

USACE Natural Resource Management

Fish



Topeka & Cape Fear Shiner, Rio Grande Silvery Minnow, & Mohave Tui Chub

Topeka Shiner (*Notropis topeka*): This is a small (less than 3 inches in length), rapidly maturing minnow. The base color is silver with a prominent lateral band that ends in small, black chevrons at the tail fin. (MN DNR)

Status: Endangered, listed 1998

NatureServe: Vulnerable



Cape Fear Shiner (*Notropis mekistocholas*): This shiner grows to about 2 inches in length. The primary color is yellowish with black bands along the sides of the body. Upper lip is black and fins are pointed. (USFWS)

Status: Endangered, listed 1987

NatureServe: Critically Imperiled



Rio Grande Silvery Minnow (*Hybognathus amarus*): This minnow grows to a length of 3.5 inches. The cylindrical body is greenish-yellow above and cream-white below. The snout is rounded. (NM Game & Fish)

Status: Endangered, listed 1994

NatureServe: Critically Imperiled



Mohave Tui Chub (*Gila bicolor ssp. mohavensis*): This fish has a thick body, large head, and short, rounded fins. The upper body is a bright brassy-brown to dusky-olive while the belly is bluish-white or silver. (USFWS)

Status: Endangered, listed 2008

NatureServe: Critically Imperiled Subspecies



Order: Cypriniformes are an order of fish which have a number of small bones that connect the swim bladder to the hearing apparatus in the skull. Most species of this order are freshwater fish. This order includes minnows and suckers such as carp. (ITIS.gov, Introduction to the Practice of Fishery Science, 1996)

Photos Left to Right:
Topeka Shiner (USFWS), Cape Fear Shiner (Carol Johnston, Auburn University), & Rio Grande Silvery Minnow (USFWS)

Management and Protection:

- The Topeka shiner is found in the pools and runs of small to mid-size prairie streams in addition to oxbows and off-channel pools of the central United States. Suitable streams have good water quality and cool to moderate temperatures. (USFWS)
- The Topeka Shiner was once widespread and abundant in portions of Iowa, Kansas, Minnesota, Missouri, Nebraska, and South Dakota. It is now found in less than 10% of its historical range. (MN DNR)
- The Cape Fear shiner is known to occur in slow pools, riffles, and runs with gravel, cobble, and boulder substrates. Segmentation or separation of sub-populations by dams and loss of river habitat to impoundments are major concerns for this minnow. (USFWS)
- The Rio Grande silvery minnow now exists in only 5% of its historical range. The decline of this minnow is directly correlated with man-made modifications and alterations such as water diversions for municipal and agricultural uses, alterations to the natural hydrological cycle of the Rio Grande, habitat degradation, and the construction of dams. (USFWS)
 - Formerly found in deep pools and slough-like areas of the Mojave River, the Mojave tui chub now only occurs in highly modified refuge sties in San Bernardino County. (CA Department of Fish and Wildlife)



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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 \$21 million on efforts related to the Topeka shiner, Cape Fear shiner, Rio Grande silvery minnow, and the Mohave tui chub. These costs have been incurred by a range of business lines including Environmental Stewardship, Flood Risk Management, Planning and Program Management, and Regulatory. Expense types included Inventory, Survey, and Monitoring efforts, Species Protection, Species Avoidance, and more.



Topeka Shiner= \$441,164 (2006)



Cape Fear Shiner= \$33,399 (2005)



Rio Grande Silvery Minnow= \$20,883,418 (2006)



Mohave Tui Chub= \$1,851 (2005)



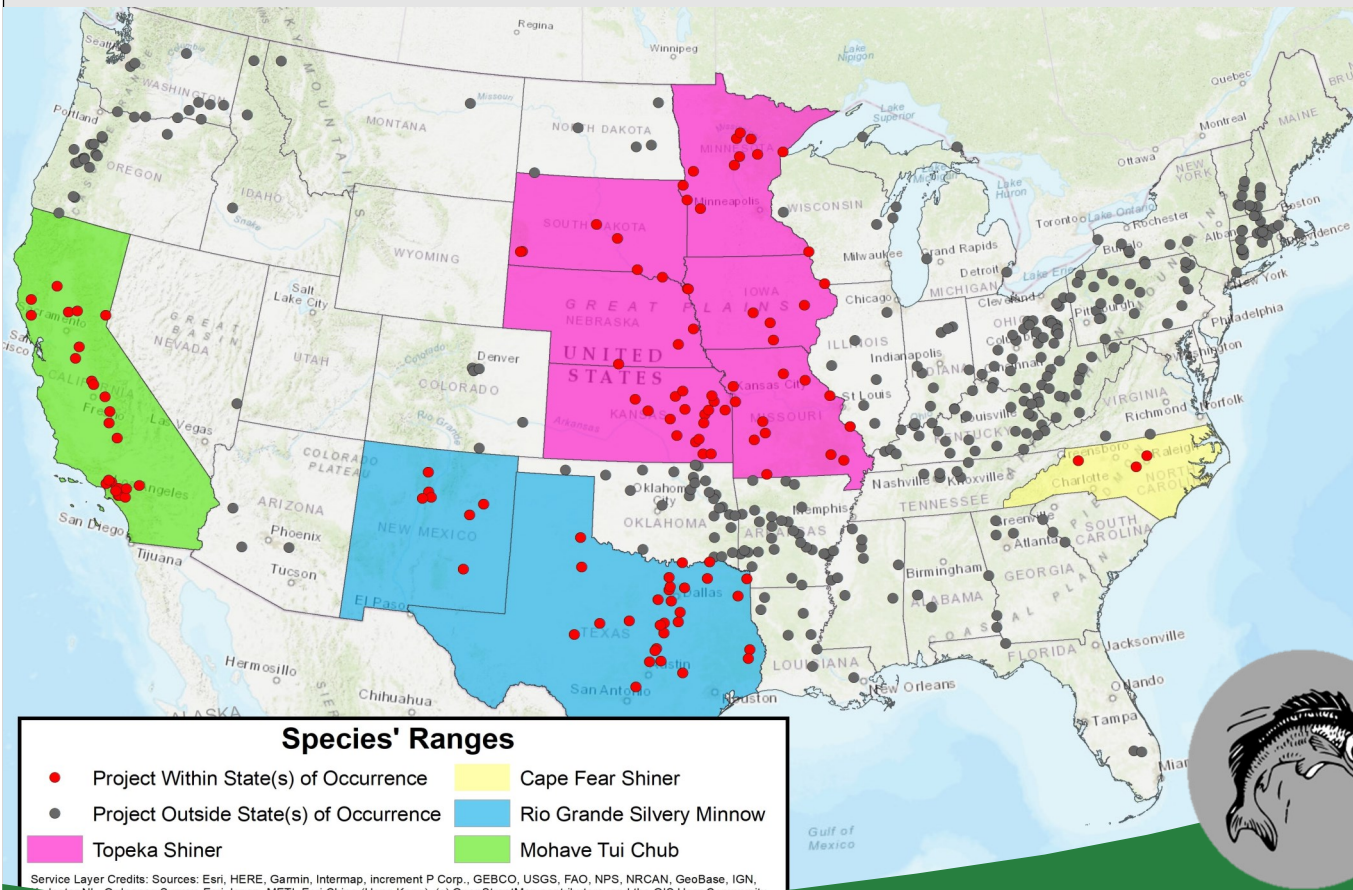
Photo: Corps and SWCA biologists using the combined box and bag seine technique to monitor fish populations in the Rio Grande.

WHAT IS USACE DOING:

The Middle Rio Grande Collaborative Program (MRGCP) is an effort to protect current and future water use and comply with state and federal laws as well as to support and improve the status of endangered species, including the Rio Grande silvery minnow, along the Rio Grande River. As part of the MRGCP, USACE partners with 16 other federal, state and tribal, non-governmental and local agencies. Since its establishment in 2002, the MRGCP has provided a variety of support for activities that benefit listed species within the program area.

In 2013, Albuquerque District Fishery Biologist Michael "Mick" Porter lead a team of USACE and SWCA biologists in a study of Rio Grande silvery minnows. Porter suspected that the standard beach seining method used to census fish could be biasing the results; so, he designed a two-net system, consisting of the standard beach seine and a bag seine. Porter's method was successfully implemented and utilized in later years.

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



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