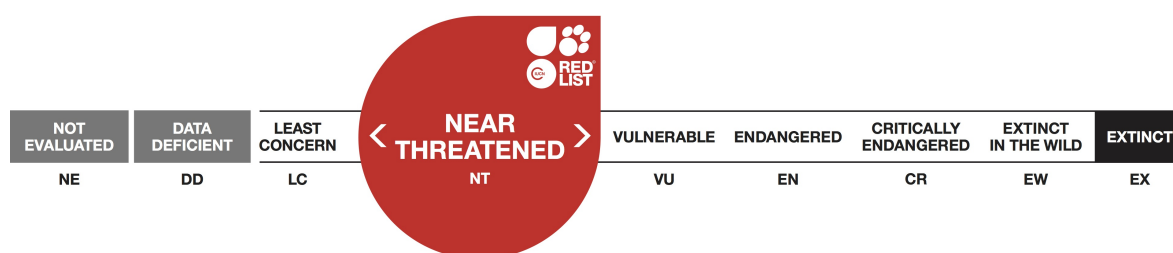


Fungia fungites, Common Mushroom Coral

Assessment by: Hoeksema, B.W., Obura, D.O., Wood, E., Rogers, A. & Quibilan, M.C.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Cnidaria	Anthozoa	Scleractinia	Fungiidae

Taxon Name: *Fungia fungites* (Linnaeus, 1758)

Common Name(s):

- English: Common Mushroom Coral

Assessment Information

Red List Category & Criteria: Near Threatened [ver 3.1](#)

Year Published: 2014

Date Assessed: January 3, 2008

Justification:

The most important known threat for this species is extensive reduction of coral reef habitat due to a combination of threats. Specific population trends are unknown but population reduction can be inferred from estimated habitat loss (Wilkinson 2004). It is widespread and very common throughout its range and therefore is likely to be more resilient to habitat loss and reef degradation because of an assumed large effective population size that is highly connected and/or stable with enhanced genetic variability. Therefore, the estimated habitat loss of 20% from reefs already destroyed within its range is the best inference of population reduction since it may survive in coral reefs already at the critical stage of degradation (Wilkinson 2004). This inference of population reduction over three generation lengths (30 years) does not meet the threshold of a threat category. However, this species is susceptible to bleaching and is collected for the aquarium and curio trade, therefore it is listed as Near Threatened. However, because of predicted threats from climate change and ocean acidification it will be important to reassess this species in 10 years or sooner, particularly if the species is also observed to disappear from reefs currently at the critical stage of reef degradation.

Previously Published Red List Assessments

2008 – Near Threatened (NT)

Geographic Range

Range Description:

In the Indo-West Pacific, this species is found in the Red Sea and Gulf of Aden, southwestern Indian Ocean, northwestern Indian Ocean and Arabian/Iranian Gulf, Northern Indian Ocean, central Indo-Pacific, north and west and south Australia, South-east Asia, southern Japan and East China Sea, eastern Australia, oceanic West Pacific, central Pacific.

Country Occurrence:

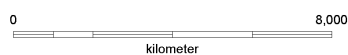
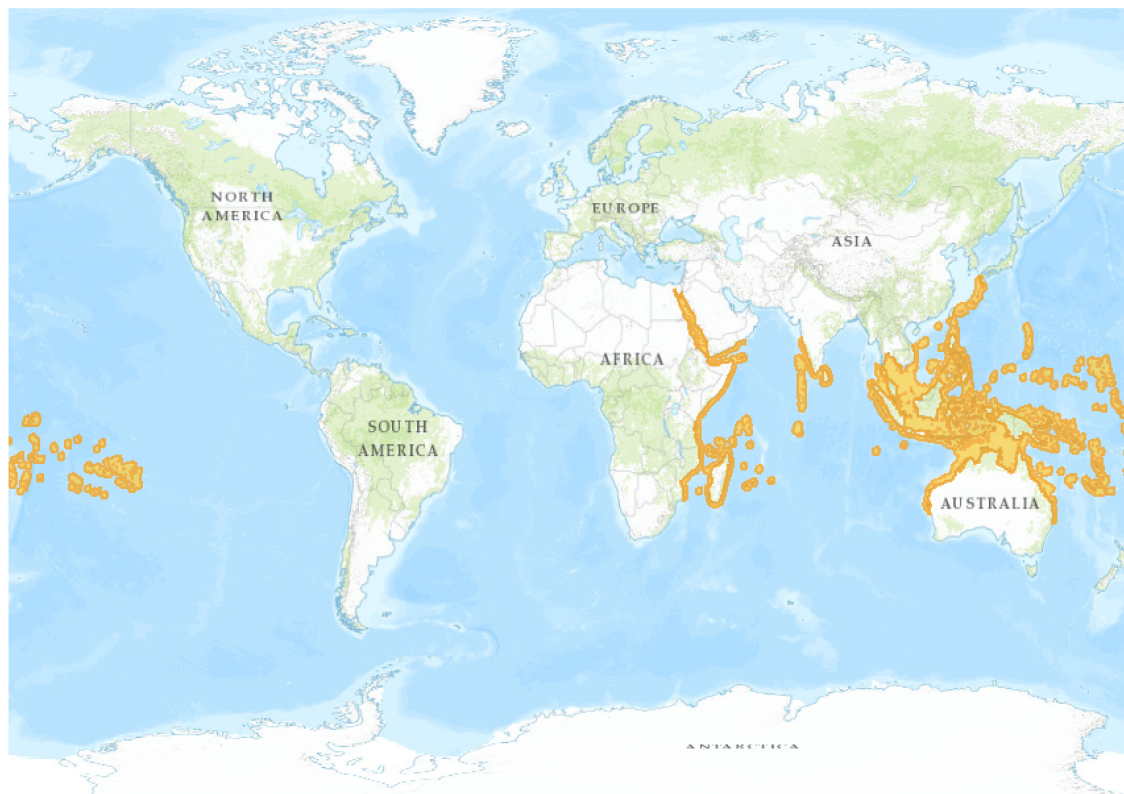
Native: American Samoa (American Samoa); Australia; British Indian Ocean Territory; Cambodia;

Christmas Island; Cocos (Keeling) Islands; Comoros; Cook Islands; Djibouti; Egypt; Eritrea; Fiji; French Polynesia; Guam; India; Indonesia; Israel; Japan; Jordan; Kenya; Kiribati; Madagascar; Malaysia; Maldives; Marshall Islands; Mauritius; Mayotte; Micronesia, Federated States of ; Mozambique; Myanmar; Nauru; New Caledonia; Niue; Northern Mariana Islands; Oman; Palau; Papua New Guinea; Philippines; Réunion; Samoa; Saudi Arabia; Seychelles; Singapore; Solomon Islands; Somalia; Sri Lanka; Sudan; Taiwan, Province of China; Tanzania, United Republic of; Thailand; Tokelau; Tonga; Tuvalu; Vanuatu; Viet Nam; Wallis and Futuna; Yemen

FAO Marine Fishing Areas:

Native: Indian Ocean - eastern, Indian Ocean - western, Pacific - eastern central, Pacific - northwest, Pacific - southwest, Pacific - western central

Distribution Map



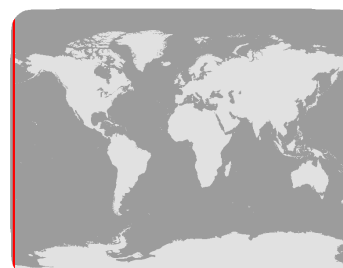
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Fungia fungites

Range

■ Extant (resident)

Compiled by:
IUCN (International Union for
Conservation of Nature)



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.



Population

This species is very common and widespread (Hoeksema 1989). It can occur in very dense clusters on reef flats and in multi-species fungiid assemblages on slopes.

Disturbed habitats provide good settlement areas for this species, and in many areas population size may be increasing.

There is no species specific population information available for this species. However, there is evidence that overall coral reef habitat has declined, and this is used as a proxy for population decline for this species. This species is more resilient to some of the threats faced by corals and therefore population decline is estimated using the percentage of destroyed reefs only (Wilkinson 2004). We assume that most, if not all, mature individuals will be removed from a destroyed reef and that on average, the number of individuals on reefs are equal across its range and proportional to the percentage of destroyed reefs. Reef losses throughout the species' range have been estimated over three generations, two in the past and one projected into the future.

The age of first maturity of most reef building corals is typically three to eight years (Wallace 1999) and therefore we assume that average age of mature individuals is greater than eight years. Furthermore, based on average sizes and growth rates, we assume that average generation length is 10 years, unless otherwise stated. Total longevity is not known, but likely to be more than ten years. Therefore any population decline rates for the Red List assessment are measured over at least 30 years. **See the supplementary material for further details on population decline and generation length estimates.**

For further information about this species, see [Supplementary Material](#).

Current Population Trend: Unknown

Habitat and Ecology (see Appendix for additional information)

This species is found on back reef, flat reef, reef slopes and lagoons. This is a solitary, free-living coral found between depths of 1-20 m. The depth range is from <1-25 m (Hoeksema 1990). The maximum size of the species is 31 cm diameter. It is a good asexual reproducer and often occurs in clusters as a result. This species is one of the first colonisers to settle in blasted areas and thrives in disturbed environments.

It is always attached as a juvenile and free living as an adult, and as a result it is mobile. It is a good competitor and can live on a variety of substrata.

Systems: Marine

Threats (see Appendix for additional information)

This species is susceptible to bleaching and in one study approximately 50% of individuals were bleached. Mortality rates were not known (Hoeksema 1991).

This species may be eaten by crown of thorns starfish, although are not targeted. Crown-of-thorns

starfish (COTS) (*Acanthaster planci*) are found throughout the Pacific and Indian Oceans, and the Red Sea. These starfish are voracious predators of reef-building corals, with a preference for branching and tabular corals such as *Acropora* species. Populations of the crown-of-thorns starfish have greatly increased since the 1970s and have been known to wipe out large areas of coral reef habitat. Increased breakouts of COTS has become a major threat to some species, and have contributed to the overall decline and reef destruction in the Indo-Pacific region. The effects of such an outbreak include the reduction of abundance and surface cover of living coral, reduction of species diversity and composition, and overall reduction in habitat area.

Other threats include coral removal and harvesting for display in aquariums and for the curio-trade. This species is targeted for the aquarium trade. Indonesia is the largest exporter with an annual quota of 9,300 live pieces in 2005. The total number of corals (live and raw) exported for this species in 2005 was 9,438.

In general, the major threat to corals is global climate change, in particular, temperature extremes leading to bleaching and increased susceptibility to disease, increased severity of ENSO events and storms, and ocean acidification.

Coral disease has emerged as a serious threat to coral reefs worldwide and a major cause of reef deterioration (Weil *et al.* 2006). The numbers of diseases and coral species affected, as well as the distribution of diseases have all increased dramatically within the last decade (Porter *et al.* 2001, Green and Bruckner 2000, Sutherland *et al.* 2004, Weil 2004). Coral disease epizootics have resulted in significant losses of coral cover and were implicated in the dramatic decline of acroporids in the Florida Keys (Aronson and Precht 2001, Porter *et al.* 2001, Patterson *et al.* 2002). In the Indo-Pacific, disease is also on the rise with disease outbreaks recently reported from the Great Barrier Reef (Willis *et al.* 2004), Marshall Islands (Jacobson 2006) and the northwestern Hawaiian Islands (Aeby 2006). Increased coral disease levels on the GBR were correlated with increased ocean temperatures (Willis *et al.* 2007) supporting the prediction that disease levels will be increasing with higher sea surface temperatures. Escalating anthropogenic stressors combined with the threats associated with global climate change of increases in coral disease, frequency and duration of coral bleaching and ocean acidification place coral reefs in the Indo-Pacific at high risk of collapse.

Localized threats to corals include fisheries, human development (industry, settlement, tourism, and transportation), changes in native species dynamics (competitors, predators, pathogens and parasites), invasive species (competitors, predators, pathogens and parasites), dynamite fishing, chemical fishing, pollution from agriculture and industry, domestic pollution, sedimentation, and human recreation and tourism activities.

The severity of these combined threats to the global population of each individual species is not known.

Conservation Actions (see Appendix for additional information)

There are no specific conservation measures for this species.

All corals are listed on CITES Appendix II. Parts of the species' range fall within Marine Protected Areas.

Recommended measures for conserving this species include research in taxonomy, population,

abundance and trends, ecology and habitat status, threats and resilience to threats, restoration action; identification, establishment and management of new protected areas; expansion of protected areas; recovery management; and disease, pathogen and parasite management. Artificial propagation and techniques such as cryo-preservation of gametes may become important for conserving coral biodiversity.

Having timely access to national-level trade data for CITES analysis reports would be valuable for monitoring trends this species. The species is targeted by collectors for the aquarium trade and fisheries management is required for the species, e.g., MPAs, quotas, size limits, etc. Consideration of the suitability of species for aquaria should also be included as part of fisheries management, and population surveys should be carried out to monitor the effects of harvesting. Recommended conservation measures include population surveys to monitor the effects of collecting for the aquarium trade, especially in Indonesia.

Credits

Assessor(s): Hoeksema, B.W., Obura, D.O., Wood, E., Rogers, A. & Quibilan, M.C.

Reviewer(s): Livingstone, S., Polidoro, B. & Smith, J.

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External Resources

For [Supplementary Material](#), and for [Images and External Links to Additional Information](#), please see the Red List website.

Appendix

Habitats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Habitat	Season	Suitability	Major Importance?
9. Marine Neritic -> 9.8. Marine Neritic - Coral Reef -> 9.8.2. Back Slope	-	Suitable	-
9. Marine Neritic -> 9.8. Marine Neritic - Coral Reef -> 9.8.3. Foreslope (Outer Reef Slope)	-	Suitable	-
9. Marine Neritic -> 9.8. Marine Neritic - Coral Reef -> 9.8.4. Lagoon	-	Suitable	-
9. Marine Neritic -> 9.8. Marine Neritic - Coral Reef -> 9.8.5. Inter-Reef Soft Substrate	-	Suitable	-
9. Marine Neritic -> 9.8. Marine Neritic - Coral Reef -> 9.8.6. Inter-Reef Rubble Substrate	-	Suitable	-

Use and Trade

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

End Use	Local	National	International
Handicrafts, jewellery, etc.	No	No	Yes
Pets/display animals, horticulture	No	No	Yes

Threats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.1. Housing & urban areas	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
1. Residential & commercial development -> 1.2. Commercial & industrial areas	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
1. Residential & commercial development -> 1.3. Tourism & recreation areas	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
4. Transportation & service corridors -> 4.3. Shipping lanes	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		

5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.1. Intentional use: (subsistence/small scale)	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.3. Unintentional effects: (subsistence/small scale)	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.6. Motivation Unknown/Unrecorded	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
6. Human intrusions & disturbance -> 6.1. Recreational activities	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.2. Species disturbance		
8. Invasive & other problematic species & genes -> 8.1. Invasive non-native/alien species -> 8.1.1. Unspecified species	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.2. Competition		
9. Pollution -> 9.1. Domestic & urban waste water -> 9.1.3. Type Unknown/Unrecorded	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
9. Pollution -> 9.2. Industrial & military effluents -> 9.2.3. Type Unknown/Unrecorded	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.2. Soil erosion, sedimentation	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.4. Type Unknown/Unrecorded	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
9. Pollution -> 9.5. Air-borne pollutants -> 9.5.3. Ozone	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
11. Climate change & severe weather -> 11.3. Temperature extremes	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.8. Other		
11. Climate change & severe weather -> 11.4. Storms & flooding	Ongoing	-	-	-
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		

Conservation Actions in Place

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Actions in Place
In-Place Land/Water Protection and Management
Occur in at least one PA: Yes

Conservation Actions Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Actions Needed
1. Land/water protection -> 1.1. Site/area protection
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.3. Habitat & natural process restoration
3. Species management -> 3.2. Species recovery
3. Species management -> 3.4. Ex-situ conservation -> 3.4.1. Captive breeding/artificial propagation
3. Species management -> 3.4. Ex-situ conservation -> 3.4.2. Genome resource bank

Research Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Research Needed
1. Research -> 1.1. Taxonomy
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.5. Threats
1. Research -> 1.6. Actions
3. Monitoring -> 3.1. Population trends

Additional Data Fields

Distribution
Lower depth limit (m): 25
Upper depth limit (m): 1
Population
Population severely fragmented: No

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