

Terrestrial Invertebrates

Pacific Hawaiian damselfly

Megalagrion pacificum



Megalagrion pacificum. Photo: Hank Oppenheimer.

SPECIES STATUS:

Federally Listed as Endangered
State Listed as Endangered
State Recognized as Endemic

GENERAL INFORMATION: *Megalagrion pacificum* (McLachlan, 1883) is a moderate-sized damselfly, readily distinguished from all other Hawaiian species by the red and black color pattern of the male. Females are similar, with the abdomen predominantly black and the thorax marked with light green instead of red. Males can also be recognized by having the lower pair of terminal appendages much longer than the upper; in most species the upper pair is longer. Once considered the most common and widespread species of Hawaiian damselfly, it is now extirpated from most of its range and restricted to a handful of sites. Adults are found around the seepage-fed side pools of stream corridors that serve as breeding sites.

DISTRIBUTION: Historically this species was found in the lowlands of all the main islands except Ni'ihau and Kaho'olawe. It apparently disappeared from O'ahu first, around 1910, and later from Kaua'i and Lāna'i. Recent surveys have found it at seven streams on Moloka'i (with possibly more that are unsurveyed), fourteen on Maui, and only one on Hawai'i.

ABUNDANCE: Unknown. Numbers are drastically reduced due to the highly constrained area of habitat available.

LOCATION AND CONDITION OF KEY HABITAT: The naiads live in seepage-fed side pools off of main streams. Like most native damselflies, this species cannot survive where introduced fish and frogs are present. Formerly, *M. pacificum* was found in other lentic habitats such as marshes and taro ponds, but these are now almost all invaded by alien fish. It is now restricted to sites where barriers such as waterfalls prevent upstream movement of aquatic predators.

THREATS:

- Habitat loss and degradation. Habitat is lost or degraded by erosion, the presence of feral ungulates, stream diversion and alteration, and alien aquatic plants.
- Predation. Non-native predators, including invasive fish, frogs, ants, birds, and reptiles, consume this species.

CONSERVATION ACTIONS: The goals of conservation actions are not only to protect current populations and key breeding habitats, but also to establish additional populations, thereby reducing the risk of extinction. For *Megalagrion pacificum* specifically, management needs include the following:

- Conduct surveys around known populations to determine threat levels and control needs.
- Conduct studies on life history and essential habitats to better direct conservation measures.

- Use these results to create a management plan for species recovery.

MONITORING: Periodically census populations in order to assess their stability and trends.

RESEARCH PRIORITIES:

- Survey for additional populations, in both historical and novel sites.
- Conduct studies to determine if reintroduction to additional sites is feasible.

References:

Polhemus DA, and Asquith, AA. 1996. Hawaiian Damselflies: A Field Identification Guide. Bishop Museum Press, Honolulu, Hawai'i.

U.S. Fish and Wildlife Service. 2010. Endangered and threatened wildlife and plants; listing the flying earwig Hawaiian damselfly and Pacific Hawaiian damselfly as endangered throughout their ranges. Federal Register 75:35990–36012.