



Freshwater Mussel Rapid Risk Assessment

***Presented by
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Freshwater Mussels v. Zebra Mussels

- **Freshwater Mussels**
 - Native
 - Rivers
 - Filter feeders
 - Food source
 - Soft substrates
- **Zebra Mussels**
 - Non-native
 - Lakes
 - Aggressive breeders
 - No known predator
 - Hard substrates





Proposed Listing of Freshwater Mussels as Endangered in Texas

- 12 species currently proposed
- Grouped into 4 listing packages
 - Central Texas
 - East Texas
 - West Texas
 - Rio Grande
- Lack of distribution information
 - Interpreted as range contraction or extirpation
- Imperative that BRA knows what and where species are in the basin



Candidate Species in the Brazos Basin



Smooth Pimpleback



Texas Fawnsfoot



Species Pending Status Review in the Brazos Basin

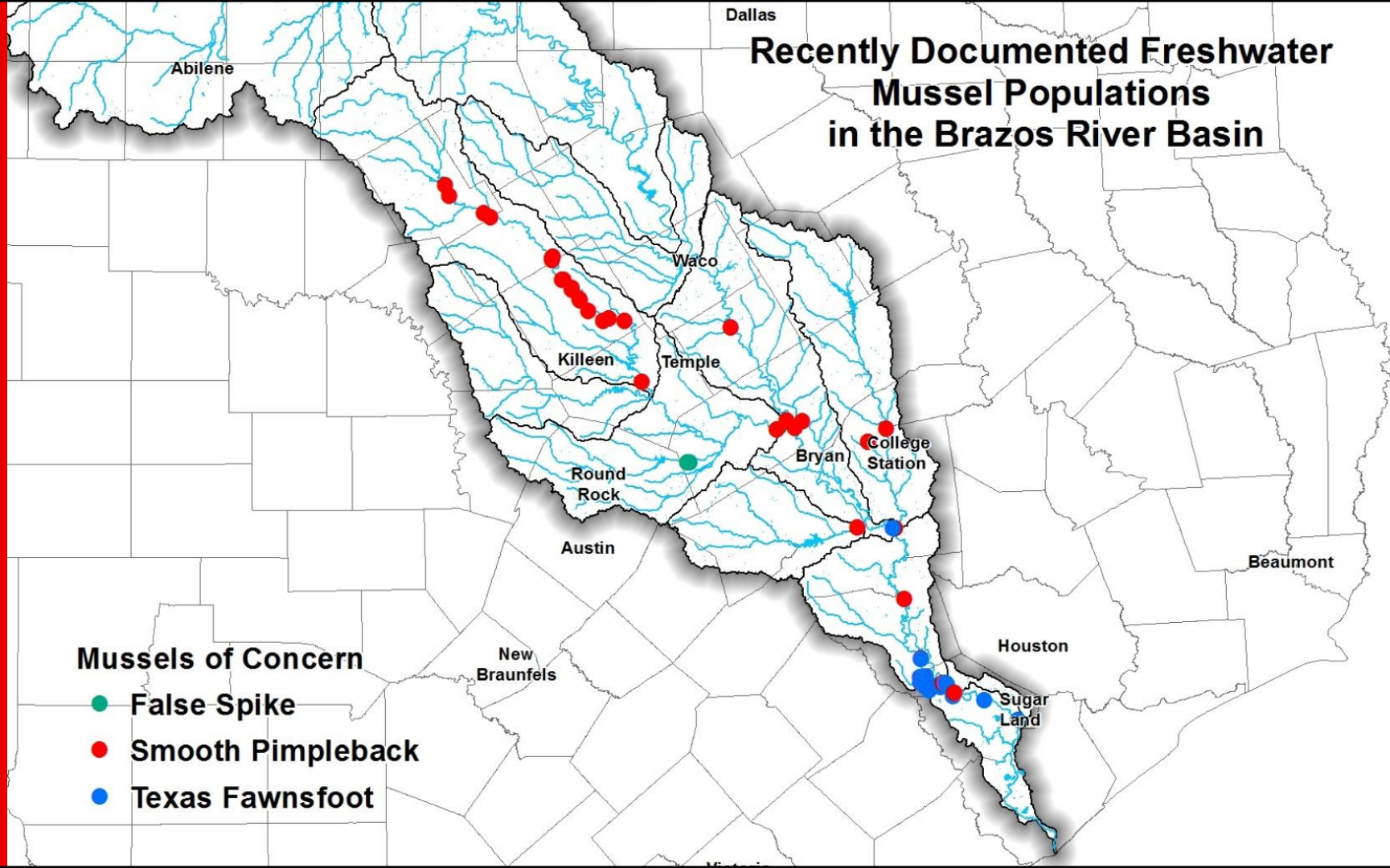


Photo by Charles Randklev and Eric Tsakiris

False Spike



Recently Documented Freshwater Mussel Populations in the Brazos River Basin





Texas Hornshell

- **Rio Grande Group**
- **Tone of Species Status Assessment Report indicates listing highly likely**
- **Critical Habitat will be specified**
- **Indicator of how Central Texas Group will be treated**



Unknowns

- How will SB3 Instream Flow standards impact listing decisions of central Texas mussels?
- How much impact will projects in the regional water plans have of FWS scenario modeling and decision making?
- What operational impacts will listing have on water supplies stored in reservoirs?
 - U.S. Army Corps of Engineers – federal nexus
 - BRA lakes



Anticipated Listing Schedule for Central Texas Mussels

- **Texas hornshell evaluation ahead of schedule**
 - September 30, 2016
- **Process will begin for Central Texas mussels when Texas hornshell is complete**
- **Anticipate evaluation and addition of false spike to the Central Texas Mussel Group will be FWS' next step**
 - Process takes a minimum of 1-1.5 years
- **Evaluate Central Texas Mussel Group**
 - Decision by early 2019



Purpose of Rapid Risk Assessment

- **Understand status of freshwater mussels in the basin**
 - Identify and characterize any mussel populations in the Navasota River and the Brazos River between Possum Kingdom and Waco
- **Understand potential impacts of listing**
 - Operational Analysis
 - Financial Risk Analysis
- **Identify options for mitigating impact to water supply operations**
 - Engage with FWS regarding species status and permitting options
 - Define and create cost estimates for potential mitigation strategies



Texas A&M University Institute of Renewable Natural Resources

- **Specializes in the application of timely research and outreach efforts to encourage sustainable and secure water resources through collaboration, engaging policymakers and policy innovations**
- **Malacologists, with extensive experience in the Brazos River basin, on staff to perform freshwater mussels in river segments with knowledge gaps**



Resolution

“BE IT RESOLVED that the Board of Directors of the Brazos River Authority hereby authorizes and approves amending the Fiscal Year 2016 budget in an amount not to exceed \$50,000 to accelerate work on the Freshwater Mussel Rapid Risk Assessment.



BE IT FURTHER RESOLVED that the Board of Directors of the Brazos River Authority hereby authorizes the General Manager/CEO to enter into a Interlocal Agreement with Texas A&M Institute of Renewable Natural Resources (IRNR) for a 2.5 year project, for an amount not to exceed \$425,000, which includes limiting the indirect cost rate to 28 percent, to perform risk analysis for the Freshwater Mussel Rapid Risk Assessment project."



Brazos River Authority