

# USACE Natural Resource Management

## Crustaceans



### Conservancy Fairy Shrimp

**Conservancy Fairy Shrimp (*Branchinecta conservatio*):** These shrimp have delicate, elongate bodies, large stalked compound eyes, and 11 pairs of phyllo-pods (swimming legs which also act as gills). This species of shrimp can be differentiated from other branchinectids by the flattened portions of its antennae. The Conservancy fairy shrimp lacks a hard shell, a characteristic of its taxonomic order. (USFWS)

**Status:** *Endangered*, listed 1994

**NatureServe:** *Imperiled*

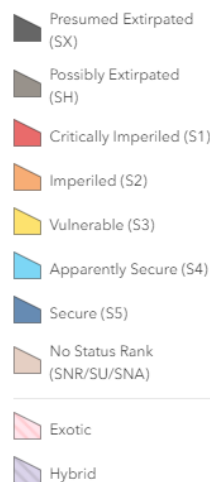
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Imperiled



Photo: Map of species' NatureServe status by state.

#### State/Provincial Conservation Status



**Order:** The order *Anostraca* is a sub-class of *Branchiopoda*. Members of this order lack a carapace, have stalked eyes, and have between eleven and nineteen pairs of thoracic appendages. In this order, eggs are carried for a short period by adult females. (Merriam Webster)

**Photos Left to Right:** U.S. Fish and Wildlife Service, Doug Wirtz (University of California, Berkeley), & Doug Wirtz (University of California, Berkeley)

### Management and Protection:

- Conservancy fairy shrimp are endemic to the vernal pools in California's Central Valley with the exception of one population which is found along the Central Coast in Ventura County. (USFWS)
- Most locations utilized by this species are large, turbid vernal pools typically known as playa pools. These pools usually remain inundated longer than average vernal pools, sometimes well into summer. (USFWS)
- Conservancy fairy shrimp hatch out of tiny cysts within the soil during the first winter rains, and complete their entire life cycle by early summer. (USFWS)
- In some portions of California, as much as 95-100% of vernal pool habitat has been destroyed or degraded due to development. Fortunately, portions of 9 of the 10 known populations of Conservancy fairy shrimp are protected from the direct effects of development. (USFWS)
  - Other threats include climate change, invasive plant species, inappropriate grazing, contaminants, and risk of localized stochastic extirpations. (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 \$215,000 in costs related to the Conservancy fairy shrimp since 2006. Costs have been incurred by multiple business lines including Environmental Stewardship, Planning and Program Management, and Regulatory. Expense types include Site Visits and Inspections, Research, Inventory, Survey, and Monitoring, and more.



**Conservancy Fairy Shrimp = \$215,929 (2006)**

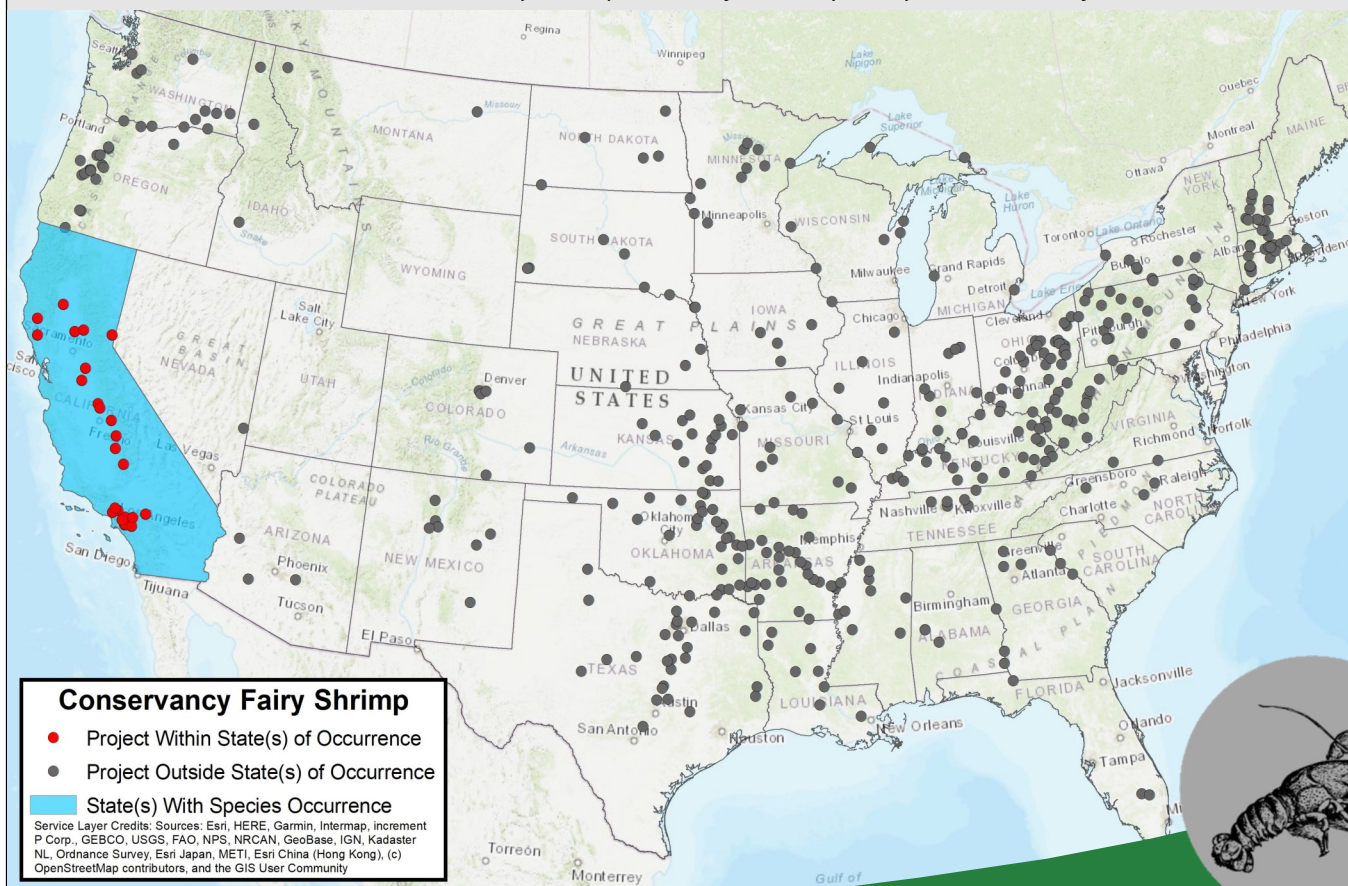
**What is USACE NRM Doing:** The Conservancy fairy shrimp has a small, restricted range which falls entirely within the South Pacific Division. In the FY20 NRM Assessment it is listed by a single project. The New Melones (Stanislaus River) project of Sacramento District consists of nine beautifully developed recreation areas located along the river as it stretches from the Sierra Nevada foothills to its confluence with the San Joaquin River. This project is noted to have the potential for the Conservancy fairy shrimp to occur in the FY20 NRM Assessment.

Here and across the nation, USACE employees work carefully to ensure that threatened and endangered species, like the Conservancy fairy shrimp, are not negatively impacted during project management activities.



Photo: Knights Ferry Bridge of the Stanislaus River Parks, near Oakdale, California, Sept. 5, 2018.

*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, Biological Scientist, Institute for Water Resources

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