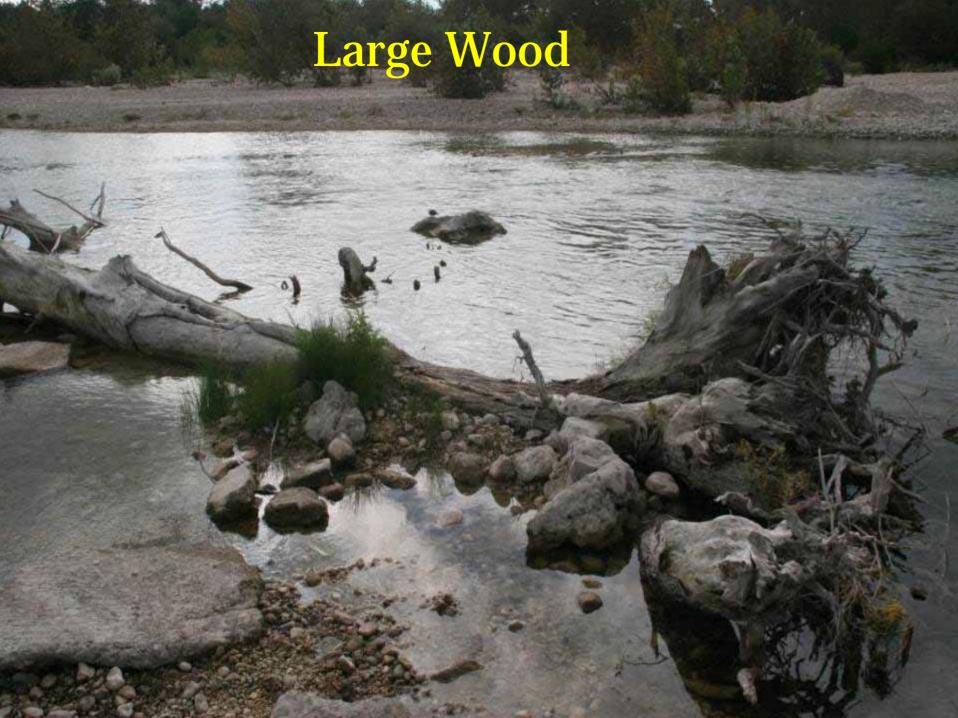






Mexican ash / Cedar elm FAC SR = 6





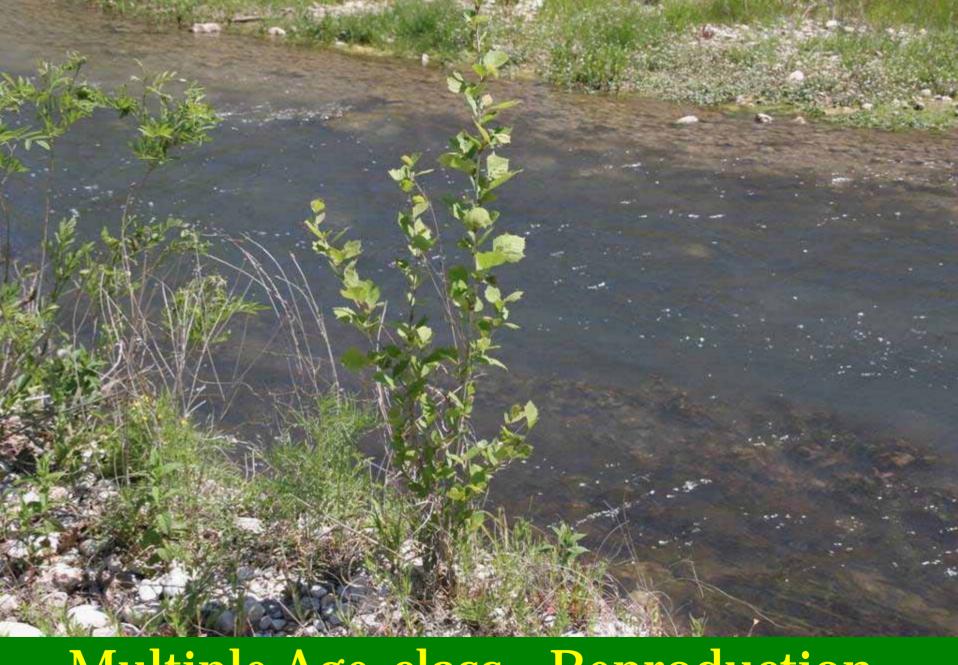


Evaluating Riparian Vegetation





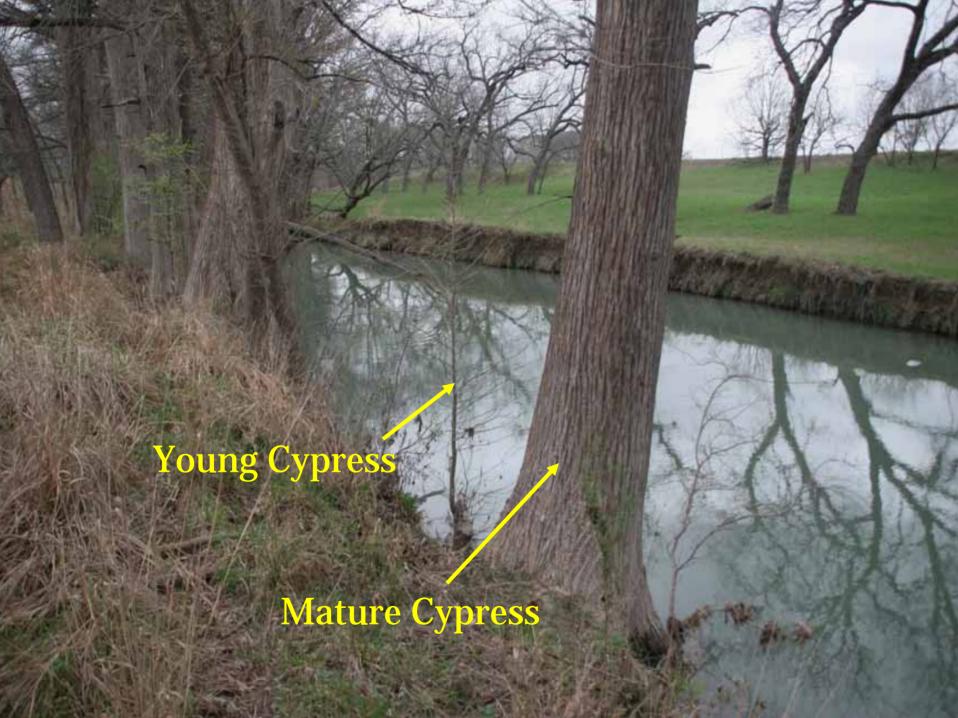




Multiple Age-class - Reproduction







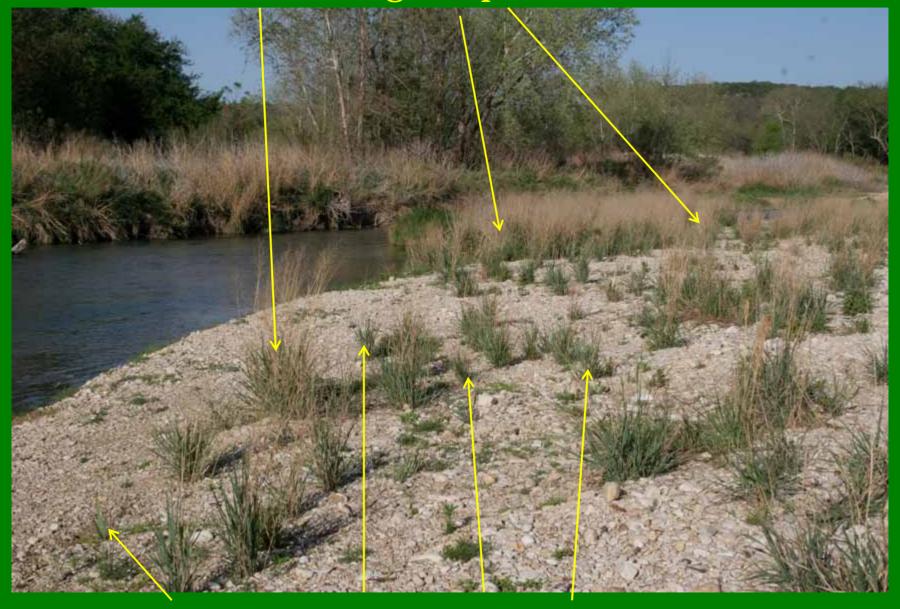


Expansion of colony forming species

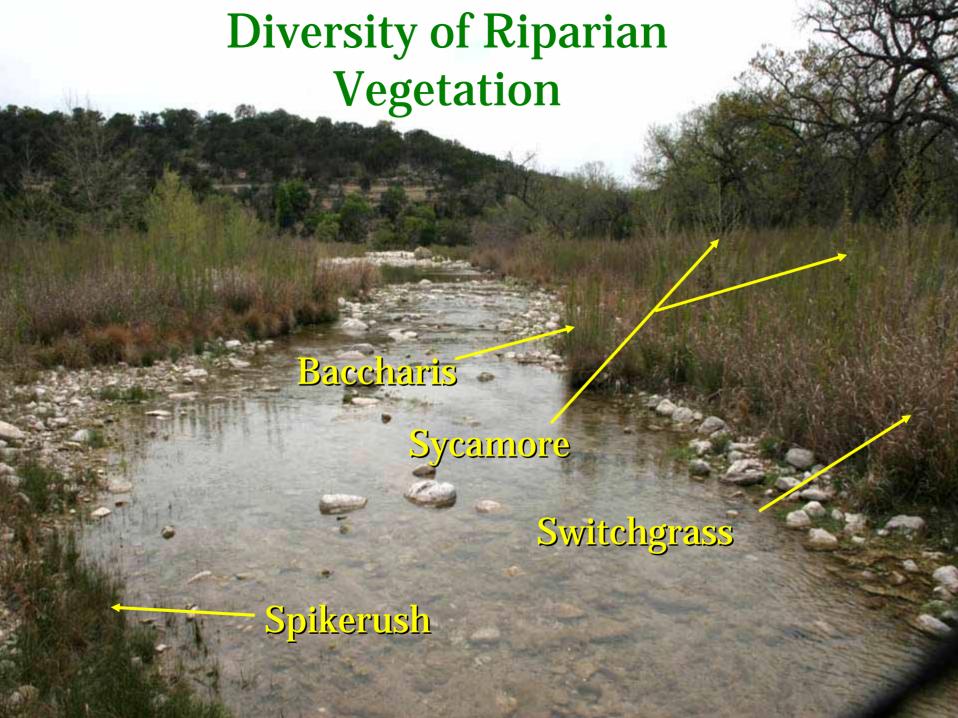




Mature switchgrass plants



Young, new switchgrass plants



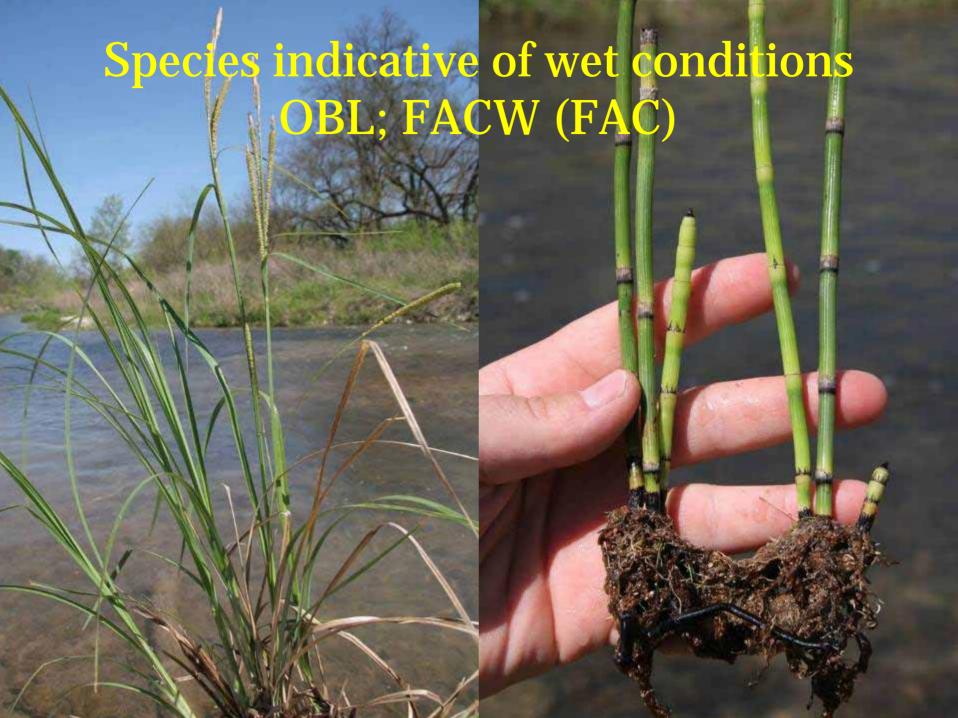


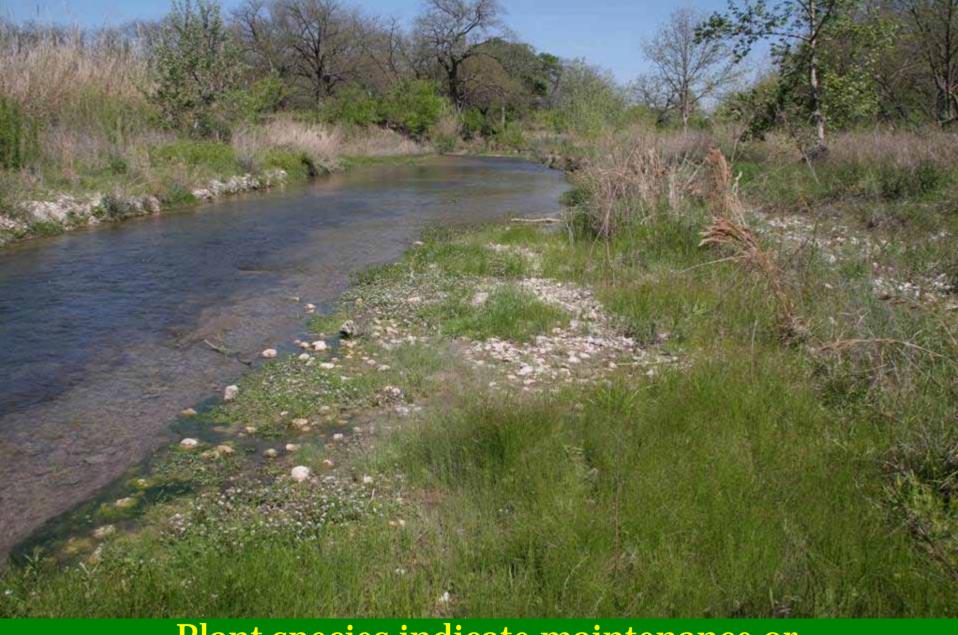
Diverse Vegetation?



Multiple Riparian Species







Plant species indicate maintenance or increase in riparian sponge







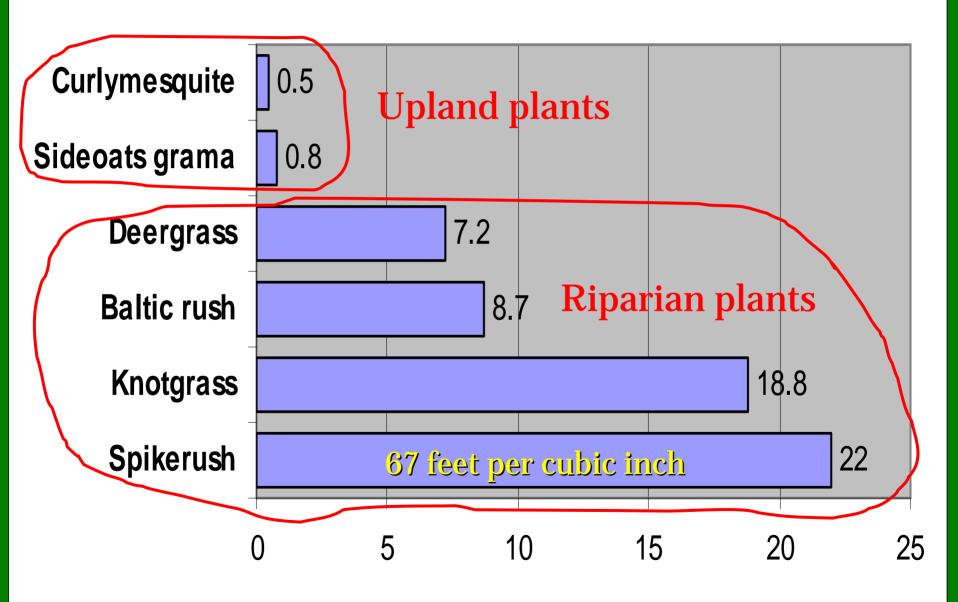


Rootmass capable of withstanding high flow events?

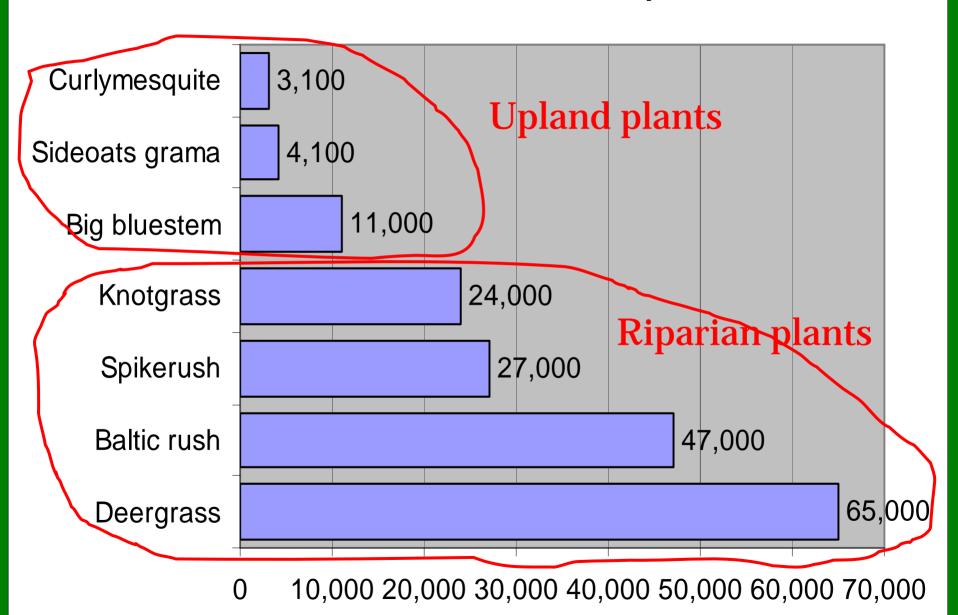


Rootmass – Stability

Root Length; Miles per Cubic Foot



Rootmass; Pounds per Acre







Rootmass capable of withstanding high flow events?







Plant Vigor

Plant Vigor-Leaves and Roots

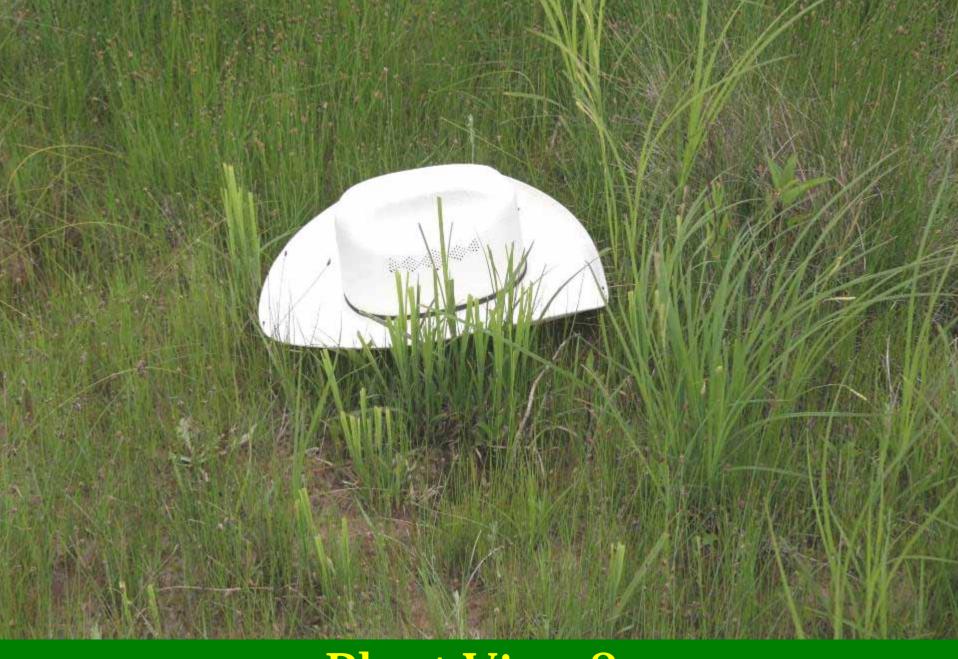
Caring for the Green Zone, Riparian Areas and Grazing Management Alberta Riparian Habitat Management Project, "Cows and Fish Project"











Plant Vigor?



Plant Vigor















Source of Large Wood











Vegetation Items:

Multiple age classes?

Plant diversity?

Plants indicative of wet conditions?

Stabilizing root mass?

Plant vigor?

Amount of plant cover?

Source of large wood?



Riparian Chain Reaction

Adequate Vegetation:

Protects banks from excess erosion

Dissipates energy and slows the velocity of floodwater
Sediment dropped
Sediment trapped and stabilized
Floodplain / riparian sponge is enlarged
Increased groundwater recharge
Base-flow is sustained over time