



Texas Freshwater Mussel Program

Meghan Hope, Economic Growth and Endangered
Species Management Division (EGESM)

EGESM Role

With the expertise of state agencies, universities, local communities and stakeholders we can find solutions that protect the state's economic health and natural heritage for future generations



- **2013-2017 Legislature:** Funding for species research
- **2011 Leg:** Support for habitat protection measures
- **2009 Leg:** Presiding Officer of Interagency Task Force on Economic Growth and Endangered Species

Species Research Program

EGESM identifies species for research based on the following factors:

- Timeframe for the listing decision
- Data gaps in the scientific information
- Potential impacts of listing

We work with state and federal partners to develop research projects and review proposals

Research is designed to ensure science is available to inform:

- Species listing and conservation management decisions
 - U.S. Fish and Wildlife Service's Species Status Assessment process
- Stakeholder decisions on potential development of voluntary conservation efforts if needed for the species

Mussels in Texas

Mussel Species	Package Name	Historical Range in Texas River Basin	Federal Listing Status
False Spike	Central Texas Mussels (2018)	Brazos, Colorado, Guadalupe	Petitioned
Texas Fatmucket		Colorado, Guadalupe	Candidate
Texas Pimpleback		Colorado, Guadalupe	Candidate
Texas Fawnsfoot		Brazos, Colorado	Candidate
Triangle Pigtoe	East Texas Mussels (2019)	Neches, San Jacinto	Petitioned
Louisiana Pigtoe		San Jacinto, Trinity, Neches, Sabine	Petitioned
Texas Heelsplitter		Neches, Trinity, Sabine	Petitioned
Golden Orb	Texas Quadrula Species (2020)	Guadalupe, San Antonio, Nueces-Frio	Candidates
Smooth Pimpleback		Brazos, Colorado	Candidate
Mexican Fawnsfoot	Rio Grande Mussels (2022)	Rio Grande, Pecos, Rio Salado	Petitioned
Salina Mucket		Rio Grande	Petitioned
Texas Hornshell	-	Rio Grande	Proposed Endangered

U.S. Fish and Wildlife Service: 12-Month Finding

- FWS determined the decline of mussels in Texas and throughout the U.S. is mainly due to **habitat loss and degradation** primarily caused by:

- **Impoundments**
- **Sedimentation**
- **Dewatering**
- **Sand and gravel mining**
- **Chemical contaminants**

- Additional factors: nonnative species, inadequacy of existing regulatory mechanisms, climate change

Impoundments

- Changes to natural flow regime
- Scouring and erosion
- Impaired water quality
- Changes in temperature and dissolved oxygen
- Sedimentation



Sedimentation



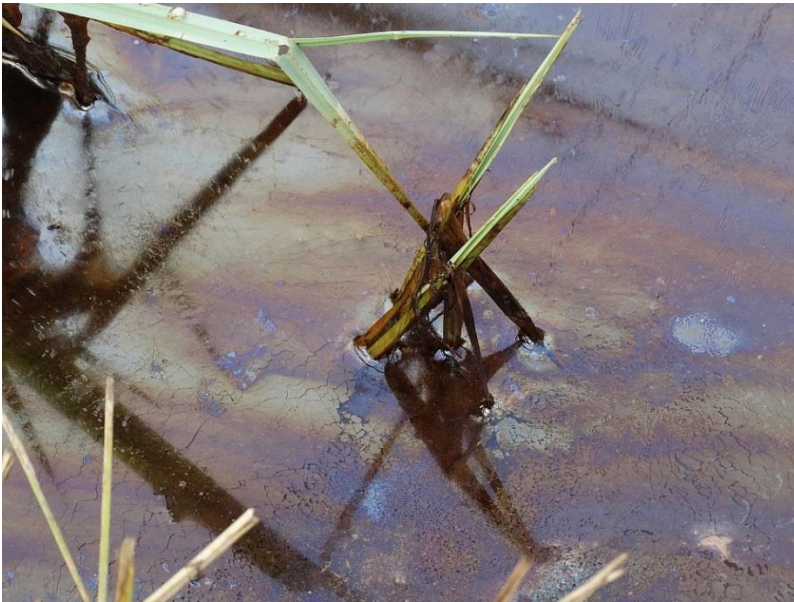
- Livestock access and grazing
- Removal of vegetation
- Urbanization
 - Increased impervious surface
 - Road crossings

Dewatering

- Surface water diversions
- Groundwater pumping
- Dewater for construction projects
- Drought



Chemical Contaminants



- Chemical spills
- Industrial waste
- Municipal effluents
- Animal feedlots
- Fertilizer and pesticide use

Sand and Gravel Mining

- Channel degradation and erosion, turbidity, bank and stream instability
- Changes in water flow, temperature, quality
- Increased fine sediment and suspended sediment



Texas State University Research

- Population surveys
 - Brazos River
 - Colorado River
 - Guadalupe River
- Applied research to understand species' response to environmental factors
 - Temperature
 - Ammonia
 - Sedimentation
 - Salinity
- Long-term captive propagation study to inform future reintroduction efforts (FWS facilities)



Freshwater Mussel Work Group

- EGESM stakeholder process in partnership with Texas Parks and Wildlife Department
- Public meetings for all interested stakeholders
 - FWS updates on Species Status Assessment process
 - Scientific research updates
 - Educational presentations on species and habitat
 - Information about options for voluntary conservation efforts

Upcoming Meetings

August 16, 2017
September 2017
October 2017

Contacts

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