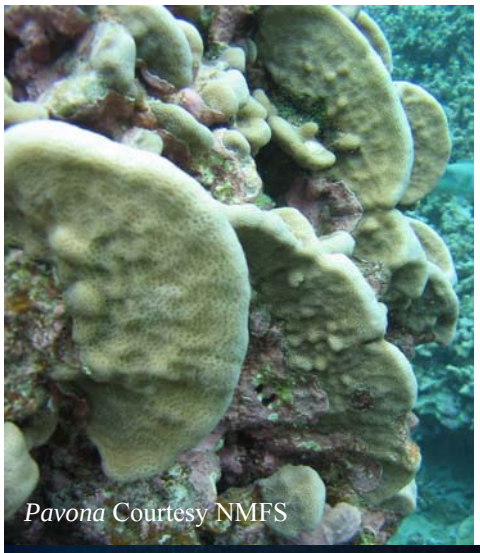
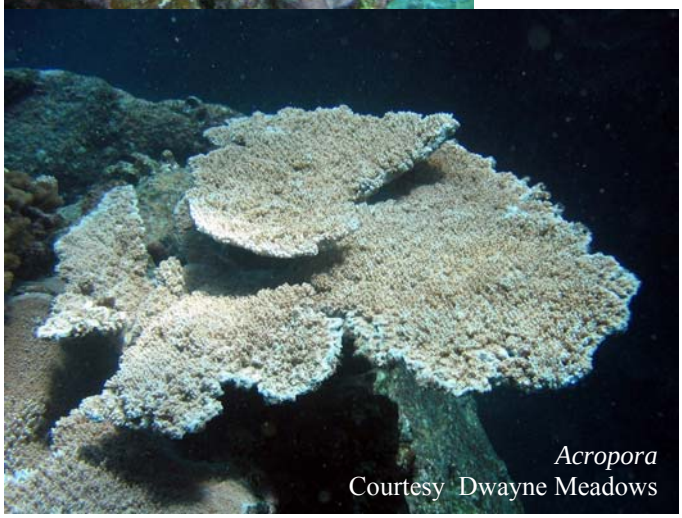


Pavona Courtesy NMFS



Acropora
Courtesy Dwayne Meadows

Marine Invertebrates

All Stony Corals

(All species listed in text)
Acroporidae
Agariciidae
Astrocoeniidae
Balanophyllidae
Caryophyllidae
Dendrophylliidae
Faviidae
Fungiidae
Pocilloporidae
Poritidae
Siderastreadae

SPECIES STATUS:
IUCN Red List - Not considered
Some Endemic (see text for details)

SPECIES INFORMATION: A complete list of Hawai'i stony corals of greatest conservation need is at the end of this fact sheet. All stony corals are species of greatest conservation need because stony corals (Scleractinia) are protected under the Convention on International Trade in Endangered Species (CITES) Appendix II. All stony corals feed on small plankton or dissolved organic matter that is in the surrounding water. Most corals use their nematocysts on their tentacles to capture and sting their prey, and they feed at night. Others such as *Pavona duerdenni* are suspension feeders. Stony corals with symbiotic zooxanthellae can get up to 98 percent of their nutrition from the sugars produced by the algae. *Balanophyllia* and *Tubastrea* lack zooxanthellae. Stony corals lack a polyp stage, but reproduce both sexually and asexually. A particular combination of day length, tide, and moonlight prompts spawning events. Other corals such as the *Pocillopora sp.* and *Porites sp.* brood their eggs and release the larvae or planulae completely formed. Asexual reproduction is achieved through budding or when pieces are broken off and grow into new colonies. *Porites* species are important habitat for many reef species such as juvenile fishes, shrimps, and other invertebrates. Fenner (2005) has recently questioned the endemic status and taxonomy of many species. We have chosen to retain the taxonomy that has been in place for some time until Fenner's work can be evaluated and accepted by the wider scientific community.

The following are the endemic stony corals of Hawai'i and their common and Hawaiian names: *Balanophyllia diomedeae* (no common name), *Balanophyllia laysanensis* (no common name) *Caryophyllia octopali* (no common name), *Ceratotrochus laxus* (no common name), *Coenosmilia inordinata* (no common name), serpentine cup coral (*Dendrophyllia serpentine,* also known as *Eguchipsammia serpentina*), *Flabellum vaughani* (no common name), *Fungiacyathus fissilis* (no common name), Hawaiian plate coral (*Leptoseris hawaiiensis*), rice coral (*Montipora capitata*), irregular rice coral (*Montipora dilatata*), blue rice coral (*Montipora flabellata*), sandpaper rice coral (*Montipora patula*), branching rice coral (*Montipora studeri,* also known as *M. incrassata*), *Montipora verrilli* (no common name), *Paracyathus molokensis* (no common name), flat lobe coral (*Pavona duerdeni*), *Placotrochus fuscus* (no common name), Moloka'i cauliflower coral (*Pocillopora molokaiensis*), Brigham's coral (*Porites brighami*), pohaku puna or compressed coral (*Porites compressa*), thick finger coral (*Porites duerdeni*), pohaku puna or Evermann's coral (*Porites evermanni*, also known as *P. lutea*), *Porites pukoens*is (no common name), Verrill's lump coral (*Psammocora verrilli*), *Trochocyathus gardineri* (no common name), *Trochocyathus mauiensis* (no common name), *Trochocyathus oahuensis* (no common name), and *Trochocyathus tenuicalyx* (no common name).

The following are the non-endemic stony corals of Hawai'i that have common names: table coral (*Acropora cytheria*), finger staghorn coral (*Acropora humilis*), branching staghorn coral (*Acropora nasuta*), fuzzy table coral (*Acropora paniculata*), bushy staghorn coral (*Acropora valida*), oval cup coral (*Balanophyllia sp.*, also called *Cladopsammia eguchii*), Wells' coral (*Coscinaraea wellsi*), fragile mushroom coral (*Cycloseris fragilis*, also called *Diaseris fragilis*), humpback coral (*Cycloseris hexagonalis*, also called *C. vaughani*), ocellated coral (*Cyphastrea ocellina*), distorted mushroom coral (*Diaseris distorta*), granulated mushroom coral (*Fungia granulosa*), mushroom coral (*Fungia scutaria*), honeycomb coral (*Gardineroseris planulata*), Bewick's coral (*Leptastrea bewickensis*), spotted coral (*Leptastrea pruinosa*), crust coral (*Leptastrea purpurea*), transverse coral (*Leptastrea transversa*), foliose coral (*Leptoseris foliosa*), swelling coral (*Leptoseris incrustans*), ridge coral (*Leptoseris myctoseroides*), papyrus coral (*Leptoseris papyracea*), rough plate coral (*Leptoseris scabra*), tube coral (*Leptoseris tubulifera*), hidden orange coral (*Madracis pharensis*), lumpy rice coral (*Montipora turgescens*), corrugated coral (*Pavona varians*), Lace coral (*Pocillopora damicornis*), antler coral (*Pocillopora eydouxi*), thin cauliflower coral (*Pocillopora ligulata*), cauliflower coral (*Pocillopora meandrina*), nodule coral (*Porites* cf. *annae*), false lichen coral (*Porites bernardi*), plate and knob coral *(Porites convexa*, also known as *P. monticulosa*), lichen coral (*Porites lichen*), lobe coral (*Porites lobata*), plate and pillar coral (*Porites rus*, also known as *Porites irregularis*), solid coral (*Porites solida*), deep lobe coral (*Porites studeri*), flat coral (*Psammocora explanulata*), Haime's lump coral (*Psammocora haimeana*), Nierstrasz's coral (*Psammocora nierstraszi*), stellar coral (*Psammocora stellata*), superficial coral (*Psammocora superficialis*), Verrill's lump coral (*Rhizopsammia verrilli*), tiny cup coral (*Tethocyathus minor*), colonial cup coral (*Tubastraea coccinea*), and black cup coral (*Tubastraea diaphana*).

The following are deep water scleratinian corals from Hawai'i: *Anisopsammia ampheiliodes*, *Anthemiphyllia pacifica*, *Balanophyllia desmophylloides*, *Balanophyllia diomedeae*, *Balanophyllia hawaiiensis*, *Balanophyllia laysanensis*, *Bathyactis hawaiiensis*, *Caryophyllia alcocki*, *Caryophyllia*

octopalli, *Ceratotrochus laxus*, *Cyathoceras diomedae*, *Deltocyathus andamanicus*, *Dendrophyllia oahensis*, *Desmophyllum cristagallis*, *Endopachys oahensis*, *Flabellum deludens*, *Flabellum pavoninum*, *Gardineria hawaiensis*, *Madracis kauaiensis*, *Madrepora kauaiensis*, *Paracyathus gardineri*, *Paracyathus mauiensis*, *paracyathus molokensis*, *Paracyathus tenuicalyx*, *Placotrochus fuscus*, *Stephanophyllia formosissima*, and *Trochocyathus oahensis.*

DISTRIBUTION: *A. cytheria* is found in the Northwestern Hawaiian Islands (NWHI) around French Frigate Shoals and a few colonies were identified off Kauaʻi, but are no longer there. Fossils show that historically it was widespread throughout the islands. *Acropora gemmifera*, *Acropora humilis*, *Acropora paniculata*, *Acropora valida* and *Montipora turgescens* are known only from the NWHI. *Anacropora* has only been found off Maui. An unnamed *Fungia sp.* has been found off of the island of Hawaiʻi. *Gardineroseris* is found only from the island of Hawaiʻi through Oʻahu. *Leptoseris foliosa* is only known from Maui. *Montipora dilitata* is found only within Kaneʻōhe Bay. *Porites annae* is known from Maui. *Porites duerdeni* is found only in Kāneʻohe Bay and possibly South Maui. *Porites lichen* is only common near Kure Atoll and Oʻahu. *Porites pukoensis* is found only near Molokaʻi. *Psammocora verrilli* occurs off Oʻahu and Molokaʻi only. No reliable distribution data exists for the deep water corals. Distribution of the other species is statewide.

ABUNDANCE: The stony corals are extensively monitored by the Division of Aquatic Resources (DAR), National Marine Fisheries Service (NMFS), and the Coral Reef Assessment and Monitoring Program partnership including the University of Hawaii. All groups maintain data accessible to managers. There is no evidence of widespread decline for any species, though localized declines from habitat alteration, shipwrecks, runoff, and coral bleaching in the NWHI have been documented.

LOCATION AND CONDITION OF KEY HABITAT: Readers should refer to the coral guides below for specific information on the location of key habitat for these corals. *Leptoseris papyracea* and *P. studeri* occurs in water over 30 meters (100 feet) deep. The really deep water corals that occur over 91 meters (300 feet) deep are listed in a special paragraph above.

THREATS: Threats vary in character and severity between the Main Hawaiian Islands (MHI) and the NWHI. Primary threats to the coral reefs of the MHI are the following:

- Pollution such as high levels of nutrients, sediments, and freshwater all negatively impact coral reefs in nearshore areas. Water pollution results from urbanization, stream channelization, paving of coastal and upland roads, and inadequate land-use practices;
- Tourism activities can lead to coral damage when tourists trample and walk on the coral and when boats anchor on reefs or spill fuel;
- Alien species such as macroalgae or snowflake coral (*Carijoa*) can quickly dominate coral reef habitat and form floating mats;
- Marine debris gets stuck on coral reefs and can break off large pieces of colonies. Corals also are important to the aquarium trade;
- Taking or harvesting stony corals is prohibited by law; however, they are still removed;

- Marine debris is a threat to coral, especially in the NWHI. The debris, primarily derelict fishing gear, entangles pieces of coral and it scours the reef as it moves around in the waves;
- Climate change may be linked to recent events of coral bleaching in the NWHI in 2002 and 2004;
- Disease is a potential threat in all areas but has not yet caused serious mortality of corals in Hawai‘i.

CONSERVATION ACTIONS: Stony corals are protected under Appendix II of the Convention on International Trade in Endangered Species (CITES). Many organizations work to protect coral reefs in Hawai‘i through research and conservation such as the Hawaiian Coral Reef Initiative. In addition to common statewide, marine, and NWHI conservation actions, specific actions include:

- Work with partners to minimize nutrient loading and other pollution from land-based sources;
- Increase education and outreach effort, specifically to tourists and tourism programs on the effects of trampling and walking on corals;
- Continue to remove alien species, specifically alien algae using established effective techniques;
- Prevent alien species from entering the ecosystem by preventative measures, education, and rapidly responding to new intruders;
- Enforce existing regulations and educate public on regulations that prohibit the collection and trade of aquarium species;
- Expand on existing MPAs and look for priority areas for new MPAs;
- Restore habitat where feasible;
- Establish rapid response team to deal with shipwrecks, oil spills, disease, hurricanes, and other acute impacts;
- Continue working to remove marine debris.

MONITORING:

- Monitor alien macroalgae and removal operations to determine impacts on coral;
- Implement comprehensive disease monitoring statewide;
- Continue monitoring coral populations and expand to unsurveyed areas such as what is being done with the new MHI RAMP cruises in partnership of DAR and NMFS.

RESEARCH PRIORITIES:

- Research the compounded effects of threats such as water pollution, harvesting of coral, and alien species on coral health;
- Continue researching most effective means for removing invasive macroalgae.

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Scleratinian coral SGCNs

Family	Scientific Name	Hawaiian Name	Common Name	Endemic
Acroporidae	*Acropora cytherea*	None	Table coral	Yes
Acroporidae	*Acropora echinata*	None	None	No
Acroporidae	*Acropora gemmifera*	None	None	No
Acroporidae	*Acropora humilis*	None	Finger staghorn coral	No
Acroporidae	*Acropora nasuta*	None	Branching staghorn coral	No
Acroporidae	*Acropora paniculata*	None	Fuzzy table coral	No
Acroporidae	*Acropora sp.*	None	None	No
Acroporidae	*Acropora valida*	None	Bushy Staghorn coral	No
Acroporidae	*Anacropora sp.*	None	None	No
Acroporidae	*Montipora capitata*	None	Rice coral	Yes
Acroporidae	*Montipora dilatata*	None	Irregular rice coral	Yes
Acroporidae	*Montipora flabellata*	None	Blue rice coral	Yes
Acroporidae	*Montipora patula*	None	Spreading coral	Yes
Acroporidae	*Montipora studeri*	None	Branching rice coral	Yes
Acroporidae	*Montipora tuberculosa*	None	None	No
Acroporidae	*Montipora turgescens*	None	Lumpy rice coral	No
Acroporidae	*Montipora venosa*	None	None	No
Acroporidae	*Montipora verrilli*	None	None	Yes
Acroporidae	*Montipora verrucosa*	None	None	No
Agariciidae	*Gardineroseris planulata*	None	Honeycomb coral	No
Agariciidae	*Leptoseris foliosa*	None	Foliose coral	No
Agariciidae	*Leptoseris hawaiiensis*	None	Hawaiian plate coral	Yes
Agariciidae	*Leptoseris incrustans*	None	Swelling coral	No
Agariciidae	*Leptoseris mycetoseroides*	None	Ridge coral	No
Agariciidae	*Leptoseris papyracea*	None	Papyrus coral	No
Agariciidae	*Leptoseris scabra*	None	Rough plate coral	No
Agariciidae	*Leptoseris tubulifera*	None	Tube coral	No
Agariciidae	*Pavona duerdeni*	None	Flat lobe coral	Yes
Agariciidae	*Pavona maldivensis*	None	None	No
Agariciidae	*Pavona pallicata*	None	None	No

Family	Scientific Name	Hawaiian Name	Common Name	Endemic
Agariciidae	*Pavona varians*	`ākoʻakoʻa	Corrugated coral	No
Anthemiphyllidae	*Anthemiphyllia dentata*	None	None	No
Anthemiphyllidae	*Anthemiphyllia pacifica*	None	None	No
Balanophyllidae	*Balanophyllia cornu*	None	None	No
Balanophyllidae	*Balanophyllia desmophyllioides*	None	None	No
Balanophyllidae	*Balanophyllia diomedeae*	None	None	Yes
Balanophyllidae	*Balanophyllia gigas*	None	None	No
Balanophyllidae	*Balanophyllia laysanensis*	None	None	Yes
Balanophyllidae	*Balanophyllia n.sp.*	None	Oval cup coral	No
Balanophyllidae	*Balanophyllia sp. cf affinis*	None	None	No
Caryophylliidae	*Anomocora sp.*	None	None	No
Caryophylliidae	*Caryophyllia alcocki*	None	None	No
Caryophylliidae	*Caryophyllia atlantica*	None	None	No
Caryophylliidae	*Caryophyllia cf. ambrosia*	None	None	No
Caryophylliidae	*Caryophyllia hawaiiensis*	None	None	No
Caryophylliidae	*Caryophyllia marmorea*	None	None	No
Caryophylliidae	*Caryophyllia octopali*	None	None	Yes
Caryophylliidae	*Caryophyllia rugosa*	None	None	No
Caryophylliidae	*Ceratotrochus laxus*	None	None	Yes
Caryophylliidae	*Coenosmilia inordinata*	None	None	Yes
Caryophylliidae	*Conotrochus funicolumna*	None	None	No
Caryophylliidae	*Cyathoceras diomedeae*	None	None	No
Caryophylliidae	*Cyathoceras rubescens*	None	None	No
Caryophylliidae	*Deltocyathus andamanicus*	None	None	No
Caryophylliidae	*Deltocyathus stellulatus*	None	None	No
Caryophylliidae	*Desmophyllum cristagalli*	None	None	No
Caryophylliidae	*Paracyathus molokensis*	None	None	Yes
Caryophylliidae	*Peponocyathus orientalis*	None	None	No
Caryophylliidae	*Tethocyathus minor*	None	Tiny cup coral	No
Caryophylliidae	*Trochocyathus aithoseptatus*	None	None	No
Caryophylliidae	*Trochocyathus burchae*	None	None	No
Caryophylliidae	*Trochocyathus gardineri*	None	None	Yes
Caryophylliidae	*Trochocyathus mauiensis*	None	None	Yes
Caryophylliidae	*Trochocyathus oahuensis*	None	None	Yes
Caryophylliidae	*Trochocyathus tenuicalyx*	None	None	Yes
Dendrophylliidae	*Bathyactis hawaiiensis*	None	None	No
Dendrophylliidae	*Cladopsammia echinata*	None	None	No
Dendrophylliidae	*Dendrophyllia gaditana*	None	None	No
Dendrophylliidae	*Dendrophyllia oahuensis*	None	None	No
Dendrophylliidae	*Dendrophyllia serpentina*	None	Serpentine cup coral	Yes
Dendrophylliidae	*Enallopsammia amphelioides*	None	None	No
Dendrophylliidae	*Enallopsammia rostrata*	None	None	No
Dendrophylliidae	*Endopachys grayi*	None	None	No
Dendrophylliidae	*Endopachys oahuense*	None	None	No
Dendrophylliidae	*Rhizopsammia verrilli*	None	Verrill's lump coral	No
Dendrophylliidae	*Stenocyanthus vermiformis*	None	None	No
Dendrophylliidae	*Tubastraea coccinea*	None	Colonial cup coral	No
Dendrophylliidae	*Tubastraea diaphana*	None	Black cup coral	No

Family	Scientific Name	Hawaiian Name	Common Name	Endemic
Eupsammidae	*Stephanophyllia formosissima*	None	None	No
Faviidae	*Cyphastrea ocellina*	`āko`ako`a	Ocellated coral	No
Faviidae	*Favia hawaiiensis*	None	None	No
Faviidae	*Favia hombroni*	None	None	No
Faviidae	*Favia rudis*	None	None	No
Faviidae	*Goniastria tenuis*	None	None	No
Faviidae	*Leptastrea bewickensis*	None	Bewick coral	No
Faviidae	*Leptastrea bottae*	`āko`ako`a	None	No
Faviidae	*Leptastrea pruinosa*	None	Spotted coral	No
Faviidae	*Leptastrea purpurea*	None	Crust coral	No
Faviidae	*Leptastrea transversa*	None	Transverse coral	No
Flabellidae	*Flabellum deludens*	None	None	No
Flabellidae	*Flabellum marcus*	None	None	No
Flabellidae	*Flabellum pavonium*	None	None	No
Flabellidae	*Flabellum vaughani*	None	None	Yes
Flabellidae	*Gardineria hawaiiensis*	None	None	No
Flabellidae	*Javania insignis*	None	None	No
Flabellidae	*Javania lamprotichum*	None	None	No
Flabellidae	*Placotrochus fuscus*	None	None	Yes
Fungiidae	*Cycloseris fragilis*	None	Fragile mushroom coral	No
Fungiidae	*Cycloseris tenuis*	None	None	No
Fungiidae	*Cycloseris vaughani*	None	Humpback coral	No
Fungiidae	*Diaseris distorta*	None	Distorted mushroom coral	No
Fungiidae	*Diaseris fragilis*	None	None	No
Fungiidae	*Fungia echinata*	None	None	No
Fungiidae	*Fungia granulosa*	None	Granulated mushroom coral	No
Fungiidae	*Fungia patelliformis*	None	None	No
Fungiidae	*Fungia scutaria*	āko'ako'akohe	Mushroom coral	No
Fungiidae	*Fungiacyathus fissilis*	None	None	Yes
Fungiidae	*Fungiacyathus fragilis*	None	None	No
Guyniidae	*Guynia annulata*	None	None	No
Micrabaciidae	*Letepsammia formosissima*	None	None	No
Oculinidae	*Madrepora kauaiensis*	None	None	No
Oculinidae	*Madrepora oculata*	None	None	No
Pocilloporidae	*Madracis kauaiensis*	None	None	No
Pocilloporidae	*Madracis pharensis*	None	Hidden orange coral	No
Pocilloporidae	*Pocillopora damicornis*	`āko`ako`a	Lace coral	No
Pocilloporidae	*Pocillopora eydouxi*	None	Antler coral	No
Pocilloporidae	*Pocillopora lingulata*	None	Thin cauliflower coral	No
Pocilloporidae	*Pocillopora meandrina*	None	Cauliflower coral	No
Pocilloporidae	*Pocillopora molokensis*	None	Molokai cauliflower coral	Yes
Poritidae	*Alveopora verrilliana*	None	None	No
Poritidae	*Porites annae*	None	Nodule coral	No
Poritidae	*Porites bernardi*	None	False lichen coral	No
Poritidae	*Porites brighami*	None	Brighams coral	Yes
Poritidae	*Porites compressa*	pō haku puna	Finger coral	Yes

Family	Scientific Name	Hawaiian Name	Common Name	Endemic
Poritidae	*Porites convexa*	None	Plate and knob coral	No
Poritidae	*Porites discoidea*	None	None	No
Poritidae	*Porites duerdeni*	None	Thick finger coral	Yes
Poritidae	*Porites evermanni*	pō haku puna	Evermann's coral	Yes
Poritidae	*Porites irregularis*	None	None	No
Poritidae	*Porites lanuginosa*	None	None	No
Poritidae	*Porites lichen*	None	Lichen coral	No
Poritidae	*Porites lobata*	pō haku puna	Lobe coral	No
Poritidae	*Porites pukoensis*	None	None	Yes
Poritidae	*Porites rus*	None	Plate and pillar coral	No
Poritidae	*Porites schauinslandi*	None	None	No
Poritidae	*Porites solida*	None	Solid coral	No
Poritidae	*Porites studeri*	None	Deep lobe coral	No
Rhizangiidae	*Culicia sp. cf. tenella*	None	None	No
Sidastreidae	*Coscinaraea wellsi*	None	Wells coral	No
Sidastreidae	*Psammocora explanulata*	None	Flat coral	No
Sidastreidae	*Psammocora haimeana*	None	Haime's lump coral	No
Sidastreidae	*Psammocora nierstraszi*	None	Nierstrasz's coral	No
Sidastreidae	*Psammocora stellata*	`āko`ako`a	Stellar coral	No
Sidastreidae	*Psammocora superficialis*	None	Superficial coral	No
Sidastreidae	*Psammocora verrilli*	None	Verril's lump coral	Yes
	Anisopsammia ampheiliodes	None	None	No