



Texas Riparian and Stream Ecosystem Education Program

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Texas Water Resources Institute

<http://texasriparian.org> and
<http://www.facebook.com/TexasRiparianAssociation>

*Funding is provided by the U.S. Environmental Protection Agency
through the Texas State Soil and Water Conservation Board.*



To improve the management of these sensitive and vital ecosystems, riparian education programs are needed regarding the nature and function of riparian zones, their benefits, and BMPs for protecting them. This will not only reduce NPS pollution, it will provide tremendous ecosystem service benefits and direct economic benefits to the community.

Texas Riparian & Stream Ecosystem Education

- Promote healthy watersheds and improve water quality through riparian and stream ecosystem education
- Increase citizen awareness and understanding of the nature and function of riparian zones, their benefits and management practices to protect them and minimize NPS pollution
- Enhance interactive learning opportunities for riparian education across the state and establish a larger, more informed citizen base working to improve and protect local riparian and stream ecosystems through online tools
- Connect landowners with local technical and financial resources to improve management and promote healthy watersheds and riparian areas

Creeks and Riparian Areas are Important

- Texas has more than 200,000 miles of rivers and streams. These rivers and streams have riparian zones and floodplains that together comprise corridors of great economic, social, cultural, and environmental value.
- Many WPP and TMDL Implementation projects are ongoing across the state to improve WQ in watersheds
- Creeks / Riparian Areas are special places; they need preferential treatment
- To manage or restore creeks you must understand them and then address the issues that are inhibiting natural restoration



Education

- Deliver a minimum of 25 riparian education programs to participants in prioritized watersheds, typically watersheds with watershed planning or total maximum daily load efforts due to impaired water quality
- Coordinate 3 Modified Proper Functioning Condition/Stream Visual Assessment trainings to agency personnel and water professionals
- Coordinate 2 statewide riparian conferences

Collaborators

- Texas Water Resources Institute
- Texas State Soil and Water Conservation Board
- Texas Riparian Association
- Texas A&M Forest Service
- Texas Parks and Wildlife Department
- USDA Natural Resources Conservation Service
- Nueces River Authority
- Texas A&M AgriLife Research, Ecosystem Science and Management Department
- Texas Tech University Llano River Field Station

Riparian Team

First	Last	Org.
Blake	Alldredge	AgriLife Extension
Kevin	Anderson	TRA/Austin
Tom	Arsuffi	Texas Tech - LRFS
Bill	Carter	TCEQ
Russell	Castro	USDA NRCS
Nikki	Dictson	AgriLife Extension
Gary	Garrett	TPWD
Wesley	Gibson	TSSWCB
Thom	Hardy	MCWE, Texas State University
Fouad	Jabar	AgriLife Extension
Sky	Lewey	NRA
Peter	McKone	TCU/Atkins
Georgianne	Moore	TAMU ESSM
Steve	Nelle	Retired NRCS
Melissa	Parker	TPWD
Anne	Rogers	TRA
Hughes	Simpson	TFS
Kevin	Wagner	TWRI

Draft Agenda

Texas Riparian and Stream Management Program

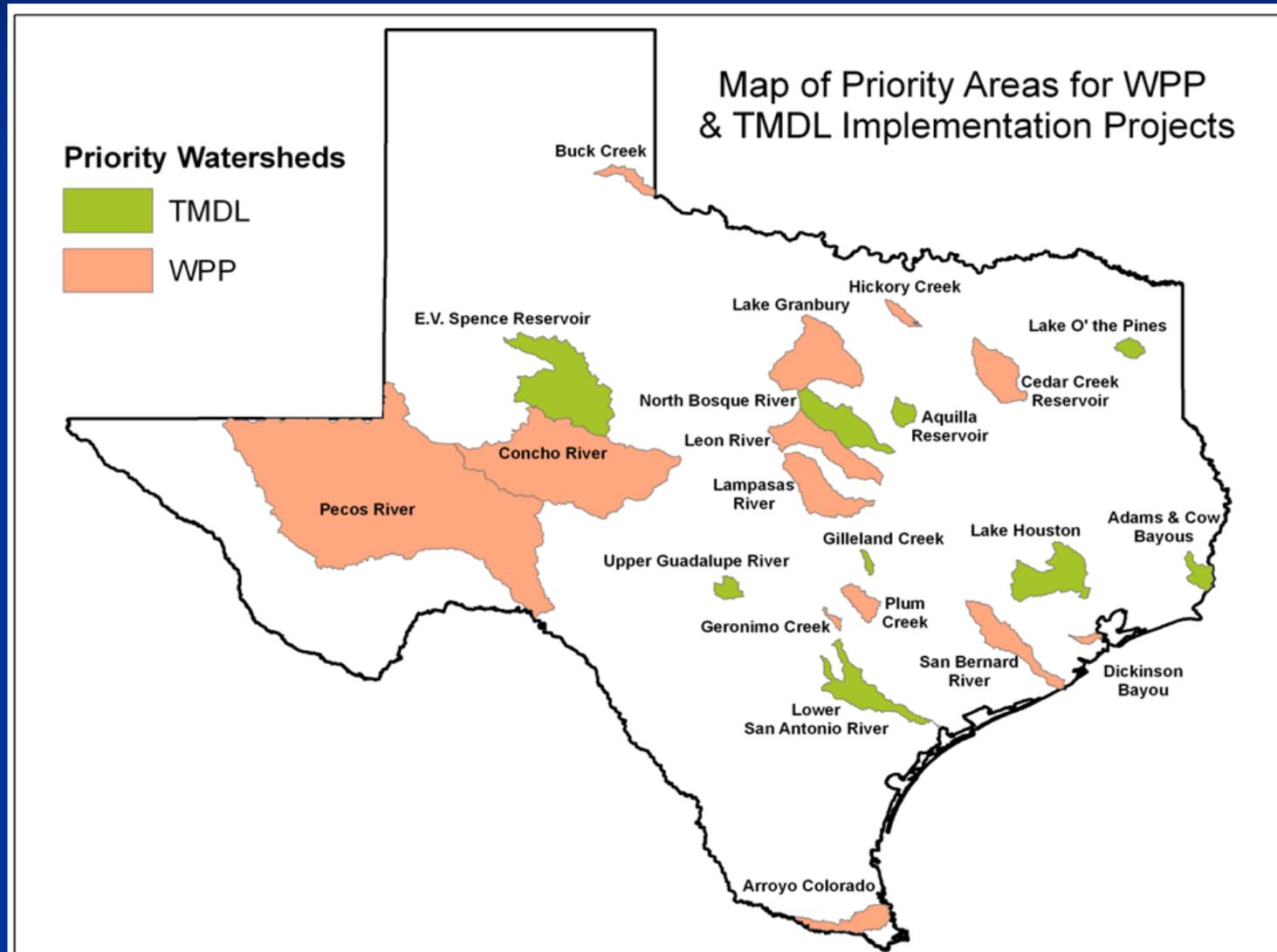


Draft General Agenda

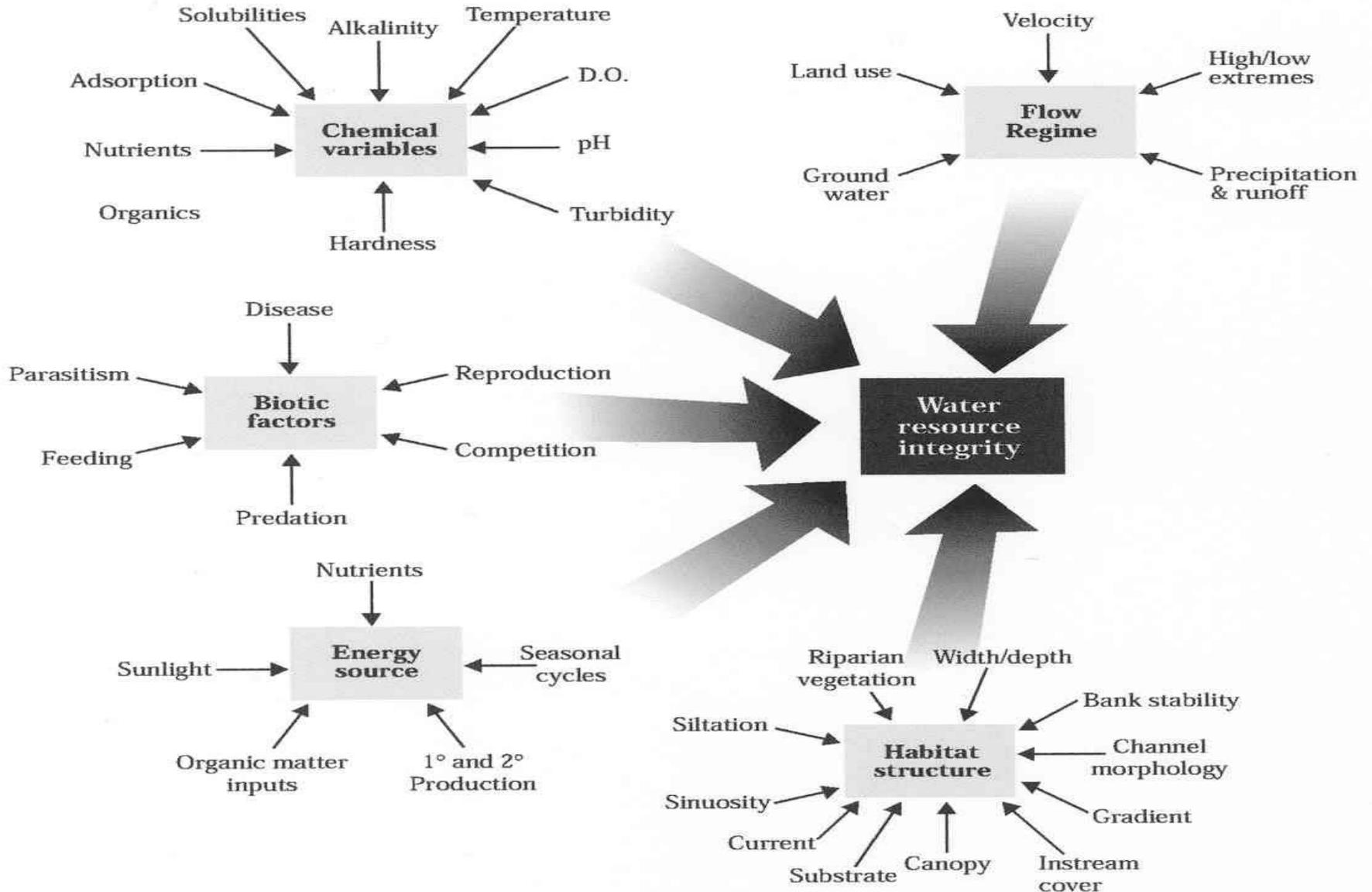
- 8:00 Meeting Registration
- 8:30 Workshop Introductions and Overview
- 9:00 Riparian and Watershed Management Principles
- 9:45 Break
- 10:00 Basic Stream Hydrology or Cowboy Hydrology
- 10:45 Break
- 11:00 Riparian Vegetation and Their Function
- 11:45 Management Practices and Local Resources
- 12:00 Lunch Presentation related to the local watershed/region or Lane's Balance Demonstration Activity/ TPWD presentation
- 1:15 Review and Post Survey
- 1:30 Trip to the River (If there is a large group we can break into 2 or more groups and switch)
- 4:00 Wrap up and Head for Home!



Map of WPP and TMDL Implementation Projects



Watersheds are Complex Systems

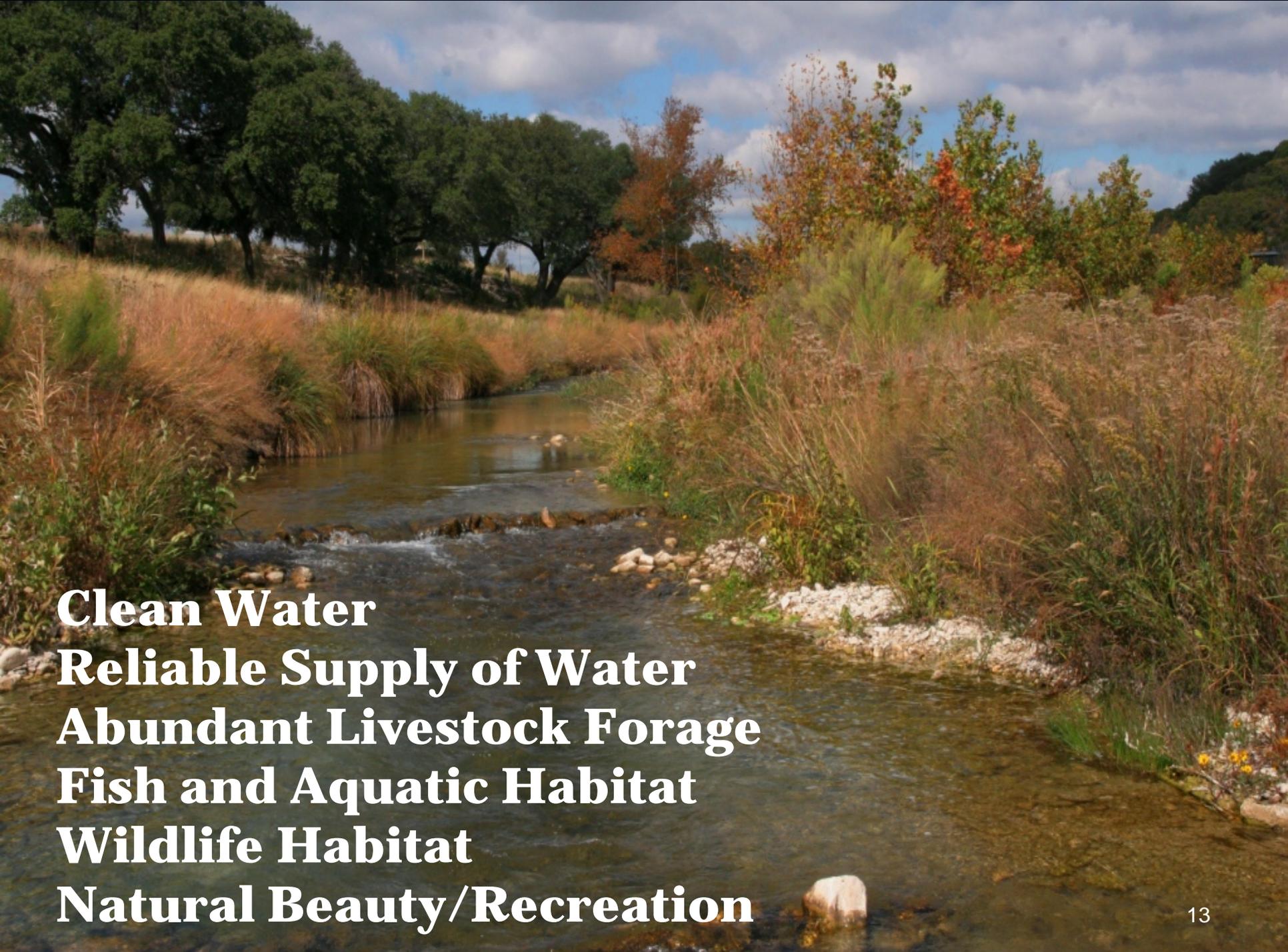


What is a Riparian Area?

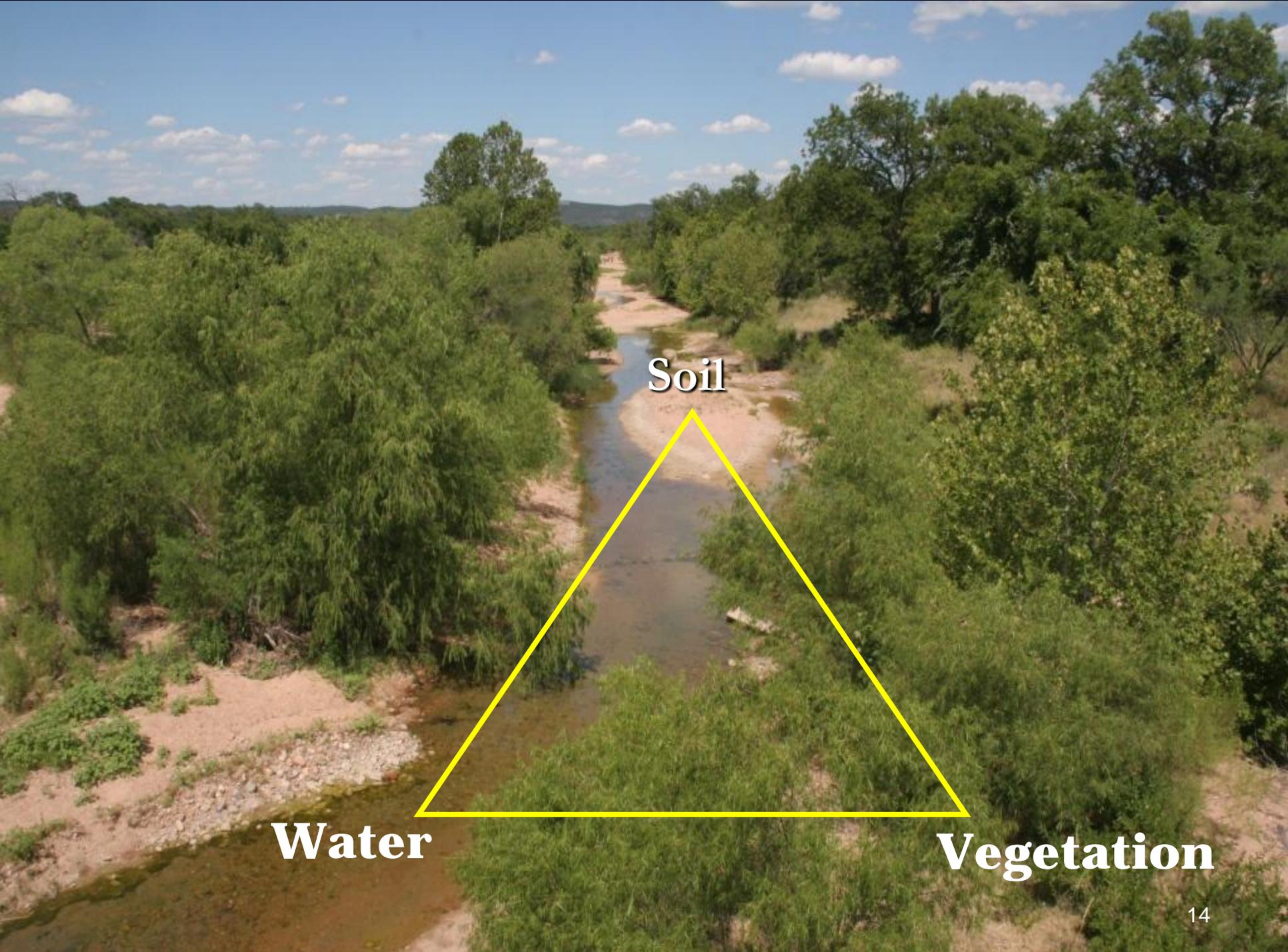




What are the values you appreciate about healthy creeks and riparian areas?



Clean Water
Reliable Supply of Water
Abundant Livestock Forage
Fish and Aquatic Habitat
Wildlife Habitat
Natural Beauty/Recreation



Soil

Water

Vegetation

Properly Functioning Riparian Area

Adequate vegetation, landform or large woody material
to:

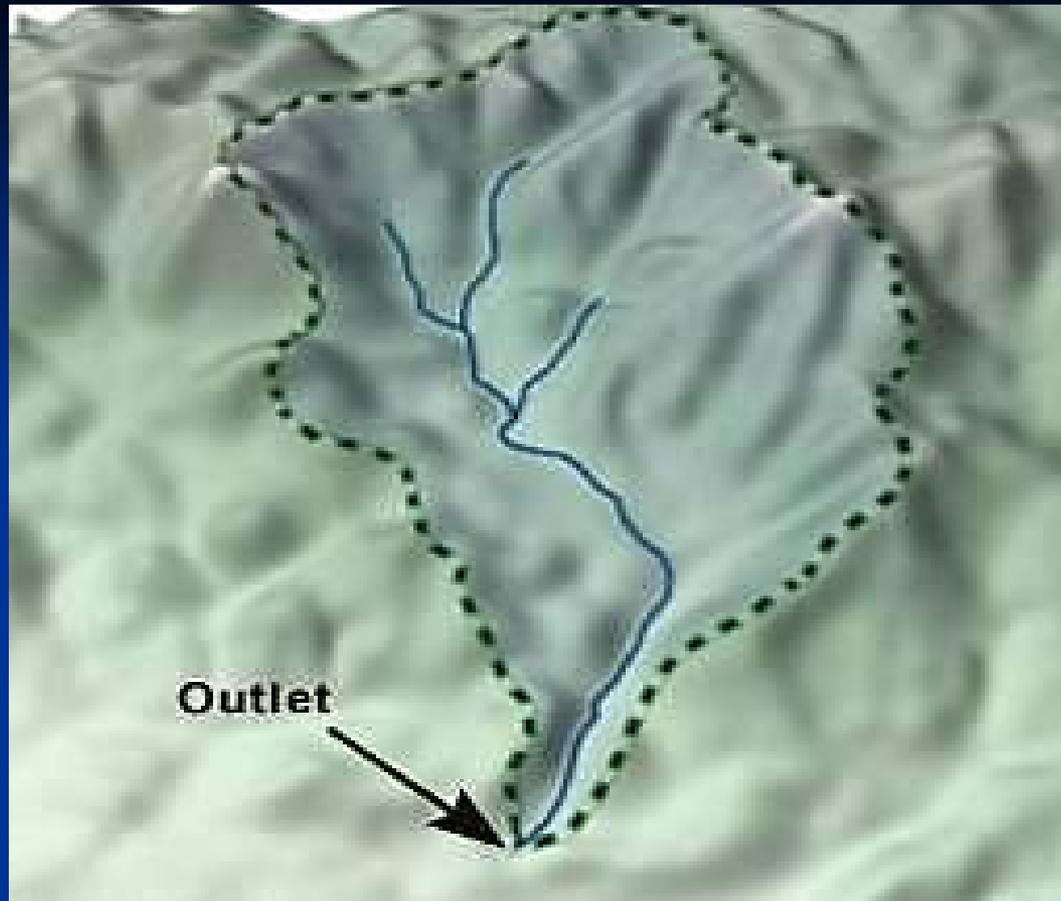
- Dissipate stream energy
- Stabilize banks
- Reduce erosion
- Trap sediment
- Build / enlarge floodplain
- Store water
- Floodwater retention
- Groundwater recharge
- Sustain baseflow

- Water quality
- Water quantity
- Forage
- Aquatic habitat
- Wildlife habitat
- Recreational value
- Aesthetic beauty

Physical Function



Values



Watershed vs. Catchment

A photograph of a rural landscape. In the foreground, there is a field of tall, dry, golden-brown grass. A rustic fence made of weathered wooden posts and barbed wire runs across the middle ground. In the background, there are several bare, leafless trees under a clear sky. The overall scene is a typical rural setting.

Water Shed

Water Catchment

Photo provided by
Steve Nelle, NRCS₇



Creeks are also water
shedding or water
catching creek systems

Hindrances to Healthy / Functional Riparian Areas:

- Farming too close to the bank
- Mowing, spraying close to the creek
- Manicured landscapes next to the creek
- Chronic grazing concentrations in creek areas
- Excessive deer, exotics, hogs in creek
- Burning in riparian area
- Removal of large dead wood
- Artificial manipulation of banks / sediment
- Excessive vehicle traffic in creek area
- Poorly designed road crossings / bridges
- Excessive recreational foot traffic
- Excessive alluvial pumping or other withdrawals



Restoration, Protection and Monitoring of our Stream and Riparian Ecosystems is Needed



For riparian zones/streams that are not functioning properly, changes have to be made that allow them to recover.