

Development of Management Alternatives for LWD: An Interdisciplinary Approach to a Multifaceted Situation

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Tarrant Regional Water District

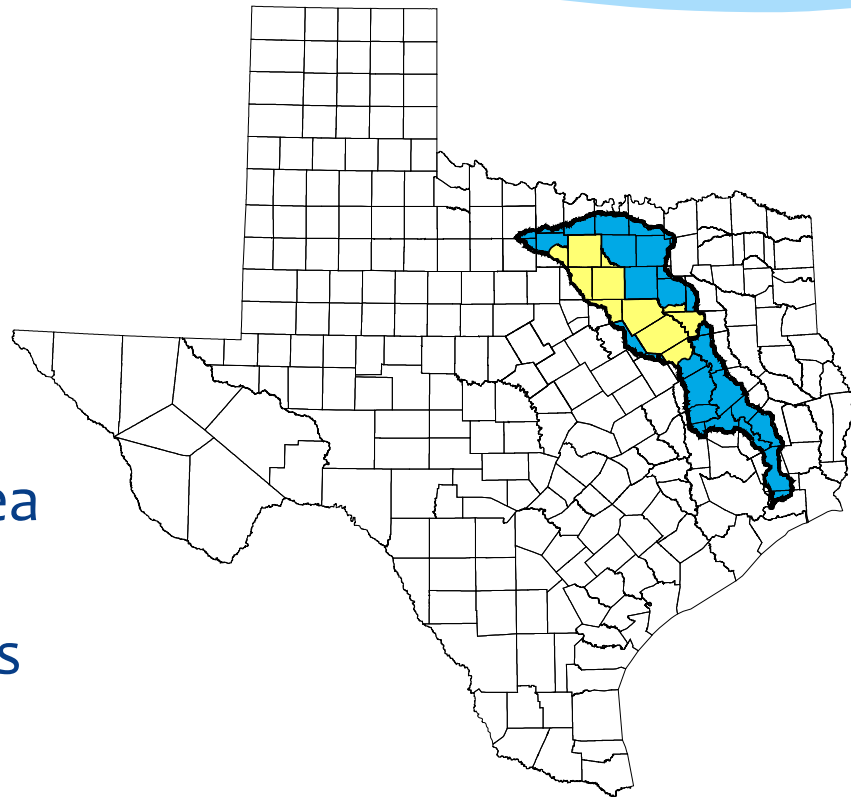
Located in the Trinity River basin

Authorized in 1924 for

- Flood Protection
- Water Supply

Today...

- Eleven county service area
- > 2 million people
- > 30 wholesale customers



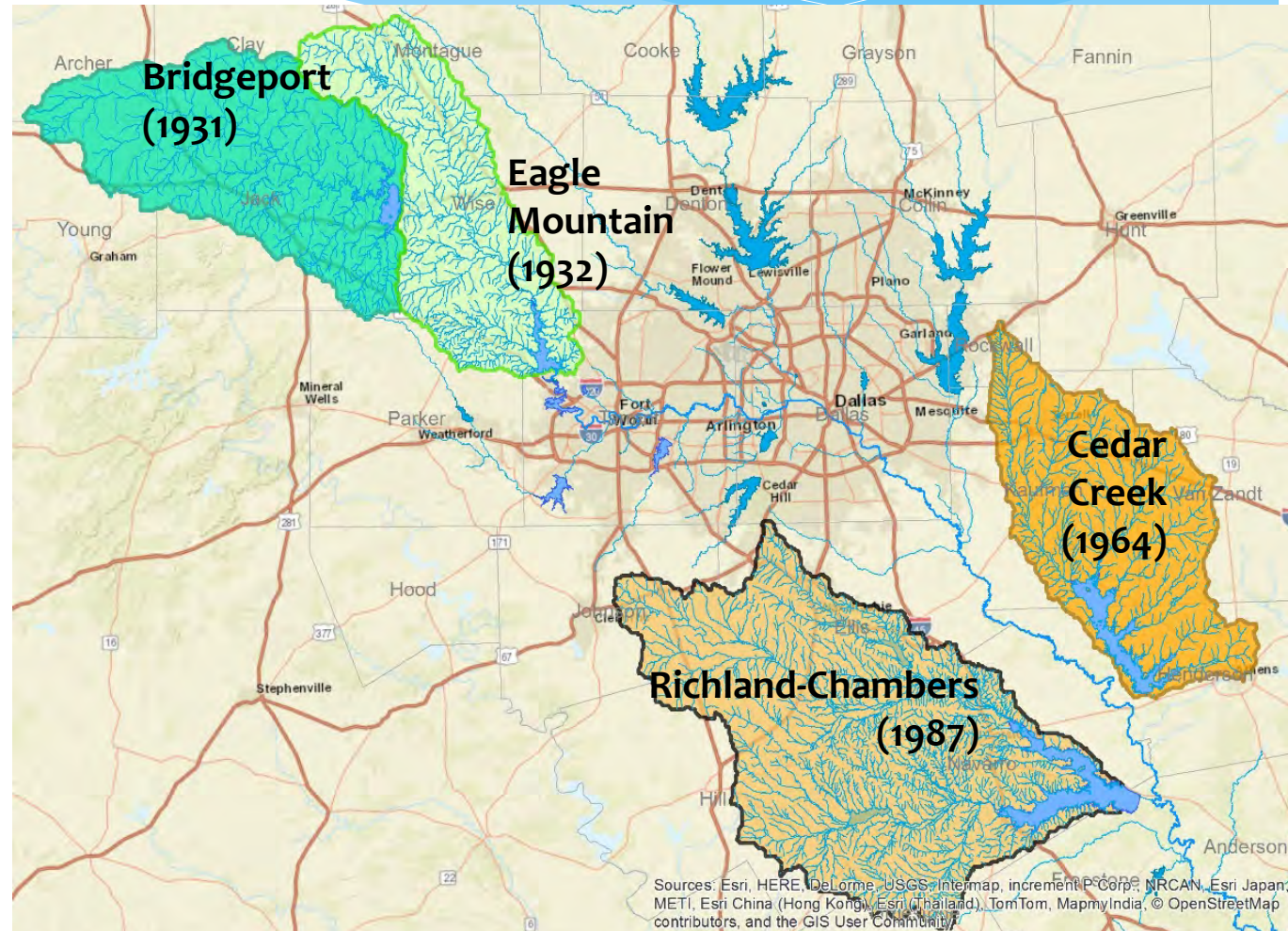
TRWD Reservoir Development

4 Major Reservoirs

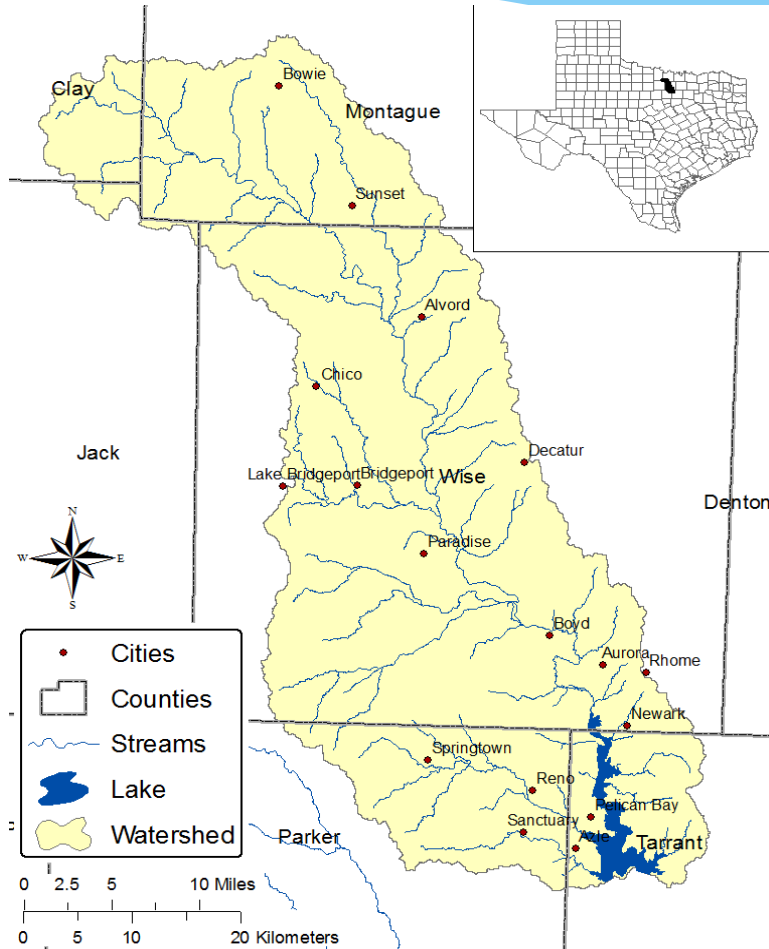
Watersheds

>5,000 mi²

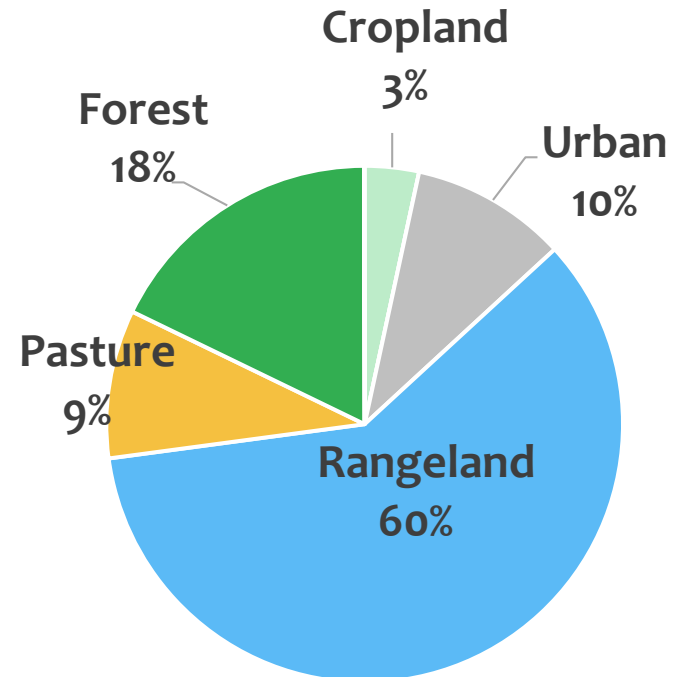
>5,500 stream mi.



Eagle Mountain Lake Watershed

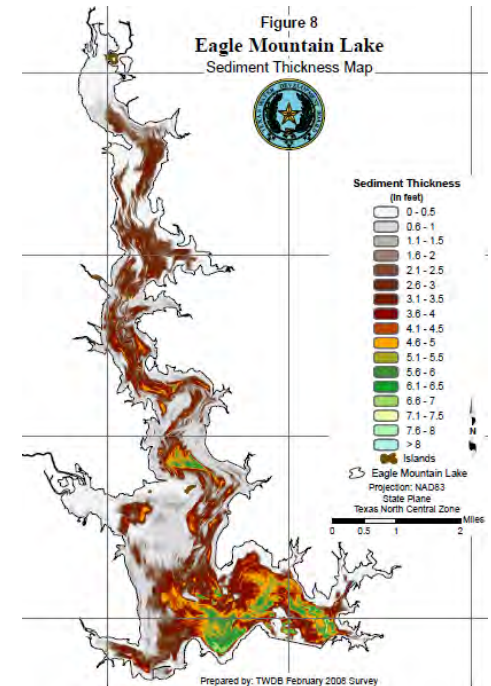
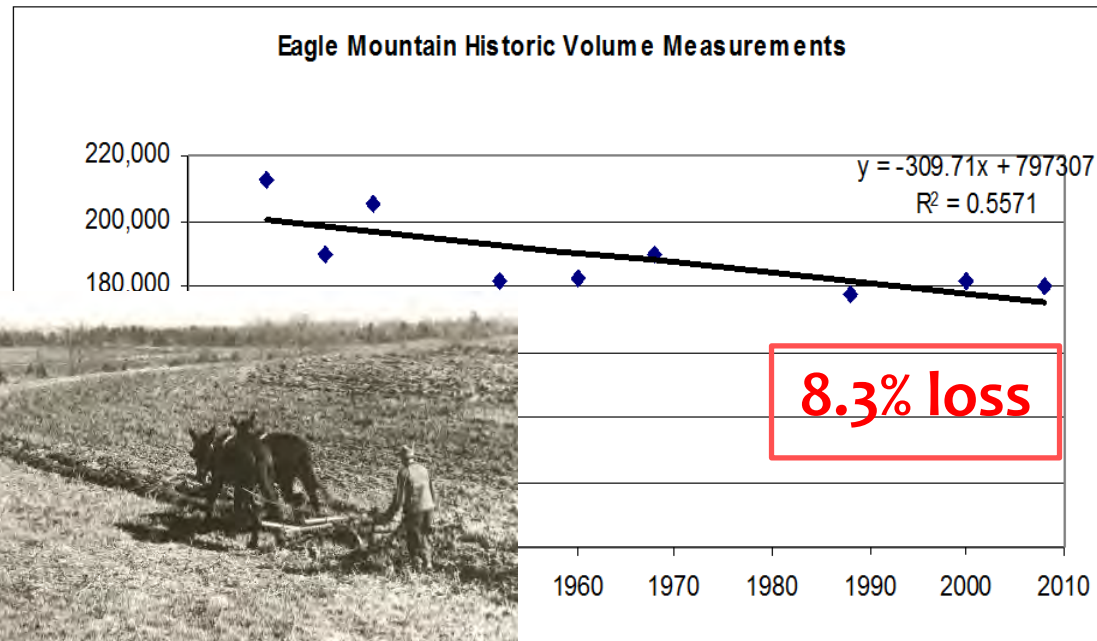


Land Use



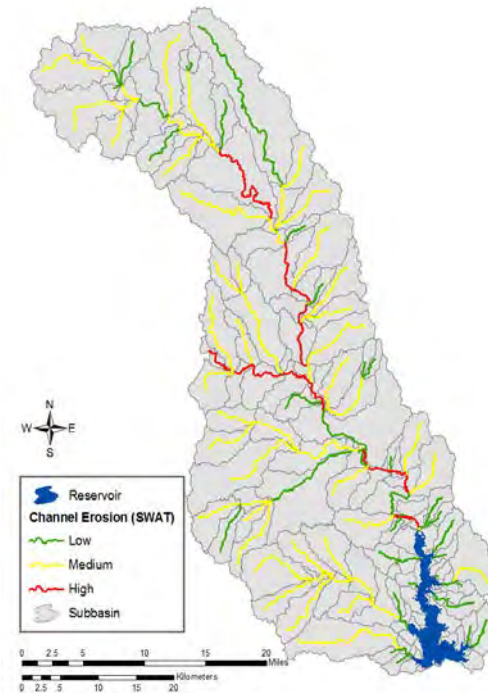
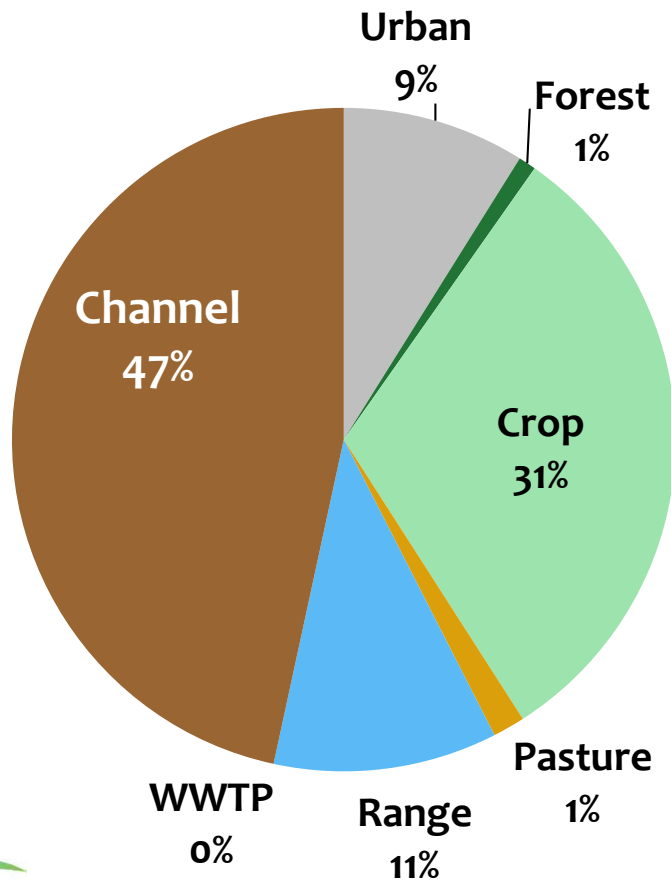
Threats to Drinking Water Supplies

Sedimentation and water quality changes caused by stormwater runoff and erosion.



Sediment Sources for Eagle Mountain Lake

Sediment Sources



Channel erosion estimation, SWAT report

Benefits of Large Woody Debris



All LWD is not created equal...

LWD is a problem when:



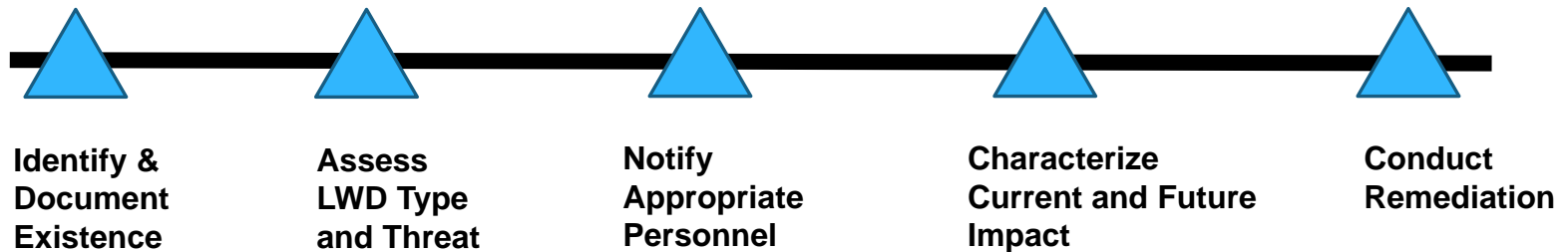
What is tolerable?



Acceptable vs. Unacceptable LWD

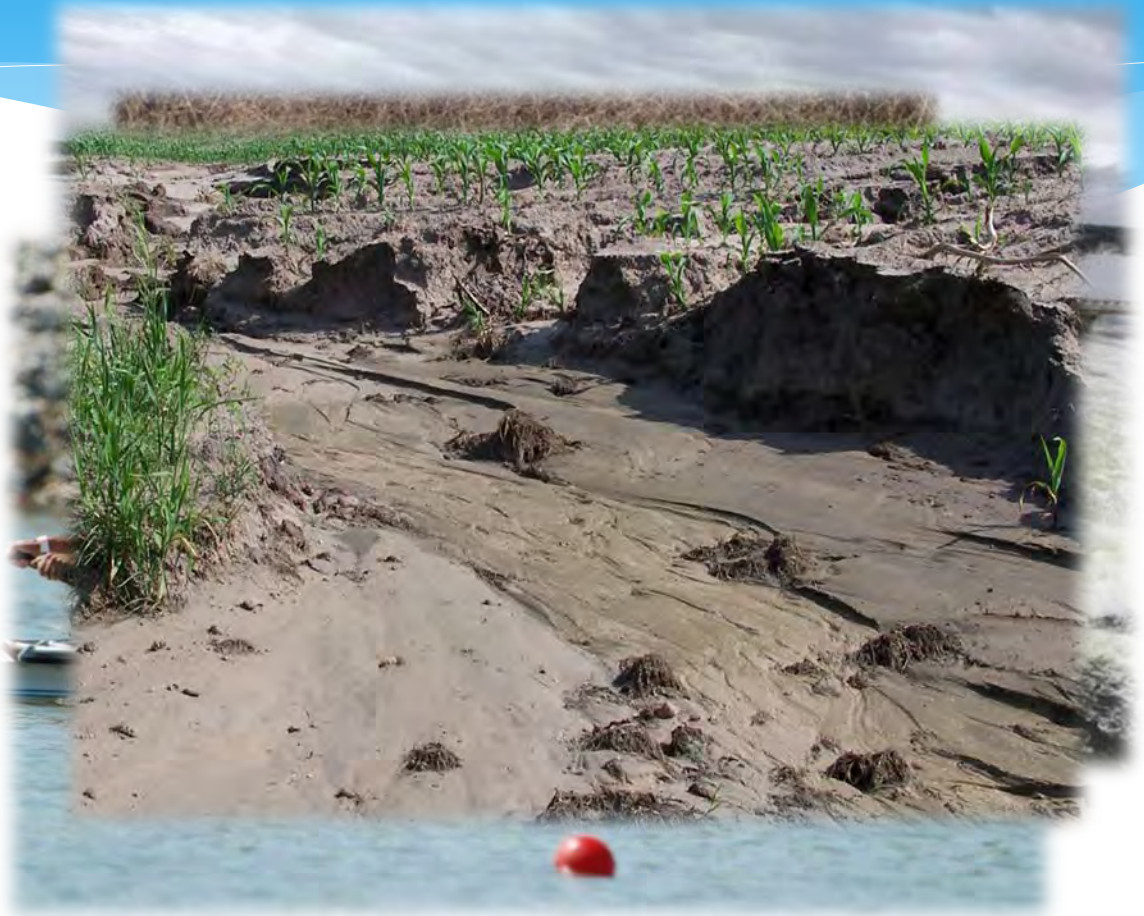
TRWD LWD Project Objectives

Seeks to provide a framework within the organization that formalizes the awareness of LWD, notifies appropriate resources, identifies and implements the most appropriate response actions.

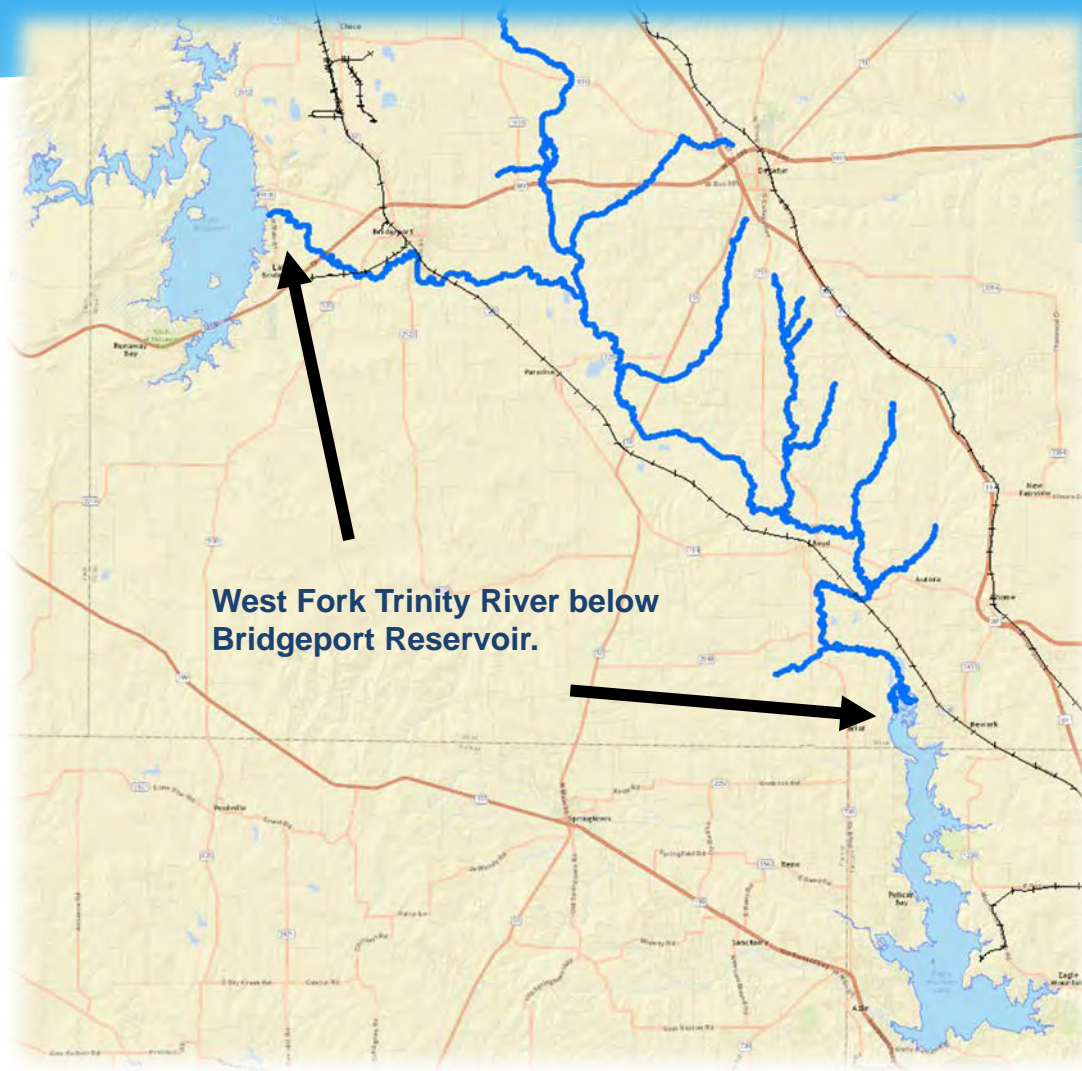


Involving TRWD Stakeholders

- * **Water Supply**
- * **Flooding**
- * **Land Owners**
- * **Environmental**
- * **Recreational**

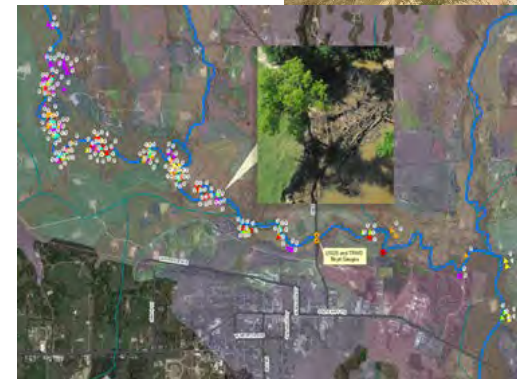


TRWD LWD Project Study Area

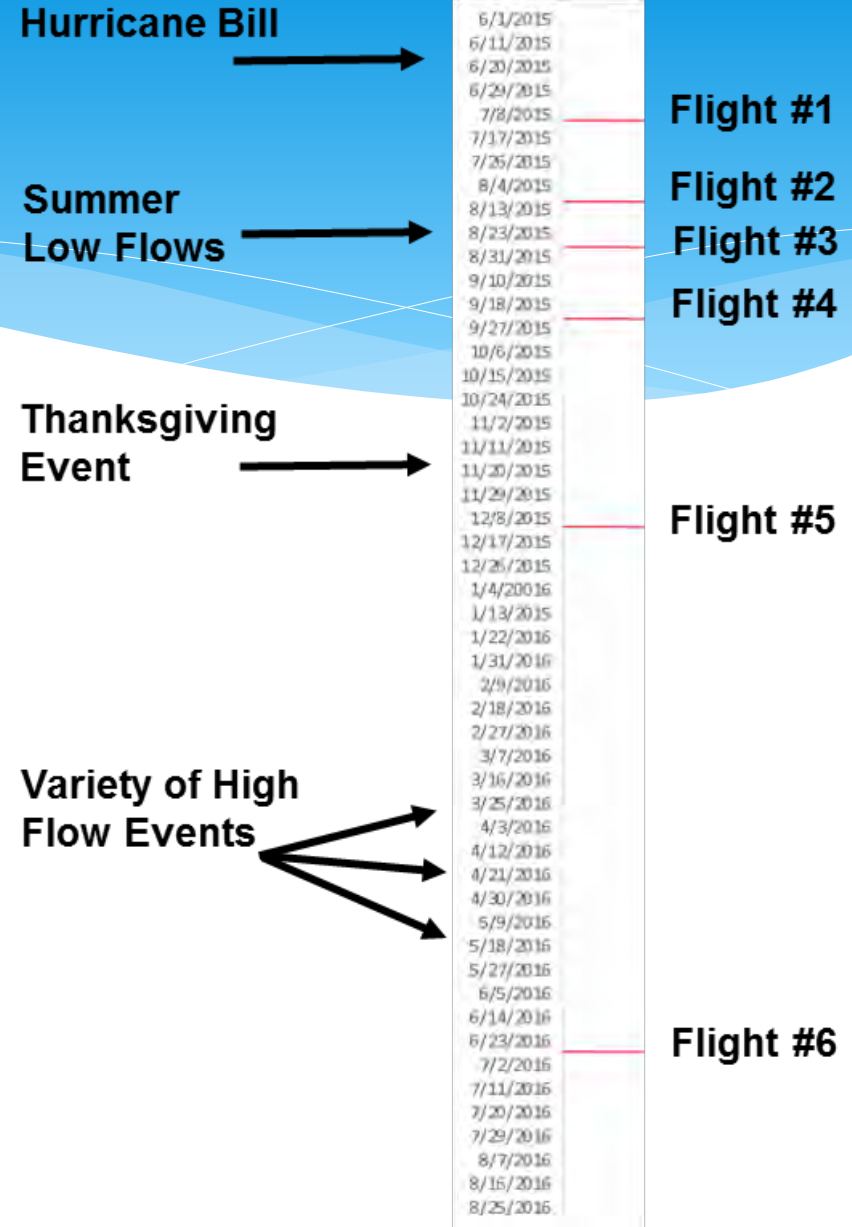


TRWD LWD Phase 1

- * Conduct regular aerial surveys
- * Document the locations of LWD
- * Import LWD Locations into TRWD GIS
- * Examine patterns
- * Document changes in LWD locations and complexity with respect to rainfall/streamflow characteristics



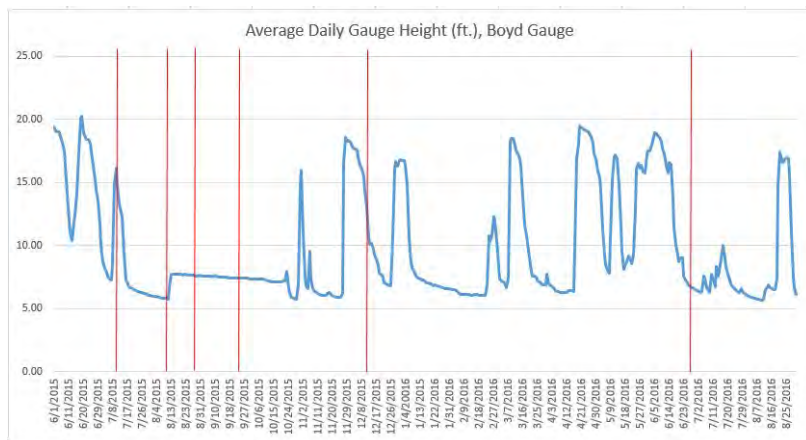
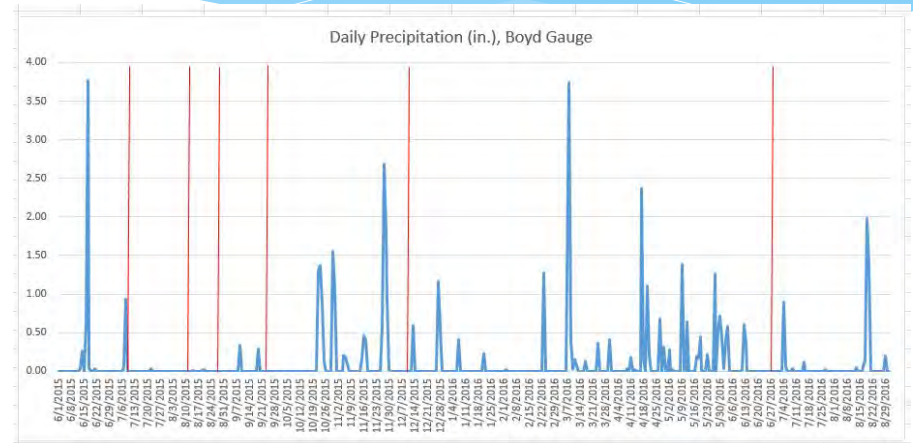
- * 50% complete input/review
- * Try to standardize collection of Photograph(s) of each location
- * Challenging to classify and prioritize each location of LWD observation for fieldwork
- * Conducting the flights during prescriptive stream flows, reservoir releases, or after flood events.



Examining LWD Response



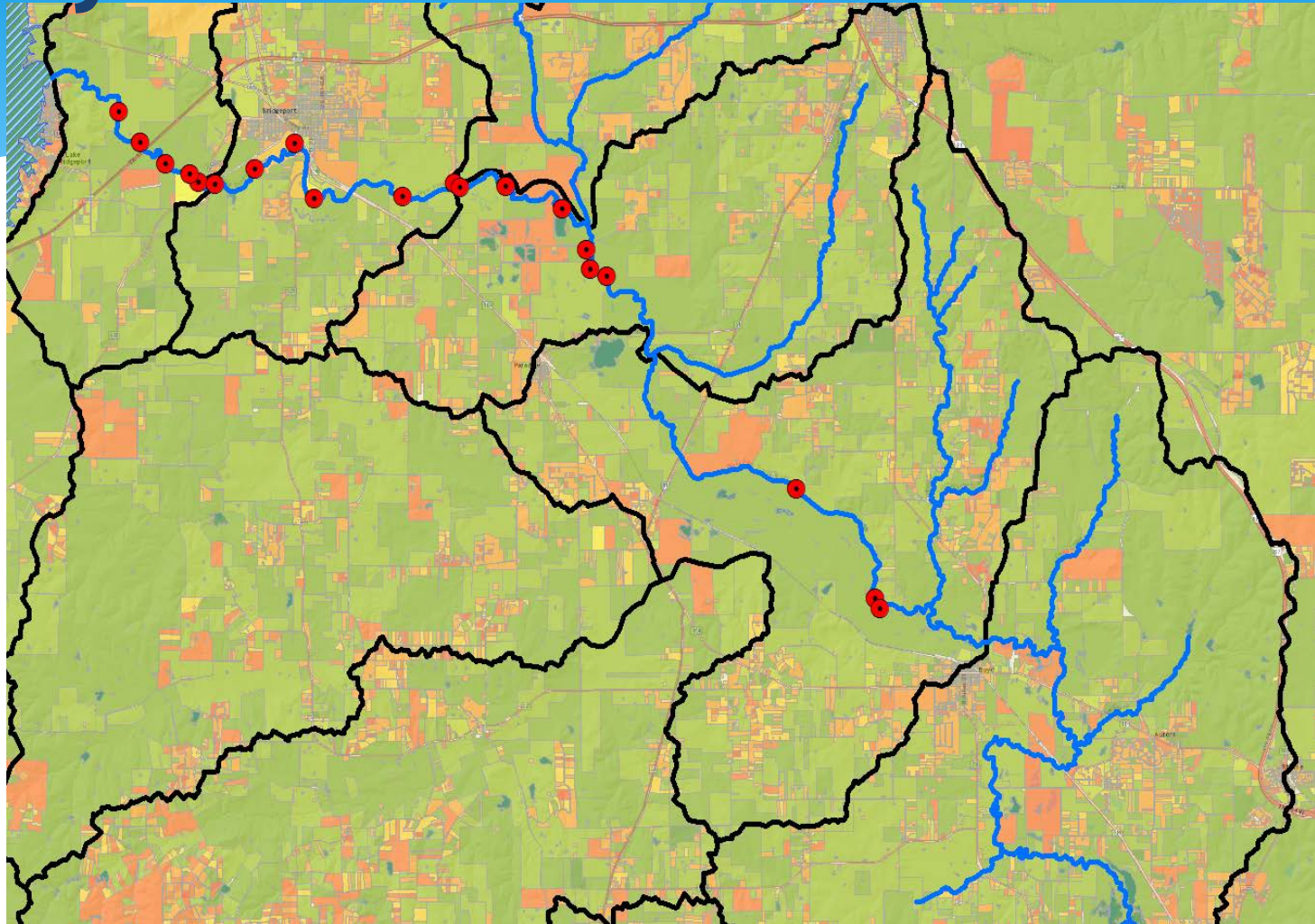
5th Observation – 12/10/2015



6th Observation – 6/27/2016

Urban Riparian Symposium Feb15-17, 2017

Why is LWD where it is?



Identification, Simplifying Distribution, Organizing for Implementation

Partnerships/Interagency Coordination



Conclusions

- * LWD is a multifaceted issue
- * Awareness, Communication, Response
- * Manage existing LWD by developing & implementing an “*Appropriate*” management strategy
- * Address sources of LWD through targeted E&O and other programs to help landowners manage riparian areas.

Thank You

Questions?

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