

USACE Natural Resource Management Fish



Pecos Gambusia

Pecos Gambusia (*Gambusia nobilis*): Typical coloration is a light reddish-brown with a somewhat paler underside. This species exhibits extinct sexual dimorphism and are unusual in that males have a highly modified anal fin. Males are typically 1.2 inches in length or less while females may exceed 2.36 inches in length. This fish has an arched back and a caudal peduncle depth that is approximately two-thirds of the head length. (USFWS)

Status: *Endangered, listed 1970*

NatureServe: *Imperiled*

G2
Imperiled

Order: The order Cyprinodontiformes includes nine families and 1,013 unique species of fish. This order contains topminnows, killifishes, livebearers (like the Pecos gambusia), pupfishes, and more. Though these are mostly freshwater fish, many in this order can tolerate considerable salinity. (Encyclopedia of Biodiversity, Second Edition)

Photos Left to Right: U.S. Fish and Wildlife Service, Texas Parks & Wildlife, U.S. Geological Survey



Photo: Map of species' NatureServe status by state.

Management and Protection:

- The Pecos gambusia is endemic to the Pecos River Basin in southeastern New Mexico and western Texas and originally ranged from near Fort Sumner, New Mexico, to the area around Fort Stockton, Texas. The mainstem Pecos River was likely never important as permanent habitat, but rather served as a dispersal route. (USFWS)
- Excessive groundwater pumping from aquifers began to impact important stream and spring habitats in the mid-1900s. This resulted in cessation of flow and the subsequent extirpation of the Pecos gambusia from two locations in New Mexico. Groundwater pumping has also resulted in other populations becoming isolated due to reduced flows. (USFWS)
- According to a 2018 Five-Year Species Review USFWS published, the Pecos gambusia still occurs in four widely separated localities within the Pecos River drainage. The primary threat to remaining populations is the continued degradation of habitat and potential future loss of aquatic habitat.
 - Competition and hybridization with the western mosquitofish and the largespring gambusia also pose a threat to this species. (USFWS)
 - Long-term water quality and quantity monitoring should be undertaken for the occupied habitats throughout species' current range. (USFWS)



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USACE ROLE: According to the Engineering Research and Development Center's Threatened and Endangered Species Team Cost Estimates, the USACE has expended over \$5.5 million dollars on efforts related to the Pecos gambusia since 2005. Costs have been incurred by multiple business lines including Navigation, Planning and Program Management. Types of costs include Coordination and Determination, Site Visits and Inspections, Research, Inventory, Survey, and Monitoring efforts, and more.



Pecos Gambusia= \$5,514,169 (2005)

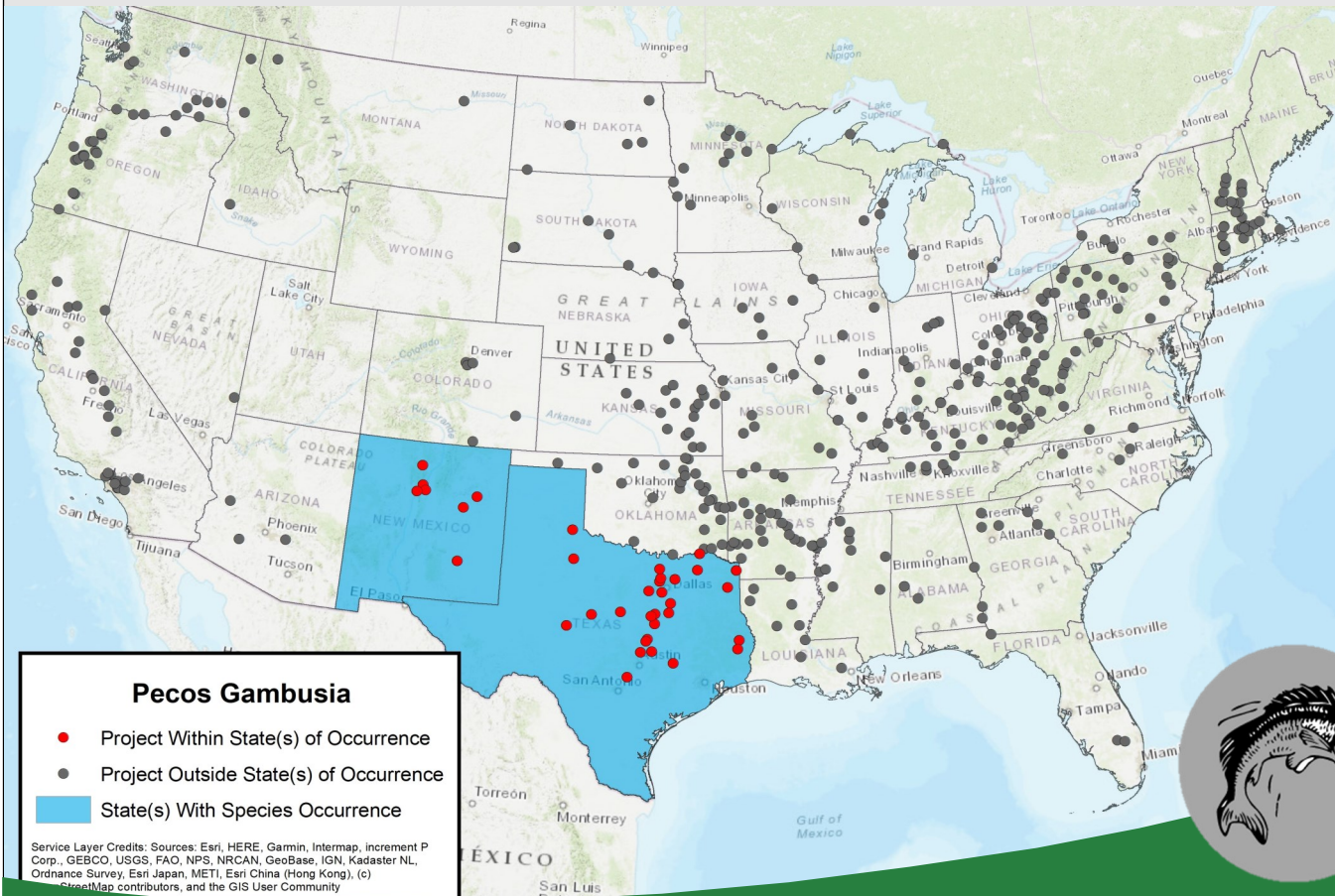
What is USACE NRM Doing: With a small range, the Pecos Gambusia does not occur at any USACE projects. However, in the 2020 Natural Resource Management Assessment, a single project within South Pacific Division was noted to have the potential for the Pecos gambusia to occur. This project was Albuquerque District's Two Rivers Dam.

The USACE accepts responsibility for sustainable use, stewardship, and restoration of natural resources at projects across the Nation. At those projects where federally listed species, such as the Pecos gambusia, are known to—or have the potential to—occur, measures are taken to ensure that current and proposed work will not negatively impact species or habitats.



Photo: A recreation area at Two Rivers Dam in Albuquerque District.

This fact sheet has been prepared as an unofficial publication of the U.S. Army Corps of Engineers (USACE). This online publication is produced to provide its readers information about best management practices related to special status species. Editorial views and opinions expressed are not necessarily those of the Department of the Army. Mention of specific vendors does not constitute endorsement by the Department of the Army or any element thereof.



Source: Map provided by Ashleigh Boss, ORISE Fellowship, Institute for Water Resources

Fish

