



TEXAS WATER RESOURCES INSTITUTE

Texas Riparian & Stream Ecosystems Workshop



RIPARIAN ZONE

NO HORSES
OR ANIMALS
WITHIN 25' OF
WATER'S EDGE



Search Google Maps

🍴 Restaurants

🏨 Hotels

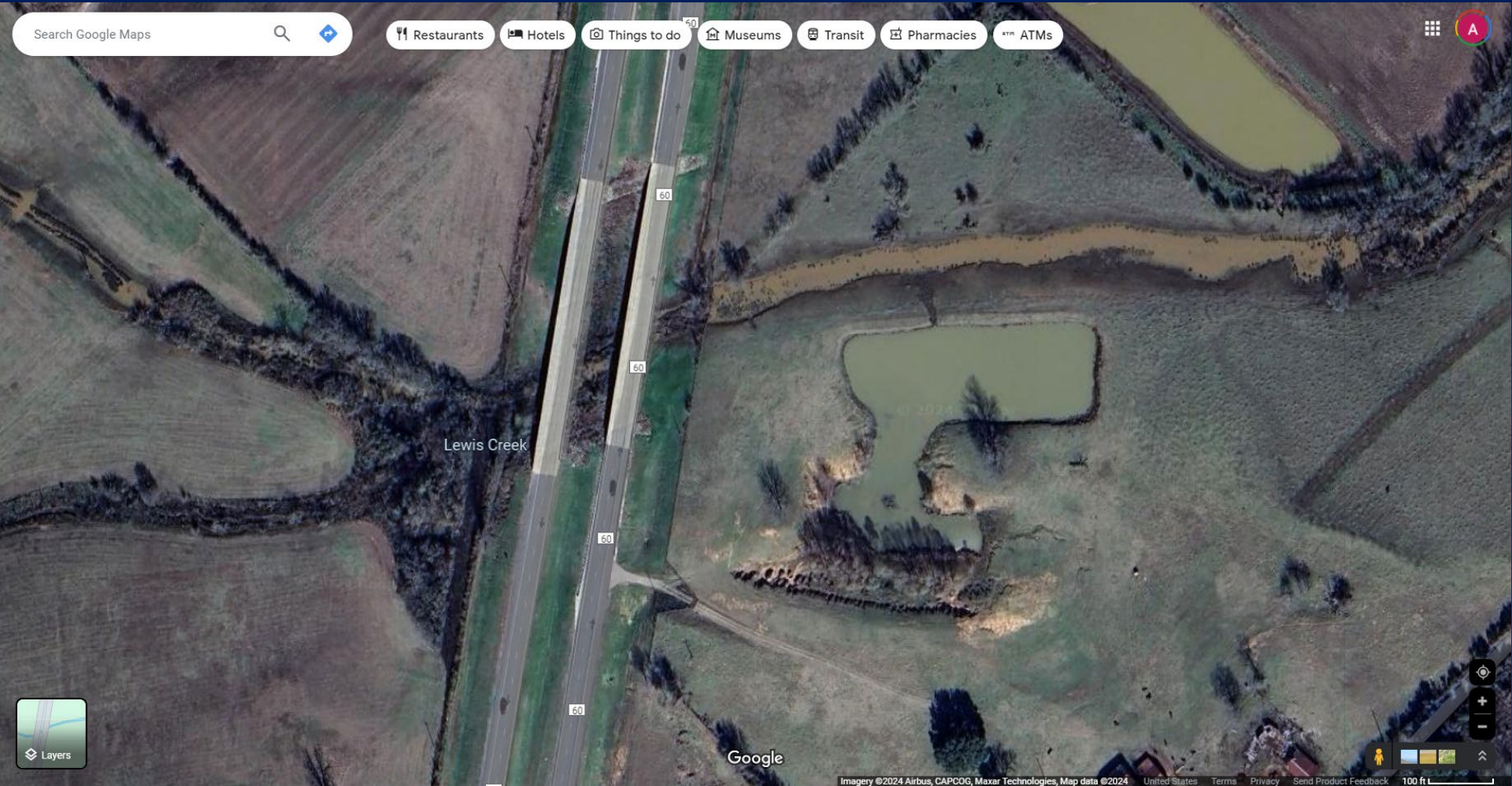
📷 Things to do

🏛 Museums

🚗 Transit

💊 Pharmacies

🏧 ATMs

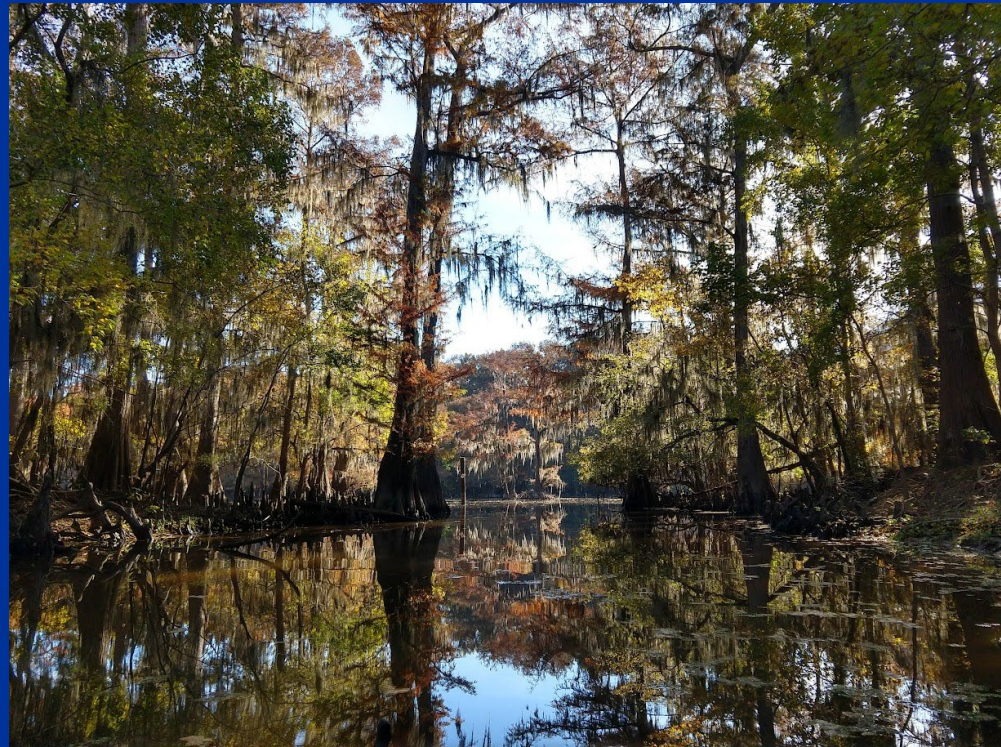


Google

Worldwide Freshwater Resources

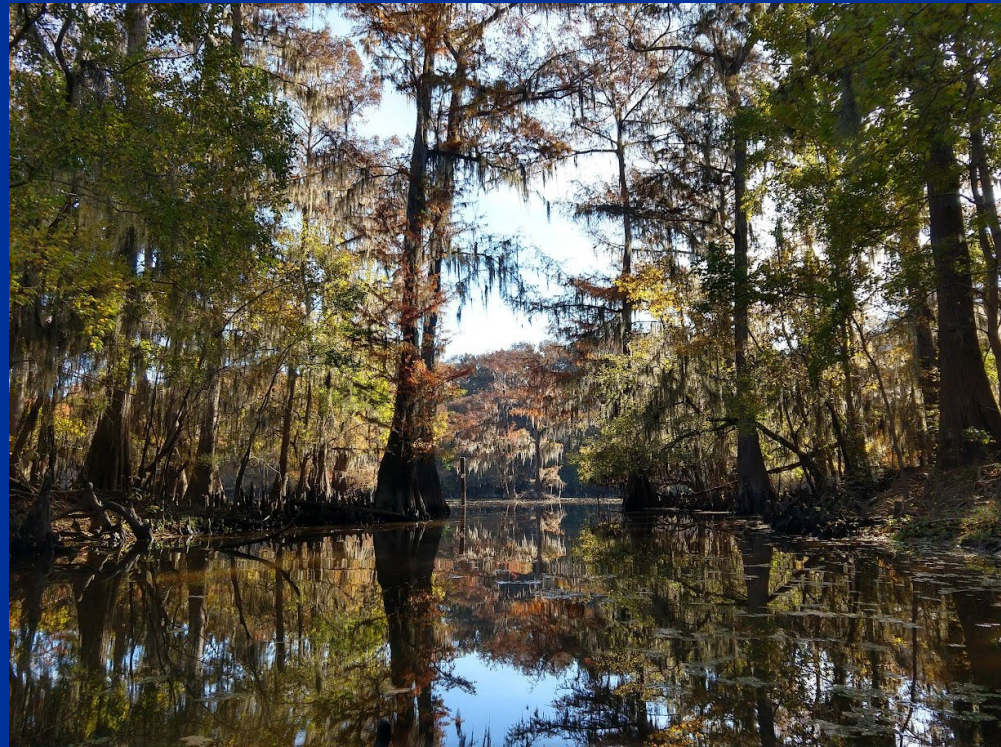
Erica Gies, Water Always Wins: Thriving in an Age of Drought and Deluge

- 87% of the world's wetlands have been drained or filled
- Humans have intervened with 2/3 of the world's largest rivers
- The area covered in pavement has increased TWO-FOLD since 1992



Texas Freshwater Resources

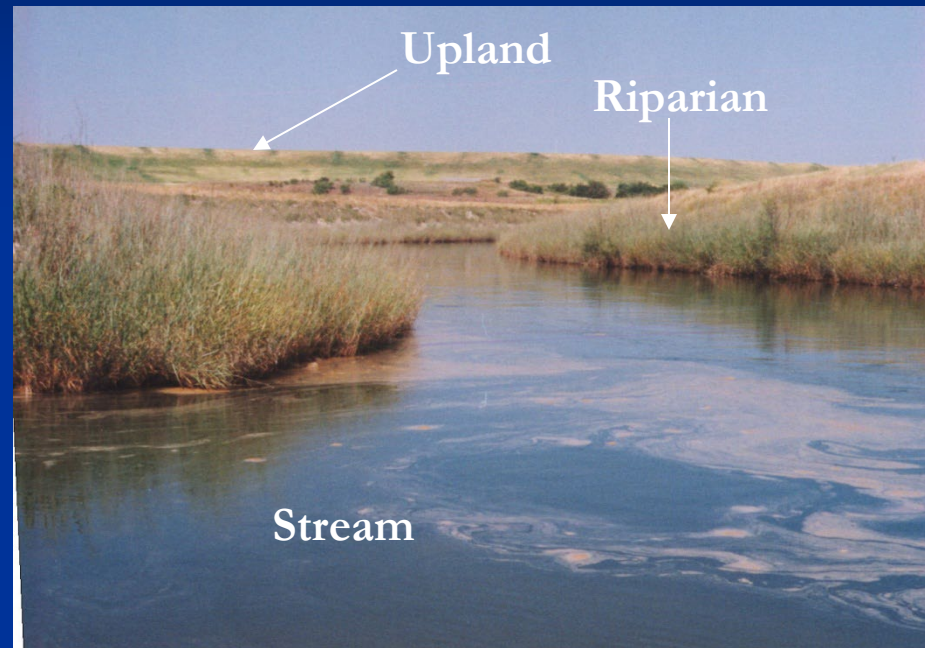
- >191,000 miles of rivers & streams
 - 20% perennial flow
- 1,100 reservoirs (200 major) ~3.5 million ac.
- 5 million acres of wetlands
 - Roughly 75%
- 9 major aquifers
& 21 minor aquifers
- 1,292 named springs
(~3,000 total)



Watershed

A Watershed can be characterized as consisting of:

- Upland
- Riparian zone and
- stream system



Each watershed functions as an ecosystem, i.e., each component affects the rest of the system including the benefits or negative impacts. As water flows through the system the impacts are cumulative.

What is a Riparian Area?



Unhealthy Watersheds?

Most streams and rivers in Texas have been adversely affected by past natural and human activities resulting in:

- Increasingly damaging floods
- Lower base flows
- High sediment loads
- Reduced reservoir storage capacity
- Invasion of exotic species
- Loss of natural riparian habitats
- Degraded water quality



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

Physical Function



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

Values

VIVA WATERLINGUA!

Streamside Management Zone



Riparian zones with tall grasses and plants:

- Improve water quality and quantity
- Stabilize streambanks from erosion
- Provide wildlife habitat and food
- Shade streams and lower temperatures

Zona ribereña delicada:

- Mejoran la cantidad y calidad del agua
- Estabilizan los causes de erosión
- Proporcionan un entorno de vida silvestre y de alimentos
- Hay mucha sombra para el suelo y para moderar las temperaturas del agua

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Texas Water
Resources Institute
make every drop count


CITY OF COLLEGE STATION
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