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KEY INFORMATION

Areas of Concern

Main Hawaiian archipelago, in Kaneohe Bay, Oahu, and in the Northwestern Hawaiian Islands (NWHI) at Midway Atoll, Pearl and Hermes Atoll, Lisianski Island, Laysan Island, Maro Reef, and French Frigate Shoals.

Year Identified as “Species of Concern”
2004

Factors for Decline

- Habitat degradation
- Coral bleaching
- Freshwater kills
- Pollution
- Alien and invasive algae
- Limited distribution

Conservation Designations

IUCN: Not Evaluated

Species of Greatest Conservation Need: HI

Current Status:

Demographic and Genetic Diversity Concerns:

The species has not been recorded in any transect surveys, but it has been found to be uncommon in other extensive surveys. In Kaneohe Bay, where it formerly was abundant (Jokiel et al. 1983), extensive surveys during 2000 identified only three colonies. Two other species, *M. turgescens* (*M. dilatata* cited by Dana 1971 at Kure Atoll in the NWHI is probably *M. turgescens*) and *M. cf. dilatata* (recorded at one site out of 30 sites surveyed at Maro Reef in 2000-2002) are similar, and genetic analysis should be done to confirm their separation into distinct species. If the Kaneohe Bay and Maro Reef species are the same, then the argument could be made that they are still rare enough to be listed as threatened or endangered under the ESA since only a single site with several colonies was reported at Maro Reef. But if the so-called *M. turgescens* is the same as the *M. dilatata* of Kaneohe Bay, then there may be little justification for listing except that it is rare in the main Hawaiian Islands (but prolific in the distal NWHI).

Existing Protections and Conservation Actions:

Coral collection is not allowed in the State waters of Hawaii without a research permit from the Department of Land and Natural Resources. Existing conservation actions include: 1) continued captive propagation of the species at the Waikiki Aquarium in Honolulu, Hawaii; and 2) mass removal of invasive algae in Kaneohe Bay.



Species of Concern

NOAA National Marine Fisheries Service

Data Deficiencies:

Current and future needs include: 1) a quantitative survey of Kaneohe Bay to systematically map the species and determine population size; 2) comprehensive surveys of the NWHI to determine location and population size; 3) genetic work with molecular markers to determine if: A) fragments collected in 2000 from Kaneohe Bay; B) current colonies in Kaneohe Bay; and C) colonies from multiple sites in the NWHI are all in fact *M. dilatata*, or a hybrid species, or another species of *Montipora*; 4) determine if reintroducing the species to Kaneohe Bay is feasible and if so, begin test reintroductions; and 5) confirm species presence/absence in Ambon, Indonesia and Japan.

Brief Species Description:

Morphology of this species can be quite variable. Colonies may be any combination of encrustations, plates, knobs, and branches. Veron (2000) describes the species as follows: "Colonies are encrusting to submassive and up to 0.3 meters across, with irregular branch-like upgrowths up to 100 millimeters (mm) thick which become flattened near their ends. Coenosteum papillae are inconspicuous. Corallite walls are well defined." This species requires calm water in subtidal environments in lagoons and bays. They are thus susceptible to freshwater kills from flood events and also to thermal stress. It was the first to bleach (Figure 1) in 1996 and the last to recover and suffered the greatest mortality (Jokiel and Brown 2004). Colonies are usually purple or brown and reach 3 feet (1 m) in diameter. The species is easily broken into fragments by storms or natural bioerosional processes, with the fragments readily growing into new colonies.



Figure 1. Bleached *Montipora dilatata*, Kaneohe Bay, Sept. 1996. Photograph © Paul Jokiel.

Contact Information

For Hawaiian coral, contact:

Krista Graham
NOAA Fisheries, Pacific Islands Region
Protected Resources Division
1601 Kapiolani Blvd., #1110
Honolulu, HI 96814
(808) 944-2238

Krista.Graham@noaa.gov

<http://www.nmfs.noaa.gov/pr/species/concern>

For Species of Concern, contact

NOAA Fisheries
Office of Protected Resources
1315 East West Highway
Silver Spring, MD 20910
(301) 713-1401

soc.list@noaa.gov

References:

- Fenner, D. 2005. Corals of Hawaii. Mutual Publishing. Honolulu, HI.
- Jokiel, P. L., et al. 1983. Bull. Mar. Sci. 33:181-187.
- Jokiel, P. L. and Eric K. Brown. 2004. Global Change Biology 10:1627-1641.
- Vaughan, T.W. 1907. U.S. National Museum. Bulletin 59.
- Veron, J.E.N. 2000. Corals of the World. Vol. 1. Australian Institute of Marine Science, Townsville.