



Marine Invertebrates

'Opihi or Limpets

Cellana exarata

Cellana melanostoma

Cellana sandwicensis

Cellana talcosa

SPECIES STATUS:

IUCN Red List – Not considered
Endemic

SPECIES INFORMATION: The endemic 'opihi makaiauli or black foot 'opihi (*C. exarata*), the green foot 'opihi (*C. melanostoma*), the 'opihi 'alinalina or yellow foot 'opihi (*C. sandwicensis*), and the 'opihi ko'ele or giant 'opihi (*C. talcosa*) are all protected by fishing regulations. All 'opihi graze on algae and most may creep about to graze, but return to their "home scar" after feeding. Both 'opihi 'alinalina and 'opihi ko'ele often are covered with seaweed. Gametes are shed into the water where fertilization is external. Veligers have a short planktonic life. Spawning occurs mainly in December and January for 'opihi makaiauli and 'opihi 'alinalina. Spawning information is unknown for the green foot 'opihi and 'opihi ko'ele. 'Opihi makaiauli grows to 40 millimeters (1.6 inches) in diameter, the green foot 'opihi to 43 millimeters (1.7 inches), the 'opihi 'alinalina to 32 millimeters (1.3 inches), and 'opihi ko'ele to 90 millimeters (3.5 inches). Besides eating them, native Hawaiians used the shells as scrapers and tools.

DISTRIBUTION: The primary ranges for the 'opihi makaiauli, 'opihi 'alinalina, and 'opihi ko'ele are along the basalt shorelines of the Main Hawaiian Islands; however, the 'opihi makaiauli has been found on La Perouse Pinnacle and 'opihi 'alinalina on Necker and Nihoa. The green foot 'opihi is found primarily in the Northwestern Hawaiian Islands, but it has been occasionally collected from Kaua'i. Historically, it was found on O'ahu and Maui as well.

ABUNDANCE: The abundance of 'opihi makaiauli and 'opihi 'alinalina have declined in the past decades. 'Opihi ko'ele is rare, especially so on Kaua'i and O'ahu. About 3,175 kilograms (7,000 pounds) of 'opihi were collected in the commercial fishery in 2003, which is a decline of about 2,268 kilograms (5,000 pounds) from recent years. The recreational fishery catch is unknown.

LOCATION AND CONDITION OF KEY HABITAT: Primary habitat for all 'opihi is the intertidal zone to ten feet deep waters. 'Opihi makaiauli thrives in the spray zone, although it may be found seaward to the calcareous algal zone. It is well suited for this variable environment due to its ability to ventilate its mantle cavity when it is dry. 'Opihi 'alinalina are found on and below the zero tide mark where there is a steady splash, and they are often on coralline algae. 'Opihi ko'ele are found below the tide mark from 0.5 to three meters (one to ten

feet) deep, often between boulders.

THREATS:

- Localized heavy fishing pressure is the most significant threat to all 'opihi species, especially 'opihi ko'ele. Populations in the wild have decreased greatly and this can impact their reproductive success;
- Climate change, habitat disturbance, and nearshore pollution are also potential threats.

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:

- Maintain healthy populations with appropriate fishing regulations, enforcement, and education;
- Restore habitat.

MONITORING:

- Survey for populations and distribution in known and likely habitats.

RESEARCH PRIORITIES:

- Research the impact of nearshore habitat disturbance and destruction;
- Improve understanding of factors affecting the species population size and distribution, especially for green foot and giant 'opihi.

References:

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