



Freshwater Mussel CCAA

Presented by

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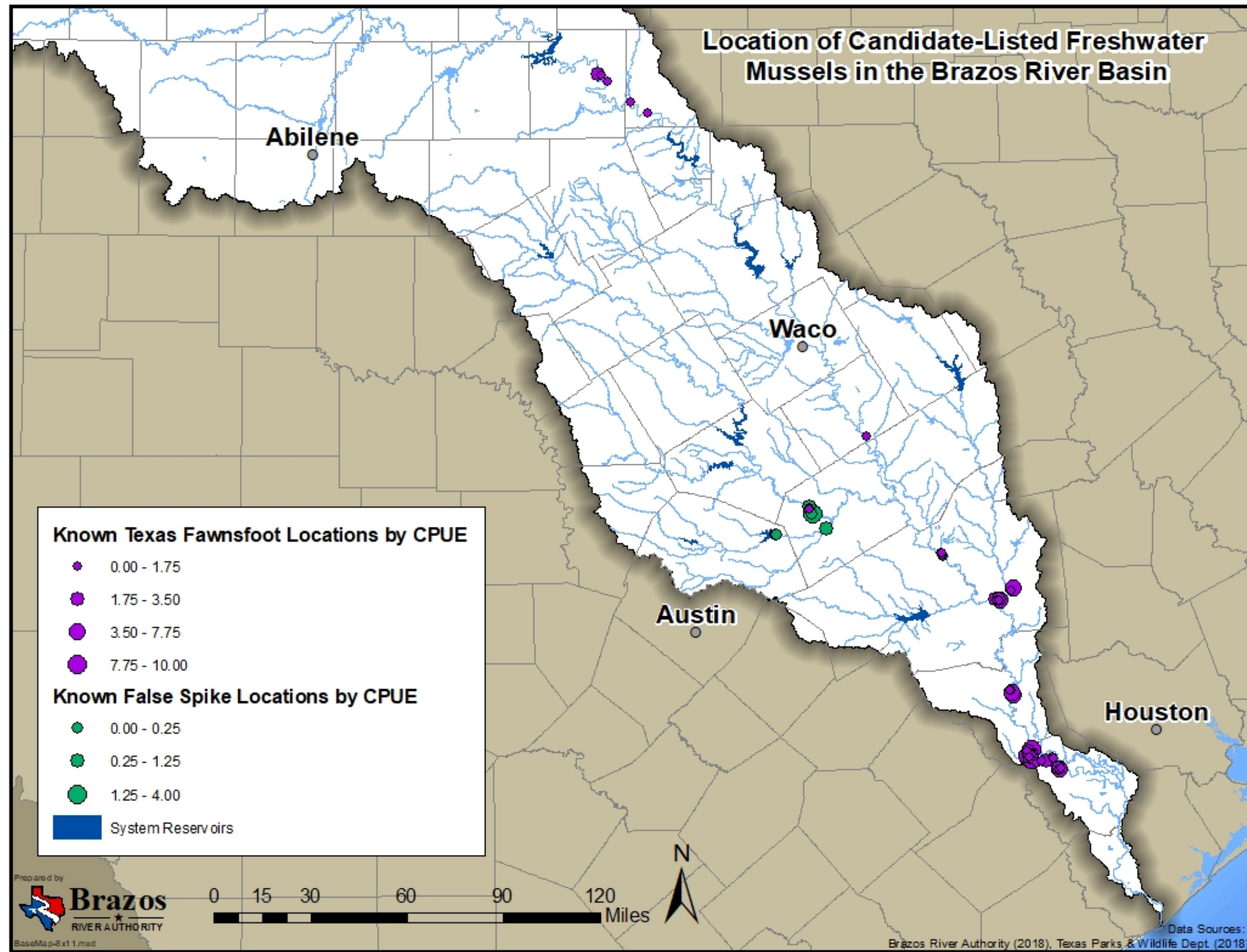
Freshwater Mussels Under Consideration for Federal Protection in Brazos River Basin

Texas Fawnsfoot



False Spike

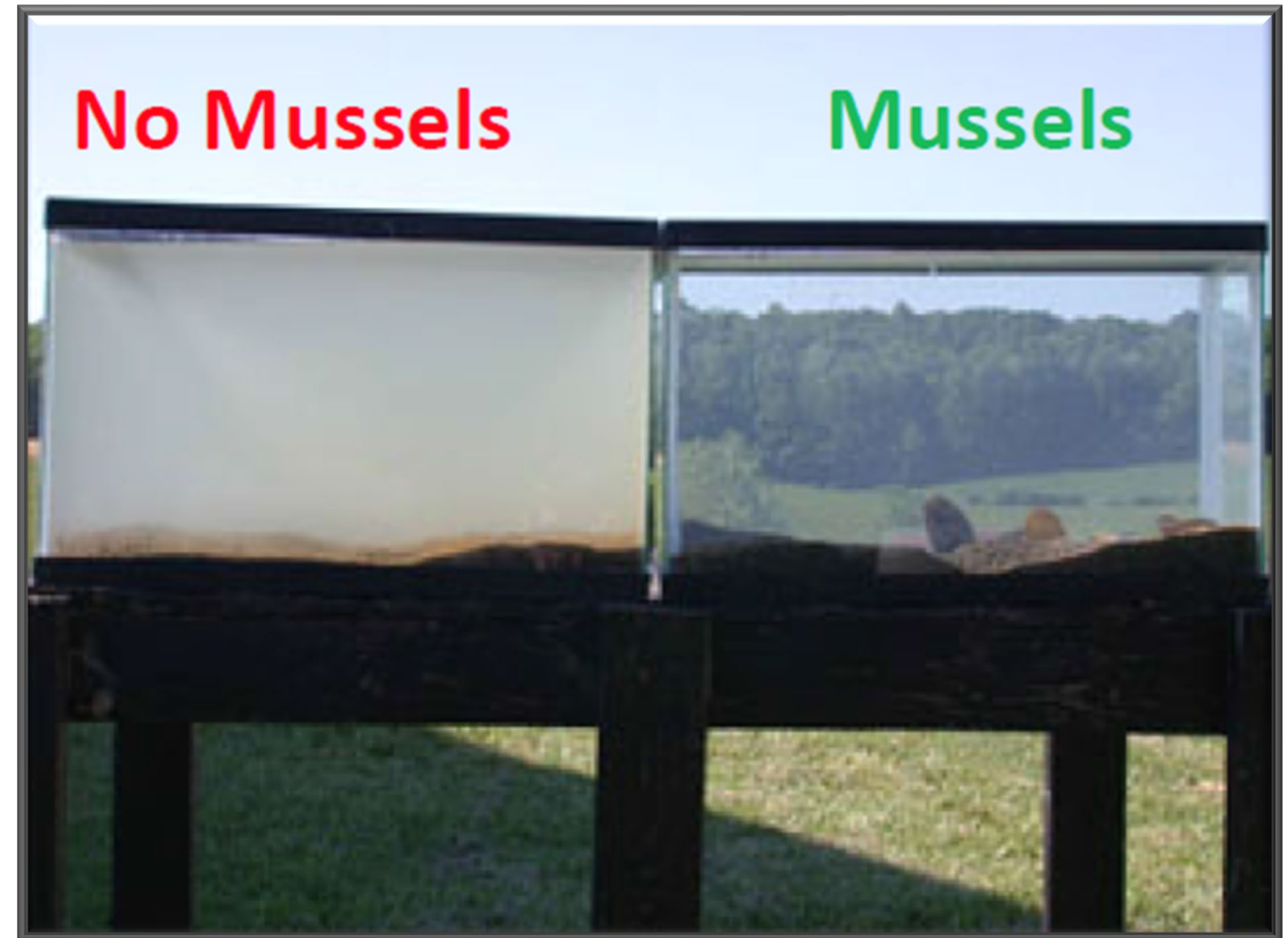






Why are mussels important?

- **Part of the food pyramid**
 - Fish
 - Raccoons
 - Humans
- **Filter feeders**
 - Water Quality
 - Ecological value
 - Economic value
- **Indicators of ecosystem health**



Threats from USFWS Species Status Assessment

- **Modified/Reduced Stream Flow**
 - **Reservoirs**
 - **Groundwater Pumping**
 - **Drought**
- **Water Quality**
 - **Wastewater Discharges**
- **Sedimentation**
- **Barriers to Fish Movement**
- **Climate Change**





Why do we care?

- **Since 1973, the Endangered Species Act (ESA) has proven to be one of the nation's strongest conservation laws**
 - **Has been widely upheld in the court system**
 - **Never substantially defeated**
- **ESA can affect state-based water rights and regulations**
 - **Can limit the traditional exercise of established water rights**
 - **Restrict or modify new water projects**
 - **Any water use that results in the direct or incidental take or harm of listed species falls within the ESA's reach**
- **ESA's ability to preempt state law derives from US Constitution's Supremacy Clause**



Water Projects Impacted by ESA

- **TVA v. Hill – 1978 - Little Tennessee River snail darter**
 - **Halted construction on dam**
- **Riverside Irrigation District v. Andrews – 1983 – South Platte River, Nebraska – whooping crane**
 - **Dam never built**
- **Carson-Truckee Water Conservancy District v. Clark – 1984 – Little Truckee River, California – cui-ui and cutthroat trout**
 - **ESA needs trump municipal and industrial water use**
 - **Changed water releases and pumping from a reservoir**
- **Columbia Dam Project, Duck River, Tennessee – 1997 – freshwater mussels**
 - **Dam never completed**

Texas Projects Impacted by ESA

- **Sierra Club v. City of San Antonio – 1997 – Edwards Aquifer, Texas – fountain darter**
 - **Limited pumping from aquifer based on spring flows**
- **The Aransas Project v. Shaw – 2013 – Guadalupe River, Texas - whooping crane**
 - **TCEQ water rights permitting practices reduced flow and led to death of whooping cranes**
 - **State must take into account the health and survival of endangered species when making water management decisions**
 - **Prohibited TCEQ from issuing new water rights permits from rivers that feed the estuary**



ESA Quagmires

- **Tri-State Water Wars – (1990 – present) - Alabama, Florida, and Georgia**
 - **Too many suits to summarize briefly**
- **Columbia Dam Project, Tennessee (1979 – 1999)**
 - **\$83 million dam project 90% complete when two species of freshwater mussel declared endangered**
 - **Dam never completed and eventually removed**
- **California State Water Project and Central Valley Project (2007-present) – California**
 - **Too many suits to summarize briefly**
 - **Requires changes in pumping from rivers and deltas impacting municipalities, agriculture and industry**



Why Federal permitting?

- **ESA prohibits activities that affect listed species and their habitats**
- **Permit required for activities that may “take” threatened or endangered species**
- **Minimize exposure to ESA liabilities**
- **Minimize future impacts to BRA water supply operations**



Candidate Conservation Agreement with Assurances

- **Voluntary partnership with USFWS before listing decision**
- **Provides net conservation benefit to the two species – and other aquatic species**
- **If a species is listed, BRA will not be required to take additional conservation measures**
- **Changed Circumstances**
- **Enhancement of Survival Permit/Incidental Take Protections**
- **Termination Clause**



Status of CCAA

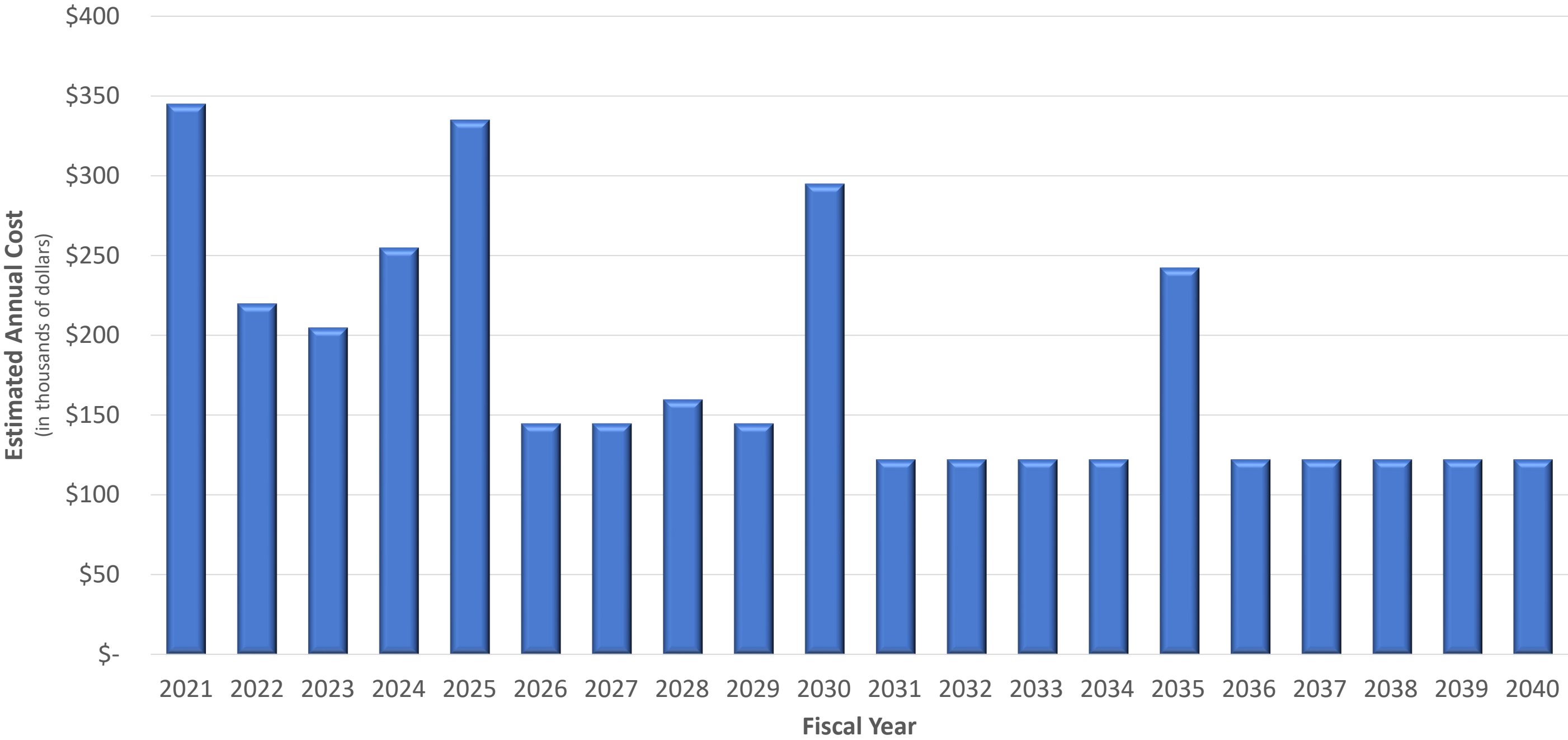
- **Informal review by USFWS complete**
- **Request to submit for formal consideration occurred in December 2019**
- **Anticipate that Phase 1 will be completed within budget.**



Phase 2 – Implementation of Conservation Measures

- **Anticipate permit being executed in 2021**
- **Estimated expense over 20-year term of permit is \$3,800,000**
 - **Estimate includes \$200,000 for contingencies**

Estimated Annual Cost of Permit Over 20-Year Term Assuming Permit Effective in FY 2021





Next Steps

- **Submit CCAA to USFWS for formal consideration**
- **Upon permit execution return to BOD to request authorization to begin Phase 2 for implementation of activities**



Brazos

RIVER AUTHORITY