

## Freshwater Invertebrates



### Hawaiian prawn 'Ōpae 'oeha'a *Macrobrachium grandimanus*

**SPECIES STATUS:**  
IUCN Red List – Not considered  
Endemic

**SPECIES INFORMATION:** An endemic shrimp that grows to about eight centimeters (three inches) in length. It has asymmetric pincer claws unlike other shrimps in Hawai'i. They scavenge plant and animal material from the bottom in slower flow environments.

Reproduction is year-round. Incubation period is about three to four weeks. After hatching, larvae are washed downstream into the ocean where they likely spend one month developing before they return to streams or estuaries to mature. Two introduced *Macrobrachium* species also occur in Hawai'i; *M. lar* is widespread and *M. rosenbergii* is known from Kahana estuary, Opaeha and Helemano streams on O'ahu, and Kuiaha stream on Maui.

**DISTRIBUTION:** Historic distribution includes all the main islands with perennial streams. Currently they occur in the lower reaches of high water quality streams on Kaua'i, O'ahu, Moloka'i, Maui, and Hawai'i as well as estuaries on these islands. They can also be found in anchialine pools and brackish wetlands.

**ABUNDANCE:** Populations are apparently stable based on Division of Aquatic Resources stream surveys.

**LOCATION AND CONDITION OF KEY HABITAT:** 'Ōpae 'oeha'a (Hawaiian Prawn) are found in the lee of rocks and boulders in lower stream reaches that afford protection from fast stream flows.

#### THREATS:

- Habitat destruction has reduced available habitat for 'ōpae 'oeha'a (Hawaiian prawn),
- Pollution, and stream channelization and diversion have also reduced habitat;
- A number of introduced shrimps and other species may compete with them for food or habitat. They may also compete for food with the native snail *Neritina vespertina*;
- Introduced fishes may be a predatory threat.

**CONSERVATION ACTIONS:** The goals of conservation actions are to not only protect current populations, but to also establish further populations to reduce the risk of extinction. In addition to common statewide and island conservation actions, specific actions include:

- Work to clean streams with significant pollution;
- Improve altered or diverted streams;
  - Modify or remove gratings or diversions to allow for instream passage;
  - Restore riparian vegetation to help decrease instream heating and reduce sediment loads;
  - Create pools in frequently dewatered stretches to provide safe usable habitat between flows.
- Continue developing GIS database and making it web-accessible;
- Collaborate with the Commission on Water Resources Management and the Land Board to ensure adequate Instream Flow and biological integrity of riparian areas;
- Continue on-going partnerships focused on environmental education and conservation and expand partnerships;
- Restore habitat.

#### **MONITORING:**

- Establish survey schedule to determine population size and distribution.

#### **RESEARCH PRIORITIES:**

- Improve understanding of life history of 'ōpae 'oeha'a (Hawaiian prawn);
- Understand the ecological importance of interactions with introduced competitors and predators;
- Research the life history of introduced competitors and predators to develop removal or control strategies.

#### **References:**

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