

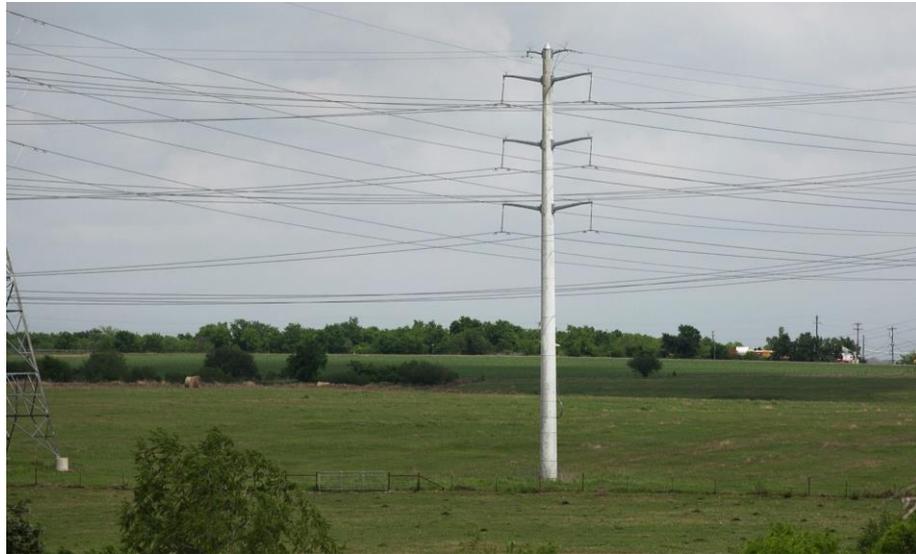
HOWDY PARTNER! TEAMING UP TO PROTECT WATER QUALITY IN CENTRAL TEXAS

Jacob Daniel Apodaca, Lower Colorado River Authority
Jenna Walker, Texas Stream Team

March 2019



A Look at LCRA



Colorado River of Texas

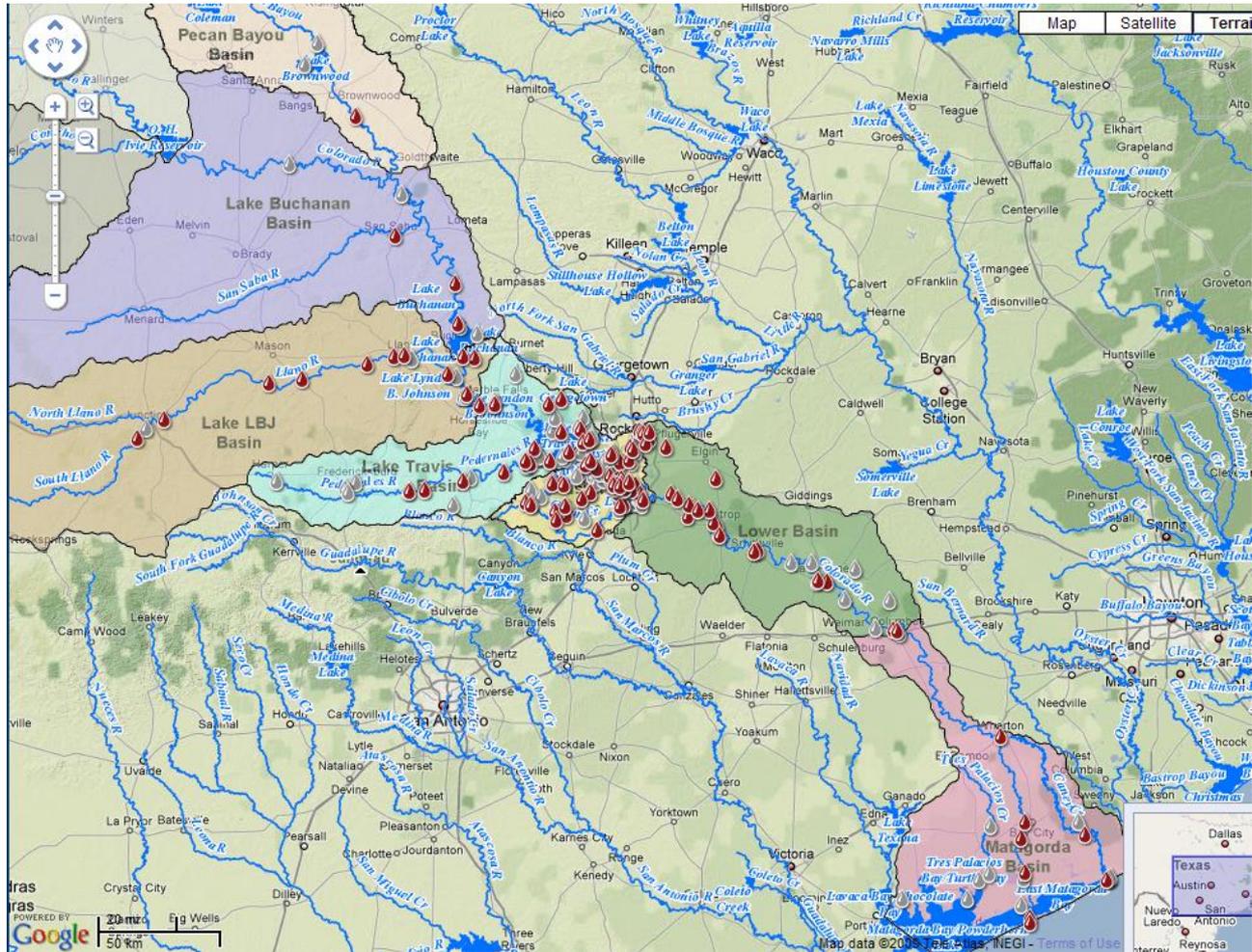
- Longest river within Texas – almost 900 miles long
- LCRA manages lower two-thirds
- Second largest intrastate watershed in United States
- Lower watershed covers 14,700 square miles in “Flash Flood Alley”



Colorado River Watch Network (CRWN)

- Volunteer water quality monitoring program
- Became part of LCRA in 1992
- Creates early warning system by alerting LCRA to potential water quality threats
- Encourages and supports community-based stewardship
- Provides residents, teachers and students with the resources necessary to monitor and protect the waterways of the lower Colorado River watershed

CRWN – Water Quality Monitoring Sites



Volunteers Test

- Air temperature
- Water temperature
- Dissolved oxygen
- Specific conductance
- pH
- Nitrates
- Transparency
- E.coli (optional)

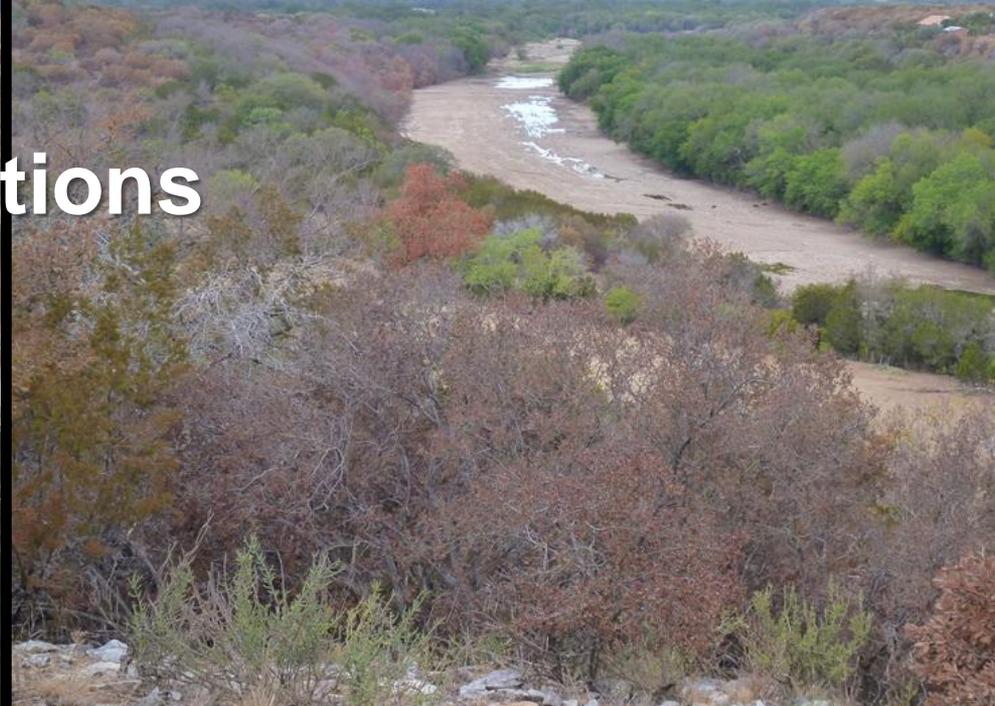
Colorado River Watch Network Volunteers

- Eyes and ears of the river
- Help LCRA protect water quality throughout the watershed
- Commit to:
 - Monitor once a month for two years
 - Send data to LCRA every month
 - Take care of water quality monitoring equipment

Volunteers at Work



Ever-Changing Conditions



Partners – CRWN and Texas Stream Team

- Texas Stream Team and CRWN have been partners since 1991
- CRWN shares data from Texas Stream Team

Partners – CRWN and Texas Stream Team

- Texas Stream Team trains volunteers from all over Texas
- Both programs use very similar monitoring procedures, making it easy for trained volunteers to be plugged into the Colorado River Watch Network

Funding

- Colorado River Watch Network is funded through LCRA
- Texas Stream Team uses in-kind contributions from partners to gain grant support from the Environmental Protection Agency

Questions?

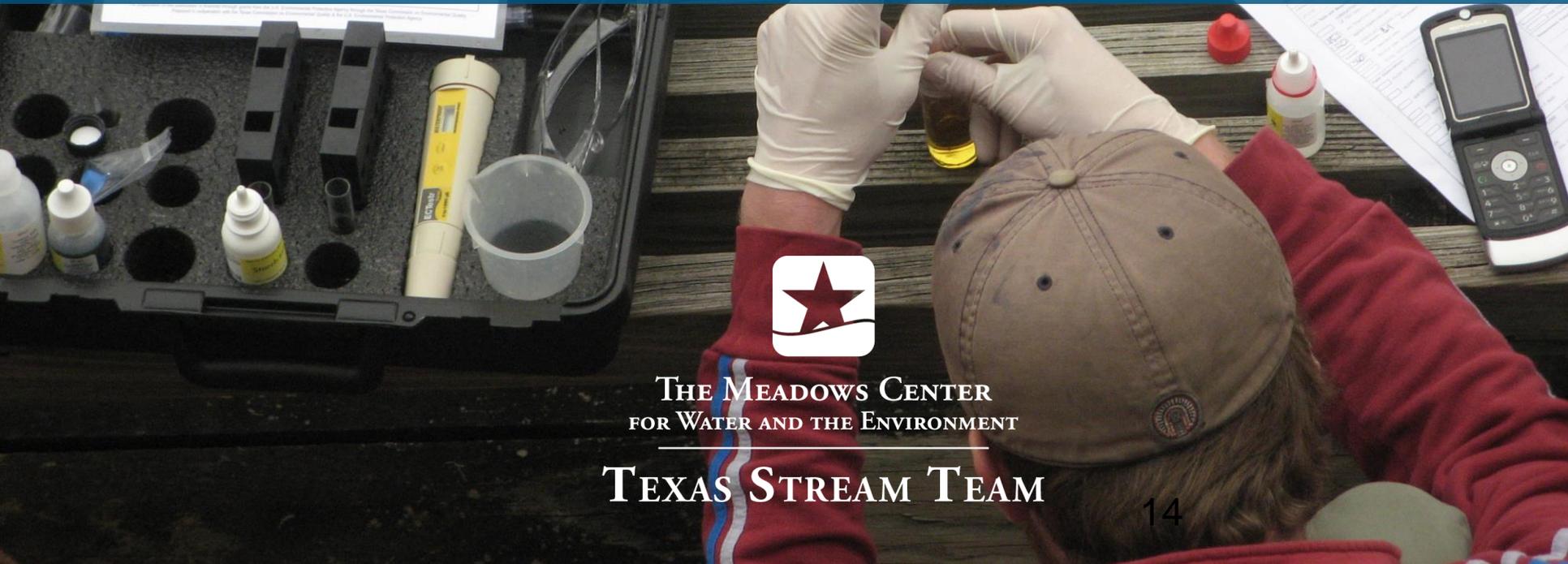
Visit **lcra.org** or contact:
Jacob Daniel Apodaca
Colorado River Watch Network
jacob.apodaca@lcra.org
512-578-7859

TEXAS STREAM TEAM

at The Meadows Center for Water and the Environment
Texas State University

Dedicated to understanding and protecting the 191,000 miles of Texas waterways.

Jenna Walker, MAGEo
Senior Program Manager



THE MEADOWS CENTER
FOR WATER AND THE ENVIRONMENT

TEXAS STREAM TEAM

Citizen Science Water Quality Monitoring Since 1991

A statewide network of trained citizen scientists and supportive partners administered through a cooperative partnership between



THE MEADOWS CENTER
FOR WATER AND THE ENVIRONMENT

TEXAS STATE UNIVERSITY



EPA
United States
Environmental Protection
Agency



MISSION:

To facilitate environmental stewardship by empowering a statewide network of concerned citizen scientists, partners, and institutions in a collaborative effort to promote a healthy and safe environment through environmental education, data collection, and community action.





WATERSHED SERVICES & TST

- Community assistance for education and outreach strategies, grants
- Information gathering and monitoring to address data gaps
- Local planning, protection, restoration, clean ups, habitat monitoring
- Watershed protection plans, TMDLs, water conservation initiatives
- University research, long term monitoring efforts

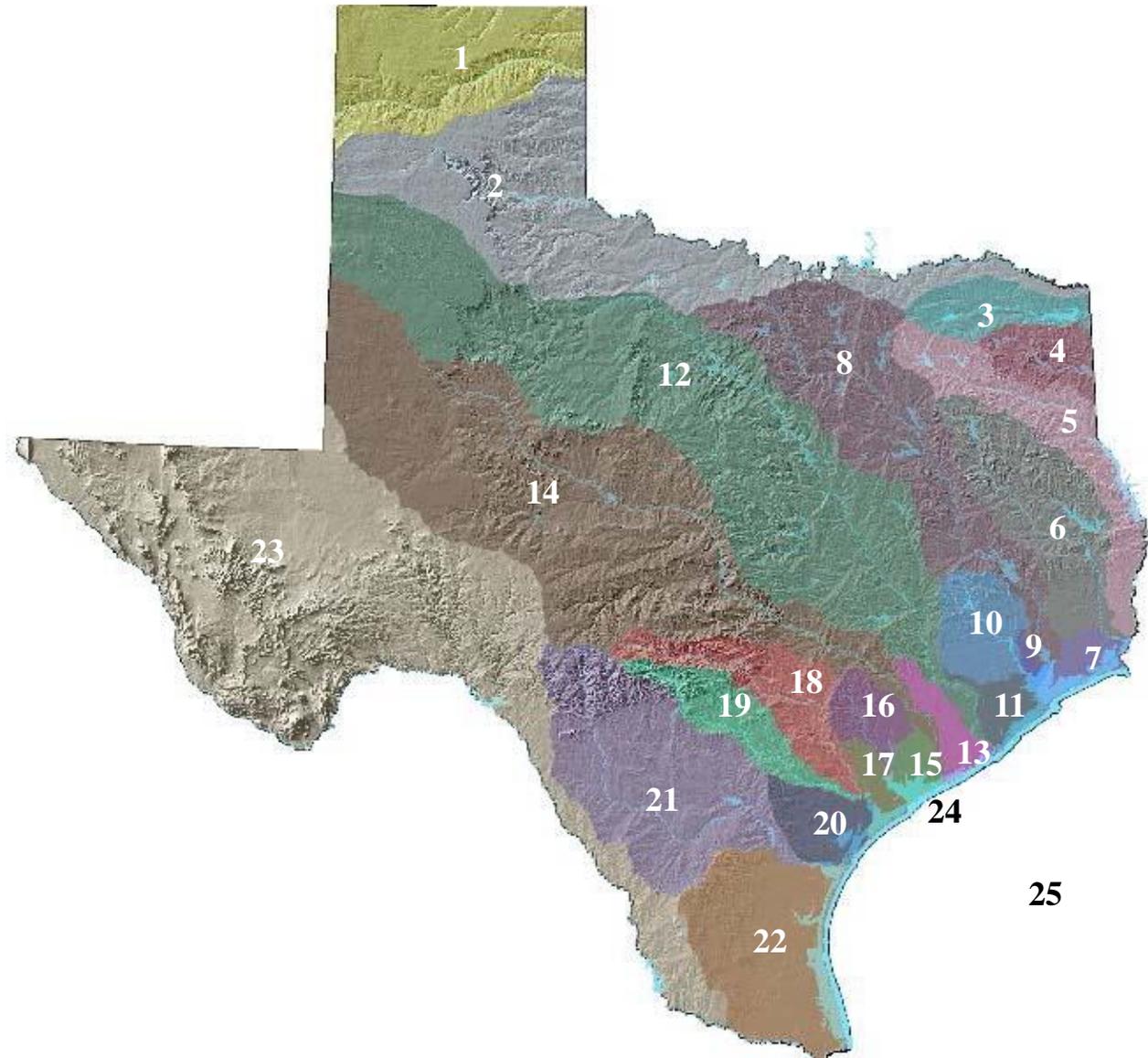
COMMUNITY ENGAGEMENT

A group of people, including children and adults, are sitting on a concrete ledge by a stream. They appear to be engaged in an activity, possibly a workshop or a field study. The background is filled with lush green trees and large rocks, suggesting a natural setting like a park or a watershed area.

- Community-based monitoring with citizen science
- Educational workshops for school and youth programs
- Connect home owners to watersheds to promote NPS pollution reduction
- Act as an early warning system for water quality issues
- Inform public about environmental management decisions

MAJOR SURFACE WATER BASINS OF TEXAS

1. Canadian
2. Red
3. Sulphur
4. Cypress Creek
5. Sabine
6. Neches
7. Neches-Trinity
8. Trinity
9. Trinity-San Jacinto Coastal
10. San Jacinto
11. San Jacinto-Brazos Coastal
12. Brazos
13. Brazos-Colorado Coastal
14. Colorado
15. Colorado-Lavaca Coastal
16. Lavaca
17. Lavaca-Guadalupe Coastal
18. Guadalupe
19. San Antonio
20. San Antonio-Nueces Coastal
21. Nueces
22. Nueces-Rio Grande Coastal
23. Rio Grande
24. Bays and Estuaries
25. Gulf of Mexico



PARTNERS



San Marcos **River Foundation**

**Wimberley Valley
Watershed Association**

CONNECTING COMMUNITY THROUGH NATURE



TREEFOLKS



CITY OF WACO



CERTIFICATION TRAINING COURSES

- Standard Core Water Quality Monitoring
- Paddler Core Water Quality Monitoring
- Advanced NPS Water Quality Monitoring
- *E. coli* Monitoring and Analysis
- Riparian Bull's Eye Assessment
- Macroinvertebrate Rapid Bioassessment



DATA COLLECTION AND PARAMETERS

Core Water Quality Parameters

- Water Temperature
- pH
- Dissolved Oxygen
- Conductivity
- Water Clarity
- Total Depth
- Field Observations

Advanced Water Quality Parameters

- *E. coli*
- Nitrate-Nitrogen
- Orthophosphate
- Turbidity
- Streamflow

TEXAS STREAM TEAM WEBSITE

Please visit our website at JoinStreamTeam.org

- Waterways Dataviewer
- Community Forum
- Data Reports
- Publications
- Training Videos
- Contact Information

Thank you!
Contact me with questions:
Jenna Walker
JJWalker@txstate.edu



THE MEADOWS CENTER
FOR WATER AND THE ENVIRONMENT

TEXAS STREAM TEAM