Cellana sandwicensis
Courtesy Keoki Stender

Marine Invertebrates

ʻOpihi or Limpets

Cellana exarata
Cellana melanostoma
Cellana sandwicensis
Cellana talcosa

SPECIES STATUS:
IUCN Red List - Not considered
Endemic

SPECIES INFORMATION: The endemic ʻopihi makaiauli or black foot ʻopihi (*C. exarata*), the green foot ʻopihi (*C. melanostoma*), the ʻopihi ʻalinalina or yellow foot ʻopihi (*C. sandwicensis*), and the ʻopihi koʻele or giant ʻopihi (*C. talcosa*) are all protected by fishing regulations. All ʻopihi graze on algae and most may creep about to graze, but return to their "home scar" after feeding. Both ʻopihi ʻalinalina and ʻopihi koʻele 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 ʻopihi makaiauli and ʻopihi ʻalinalina. Spawning information is unknown for the green foot ʻopihi and ʻopihi koʻele. ʻOpihi makaiauli grows to 40 millimeters (1.6 inches) in diameter, the green foot ʻopihi to 43 millimeters (1.7 inches), the ʻopihi ʻalinalina to 32 millimeters (1.3 inches), and ʻopihi koʻele to 90 millimeters (3.5 inches). Besides eating them, native Hawaiians used the shells as scrapers and tools.

DISTRIBUTION: The primary ranges for the ʻopihi makaiauli, ʻopihi ʻalinalina, and ʻopihi koʻele are along the basalt shorelines of the Main Hawaiian Islands; however, the ʻopihi makaiauli has been found on La Perouse Pinnacle and ʻopihi ʻalinalina on Necker and Nihoa. The green foot ʻopihi is found primarily in the Northwestern Hawaiian Islands, but it has been occasionally collected from Kauaʻi. Historically, it was found on Oʻahu and Maui as well.

ABUNDANCE: The abundance of ʻopihi makaiauli and ʻopihi ʻalinalina have declined in the past decades. ʻOpihi koʻele is rare, especially so on Kauaʻi and Oʻahu. About 3,175 kilograms (7,000 pounds) of ʻopihi 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 ʻopihi is the intertidal zone to ten feet deep waters. ʻOpihi 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. ʻOpihi ʻalinalina are found on and below the zero tide mark where there is a steady splash, and they are often on coralline algae. ʻOpihi koʻele 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 ʻopihi species, especially ʻopihi koʻele. 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 ʻopihi.

References:

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