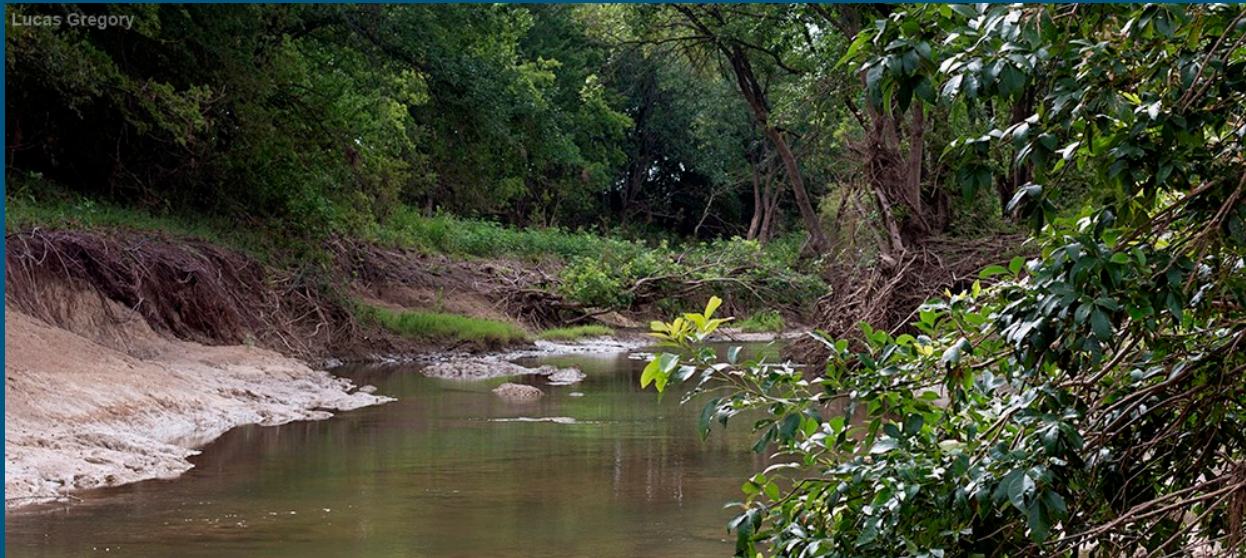


# Implementation of the Big Elm Creek WPP



*Ward Ling*  
*Texas Water Resources Institute*

  
Texas Water  
Resources Institute  
*make every drop count*

TEXAS A&M  
**AGRI**LIFE  
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# Introductions

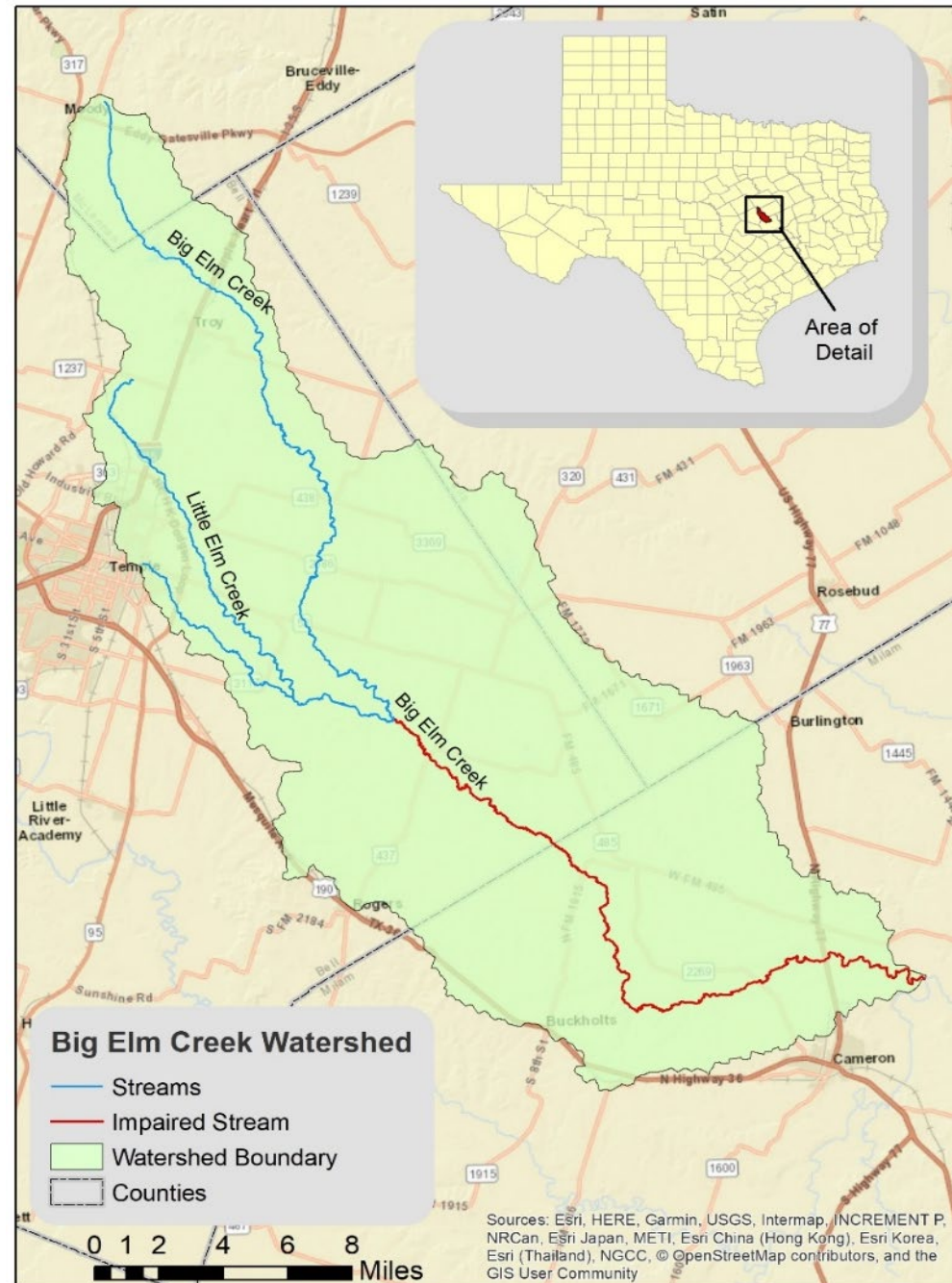
- ⦿ Tell us who you are and your interest in participating
- ⦿ Agency, landowner, citizen, business owner, etc.





# What is the issue?

- ⊙ Bacteria levels over the threshold
- ⊙ Low levels of dissolved oxygen



# What was the response?

- ◉ Develop a watershed protection plan
- ◉ A stakeholder driven, voluntary plan to restore water quality
- ◉ Developed from input from area residents
- ◉ Received EPA acceptance
- ◉ Implementation has begun



# The Goal

- ◎ Restore water quality in Big Elm Creek and its tributaries
  - ◎ Long-term conservation and stewardship
  - ◎ 10-year schedule





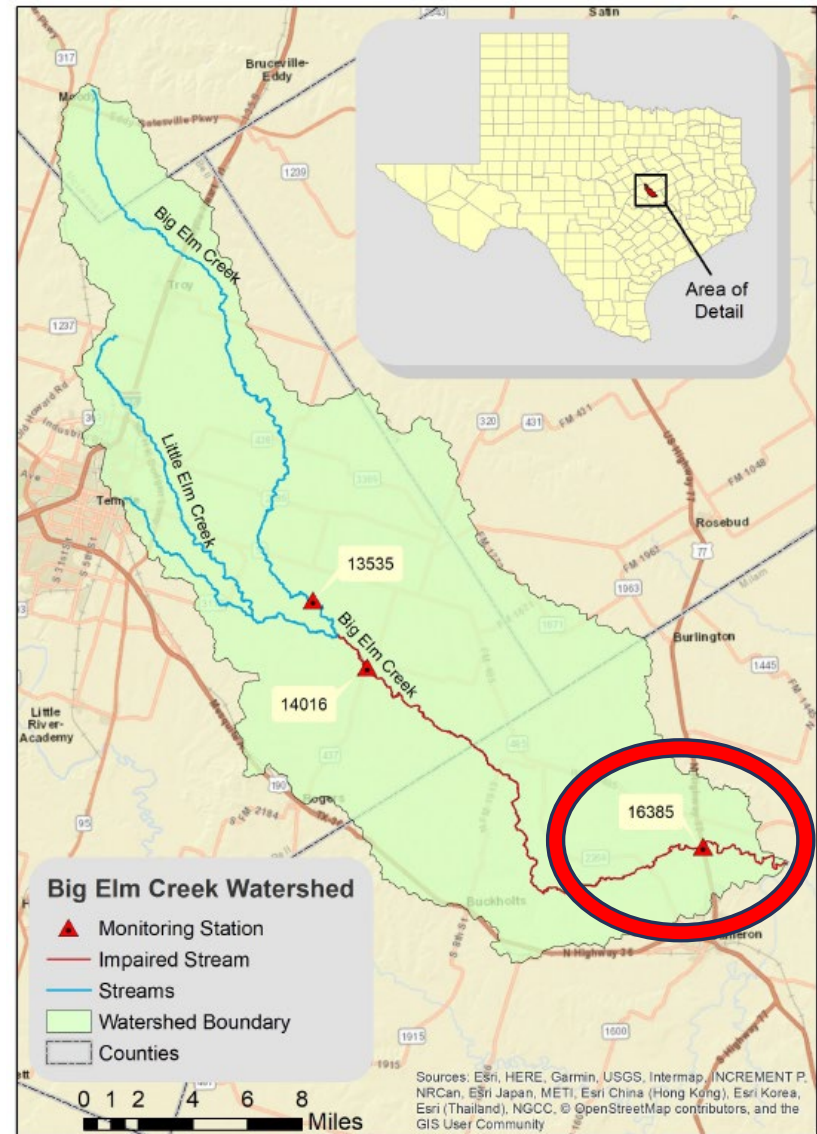
# Overview of WPP

- ⦿ Monitoring data
- ⦿ Potential sources of bacteria
- ⦿ Management Measures



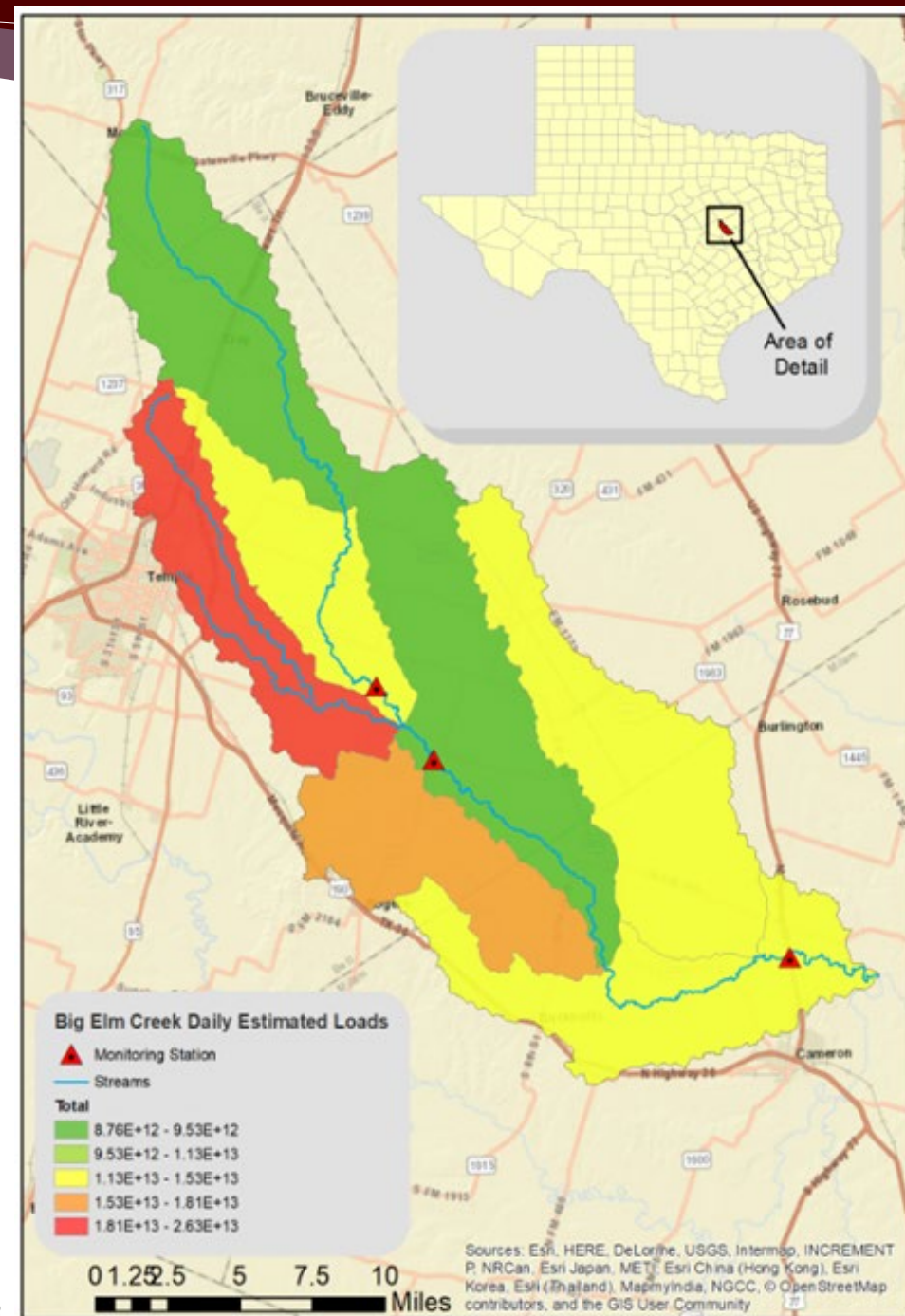
# Creek Monitoring

- ◉ The active station with long-term *E. coli* data is on US 77 just north of Cameron
- ◉ A 62% reduction in bacteria loading is needed



# Potential Bacteria Sources

- Feral Hogs
- Failing septic systems
- Agricultural
- Dogs
- Urban stormwater runoff
- Wastewater treatment plants







# Management Measures

- ⦿ Feral Hogs
- ⦿ Failing Septic Systems
- ⦿ Agricultural
- ⦿ Dog Waste
- ⦿ Urban Stormwater Runoff
- ⦿ Wastewater Collection Systems
- ⦿ Illegal Dumping
- ⦿ Nutrients
- ⦿ Landowner Education

# Feral Hogs

- ⦿ Voluntarily construct fencing around deer feeders to prevent feral hog use
- ⦿ Voluntarily identify travel corridors and employ trapping and hunting in these areas to reduce hog numbers
- ⦿ Voluntarily shoot hogs on sight; ensure that lessees shoot hogs on sight
- ⦿ Feral Hog Workshops



# Failing Septic Systems

- ⦿ Administer an OSSF repair/replacement program to address deficient systems identified during inspections
- ⦿ Identify and inspect failing OSSFs within priority areas
  - ⦿ increased priority for OSSFs near water body
- ⦿ Repair/replace OSSFs as funding allows
- ⦿ Septic System Maintenance Classes for Homeowners





# Agricultural

- ◉ Develop, implement, and provide financial assistance for livestock Conservation Plans and Water Quality Management Plans
- ◉ Deliver Lone Star Healthy Streams programming to watershed landowners



# Agricultural BMPs

- ⦿ Achieve the goals of improving forage quality and distribution
- ⦿ Diversify water resource locations
- ⦿ Better distribute livestock across a property
- ⦿ Have positive effects on forage health and utilization
- ⦿ This can all result in improved water quality



# How do I get started?

- Contact the Central Texas SWCD #509 to learn more about how a Water Quality Management Plan can benefit your operation
- Contact the Natural Resources Conservation Service to learn more about if a Conservation Plan can help you
- Technical assistance
  - Conservation cover, prescribed grazing, fencing, heavy-use area protection, water facilities, wells, and upland wildlife management
- Financial assistance up to \$15K/plan





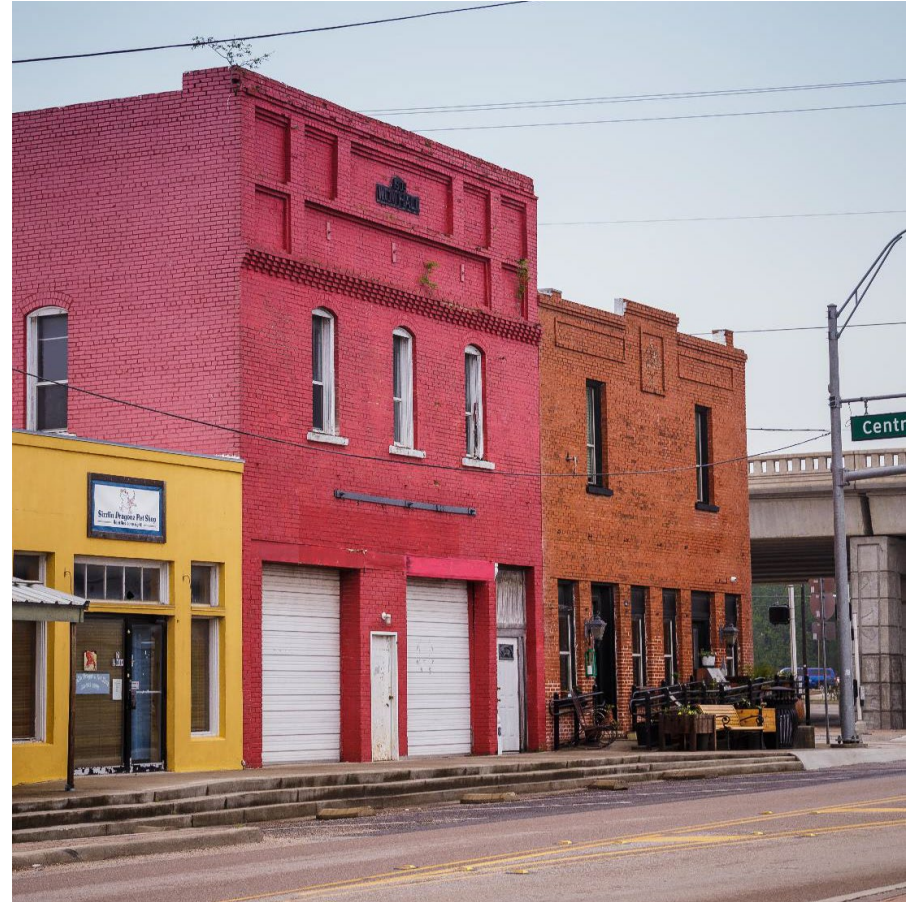
# Agricultural BMPs

- ⦿ Brush management
- ⦿ Prescribed burning
- ⦿ Prescribed grazing
- ⦿ Range/Pasture planting
- ⦿ Shade structure
- ⦿ Stream crossing
- ⦿ Supplemental feed location
- ⦿ Water well
- ⦿ Watering facility
- ⦿ Fencing
- ⦿ Filter strips
- ⦿ Grade stabilization structures
- ⦿ Grazing land mechanical treatment
- ⦿ Heavy use area protection
- ⦿ Pond



# Dog Waste

- ◉ Install and maintain pet waste stations in parks and other public areas
- ◉ Educational campaigns to the public about the importance of properly managing and disposing of dog waste on public and private property



# Stormwater Runoff

- ◉ Work with local municipalities to identify and install demonstration BMPs
- ◉ Deliver stormwater management education programs about stormwater BMPs
  - ◉ Riparian and Stream Ecosystem Education Workshops
  - ◉ Raingardens, rainwater harvesting, green roofs, permeable pavement, bio retention, swales, detention ponds
- ◉ Monitor the effectiveness of BMPs





# Centralized Wastewater

- ⦿ Perform WWTP conveyance system testing to identify inflow and infiltration problem areas
- ⦿ Prioritize problem areas for repair/replacement
- ⦿ As funds allow, repair or replace WWTP conveyance infrastructure
- ⦿ Provide educational resources regarding inflow and infiltration (uncapped cleanouts; faulty sewer lines) and effect of malfunctions with utility bill inserts

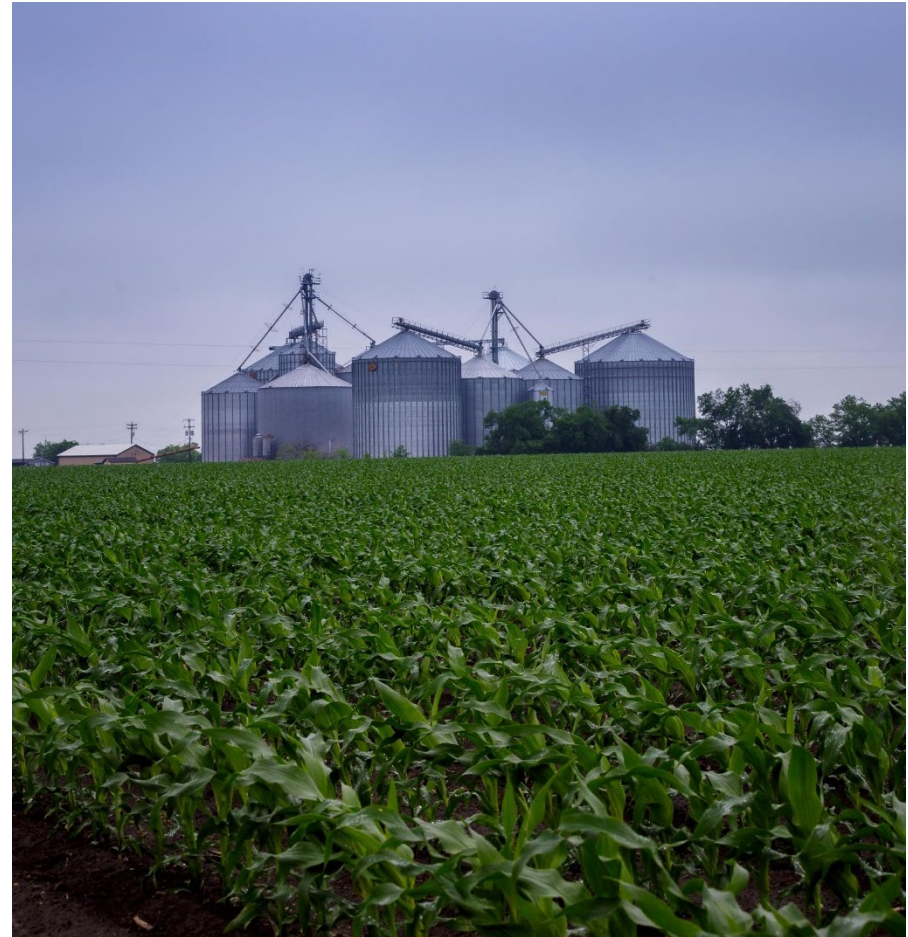
# Illegal Dumping

- ⦿ Develop educational materials about illegal dumping
  - ⦿ illicit dumping of waste and animal carcasses in water bodies throughout the watershed
- ⦿ Distribute educational materials to residents



# Nutrient Runoff

- ◉ Reduce nutrient runoff in agricultural and urban areas
- ◉ Conduct educational workshops such as the Healthy Lawns Healthy Waters programs and others
- ◉ Encourage adoption of soil testing in both urban and rural areas



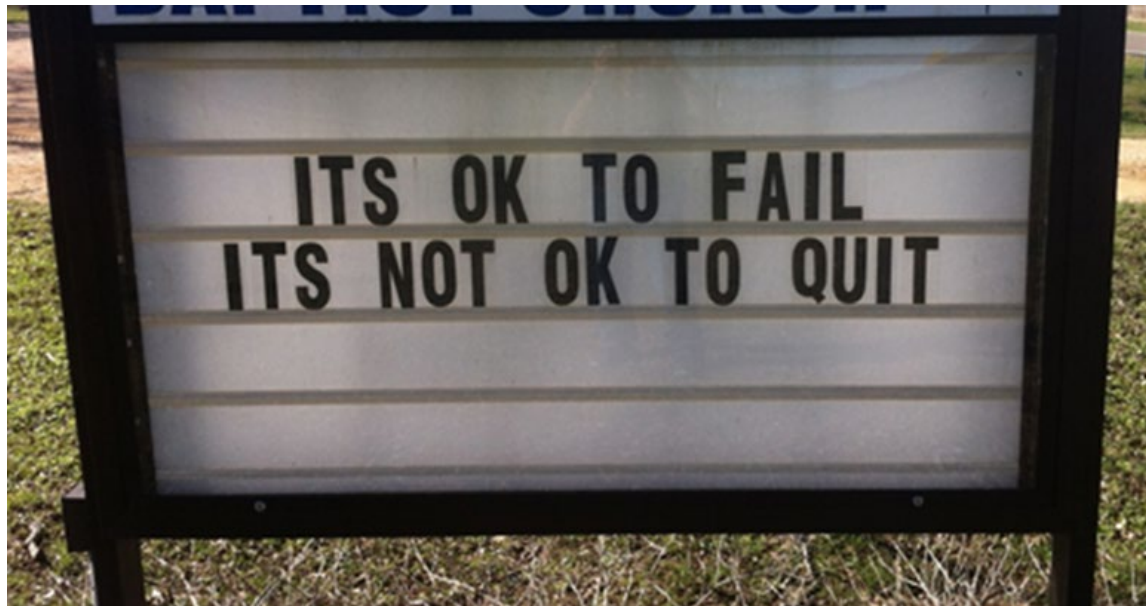


# Educational Programs

- ◉ Feral Hog Workshops
- ◉ Lone Star Healthy Streams Workshops
- ◉ Healthy Lawns Healthy Waters Workshops
- ◉ Septic System Maintenance for Homeowners Classes
- ◉ Texas Well Owner Network Trainings
- ◉ Riparian and Stream Ecosystem Education Workshops
- ◉ Stakeholder Meetings
- ◉ New Landowner Programs/Small Acreage Landowner Programs

# Measuring Success

- ◉ Keep our eyes on the data coming from the creek
- ◉ Stakeholders will be provided updates
- ◉ The WPP has a 10-year planning window



# How you can be a part of it all...

- ⦿ Sign up for our newsletter
- ⦿ Attend programs of interest
- ⦿ Do your part, be a good steward
- ⦿ Tell your friends and family





# Thanks for coming!

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<http://bigelmccreek.twri.tamu.edu/>