

USACE Natural Resource Management

Crustaceans



Mammoth Cave Shrimp

Mammoth Cave Shrimp (*Palaemonias ganteri*): The Mammoth Cave shrimp, also known as the Kentucky cave shrimp, is a blind, freshwater shrimp that can grow up to a maximum length of 1.2 inches. The body lacks pigment and is translucent, making it very difficult to see. Aquarium studies have estimated that this species of shrimp has a life span of 10 to 15 years. (USFWS)

Status: *Endangered*, listed 1983

NatureServe: *Critically Imperiled*

G1
Critically Imperiled



Order: *Decapoda* is a significant order within the class *Malacostraca*. Decapods include marine, freshwater, and semiterrestrial crayfish, crabs, and shrimp. In total, around 10,000 species having been described in this order. (Ecology and Classification of North American Freshwater Invertebrates (2nd Edition), H.H. Hobbs III, 2001)

Photos Left to Right:
Chip Clark
(Smithsonian Institution), KY Dept of Fish and Wildlife Resources, & the National Park Service

Management and Protection:

- The Mammoth Cave shrimp was listed by the USFWS as Endangered in 1983. In 1988, the USFWS published a recovery plan for the species. Additionally, this species is listed as Endangered by the state of Kentucky.
- This shrimp's known distribution is limited to nine groundwater basins in the Mammoth Cave National Park region of central Kentucky.
- Species' habitat requirements include large, base level passages of caves characterized by slow flow, abundant organic matter, and coarse to fine grain sand and coarse silt sediments. (USFWS)
- The Mammoth Cave shrimp feeds by grazing the surface of sediments in caves, consuming protozoans, algal cells, fungi, and other organic materials.
 - Groundwater contamination represents the greatest threat to this species. Sources of contamination include oil and gas activities, agriculture, general nonpoint-source pollution, and discharges from industry, wastewater treatment plants, and other sources. (USFWS)



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USACE ROLE: According to the Engineering Research and Development Center's Threatened and Endangered Species Team Cost Estimates, the U.S. Army Corps of Engineers has incurred over \$28,000 in costs related to the Mammoth Cave shrimp since 2007. Costs for this species have been incurred by multiple business lines including Navigation, Planning and Program Management, and Regulatory. Expense types include Coordination and Determination, Site Visits and Inspections, and more.



Mammoth Cave Shrimp = \$28,164 (2007)

What is USACE NRM Doing:

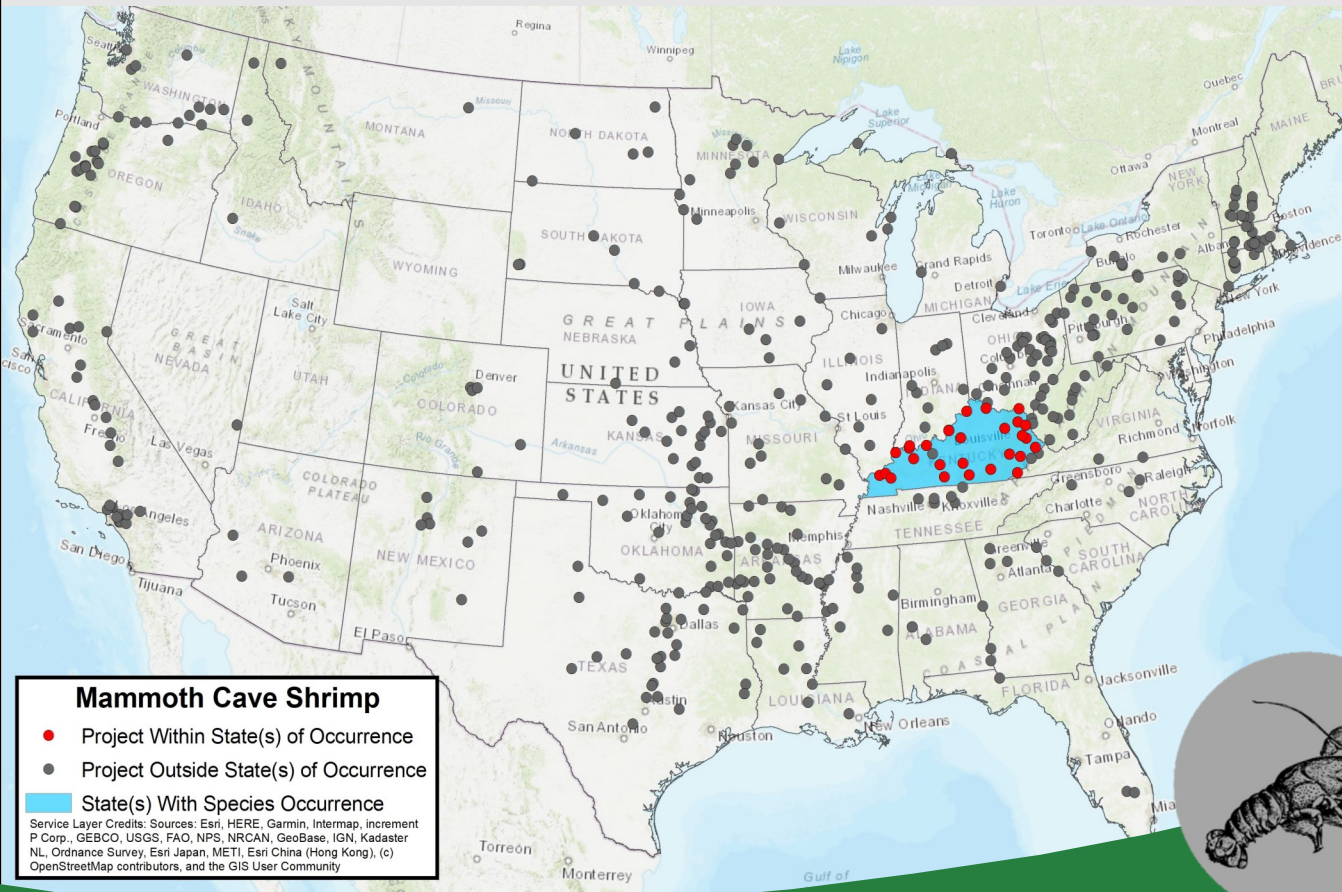
In September of 2021, USACE and its conservation partners celebrated the continuing demolition of the Green River Lock and Dam #5. The Green River Lock and Dam #5 was built in 1933-1934 for commercial use. In 1951, USACE ceased operation of the structure. Since 1951, the dam has sat unused creating a pooled condition in the river with lower oxygen levels, more sediment, and high temperatures. All of these conditions decrease overall health of the river and negatively impact aquatic life.



Photo: Equipment along the bank during dam demolition.

The Green River is one of the most biodiverse rivers in the country, with more than 150 fish species and more than 70 species of mussels, including 43 endemic species. In total, the Green River is home to nine imperiled species—including the Mammoth Cave Shrimp. Removal of the dam will benefit these species by increasing overall health of the river. Additionally, dam removal will increase accessibility along the water.

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.



Mammoth Cave Shrimp

- Project Within State(s) of Occurrence
- Project Outside State(s) of Occurrence
- State(s) With Species Occurrence

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



Source: Map provided by Ashleigh Boss, Biological Scientist, Institute for Water Resources

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