



## Supporting Online Material for

### **One-Third of Reef-Building Corals Face Elevated Extinction Risk from Climate Change and Local Impacts**

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# **One third of reef-building corals face elevated extinction risk from climate change and local impacts**

## **Materials and Methods**

### **i. Overview: IUCN Red List and Coral Assessments**

Data collection and Red List assessments for reef-building corals were conducted in three regional workshops in 2006 and 2007 in the Galapagos, Dominica and the Philippines. These three workshops brought together the world's leading coral experts to share data on each species taxonomy, distribution, population trends, ecology, life history, past and existing threats, and conservation actions, and to apply the IUCN Red List Categories and Criteria (1). The IUCN Red List Categories and Criteria are the most widely accepted system for classifying extinction risk at the species level (2-5). The Red List process consolidates the most current and highest quality data available, and ensures peer-reviewed consensus on the probability of extinction for each species (6). All data and results of Red List assessments are freely and publicly available on the IUCN Red List of Threatened Species (7). The corals species in this study will be officially added to the IUCN Red List online database (7) in October 2008; until then all data, supporting documents, maps and results for coral species' assessments are publicly available on the Global Marine Species Assessment online database (8).

### **ii. IUCN Red List Criteria**

The IUCN Red List Categories and Criteria were applied to 845 reef-building coral species, comprised of 827 zooxanthellate coral species (Order Scleractinia), and 18 species from the families Helioporidae, Tubiporidae and Milleporidae. A table of the resulting Red List Categories and supporting data for each species are shown in the Online Supplemental Table (Table S1). The Red List Categories are eight different levels of extinction risk: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC) and Data Deficient (DD). A species qualifies for one of the three threatened categories (CR, EN, or VU) by meeting the threshold for that category in one of the five different available criteria (A-E). These different criteria form the real strength of the IUCN Red List in that they provide a standardized methodology that can be applied to all species from all taxonomic groups (6, 9, 10).

The vast majority of coral species were assessed under Criterion A, which is based on population reduction. Six species were assessed under Criterion B, which is based on geographic range size, and is relevant for species with smaller distributions and with a few or highly fragmented populations. Three species were assessed under Criterion D, which is only used for species with very small or restricted populations. No Criteria were applied to the 141 species that were listed as Data Deficient, due to

taxonomic discrepancies or to insufficient information on distribution or life history traits for further assessment.

### **iii. Application of Criterion A**

Criterion A is based on rates of population reduction measured over the longer of 10 years or three generation lengths. The IUCN definition of generation length is the average age of parents or mature individuals of the current cohort of newborn individuals (*1*). The use of generation length as a timeframe to measure population reduction accounts for the reproductive capacity and life span of each species and acts as a way of scaling reduction across all taxa with differing life history traits. As the vast majority of corals are colonial and “mature individual” and “average-age” are not easily defined, a tailored method to estimate generation length was universally developed and applied by coral experts at the Red Listing workshops.

The IUCN Red List guidelines (*1*) state that “reproducing units within a clone should be counted as individuals, except where such units are unable to survive alone (e.g., corals)”. The coral colony was assumed to be the basic unit of survival, as it typically lives, is injured, or dies as a unit, and therefore is the mature individual. Although parts of the colony can survive as unattached fragments, this is a reproductive event rather than survival of the original colony, as the fragment forms a new colony or individual.

Under the assumption that a fragment is a reproductive event and not a means of allowing the original colony to persist forever, over time the original colony will die due to ‘natural’ or other causes (disease, predation, etc.). The average age of natural survival of a coral colony was therefore defined as the average age of a mature individual or one generation length. Based on available knowledge of coral species’ biology and life history, the average age of a coral colony for the majority of species was determined to be approximately 10 years (*11-13*), although 19 species were estimated to have an average age of between 4 and 8 years, and two species of 15 or more years (Table S1). For the majority of species, Criterion A of population reduction was therefore estimated over approximately 30 years, representing three generations lengths.

Species-specific population trend data are not available for the vast majority of coral species across their distribution ranges. Only, five species had sufficient species-specific population trend data (*14-17*) and were therefore assessed under sub-Criterion A2, which is based on rates of population decline measured in the past. For the majority of species, loss of coral cover within a species distribution in combination with life history traits were used as a surrogate for population reduction using sub-Criterion A4. Sub-Criterion A4 allows for population reduction to be estimated or inferred from decline in extent of occurrence or habitat quality over a period of two generation lengths in the past and one projected into the future. The underlying assumption is that current stressors contributing to coral cover loss and population reduction (such as climate change, coastal development, disease, bleaching, predation, extraction, etc) have not ceased, and future rates are conservatively assumed to be the same as past rates.

#### **iv. Estimation of population reduction**

Under sub-Criterion A4, population reductions can be estimated or inferred from a “decline in extent of occurrence or habitat quality,” and were therefore based on conservative interpretation of the most current global and regional estimates of total coral cover loss and critically threatened reef from a comprehensive assessment of coral reef status in 17 regions across the world (18). Although the GCRMN reports (18-21) often provide more qualitative estimates of reef loss and decline, which can be overestimated or underestimated in any given region, they incorporate the results of numerous quantitative studies, compiled from the work of 240 scientists and data from hundreds of reef surveys, and represent the best global state of knowledge on reef status currently available. The GCRMN series (18-21) are widely cited for the estimates of global and regional reef status and threats to corals (11, 22-24). Many scientific studies and conservation reports also reliably cite the estimated global and regional declines of reef area (16, 25-28). Furthermore, estimates of coral cover loss, at least in the Indo-Pacific, are corroborated by a more quantitative study of coral cover loss (29). Scientific experts at the Coral Red List Workshops expressed consensus in the use of these regional estimates of destroyed reef and loss of coral cover. This process of peer-review and consensus should not be overlooked as a valid methodological tool (30).

Estimates of coral cover loss, defined as the percentage of reefs with greater than 90% coral cover loss over at least the past 15 to 20 years (18); and of critically declining reef, defined as the percentage of reefs with between 50-90% coral cover loss and likely to join the total coral loss category within 10 to 20 years (18); were used as a surrogates for population reduction in combination with each species’ life history traits. For each species, a weighted average was calculated by multiplying the area of reef within the species distribution by the percent of total coral cover loss or the combined percent of total coral cover loss and critically declining reef reported from 17 different geographical regions defined by the 2004 GCRMN report (18). Only partial or complete occurrence of a species in a region was used and marginal inclusions were discounted. This method assumes that the percent coral cover loss reported for a region is the same across the entire region.

The relationship between coral cover loss and population reduction is not always linear, however, as coral cover loss can occur in areas of lower or higher population density, and therefore can represent a slower or faster decline of the actual population size (31). Similarly, some species re-colonize rapidly after disturbance events such as bleaching or disease. For this reason, expert knowledge on life history traits of each coral species, including susceptibility to disease and bleaching, were taken into account, as well as the potential effect of other threats such as harvesting for the aquarium or curio trade, pollutants, sedimentation, and predation by crown of thorns starfish (CoTS) (*Acanthaster planci*). These life history traits for each species (Table S1) were used to support the Red List assessment for each species, first by determining if a species population reduction was better estimated from total coral loss or from the combination of total coral loss and critically declining reefs within its distribution.

For species restricted to reef habitat, found in narrow depth ranges (primarily shallow waters less than 20m), particularly susceptible to bleaching, disease, sedimentation, targeted for trade, or preferentially preyed upon by CoTs, and/or had low recruitment, the combined percentages of both total coral cover loss and critically threatened reef were used. The combined estimates were also used for species that occurred in very restricted or isolated populations, such as those endemic to the Red Sea. Such coral species were considered to have increased probability of extinction, as species with low effective population sizes (32, 33) are likely to possess limiting traits such as overlapping generations, non-random mating, differential fertility and fluctuations in population size. In addition, species with isolated and effectively small population sizes often have low levels of genetic variation (34) and reduced gene flow (35), reducing the species' ability to adapt to changing environment conditions, and increasing the likelihood of inbreeding and loss of reproductive fitness.

For species that survived outside of reef habitat in rocky or sandy areas adjacent to reefs, that had a wider depth range and/or could be found in deeper waters (at least over 20m), and/or were quick to re-colonize after disturbances such as bleaching or disease events, and/or exist or dominate in very shallow marginal habitat, only the percentage of total coral cover loss within the species distribution was used to estimate population reduction. This assumes that all mature individuals would be removed from an area of total coral cover loss, and that on average, the number of individuals on reefs are equal across its range and proportional to the total coral cover loss in the past and into the future. These species were also assumed to survive in coral reefs already at the critical stage of degradation given their relatively wide distributions with an inferred large effective population size that is highly connected and/or stable with enhanced genetic variability.

#### **v. Assigning of Red List Categories and summary of results**

Assignment to a threatened category was based on the following population reduction thresholds defined by Criterion A (3):  $\geq 30\%$  reduction is Vulnerable,  $\geq 50\%$  reduction is Endangered, and  $\geq 80\%$  reduction is Critically Endangered. For those species with less than 30% reduction, distribution and life-history traits were used to determine whether a species was listed as Near Threatened or Least Concern. Species that were uncommon or rare throughout their range, and/or were susceptible to a number of potential threats such as bleaching, disease, predation or collection were listed as Near Threatened. Species that were widespread and common, and/or were found over a wide-depth range, and/or with no known species-specific threats or which recovered quickly from disturbance events, were listed as Least Concern. To back-cast each species hypothetical Red List Category prior to 1998, the same methods for current listings were used. Level of population reduction was calculated based on the percent of total coral cover loss and critically threatened reefs as reported before the 1998 mass-bleaching event (Wilkinson, 2000).

Final and back-cast Red List Categories for all coral species along with supporting life history data and susceptibility to threats are presented (Table S1). Not including Data Deficient species, 32.8% of zooxanthellate corals fall into threatened

categories, compared to approximately 25% of mammals and 14% of birds (7). Only amphibians, with almost 43% threatened (7), are more threatened as a group compared to corals. If Near Threatened species are added, the proportion of corals (57.8%) exceeds that of all terrestrial animal groups assessed to date, including amphibians (49.9%). Threats to marine species are generally perceived to be less than those to terrestrial species because of greater direct anthropogenic terrestrial environmental impacts, and hence far greater attention has been paid to forming terrestrial protected areas (36). However, in terms of major threats to species in threatened and Near Threatened categories, climate change is listed for all corals (100%), exceeding that of amphibians (19.4%), birds (1.7%), and mammals (0.8%).

## References and Notes

1. IUCN, *IUCN Red List Categories and Criteria – Version 3.1*, ([http://www.redlist.org/info/categories\\_criteria2001.html](http://www.redlist.org/info/categories_criteria2001.html), 2001).
2. S. H. M. Butchart *et al.*, *Phil. Trans. Soc. B*, **360**, 255-268 (2005).
3. A. S. L. Rodrigues, J. D. Pilgrim, J. F. Lamoreux, M. Hoffmann, T. M. Brooks, *Trends Ecol. Evol.* **21**, 71–76 (2006).
4. M. Hoffmann *et al.*, *Endanger. Species Res.*, 7 May 2008 (10.3354/esr00087).
5. P. C. De Grammont, A. D. Cuarón, *Conserv. Biol.* **20**, 14-27 (2006).
6. S. N. Stuart *et al.*, *Science* **306**, 1783-1786 (2004).
7. IUCN, *2007 IUCN Red List of Threatened Species*, (<http://www.iucnredlist.org/>, 2007).
8. Global Marine Species Assessment, *Global Coral Assessment*, (<http://www.sci.odu.edu/gmsa/about/corals.shtml>, 2008).
9. N. K. Dulvy, S. Jennings, N. B. Goodwin, A. Grant, J. D. Reynolds, *J. Appl. Ecol.* **42**, 883–891 (2005).
10. S. H. M. Butchart *et al.*, *PLoS Biol.* **2**, 2294–2304 (2004).
11. T. P. Hughes *et al.*, *Science* **301**, 929-933 (2003).
12. C. C. Wallace, *Staghorn Corals of the World*, (CSIRO, Collingwood, 1999).
13. J. H. Connell, T. P. Hughes, C. C. Wallace, *Ecol. Monogr.* **67**, 461 (1997).
14. T. P. Hughes, J. E. Tanner, *Ecology* **81**, 2250-2263 (2000).
15. K. L. Patterson *et al.*, *Proc. Natl. Acad. Sci. Unit. States Am.* **99**, 8725-8730 (2002).
16. K. P. Sutherland, J. W. Porter, C. Torres, *Mar. Ecol. Prog.* **266**, 273-302 (2004).
17. C. C. Koenig *et al.*, *Am. Fish. Soc. Symp.* **41**, 795-805 (2005).
18. C. Wilkinson, *Status of Coral Reefs of the World*, (AIMS, Townsville, 2004).
19. C. Wilkinson, *Status of Coral Reefs of the World*, (AIMS, Townsville, 2002).
20. C. Wilkinson, *Status of Coral Reefs of the World*, (AIMS, Townsville, 2000).
21. C. Wilkinson, *Status of Coral Reefs of the World*, (AIMS, Townsville, 1998).
22. J. Burt, A. Bartholomew, P. Usseglio, *Mar. Biol.* **15**, 27-36 (2008).
23. A. C. Baker, C. J. Starger, T. R. McClanahan, P. W. Glynn, 2004, *Nature* **430**, 740-741 (2004).
24. P. Mundlay, P., *Global Change Biol.* **10**, 1642-1647 (2004).
25. H. Guzman, J. Cortes, *Mar. Biol.* **151**, 401-411 (2007).

26. O. Hoegh-Guldberg, "Likely ecological impacts of global warming and climate change on the Great Barrier Reef by 2050 and beyond" (Queensland Land and Resources Tribunal Report, Brisbane, Australia, 2007).
27. O. Lindén, D. Souter, D. Wilhelmsson, D. Obura, "Coral Reef Degradation in the Indian Ocean: Status Report 2002" (CORDIO, University of Kalmar, Sweden, 2002).
28. E. Pante, A. King, P. Dustan, P., *Hydrobiologia* **526**, 121-132 (2008).
29. J. F. Bruno, E. R. Selig, *Plos One* **8**, 1-8 (2007).
30. T. J. Regan *et al.*, *Conserv. Biol.* **19**, 1969-1977 (2005).
31. A. S. L. Rodríguez, K. J. Gaston. *Conserv. Biol.* **16**, 674-682 (2002).
32. S. Wright, *Genetics* **16**, 97-159 (1931).
33. J.C. Avise, *Molecular Markers, Natural History and Evolution*, (Chapman and Hall, New York, 1994).
34. J. D. Karron, *Biol. Conserv.* **39**, 179-183 (1987).
35. D. J. Ayre, T. P. Hughes, *Ecol. Letters* **7**, 273-278 (2004).
36. M. D. Spalding *et al.*, *Bioscience* **57**, 573-583 (2007).

Table S1. Supporting data and results of Red List assessments for all coral species, listed alphabetically by family. 1. De = % Destroyed Reef applied under Criterion A4, De + Cr = % Destroyed and Critically Declining Reef applied under Criterion A4, A2 = Criterion A2 applied, B = Criterion B applied, D = Criterion D applied, DD = Data Deficient, no Criteria applied, N/A = Not Applicable; 2. CR = Critically Endangered, EN = Endangered, VU = Vulnerable, NT = Near Threatened, LC = Least Concern, DD = Data Deficient.





Acroporidae	Acropora fastigata	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora fenneri	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora filiformis	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora florida	De	0.21	NT	0.10	LC	10	5	30	25		common			x	x		x			x
Acroporidae	Acropora formosa	De	0.20	NT	0.09	LC	10	5	30	25		common			x	x		x			x
Acroporidae	Acropora forskali	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora gemmifera	De	0.20	LC	0.09	LC	10	1	15	14	x	common			x	x		x			
Acroporidae	Acropora glauca	De	0.19	NT	0.09	LC	10	5	20	15	x	rare		x	x	x		x			
Acroporidae	Acropora globiceps	De+Cr	0.35	VU	0.14	LC	10	0	8	8	x	common			x	x		x			
Acroporidae	Acropora gomezi	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora grandis	De	0.20	LC	0.09	LC	10	5	25	20	x	common		x	x	x		x			
Acroporidae	Acropora granulosa	De	0.20	NT	0.09	LC	10	8	40	32		common			x	x		x			x
Acroporidae	Acropora haimeii	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora halmaherae	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora hemprichii	De+Cr	0.35	VU	0.15	LC	10	3	15	12	x	common			x	x		x			
Acroporidae	Acropora hoeksemai	De+Cr	0.41	VU	0.16	LC	10	8	20	12	x	common			x	x		x			
Acroporidae	Acropora horrida	De+Cr	0.36	VU	0.15	LC	10	5	20	15	x	uncommon			x	x		x			x
Acroporidae	Acropora humilis	De	0.20	NT	0.09	LC	10	0	11	11	x	common			x	x		x			x
Acroporidae	Acropora hyacinthus	De	0.20	NT	0.09	LC	10	5	20	15	x	common			x	x		x			x
Acroporidae	Acropora indonesia	De+Cr	0.38	VU	0.15	LC	10	10	20	10	x	common			x	x		x			
Acroporidae	Acropora inermis	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora insignis	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora irregularis	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora jacquelineae	De+Cr	0.37	VU	0.14	LC	10	10	35	25		uncommon			x	x		x			x
Acroporidae	Acropora japonica	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora khayranensis	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora kimbeensis	De+Cr	0.36	VU	0.14	LC	10	3	15	12	x	uncommon			x	x		x			x
Acroporidae	Acropora kirstyae	De+Cr	0.36	VU	0.14	LC	10	10	25	15	x	uncommon			x	x		x			
Acroporidae	Acropora kosurini	De+Cr	0.41	VU	0.15	LC	10	8	20	12	x	rare			x	x		x			
Acroporidae	Acropora lamarcki	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora latistella	De	0.20	LC	0.09	LC	10	3	20	17	x	common			x	x		x			
Acroporidae	Acropora lianae	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora listeri	De+Cr	0.35	VU	0.14	LC	10	3	15	12	x	uncommon			x	x		x			
Acroporidae	Acropora loisetteae	De+Cr	0.39	VU	0.15	LC	10	1	30	29		uncommon			x	x		x			
Acroporidae	Acropora lokani	De+Cr	0.36	VU	0.14	LC	10	8	25	17	x	uncommon			x	x		x			
Acroporidae	Acropora longicyathus	De	0.21	LC	0.10	LC	10	5	20	15	x	common		x	x	x		x			
Acroporidae	Acropora loripes	De	0.20	NT	0.09	LC	10	5	25	20	x	common			x	x		x			x
Acroporidae	Acropora lovelli	De+Cr	0.36	VU	0.14	LC	10	1	10	9	x	rare			x	x		x			
Acroporidae	Acropora lutkeni	De	0.21	NT	0.09	LC	10	3	12	9	x	uncommon			x	x		x			
Acroporidae	Acropora macrostoma	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora maryae	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora massawensis	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora meridiana	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora microclados	De+Cr	0.33	VU	0.14	LC	10	5	20	15	x	uncommon			x	x		x			
Acroporidae	Acropora microphthalma	De	0.20	LC	0.09	LC	10	5	25	20	x	common		x	x	x		x			
Acroporidae	Acropora millepora	De	0.20	NT	0.09	LC	10	2	12	10	x	common			x	x		x			x

Acroporidae	Acropora minuta	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora mirabilis	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora monticulosa	De	0.21	NT	0.10	LC	10	1	12	11	x	uncommon			x	x		x		
Acroporidae	Acropora multiacuta	De+Cr	0.40	VU	0.15	LC	10	3	15	12	x	rare			x	x		x		
Acroporidae	Acropora nana	De	0.19	NT	0.09	LC	10	1	10	9	x	uncommon			x	x		x		x
Acroporidae	Acropora nasuta	De	0.20	NT	0.09	LC	10	3	15	12	x	common			x	x		x		x
Acroporidae	Acropora natalensis	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora navini	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora nobilis	De	0.20	LC	0.09	LC	10	5	25	20	x	common		x	x	x		x		
Acroporidae	Acropora ocellata	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora orbicularis	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora pagoensis	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora palmata	A2	>0.80	CR	0.50	EN	10	0.1	40	39.9		uncommon			x	x				
Acroporidae	Acropora palmerae	De+Cr	0.39	VU	0.15	LC	10	0	12	12	x	uncommon			x	x		x		
Acroporidae	Acropora paniculata	De+Cr	0.35	VU	0.14	LC	10	10	35	25		uncommon			x	x		x		
Acroporidae	Acropora papillare	De+Cr	0.41	VU	0.16	LC	10	1	5	4	x	uncommon			x	x		x		
Acroporidae	Acropora paragemmifera	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora parahemprichii	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora parapharaonis	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora parilis	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora pectinatus	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora pharaonis	De+Cr	0.30	VU	0.14	LC	10	5	25	20	x	common			x	x		x		
Acroporidae	Acropora pichoni	De	0.19	NT	0.09	LC	10	10	70	60		common			x	x		x		
Acroporidae	Acropora pinguis	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora plana	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora plantaginea	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora plumosa	De+Cr	0.36	VU	0.14	LC	10	10	30	20	x	uncommon			x	x		x		
Acroporidae	Acropora polystoma	De+Cr	0.35	VU	0.14	LC	10	3	10	7	x	uncommon			x	x		x		
Acroporidae	Acropora prostrata	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora proximalis	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora pruinosa	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora pulchra	De	0.20	LC	0.09	LC	10	1	20	19	x	uncommon			x	x		x		
Acroporidae	Acropora rambleri	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora retusa	De+Cr	0.49	VU	0.18	LC	10	1	5	4	x	uncommon			x	x		x		
Acroporidae	Acropora ridzwani	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora robusta	De	0.20	LC	0.09	LC	10	1	8	7	x	common			x	x		x		
Acroporidae	Acropora rongelapensis	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora rosaria	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora roseni	De+Cr	0.58	EN	0.12	LC	10	3	12	9	x	uncommon	x		x	x		x		
Acroporidae	Acropora rudis	De+Cr	0.59	EN	0.22	NT	10	3	15	12	x	uncommon	x		x	x		x		
Acroporidae	Acropora rufus	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora russelli	De+Cr	0.43	VU	0.16	LC	10	15	30	15	x	uncommon			x	x				
Acroporidae	Acropora samoensis	De	0.20	LC	0.09	LC	10	5	15	10	x	common			x	x		x		
Acroporidae	Acropora sarmentosa	De	0.19	LC	0.09	LC	10	3	20	17	x	common			x	x		x		
Acroporidae	Acropora scherzeriana	DD	N/A	DD	N/A	DD														
Acroporidae	Acropora schmitti	DD	N/A	DD	N/A	DD														

Acroporidae	Acropora secale	De	0.20	NT	0.09	LC	10	2	15	13	x	common			x	x		x			x
Acroporidae	Acropora sekiseiensis	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora selago	De	0.21	NT	0.09	LC	10	5	25	20	x	uncommon			x	x		x			x
Acroporidae	Acropora seriata	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora simplex	De+Cr	0.39	VU	0.15	LC	10	20	60	40		uncommon			x	x		x			
Acroporidae	Acropora solitaryensis	De+Cr	0.38	VU	0.15	LC	10	5	25	20	x	rare			x	x		x			
Acroporidae	Acropora spathulata	De	0.10	LC	0.01	LC	10	0	10	10	x	common			x	x		x			
Acroporidae	Acropora speciosa	De+Cr	0.35	VU	0.14	LC	10	12	30	18	x	uncommon			x	x		x			
Acroporidae	Acropora spicifera	De+Cr	0.35	VU	0.14	LC	10	2	10	8	x	uncommon			x	x		x			
Acroporidae	Acropora squarrosa	De+Cr	0.22	LC	0.08	LC	10	1	18	17	x	common			x	x		x			
Acroporidae	Acropora stoddarti	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora striata	De+Cr	0.36	VU	0.14	LC	10	10	25	15	x	rare			x	x		x			
Acroporidae	Acropora subglabra	De	0.22	LC	0.10	LC	10	5	25	20	x	uncommon			x	x		x			
Acroporidae	Acropora subulata	De	0.20	LC	0.09	LC	10	5	25	20	x	common			x	x		x			
Acroporidae	Acropora suharsonoi	De+Cr	0.66	EN	0.24	NT	10	15	25	10	x	uncommon	x		x	x		x			
Acroporidae	Acropora sukarnoi	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora tanegashimensis	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora tenella	De+Cr	0.39	VU	0.15	LC	10	25	70	45		uncommon			x	x		x			
Acroporidae	Acropora tenuis	De	0.20	NT	0.09	LC	10	8	20	12	x	uncommon			x	x		x			x
Acroporidae	Acropora teres	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora tizardi	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora torihalimeda	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora torresiana	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora tortuosa	De	0.19	LC	0.09	LC	10	1	30	29		uncommon		x	x	x		x			
Acroporidae	Acropora tumida	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora turaki	De+Cr	0.41	VU	0.15	LC	10	10	20	10	x	uncommon			x	x		x			
Acroporidae	Acropora tutuilensis	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora valenciennesi	De	0.20	LC	0.09	LC	10	5	25	20	x	common			x	x		x			
Acroporidae	Acropora valida	De	0.20	LC	0.09	LC	10	1	15	14	x	common		x	x	x		x			x
Acroporidae	Acropora variabilis	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora variolosa	De+Cr	0.22	LC	0.08	LC	10	3	15	12	x	uncommon	x		x	x		x			
Acroporidae	Acropora vauhani	De+Cr	0.35	VU	0.14	LC	10	3	20	17	x	uncommon			x	x		x			
Acroporidae	Acropora vermiculata	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora verweyi	De+Cr	0.37	VU	0.15	LC	10	2	15	13	x	common			x	x		x			
Acroporidae	Acropora walindii	De+Cr	0.38	VU	0.15	LC	10	8	30	22		rare			x	x		x			
Acroporidae	Acropora wallaceae	DD	N/A	DD	N/A	DD															
Acroporidae	Acropora willisae	De+Cr	0.39	VU	0.15	LC	10	10	20	10	x	uncommon			x	x		x			
Acroporidae	Acropora yongei	De	0.22	LC	0.10	LC	10	5	20	15	x	common			x	x		x			
Acroporidae	Anacropora forbesi	De	0.19	LC	0.09	LC	10	2	25	23		uncommon			x	x					
Acroporidae	Anacropora matthai	De+Cr	0.41	VU	0.16	LC	10	8	20	12	x	rare			x	x					
Acroporidae	Anacropora pillai	DD	N/A	DD	N/A	DD															
Acroporidae	Anacropora puertogalerae	De+Cr	0.38	VU	0.15	LC	10	5	20	15	x	uncommon			x	x					
Acroporidae	Anacropora reticulata	De+Cr	0.39	VU	0.15	LC	10	3	15	12	x	rare									
Acroporidae	Anacropora spinosa	De+Cr	0.58	EN	0.22	NT	10	5	15	10	x	uncommon			x	x					
Acroporidae	Anacropora spumosa	DD	N/A	DD	N/A	DD															
Acroporidae	Astreopora cucullata	De+Cr	0.34	VU	0.13	LC	10	5	15	10	x	rare			x	x					

Acroporidae	Astreopora eliptica	DD	N/A	DD	N/A	DD															
Acroporidae	Astreopora expansa	De	0.22	NT	0.10	LC	10	5	15	10	x	uncommon			x	x					
Acroporidae	Astreopora gracilis	De	0.18	LC	0.08	LC	10	5	15	10	x	uncommon			x	x					
Acroporidae	Astreopora incrustans	De+Cr	0.41	VU	0.16	LC	10	1	10	9	x	rare			x	x					
Acroporidae	Astreopora listeri	De	0.20	LC	0.09	LC	10	5	20	15	x	common			x	x					
Acroporidae	Astreopora macrostoma	De	0.22	NT	0.10	LC	10	5	15	10	x	uncommon			x	x					
Acroporidae	Astreopora moretonensis	De+Cr	0.35	VU	0.14	LC	10	2	15	13	x	rare	x		x	x					
Acroporidae	Astreopora myriophthalma	De	0.20	LC	0.09	LC	10	3	20	17	x	common			x	x					
Acroporidae	Astreopora ocellata	De	0.21	LC	0.10	LC	10	5	20	15	x	rare				x			x		
Acroporidae	Astreopora randalli	De	0.19	LC	0.09	LC	10	5	15	10	x	uncommon							x	x	
Acroporidae	Astreopora scabra	De+Cr	0.06	LC	0.04	LC	10	3	15	12	x	uncommon							x	x	
Acroporidae	Astreopora suggesta	De	0.18	LC	0.08	LC	10	5	15	10	x	uncommon			x	x					
Acroporidae	Enigmopora darveliensi	DD	N/A	DD	N/A	DD															
Acroporidae	Isopora brueggemanni	De+Cr	0.39	VU	0.15	LC	10	1	15	14	x	common			x	x					
Acroporidae	Isopora crateriformis	De+Cr	0.38	VU	0.14	LC	10	1	15	14	x	common						x	x		
Acroporidae	Isopora cuneata	De+Cr	0.37	VU	0.15	LC	10	0	15	15	x	common			x	x		x			
Acroporidae	Isopora cylindrica	DD	N/A	DD	N/A	DD															
Acroporidae	Isopora elizabethensis	DD	N/A	DD	N/A	DD															
Acroporidae	Isopora palifera	De	0.21	NT	0.10	LC	10	2	20	18	x	common			x	x					
Acroporidae	Isopora togianensis	De+Cr	0.66	EN	0.24	NT	10	8	20	12	x	uncommon	x		x	x					
Acroporidae	Montipora aequituberculata	De	0.20	LC	0.09	LC	10	0	30	30		common			x		x	x			
Acroporidae	Montipora altasepta	De+Cr	0.36	VU	0.14	LC	10	1	10	9	x	uncommon			x		x	x			
Acroporidae	Montipora angulata	De+Cr	0.39	VU	0.16	LC	10	1	20	19	x	rare			x		x	x			
Acroporidae	Montipora aspergillus	DD	N/A	DD	N/A	DD															
Acroporidae	Montipora australiensis	De+Cr	0.37	VU	0.14	LC	10	2	30	28		rare			x		x	x			
Acroporidae	Montipora cactus	De+Cr	0.38	VU	0.15	LC	10	2	20	18	x	uncommon			x		x	x			
Acroporidae	Montipora calcarea	De+Cr	0.34	VU	0.13	LC	10	0	20	20	x	uncommon			x		x	x			
Acroporidae	Montipora caliculata	De+Cr	0.36	VU	0.14	LC	10	1	20	19	x	uncommon			x		x	x			
Acroporidae	Montipora capitata	De	0.19	NT	0.09	LC	10	0	20	20	x	uncommon			x	x	x	x			
Acroporidae	Montipora capricornis	De+Cr	0.36	VU	0.14	LC	10	2	20	18	x	uncommon			x		x	x			
Acroporidae	Montipora cebuensis	De+Cr	0.36	VU	0.14	LC	10	2	20	18	x	uncommon			x		x	x			
Acroporidae	Montipora circumvallata	De+Cr	0.14	LC	0.08	LC	10	2	20	18	x	uncommon	x		x		x	x			
Acroporidae	Montipora cocosensis	De+Cr	0.35	VU	0.14	LC	10	0	15	15	x	rare			x		x	x			
Acroporidae	Montipora confusa	De	0.20	NT	0.09	LC	10	1	30	29		uncommon			x		x	x			
Acroporidae	Montipora corbettensis	De+Cr	0.37	VU	0.14	LC	10	2	20	18	x	uncommon			x		x	x			
Acroporidae	Montipora crassituberculata	De+Cr	0.37	VU	0.15	LC	10	1	20	19	x	uncommon			x		x	x			
Acroporidae	Montipora cryptus	De+Cr	0.22	NT	0.08	LC	10	0	20	20	x	common	x		x		x	x			
Acroporidae	Montipora danae	De	0.20	LC	0.09	LC	10	0	40	40		common			x		x	x			
Acroporidae	Montipora delicatula	De+Cr	0.38	VU	0.15	LC	10	2	15	13	x	uncommon			x		x	x			
Acroporidae	Montipora digitata	De	0.21	LC	0.10	LC	10	0	5	5	x	common			x		x	x			x
Acroporidae	Montipora dilatata	B	N/A	EN	N/A	EN		1	10	9	x	common	x		x		x	x			
Acroporidae	Montipora echinata	DD	N/A	DD	N/A	DD															
Acroporidae	Montipora efflorescens	De	0.20	NT	0.09	LC	10	1	20	19	x	uncommon			x		x	x			
Acroporidae	Montipora effusa	De	0.22	NT	0.10	LC	10	1	20	19	x	uncommon			x		x	x			
Acroporidae	Montipora flabellata	D	N/A	VU	N/A	VU		1	10	9	x	common	x		x		x	x			
Acroporidae	Montipora florida	De+Cr	0.41	VU	0.15	LC	10	2	20	18	x	uncommon			x		x	x			

Acroporidae	Montipora floweri	De	0.20	LC	0.09	LC	10	1	30	29		uncommon			x		x	x			
Acroporidae	Montipora foliosa	De	0.20	NT	0.09	LC	10	2	20	18	x	common			x		x	x			x
Acroporidae	Montipora foveolata	De	0.21	NT	0.10	LC	10	1	25	24		uncommon			x		x	x			
Acroporidae	Montipora friabilis	De+Cr	0.40	VU	0.15	LC	10	1	20	19	x	uncommon			x		x	x			
Acroporidae	Montipora gaimardi	De	0.33	VU	0.15	LC	10	2	15	13	x	uncommon			x		x	x			
Acroporidae	Montipora grisea	De	0.21	LC	0.10	LC	10	3	20	17	x	common			x		x	x			
Acroporidae	Montipora hemispherica	DD	N/A	DD	N/A	DD															
Acroporidae	Montipora hirsuta	De	0.20	NT	0.09	LC	10	0	15	15	x	common			x		x	x			
Acroporidae	Montipora hispida	De	0.20	LC	0.09	LC	10	1	40	39		common			x		x	x			
Acroporidae	Montipora hodgsoni	De+Cr	0.38	VU	0.15	LC	10	1	20	19	x	uncommon			x	x	x	x			
Acroporidae	Montipora hoffmeisteri	De	0.19	LC	0.09	LC	10	2	40	38		common			x		x	x			
Acroporidae	Montipora incrassata	De	0.21	NT	0.09	LC	10	1	30	29		uncommon			x		x	x			
Acroporidae	Montipora informis	De	0.20	LC	0.09	LC	10	1	20	19	x	common			x		x	x			
Acroporidae	Montipora kellyi	DD	N/A	DD	N/A	DD															
Acroporidae	Montipora lobulata	De+Cr	0.35	VU	0.15	LC	10	1	20	19	x	rare			x	x	x	x			
Acroporidae	Montipora mactanensis	De+Cr	0.41	VU	0.16	LC	10	2	20	18	x	uncommon			x	x	x	x			
Acroporidae	Montipora malampaya	De+Cr	0.38	VU	0.15	LC	10	0	15	15	x	uncommon			x	x	x	x			
Acroporidae	Montipora meandrina	De+Cr	0.38	VU	0.14	LC	10	1	20	19	x	common			x	x	x	x			
Acroporidae	Montipora millepora	De	0.20	LC	0.09	LC	10	2	30	28		common			x		x	x			
Acroporidae	Montipora mollis	De	0.21	LC	0.09	LC	10	1	40	39		common			x		x	x			
Acroporidae	Montipora monasteriata	De	0.20	LC	0.09	LC	10	1	40	39		common			x		x	x			
Acroporidae	Montipora niugini	De	0.19	NT	0.09	LC	10	5	35	30		uncommon			x		x	x			
Acroporidae	Montipora nodosa	De	0.18	NT	0.09	LC	10	1	30	29		uncommon			x		x	x			
Acroporidae	Montipora orientalis	De+Cr	0.40	VU	0.15	LC	10	2	20	18	x	rare			x	x	x	x			
Acroporidae	Montipora pachytuberculata	DD	N/A	DD	N/A	DD															
Acroporidae	Montipora palawanensis	De	0.20	NT	0.09	LC	10	2	40	38		uncommon			x		x	x			
Acroporidae	Montipora patula	D	N/A	VU	N/A	VU		1	10	9	x	abundant	x		x	x	x	x			
Acroporidae	Montipora peltiformis	De	0.20	NT	0.09	LC	10	1	30	29		uncommon			x		x	x			
Acroporidae	Montipora porites	De	0.23	NT	0.10	LC	10	2	25	23		uncommon			x		x	x			
Acroporidae	Montipora samarensis	De+Cr	0.36	VU	0.14	LC	10	0	15	15	x	uncommon			x	x	x	x			
Acroporidae	Montipora saudii	De+Cr	0.06	NT	0.06	NT	10	1	8	7	x	uncommon	x		x	x	x	x			
Acroporidae	Montipora setosa	De+Cr	0.66	EN	0.24	NT	10	2	20	18	x	rare			x	x	x	x			
Acroporidae	Montipora spongiosa	De+Cr	0.06	LC	0.06	LC	10	1	20	19	x	uncommon	x		x	x	x	x			
Acroporidae	Montipora spongodes	De	0.20	LC	0.09	LC	10	1	25	24		common		x	x		x	x			x
Acroporidae	Montipora spumosa	De	0.20	LC	0.09	LC	10	1	30	29		common			x		x	x			
Acroporidae	Montipora stellata	De	0.19	LC	0.08	LC	10	0	20	20	x	common			x		x	x			
Acroporidae	Montipora stilosa	De+Cr	0.35	VU	0.15	LC	10	0	25	25		rare			x	x	x	x			
Acroporidae	Montipora taiwanensis	DD	N/A	DD	N/A	DD															
Acroporidae	Montipora tuberculosa	De	0.20	LC	0.09	LC	10	0	40	40		common			x		x	x			
Acroporidae	Montipora turgescens	De	0.20	LC	0.09	LC	10	0	30	30		common			x		x	x			
Acroporidae	Montipora turtlensis	De+Cr	0.36	VU	0.14	LC	10	1	20	19	x	uncommon			x	x	x	x			
Acroporidae	Montipora undata	De	0.21	NT	0.10	LC	10	2	30	28		uncommon			x		x	x			
Acroporidae	Montipora vauhani	DD	N/A	DD	N/A	DD															
Acroporidae	Montipora venosa	De	0.20	NT	0.09	LC	10	0	30	30		uncommon			x		x	x			
Acroporidae	Montipora verrilli	DD	N/A	DD	N/A	DD															
Acroporidae	Montipora verrucosa	De	0.20	LC	0.09	LC	10	1	30	29		uncommon			x		x	x			x

Acroporidae	Montipora verruculosus	De+Cr	0.38	VU	0.15	LC	10	2	20	18	x	uncommon			x	x	x	x			
Acroporidae	Montipora vietnamensis	De+Cr	0.38	VU	0.15	LC	10	1	15	14	x	uncommon			x	x	x	x			
Agariciidae	Agaricia agaricites	De	0.10	LC	0.21	LC	10	0.5	75	74.5		common		x	x	x	x				
Agariciidae	Agaricia fragilis	DD	N/A	DD	N/A	DD															
Agariciidae	Agaricia grahamae	De	0.10	LC	0.21	LC	10	20	115	95		common			x	x					
Agariciidae	Agaricia humilis	De	0.10	LC	0.21	LC	10	5	20	15	x	common			x	x					
Agariciidae	Agaricia lamarcki	De+Cr	0.38	VU	0.11	LC	10	10	76	66		common			x	x					
Agariciidae	Agaricia tenuifolia	De	0.14	NT	0.21	LC	10	1	15	14	x	common			x	x	x				
Agariciidae	Agaricia undata	DD	N/A	DD	N/A	DD															
Agariciidae	Coeloseris mayeri	De	0.21	LC	0.10	LC	10	1	5	4	x	common									
Agariciidae	Gardineroseris planulata	De	0.20	LC	0.09	LC	10	2	30	28		uncommon			x			x			
Agariciidae	Helioseris cucullata	De	0.10	LC	0.21	LC	10	10	40	30		uncommon			x	x					
Agariciidae	Leptoseris amatoriensis	De	0.23	NT	0.10	LC	10	15	30	15	x	rare									
Agariciidae	Leptoseris caillieti	De	0.10	LC	0.21	LC	10	30	150	120		uncommon									
Agariciidae	Leptoseris explanata	De	0.20	LC	0.09	LC	10	15	30	15	x	common									
Agariciidae	Leptoseris foliosa	De	0.21	LC	0.09	LC	10	15	30	15	x	uncommon									
Agariciidae	Leptoseris gardineri	De	0.22	LC	0.10	LC	10	10	30	20	x	uncommon									
Agariciidae	Leptoseris hawaiiensis	De	0.20	LC	0.09	LC	10	15	30	15	x	uncommon									
Agariciidae	Leptoseris incrustans	De+Cr	0.35	VU	0.14	LC	10	10	20	10	x	uncommon									
Agariciidae	Leptoseris mycetoseroides	De	0.20	LC	0.09	LC	10	10	30	20	x	common									
Agariciidae	Leptoseris papyracea	De	0.21	LC	0.10	LC	10	1	25	24		uncommon		x	x						
Agariciidae	Leptoseris scabra	De	0.20	LC	0.09	LC	10	8	30	22		uncommon					x				
Agariciidae	Leptoseris solida	De	0.19	LC	0.09	LC	10	10	30	20	x	uncommon									
Agariciidae	Leptoseris striata	De	0.20	NT	0.09	LC	10	15	30	15	x	rare									
Agariciidae	Leptoseris tubulifera	De	0.20	LC	0.09	LC	10	15	25	10	x	uncommon									
Agariciidae	Leptoseris yabei	De+Cr	0.36	VU	0.15	LC	10	6	20	14	x	uncommon									
Agariciidae	Pachyseris foliosa	De	0.20	LC	0.09	LC	10	10	25	15	x	uncommon									
Agariciidae	Pachyseris gemmae	De	0.20	NT	0.09	LC	10	10	25	15	x	rare									
Agariciidae	Pachyseris involuta	De+Cr	0.41	VU	0.15	LC	10	5	15	10	x	rare	x								
Agariciidae	Pachyseris rugosa	De+Cr	0.36	VU	0.14	LC	10	5	20	15	x	common			x						x
Agariciidae	Pachyseris speciosa	De	0.20	LC	0.09	LC	10	4	25	21		common									
Agariciidae	Pavona bipartita	De+Cr	0.34	VU	0.14	LC	10	3	20	17	x	uncommon									
Agariciidae	Pavona cactus	De+Cr	0.36	VU	0.15	LC	10	3	20	17	x	common			x						x
Agariciidae	Pavona chiriquiensis	De	0.10	LC	0.03	LC	10	3	30	27		uncommon	x					x			
Agariciidae	Pavona clavus	De	0.20	LC	0.09	LC	10	2	15	13	x	common			x						
Agariciidae	Pavona danai	De	0.32	VU	0.14	LC	10	0.5	15	14.5	x	uncommon									
Agariciidae	Pavona decussata	De+Cr	0.36	VU	0.15	LC	10	3	15	12	x	common									
Agariciidae	Pavona diffluens	De+Cr	0.36	VU	0.20	LC	10	5	20	15	x	uncommon	x								
Agariciidae	Pavona duerdeni	De	0.20	LC	0.09	LC	10	3	15	12	x	uncommon						x			
Agariciidae	Pavona explanulata	De	0.20	LC	0.09	LC	10	3	25	22		common						x			
Agariciidae	Pavona frondifera	De	0.20	LC	0.09	LC	10	3	15	12	x	common		x				x			
Agariciidae	Pavona gigantea	De	0.10	LC	0.03	LC	10	1	30	29		common	x		x			x			
Agariciidae	Pavona maldivensis	De	0.20	LC	0.09	LC	10	5	20	15	x	common		x				x			
Agariciidae	Pavona minuta	De	0.22	NT	0.09	LC	10	6	25	19	x	uncommon			x			x			
Agariciidae	Pavona varians	De	0.20	LC	0.09	LC	10	2	80	78		common		x				x			
Agariciidae	Pavona venosa	De+Cr	0.37	VU	0.15	LC	10	2	20	18	x	common									



Euphyllidae	Plerogyra diabolotus	DD	N/A	DD	N/A	DD														
Euphyllidae	Plerogyra discus	De+Cr	0.38	VU	0.15	LC	10	8	15	7	x	rare								
Euphyllidae	Plerogyra multilobata	DD	N/A	DD	N/A	DD														
Euphyllidae	Plerogyra simplex	De	0.19	NT	0.09	LC	10	3	30	27		common								x
Euphyllidae	Plerogyra sinuosa	De	0.20	NT	0.09	LC	10	3	35	32		common								x
Faviidae	Australogyra zelli	De+Cr	0.38	VU	0.15	LC	10	1	15	14	x	uncommon								
Faviidae	Barabattoia amicorum	De	0.20	LC	0.09	LC	10	0	20	20	x	uncommon						x		
Faviidae	Barabattoia laddi	De+Cr	0.35	VU	0.14	LC	10	0	10	10	x	common								
Faviidae	Caulastrea connata	De+Cr	0.35	VU	0.15	LC	10	0	10	10	x	rare	x							
Faviidae	Caulastrea curvata	De+Cr	0.36	VU	0.14	LC	10	0	20	20	x	uncommon								x
Faviidae	Caulastrea echinulata	De+Cr	0.36	VU	0.14	LC	10	1	18	17	x	uncommon								x
Faviidae	Caulastrea furcata	De	0.19	LC	0.09	LC	10	2	30	28		common						x		
Faviidae	Caulastrea tumida	De	0.20	NT	0.09	LC	10	2	20	18	x	common								x
Faviidae	Cladocora arbuscula	De	0.10	LC	0.21	LC	10	1	25	24		common		x						
Faviidae	Cladocora caespitosa	DD	N/A	DD	N/A	DD														
Faviidae	Colpophyllia natans	De	0.10	LC	0.21	LC	10	0.5	55	54.5		common			x	x	x			
Faviidae	Cyphastrea agassizi	De+Cr	0.36	VU	0.14	LC	10	3	20	17	x	uncommon								
Faviidae	Cyphastrea chalcidicum	De	0.25	LC	0.12	LC	10	0	50	50		common		x						
Faviidae	Cyphastrea decadia	De	0.19	LC	0.09	LC	10	3	40	37		uncommon		x						
Faviidae	Cyphastrea hexasepta	De+Cr	0.32	VU	0.15	LC	10	8	25	17	x	rare	x							
Faviidae	Cyphastrea japonica	De	0.23	LC	0.10	LC	10	2	20	18	x	uncommon		x						
Faviidae	Cyphastrea microphthalma	De	0.20	LC	0.09	LC	10	0	30	30		common		x				x		
Faviidae	Cyphastrea ocellina	De+Cr	0.36	VU	0.14	LC	10	5	20	15	x	uncommon								
Faviidae	Cyphastrea serailia	De	0.20	LC	0.09	LC	10	0	50	50		common		x	x		x			
Faviidae	Diploastrea heliopora	De	0.20	NT	0.09	LC	20	0	30	30		uncommon								x
Faviidae	Diploria clivosa	De	0.10	LC	0.21	LC	10	0	15	15	x	common								
Faviidae	Diploria labyrinthiformis	De	0.10	LC	0.21	LC	10	1	43	42		common			x		x			
Faviidae	Diploria strigosa	De	0.10	LC	0.21	LC	10	0.5	55	54.5		common			x	x	x			
Faviidae	Echinopora ashmorensis	De+Cr	0.41	VU	0.15	LC	10	3	20	17	x	rare								
Faviidae	Echinopora forskaliana	De+Cr	0.22	NT	0.08	LC	10	1	20	19	x	uncommon	x							
Faviidae	Echinopora fruticulosa	De+Cr	0.22	NT	0.08	LC	10	1	20	19	x	common	x							
Faviidae	Echinopora gemmacea	De	0.20	LC	0.09	LC	10	0	40	40		common		x						
Faviidae	Echinopora grandicula	DD	N/A	DD	N/A	DD														
Faviidae	Echinopora hirsutissima	De	0.20	LC	0.09	LC	10	0	40	40		uncommon		x						
Faviidae	Echinopora horrida	De	0.22	NT	0.09	LC	10	3	25	22		uncommon								
Faviidae	Echinopora irregularis	DD	N/A	DD	N/A	DD														
Faviidae	Echinopora lamellosa	De	0.20	LC	0.09	LC	10	1	40	39		common		x						
Faviidae	Echinopora mammiformis	De	0.18	NT	0.09	LC	10	3	15	12	x	common								
Faviidae	Echinopora pacificus	De	0.19	NT	0.09	LC	10	1	15	14	x	common		x						
Faviidae	Echinopora robusta	De	0.34	VU	0.15	LC	10	1	25	24		uncommon	x							
Faviidae	Echinopora taylorae	De	0.25	NT	0.10	LC	10	unknown				rare								
Faviidae	Echinopora tiranensis	DD	N/A	DD	N/A	DD														
Faviidae	Erythrastrea flabellata	De	0.25	NT	0.10	LC	10	5	25	20	x	common	x							
Faviidae	Favia albidus	De+Cr	0.14	NT	0.08	LC	10	2	10	8	x	uncommon	x					x		
Faviidae	Favia danae	De	0.18	LC	0.09	LC	10	3	20	17	x	uncommon		x				x		
Faviidae	Favia fagus	De	0.20	LC	0.09	LC	10	0	50	50		common		x				x		



Faviidae	Favia fragum	De	0.10	LC	0.21	LC	10	0.5	20	19.5	x	common		x					x		
Faviidae	Favia helianthoides	De	0.20	NT	0.09	LC	10	1	20	19	x	uncommon		x					x		
Faviidae	Favia lacuna	De+Cr	0.22	NT	0.08	LC	10	1	15	14	x	uncommon	x						x		
Faviidae	Favia laxa	De	0.21	NT	0.10	LC	10	1	25	24		uncommon							x		
Faviidae	Favia leptophylla	DD	N/A	DD	N/A	DD															
Faviidae	Favia lizardensis	De	0.20	NT	0.09	LC	10	1	20	19	x	uncommon		x					x		
Faviidae	Favia maritima	De	0.20	NT	0.09	LC	10	5	30	25		uncommon		x					x		
Faviidae	Favia marshae	De	0.20	NT	0.09	LC	10	5	15	10	x	uncommon							x		
Faviidae	Favia matthaii	De	0.20	NT	0.09	LC	10	1	30	29		uncommon		x					x		
Faviidae	Favia maxima	De	0.22	NT	0.10	LC	10	2	25	23		uncommon		x					x		
Faviidae	Favia pallida	De	0.20	LC	0.09	LC	10	0	50	50		common		x					x		x
Faviidae	Favia rosaria	De+Cr	0.36	VU	0.14	LC	10	5	20	15	x	uncommon							x		
Faviidae	Favia rotumana	De	0.20	LC	0.09	LC	10	1	30	29		common							x		
Faviidae	Favia rotundata	De	0.20	NT	0.09	LC	10	1	20	19	x	uncommon		x				x	x		
Faviidae	Favia speciosa	De	0.20	LC	0.09	LC	10	0	40	40		common		x					x		
Faviidae	Favia stelligera	De	0.20	NT	0.09	LC	10	0	20	20	x	common		x					x		
Faviidae	Favia truncatus	De	0.19	LC	0.09	LC	10	0	20	20	x	common		x					x		
Faviidae	Favia veroni	De	0.20	NT	0.09	LC	10	3	25	22		uncommon							x		
Faviidae	Favia vietnamensis	De	0.23	NT	0.10	LC	10	0	20	20	x	rare							x		
Faviidae	Favites abdita	De	0.20	NT	0.09	LC	10	0	40	40		common									x
Faviidae	Favites acuticollis	De	0.20	NT	0.09	LC	10	0	20	20	x	common									
Faviidae	Favites bestae	De	0.19	NT	0.09	LC	10	3	20	17	x	rare									
Faviidae	Favites chinensis	De	0.20	NT	0.09	LC	10	0	20	20	x	common		x							x
Faviidae	Favites complanata	De	0.20	NT	0.09	LC	10	1	30	29		uncommon		x							
Faviidae	Favites flexuosa	De	0.20	NT	0.09	LC	10	1	20	19	x	uncommon		x							
Faviidae	Favites halicora	De	0.20	NT	0.09	LC	10	0	20	20	x	uncommon		x							
Faviidae	Favites micropentagona	De	0.19	NT	0.09	LC	10	0	20	20	x	uncommon									
Faviidae	Favites paraflexuosa	De	0.21	NT	0.10	LC	10	1	20	19	x	uncommon									
Faviidae	Favites pentagona	De	0.20	LC	0.09	LC	10	0	25	25		uncommon		x							
Faviidae	Favites russelli	De	0.20	NT	0.09	LC	10	1	25	24		uncommon		x							
Faviidae	Favites spinosa	De+Cr	0.40	VU	0.15	LC	10	0	10	10	x	uncommon	x								
Faviidae	Favites stylifera	De	0.20	NT	0.09	LC	10	3	20	17	x	uncommon		x							
Faviidae	Favites vasta	De	0.18	NT	0.09	LC	10	1	20	19	x	uncommon	x								
Faviidae	Goniastrea aspera	De	0.20	LC	0.09	LC	10	0	15	15	x	uncommon		x							
Faviidae	Goniastrea australensis	De	0.20	LC	0.09	LC	10	0	40	40		common		x							
Faviidae	Goniastrea columella	De+Cr	0.22	NT	0.08	LC	10	2	15	13	x	common	x								
Faviidae	Goniastrea deformis	De	0.30	VU	0.14	LC	10	3	20	17	x	uncommon	x	x							
Faviidae	Goniastrea edwardsi	De	0.20	LC	0.09	LC	10	0	30	30		common		x							
Faviidae	Goniastrea favulus	De	0.21	NT	0.10	LC	10	0	15	15	x	uncommon		x							
Faviidae	Goniastrea minuta	De	0.19	NT	0.09	LC	10	1	15	14	x	uncommon		x							
Faviidae	Goniastrea palauensis	De	0.21	NT	0.10	LC	10	1	25	24		uncommon									
Faviidae	Goniastrea pectinata	De	0.20	LC	0.09	LC	10	0	40	40		common		x							x
Faviidae	Goniastrea peresi	De	0.23	NT	0.11	LC	10	2	25	23		common		x							
Faviidae	Goniastrea ramosa	De+Cr	0.38	VU	0.15	LC	10	1	15	14	x	rare									
Faviidae	Goniastrea retiformis	De	0.20	LC	0.09	LC	10	0	20	20	x	common		x							x
Faviidae	Goniastrea thecata	De+Cr	0.18	NT	0.07	LC	10	0	15	15	x	rare	x								

Faviidae	Leptastrea aequalis	De+Cr	0.41	VU	0.16	LC	10	2	20	18	x	rare								
Faviidae	Leptastrea bewickensis	De	0.21	NT	0.09	LC	10	3	20	17	x	uncommon		x						
Faviidae	Leptastrea bottae	De	0.20	NT	0.09	LC	10	2	20	18	x	uncommon								
Faviidae	Leptastrea inaequalis	De	0.19	NT	0.09	LC	10	0	20	20	x	uncommon		x						
Faviidae	Leptastrea pruinosa	De	0.20	LC	0.09	LC	10	0	40	40		common		x						
Faviidae	Leptastrea purpurea	De	0.20	LC	0.09	LC	10	0	30	30		common		x						
Faviidae	Leptastrea transversa	De	0.20	LC	0.09	LC	10	0	30	30		common		x						
Faviidae	Leptoria irregularis	De+Cr	0.37	VU	0.14	LC	10	2	20	18	x	uncommon								
Faviidae	Leptoria phrygia	De	0.20	NT	0.09	LC	15	0	30	30		common		x						
Faviidae	Manicina areolata	De	0.10	LC	0.21	LC	10	1	65	64		common		x		x				
Faviidae	Montastraea annularis	A2	>0.50	EN	0.30	VU	10	0.5	82	81.5		common			x	x				
Faviidae	Montastraea cavernosa	De	0.10	LC	0.21	LC	10	0.5	113	112.5		common		x						
Faviidae	Montastraea faveolata	A2	>0.50	EN	0.30	VU	10	0.5	40	39.5		common			x	x				
Faviidae	Montastraea franksi	De+Cr	0.38	VU	0.11	LC	10	5	50	45		common				x				
Faviidae	Montastrea annuligera	De	0.20	NT	0.09	LC	10	0	20	20	x	uncommon								x
Faviidae	Montastrea colemani	De	0.19	NT	0.09	LC	10	0	20	20	x	common		x						
Faviidae	Montastrea curta	De	0.20	LC	0.09	LC	10	0	40	40		common		x						
Faviidae	Montastrea magnistellata	De	0.20	NT	0.09	LC	10	2	30	28		uncommon		x						
Faviidae	Montastrea multipunctata	De+Cr	0.36	VU	0.14	LC	10	1	15	14	x	rare								
Faviidae	Montastrea salebrosa	De+Cr	0.38	VU	0.15	LC	10	2	20	18	x	rare								
Faviidae	Montastrea serageldini	De	0.34	VU	0.15	LC	10	1	25	24		common								
Faviidae	Montastrea valenciennesi	De	0.21	NT	0.10	LC	10	1	30	29		uncommon		x						x
Faviidae	Moseleya latistellata	De+Cr	0.41	VU	0.16	LC	10	0	10	10	x	uncommon								
Faviidae	Oulastrea crispata	De	0.22	LC	0.10	LC	10	0	10	10	x	common		x						
Faviidae	Oulophyllia bennettiae	De	0.20	NT	0.09	LC	10	1	30	29		uncommon		x						
Faviidae	Oulophyllia crispa	De	0.20	NT	0.09	LC	10	2	30	28		uncommon		x						
Faviidae	Oulophyllia levis	De	0.19	LC	0.09	LC	10	3	30	27		uncommon								
Faviidae	Parasimplastrea sheppardi	De+Cr	0.57	EN	0.22	NT	10	3	20	17	x	uncommon	x							
Faviidae	Platygyra acuta	De	0.18	NT	0.09	LC	10	2	20	18	x	uncommon								
Faviidae	Platygyra carnosus	De	0.29	NT	0.14	LC	10	2	15	13	x	uncommon		x						
Faviidae	Platygyra contorta	De	0.18	LC	0.09	LC	10	2	20	18	x	common		x						
Faviidae	Platygyra crosslandi	De	0.23	NT	0.11	LC	10	2	20	18	x	common								
Faviidae	Platygyra daedalea	De	0.20	LC	0.09	LC	10	0	30	30		common		x						
Faviidae	Platygyra lamellina	De	0.20	NT	0.09	LC	10	1	30	29		uncommon								
Faviidae	Platygyra pini	De	0.20	LC	0.09	LC	10	0	30	30		common		x						
Faviidae	Platygyra ryukyuensis	De	0.19	NT	0.09	LC	10	2	30	28		uncommon		x						
Faviidae	Platygyra sinensis	De	0.20	LC	0.09	LC	10	0	30	30		uncommon		x						
Faviidae	Platygyra verweyi	De	0.22	NT	0.10	LC	10	1	20	19	x	uncommon		x						
Faviidae	Platygyra yaeyamaensis	De+Cr	0.38	VU	0.15	LC	10	1	20	19	x	rare								
Faviidae	Plesiastrea devantieri	De	0.16	NT	0.13	LC	10	0	20	20	x	common	x							
Faviidae	Plesiastrea versipora	De	0.20	LC	0.09	LC	10	1	40	39		uncommon		x						
Faviidae	Solenastrea bournoni	De	0.10	LC	0.21	LC	10	0.5	30	29.5		common		x		x				
Faviidae	Solenastrea hyades	De	0.10	LC	0.21	LC	10	1	40	39		uncommon								
Fungiidae	Cantharellus doederleini	De+Cr	0.06	LC	0.06	LC	10	15	30	15	x	rare	x							
Fungiidae	Cantharellus jebbi	De	0.02	LC	0.02	LC	10	10	25	15	x	rare								
Fungiidae	Cantharellus noumeae	B	N/A	EN	N/A	EN		20	30	10	x	rare	x							

Fungiidae	Ctenactis albitentaculata	De	0.20	NT	0.09	LC	10	6	20	14	x	uncommon		x	x		x				
Fungiidae	Ctenactis crassa	De	0.20	LC	0.09	LC	10	3	25	22		common		x							
Fungiidae	Ctenactis echinata	De	0.20	LC	0.09	LC	10	1	20	19	x	common		x							
Fungiidae	Fungia concinna	De	0.20	LC	0.09	LC	7	1	25	24		common		x	x		x				
Fungiidae	Fungia costulata	De	0.20	LC	0.09	LC	7	3	30	27		common		x							
Fungiidae	Fungia curvata	De+Cr	0.39	VU	0.16	LC	7	3	73	70		rare							x		
Fungiidae	Fungia cyclolites	De	0.21	LC	0.09	LC	10	1	40	39		uncommon		x							
Fungiidae	Fungia distorta	De	0.21	LC	0.10	LC	10	12	85	73		uncommon					x		x		
Fungiidae	Fungia fragilis	De	0.20	LC	0.09	LC	5	1	40	39		uncommon		x							
Fungiidae	Fungia fralinae	De	0.22	LC	0.09	LC	10	3	27	24		uncommon		x							
Fungiidae	Fungia fungites	De	0.20	NT	0.09	LC	10	1	25	24		common		x	x		x	x			x
Fungiidae	Fungia granulosa	De	0.20	LC	0.09	LC	7	2	33	31		common		x							
Fungiidae	Fungia hexagonalis	De	0.20	LC	0.09	LC	5	10	25	15	x	rare		x							
Fungiidae	Fungia horrida	De	0.20	LC	0.09	LC	10	1	25	24		common		x	x		x				
Fungiidae	Fungia moluccensis	De	0.20	LC	0.09	LC	10	3	30	27		common		x							x
Fungiidae	Fungia paumotensis	De	0.20	LC	0.09	LC	8	1	25	24		common		x	x		x				x
Fungiidae	Fungia puishani	DD	N/A	DD	N/A	DD															
Fungiidae	Fungia repanda	De	0.20	LC	0.09	LC	10	1	30	29		common		x	x		x				
Fungiidae	Fungia scabra	De	0.20	LC	0.09	LC	10	1	24	23		common		x							
Fungiidae	Fungia scruposa	De	0.20	LC	0.09	LC	10	1	27	26		common		x	x		x				
Fungiidae	Fungia scutaria	De	0.20	LC	0.09	LC	10	1	30	29		common		x							
Fungiidae	Fungia seychellensis	De	0.35	VU	0.15	LC	10	5	25	20	x	common	x	x							
Fungiidae	Fungia sinensis	De	0.21	LC	0.09	LC	5	9	40	31		uncommon		x							
Fungiidae	Fungia somervillei	De	0.20	LC	0.09	LC	7	25	35	10	x	rare		x							
Fungiidae	Fungia spinifer	De	0.20	LC	0.09	LC	10	18	40	22		common		x							
Fungiidae	Fungia taiwanensis	De	0.37	VU	0.16	LC	10	15	35	20	x	uncommon	x	x							
Fungiidae	Fungia tenuis	De	0.20	LC	0.09	LC	5	1	27	26		common		x							
Fungiidae	Fungia vauhani	De	0.21	LC	0.10	LC	10	20	36	16	x	uncommon		x							
Fungiidae	Halomitra clavator	De+Cr	0.38	VU	0.15	LC	10	5	25	20	x	rare	x								
Fungiidae	Halomitra pileus	De	0.21	LC	0.09	LC	10	3	25	22		common		x							
Fungiidae	Heliofungia actiniformis	De+Cr	0.36	VU	0.09	LC	10	1	25	24		common							x		x
Fungiidae	Herpolitha limax	De	0.20	LC	0.09	LC	10	1	30	29		common		x					x		x
Fungiidae	Lithophyllon mokai	De	0.20	LC	0.09	LC	10	6	27	21		uncommon									
Fungiidae	Lithophyllon ranjithi	B	N/A	EN	N/A	EN		10	20	10	x	uncommon	x								
Fungiidae	Lithophyllon undulatum	De	0.22	NT	0.10	LC	10	1	20	19	x	uncommon									
Fungiidae	Podabacia crustacea	De	0.20	LC	0.09	LC	10	3	20	17	x	common									
Fungiidae	Podabacia motuporensis	De	0.20	NT	0.09	LC	10	5	20	15	x	uncommon									
Fungiidae	Podabacia sinai	DD	N/A	DD	N/A	DD															
Fungiidae	Polyphyllia novaehiberniae	De	0.19	NT	0.09	LC	10	1	15	14	x	common		x	x						
Fungiidae	Polyphyllia talpina	De	0.21	LC	0.10	LC	10	1	30	29		common		x							x
Fungiidae	Sandalolitha dentata	De	0.21	LC	0.09	LC	10	6	25	19	x	uncommon		x							
Fungiidae	Sandalolitha robusta	De	0.21	LC	0.09	LC	10	1	21	20	x	common		x							
Fungiidae	Zoopilus echinatus	De	0.19	LC	0.09	LC	10	12	20	8	x	uncommon		x							
Helioporidae	Heliopora coerulea	De+Cr	0.37	VU	0.15	LC	10	0	2	2	x	common			x						x
Meandrinidae	Ctenella chagius	De+Cr	0.58	EN	0.12	LC	10	3	45	42		uncommon	x								
Meandrinidae	Dendrogyra cylindrus	De+Cr	0.38	VU	0.11	LC	10	1	25	24		uncommon				x					

Meandrinidae	Dichocoenia stellaris	DD	N/A	DD	N/A	DD															
Meandrinidae	Dichocoenia stokesii	De+Cr	0.38	VU	0.11	LC	10	2	72	70		common			x	x					
Meandrinidae	Eusmilia fastigiata	De	0.10	LC	0.21	LC	10	1	65	64		common			x	x					
Meandrinidae	Gyrosmlia interrupta	De	0.09	LC	0.08	LC	10	1	30	29		uncommon	x								
Meandrinidae	Meandrina braziliensis	DD	N/A	DD	N/A	DD															
Meandrinidae	Meandrina danae	De	0.10	LC	0.21	LC	10	5	80	75		common		x		x					
Meandrinidae	Meandrina meandrites	De	0.10	LC	0.21	LC	10	0.5	80	79.5		common			x	x	x				
Meandrinidae	Montigyra kenti	DD	N/A	DD	N/A	DD															
Merulinidae	Boninastrea boninensis	DD	N/A	DD	N/A	DD															
Merulinidae	Hydnophora bonsai	De+Cr	0.64	EN	0.24	NT	10	5	15	10	x	uncommon	x								
Merulinidae	Hydnophora exesa	De	0.20	NT	0.09	LC	10	1	30	29		common									x
Merulinidae	Hydnophora grandis	De	0.22	LC	0.10	LC	10	2	25	23		uncommon									
Merulinidae	Hydnophora microconos	De	0.20	NT	0.09	LC	10	1	35	34		common			x						x
Merulinidae	Hydnophora pilosa	De	0.20	LC	0.09	LC	10	5	30	25		uncommon									
Merulinidae	Hydnophora rigida	De	0.21	LC	0.10	LC	10	0	40	40		common									x
Merulinidae	Merulina ampliata	De	0.20	LC	0.09	LC	10	0	50	50		common									x
Merulinidae	Merulina scabricula	De	0.21	LC	0.10	LC	10	1	40	39		common									x
Merulinidae	Merulina scheeri	De+Cr	0.06	LC	0.06	LC	10	2	45	43		common	x								
Merulinidae	Paraclavaria triangularis	De	0.19	NT	0.09	LC	10	3	20	17	x	uncommon									
Merulinidae	Scapophyllia cylindrica	De	0.22	LC	0.10	LC	10	2	25	23		uncommon									
Milleporidae	Millepora alcicornis	De	0.10	LC	0.21	LC	10	1	40	39		common			x		x				
Milleporidae	Millepora boschmai	B	N/A	CR	N/A	CR		2	18	16	x	rare	x		x						
Milleporidae	Millepora braziliensis	DD	N/A	DD	N/A	DD															
Milleporidae	Millepora complanata	De	0.10	LC	0.21	LC	10	0	15	15	x	common			x		x				
Milleporidae	Millepora dichotoma	De	0.21	LC	0.09	LC	10	0	15	15	x	common			x		x				
Milleporidae	Millepora exaesa	De	0.21	LC	0.09	LC	10	0	15	15	x	common			x		x				
Milleporidae	Millepora foveolata	De+Cr	0.39	VU	0.15	LC	10	0	20	20	x	common	x		x		x				
Milleporidae	Millepora intricata	De	0.19	LC	0.09	LC	10	3	30	27		common			x		x				
Milleporidae	Millepora latifolia	De	0.38	VU	0.16	LC	10	0	20	20	x	common	x		x		x				
Milleporidae	Millepora murrayi	De	0.27	NT	0.13	LC	10	0	20	20	x	common			x		x				
Milleporidae	Millepora nitida	DD	N/A	DD	N/A	DD															
Milleporidae	Millepora platyphylla	De	0.20	LC	0.09	LC	10	2	18	16	x	common			x		x				
Milleporidae	Millepora squarrosa	De	0.12	LC	0.21	NT	10	2	10	8	x	common	x		x		x				
Milleporidae	Millepora striata	De+Cr	0.50	EN	0.11	LC	10	unknown				rare			x		x				
Milleporidae	Millepora tenera	De	0.21	LC	0.09	LC	10	0	15	15	x	common			x		x				
Milleporidae	Millepora tuberosa	De+Cr	0.59	EN	0.22	NT	10	unknown				common			x		x				
Mussidae	Acanthastrea bowerbanki	De+Cr	0.36	VU	0.14	LC	10	2	20	18	x	rare						x			
Mussidae	Acanthastrea brevis	De+Cr	0.36	VU	0.14	LC	10	1	20	19	x	uncommon						x			
Mussidae	Acanthastrea echinata	De	0.20	LC	0.09	LC	10	0	50	50		common									x
Mussidae	Acanthastrea faviaformis	De+Cr	0.34	VU	0.13	LC	10	2	12	10	x	uncommon									
Mussidae	Acanthastrea hemprichii	De+Cr	0.35	VU	0.14	LC	10	2	20	18	x	uncommon									
Mussidae	Acanthastrea hillae	De	0.19	NT	0.09	LC	10	2	20	18	x	common									
Mussidae	Acanthastrea ishigakiensis	De+Cr	0.34	VU	0.14	LC	10	1	15	14	x	uncommon									
Mussidae	Acanthastrea lordhowensis	De	0.19	NT	0.09	LC	10	1	30	29		uncommon									
Mussidae	Acanthastrea maxima	De+Cr	0.19	NT	0.16	LC	10	5	15	10	x	rare	x								
Mussidae	Acanthastrea regularis	De+Cr	0.36	VU	0.14	LC	10	2	20	18	x	uncommon									

Mussidae	Acanthastrea rotundoflora	De	0.18	NT	0.08	LC	10	2	30	28		uncommon								
Mussidae	Acanthastrea subechinata	De	0.19	NT	0.09	LC	10	0	35	35		uncommon								
Mussidae	Australomussa rowleyensis	De	0.22	NT	0.10	LC	10	2	40	38		uncommon								
Mussidae	Blastomussa merleti	De	0.21	LC	0.09	LC	10	2	50	48		common								
Mussidae	Blastomussa wellsii	De	0.18	NT	0.08	LC	10	2	40	38		uncommon								x
Mussidae	Cynarina lacrymalis	De	0.20	NT	0.09	LC	10	3	50	47		uncommon		x	x		x			x
Mussidae	Indophyllia macassarensis	DD	N/A	DD	N/A	DD														
Mussidae	Isophyllastrea rigida	De	0.10	LC	0.21	LC	10	3	20	17	x	common		x		x				
Mussidae	Isophyllia sinuosa	De	0.10	LC	0.21	LC	10	1	20	19	x	common		x						
Mussidae	Lobophyllia corymbosa	De	0.20	LC	0.09	LC	10	2	40	38		common								x
Mussidae	Lobophyllia dentatus	De+Cr	0.38	VU	0.15	LC	10	2	10	8	x	uncommon								
Mussidae	Lobophyllia diminuta	De+Cr	0.38	VU	0.15	LC	10	1	10	9	x	uncommon						x		
Mussidae	Lobophyllia flabelliformis	De+Cr	0.38	VU	0.15	LC	10	3	30	27		uncommon						x		
Mussidae	Lobophyllia hataii	De	0.20	LC	0.09	LC	10	2	40	38		common								
Mussidae	Lobophyllia hemprichii	De	0.20	LC	0.09	LC	10	1	50	49		common								x
Mussidae	Lobophyllia pachysepta	De	0.22	NT	0.10	LC	10	3	30	27		uncommon								
Mussidae	Lobophyllia robusta	De	0.18	LC	0.09	LC	10	2	40	38		common								
Mussidae	Lobophyllia serratus	De+Cr	0.66	EN	0.24	NT	10	4	15	11	x	rare								
Mussidae	Micromussa amakusensis	De	0.18	NT	0.09	LC	10	1	30	29		uncommon								
Mussidae	Micromussa diminuta	DD	N/A	DD	N/A	DD														
Mussidae	Micromussa minuta	De	0.22	NT	0.10	LC	10	1	30	29		uncommon								
Mussidae	Mussa angulosa	De	0.10	LC	0.21	LC	10	5	30	25		uncommon			x	x				
Mussidae	Mussismilia braziliensis	DD	N/A	DD	N/A	DD														
Mussidae	Mussismilia hartii	DD	N/A	DD	N/A	DD														
Mussidae	Mussismilia hispida	DD	N/A	DD	N/A	DD														
Mussidae	Mycetophyllia aliciae	De	0.10	LC	0.21	LC	10	10	85	75		common				x				
Mussidae	Mycetophyllia danaana	De	0.10	LC	0.21	LC	10	15	30	15	x	common			x	x	x			
Mussidae	Mycetophyllia ferox	De+Cr	0.38	VU	0.11	LC	10	5	30	25		common			x	x				
Mussidae	Mycetophyllia lamarckiana	De	0.10	LC	0.21	LC	10	10	75	65		common			x	x	x			
Mussidae	Mycetophyllia reesi	DD	N/A	DD	N/A	DD														
Mussidae	Scolymia australis	De	0.19	LC	0.09	LC	10	10	40	30		common		x						
Mussidae	Scolymia cubensis	De	0.10	LC	0.21	LC	10	10	92	82		uncommon		x	x		x			
Mussidae	Scolymia lacera	De	0.10	LC	0.21	LC	10	10	80	70		uncommon		x	x		x			
Mussidae	Scolymia vitiensis	De	0.21	NT	0.09	LC	10	5	50	45		uncommon								x
Mussidae	Scolymia wellsii	DD	N/A	DD	N/A	DD														
Mussidae	Symphyllia agaricia	De	0.21	LC	0.09	LC	10	2	40	38		common								x
Mussidae	Symphyllia erythraea	De	0.23	LC	0.11	LC	10	2	45	43		common	x							
Mussidae	Symphyllia hassi	De+Cr	0.38	VU	0.15	LC	10	4	20	16	x	uncommon								
Mussidae	Symphyllia radians	De	0.21	LC	0.09	LC	10	0	40	40		common							x	
Mussidae	Symphyllia recta	De	0.20	LC	0.09	LC	10	0	40	40		common							x	
Mussidae	Symphyllia valenciennesii	De	0.20	LC	0.09	LC	10	2	40	38		common								
Mussidae	Symphyllia wilsoni	De+Cr	0.05	LC	0.03	LC	10	3	15	12	x	uncommon								
Oculinidae	Galaxea archelia	De+Cr	0.38	VU	0.15	LC	10	3	15	12	x	uncommon								
Oculinidae	Galaxea astreata	De+Cr	0.35	VU	0.14	LC	8	1	30	29		common			x					x
Oculinidae	Galaxea cryptoramosa	De	0.38	VU	0.15	LC	10	5	15	10	x	uncommon								
Oculinidae	Galaxea fascicularis	De	0.20	NT	0.09	LC	10	1	15	14	x	common								x

Oculinidae	Galaxea horrescens	De	0.19	LC	0.09	LC	10	5	25	20	x	common								
Oculinidae	Galaxea longisepta	De	0.23	NT	0.10	LC	10	5	20	15	x	rare								
Oculinidae	Galaxea paucisepta	De	0.19	NT	0.09	LC	10	5	20	15	x	rare								
Oculinidae	Oculina diffusa	De	0.10	LC	0.21	LC	10	0.5	30	29.5		common		x						
Oculinidae	Oculina patagonica	A2	N/A	LC	N/A	LC	10	0.5	10	9.5	x	uncommon		x						
Oculinidae	Oculina robusta	DD	N/A	DD	N/A	DD														
Oculinidae	Oculina tenella	DD	N/A	DD	N/A	DD														
Oculinidae	Oculina valenciennesi	DD	N/A	DD	N/A	DD														
Oculinidae	Oculina varicosa	A2	>0.30	VU	0.20	LC	10	3	152	149		common		x					x	x
Oculinidae	Schizoculina africana	DD	N/A	DD	N/A	DD														
Oculinidae	Schizoculina fissipara	DD	N/A	DD	N/A	DD														
Oculinidae	Simplastrea vesicularis	DD	N/A	DD	N/A	DD														
Pectiniidae	Echinomorpha nishihirai	De	0.19	NT	0.09	LC	10	5	20	15	x	rare								
Pectiniidae	Echinophyllia aspera	De	0.20	LC	0.09	LC	10	3	40	37		common								
Pectiniidae	Echinophyllia costata	De+Cr	0.41	VU	0.15	LC	10	5	10	5	x	rare								
Pectiniidae	Echinophyllia echinata	De	0.20	LC	0.09	LC	10	5	40	35		uncommon								
Pectiniidae	Echinophyllia echinoporoides	De	0.19	LC	0.09	LC	10	3	30	27		common								
Pectiniidae	Echinophyllia orpheensis	De	0.20	LC	0.09	LC	10	1	30	29		uncommon								
Pectiniidae	Echinophyllia patula	De	0.22	LC	0.10	LC	10	10	40	30		uncommon								
Pectiniidae	Echinophyllia pectinata	DD	N/A	DD	N/A	DD														
Pectiniidae	Mycedium elephantotus	De	0.20	LC	0.09	LC	10	3	40	37		common								x
Pectiniidae	Mycedium mancaoi	De	0.05	LC	0.07	LC	10	unknown				uncommon								
Pectiniidae	Mycedium robokaki	De	0.20	LC	0.09	LC	10	unknown				common								
Pectiniidae	Mycedium spina	DD	N/A	DD	N/A	DD														
Pectiniidae	Mycedium steeni	De	0.38	VU	0.16	LC	10	5	30	25		rare								
Pectiniidae	Mycedium umbra	De	0.06	LC	0.07	LC	10	5	30	25		common								
Pectiniidae	Oxypora convoluta	DD	N/A	DD	N/A	DD														
Pectiniidae	Oxypora crassispinosa	De	0.20	LC	0.09	LC	10	3	30	27		uncommon								
Pectiniidae	Oxypora egyptensis	DD	N/A	DD	N/A	DD														
Pectiniidae	Oxypora glabra	De	0.19	LC	0.09	LC	10	3	40	37		common								
Pectiniidae	Oxypora lacera	De	0.20	LC	0.09	LC	10	3	30	27		common								
Pectiniidae	Pectinia africanus	De+Cr	0.45	VU	0.12	LC	10	3	30	27		uncommon	x		x					
Pectiniidae	Pectinia alcornis	De+Cr	0.38	VU	0.15	LC	10	5	25	20	x	uncommon			x					
Pectiniidae	Pectinia ayleni	De	0.23	NT	0.10	LC	10	2	25	23		uncommon			x					
Pectiniidae	Pectinia crassa	DD	N/A	DD	N/A	DD														
Pectiniidae	Pectinia elongata	De	0.20	NT	0.09	LC	10	5	25	20	x	uncommon			x					
Pectiniidae	Pectinia lactuca	De+Cr	0.38	VU	0.15	LC	10	3	15	12	x	common			x					x
Pectiniidae	Pectinia maxima	De+Cr	0.66	EN	0.24	NT	10	3	25	22		uncommon			x					
Pectiniidae	Pectinia paeonia	De	0.22	NT	0.10	LC	10	3	25	22		common			x					
Pectiniidae	Pectinia pygmaeus	De	0.20	NT	0.09	LC	10	5	30	25		common			x					
Pectiniidae	Pectinia teres	De	0.26	NT	0.11	LC	10	5	30	25		uncommon			x					
Pocilloporidae	Pocillopora ankeli	De+Cr	0.40	VU	0.16	LC	10	1	10	9	x	common								
Pocilloporidae	Pocillopora capitata	De	0.19	LC	0.09	LC	10	1	20	19	x	uncommon						x		
Pocilloporidae	Pocillopora damicornis	De	0.20	LC	0.09	LC	5	1	20	19	x	common								x
Pocilloporidae	Pocillopora danae	De+Cr	0.38	VU	0.15	LC	10	1	15	14	x	uncommon			x			x		
Pocilloporidae	Pocillopora effusus	DD	N/A	DD	N/A	DD														

Pocilloporidae	Pocillopora elegans	De+Cr	0.35	VU	0.14	LC	5	1	20	19	x	uncommon			x			x			
Pocilloporidae	Pocillopora eydouxi	De	0.20	NT	0.09	LC	10	2	20	18	x	common			x						x
Pocilloporidae	Pocillopora fungiformis	De+Cr	0.58	EN	0.12	NT	10	0.5	15	14.5	x	uncommon	x								
Pocilloporidae	Pocillopora indiana	De+Cr	0.45	VU	0.12	LC	10	2	20	18	x	uncommon	x								
Pocilloporidae	Pocillopora inflata	De+Cr	0.34	VU	0.11	LC	10	1	10	9	x	rare			x			x			
Pocilloporidae	Pocillopora kelleheri	De	0.23	LC	0.10	LC	10	5	40	35		uncommon									
Pocilloporidae	Pocillopora ligulata	De	0.06	LC	0.04	LC	10	unknown				uncommon									
Pocilloporidae	Pocillopora meandrina	De	0.22	LC	0.10	LC	7	1	27	26		common									
Pocilloporidae	Pocillopora molokensis	DD	N/A	DD	N/A	DD															
Pocilloporidae	Pocillopora setichelli	De+Cr	0.10	LC	0.05	LC	10	unknown				uncommon	x								
Pocilloporidae	Pocillopora verrucosa	De	0.20	LC	0.09	LC	5	1	54	53		common									x
Pocilloporidae	Pocillopora woodjonesi	De	0.21	LC	0.09	LC	10	2	26	24		uncommon									
Pocilloporidae	Pocillopora zelli	De	0.20	LC	0.09	LC	10	2	15	13	x	uncommon									
Pocilloporidae	Seriatopora aculeata	De+Cr	0.37	VU	0.14	LC	10	3	40	37		uncommon									
Pocilloporidae	Seriatopora calendrum	De	0.21	NT	0.09	LC	5	1	40	39		uncommon									
Pocilloporidae	Seriatopora dendritica	De+Cr	0.36	VU	0.14	LC	10	3	40	37		uncommon									
Pocilloporidae	Seriatopora guttatus	De	0.20	LC	0.09	LC	10	3	40	37		common									
Pocilloporidae	Seriatopora hystrix	De	0.20	LC	0.09	LC	5	1	20	19	x	common									x
Pocilloporidae	Seriatopora stellata	De	0.22	NT	0.10	LC	10	1	20	19	x	uncommon	x								
Pocilloporidae	Stylophora danae	De+Cr	0.14	LC	0.08	LC	10	5	40	35		uncommon	x								
Pocilloporidae	Stylophora kuehlmanni	De+Cr	0.14	LC	0.08	LC	10	5	40	35		uncommon	x								
Pocilloporidae	Stylophora madagascarensis	De+Cr	0.58	EN	0.12	NT	10	2	20	18	x	common	x								
Pocilloporidae	Stylophora mamillata	De+Cr	0.14	LC	0.08	LC	10	15	25	10	x	uncommon	x								
Pocilloporidae	Stylophora pistillata	De	0.20	NT	0.09	LC	7	1	15	14	x	common									x
Pocilloporidae	Stylophora subseriata	De	0.19	LC	0.08	LC	10	2	30	28		common									
Pocilloporidae	Stylophora wellsi	De+Cr	0.22	NT	0.08	LC	10	0	10	10	x	uncommon	x								
Poritidae	Alveopora allingi	De+Cr	0.35	VU	0.14	LC	10	5	10	5	x	uncommon			x					x	
Poritidae	Alveopora catalai	De	0.22	NT	0.10	LC	10	3	30	27		common			x					x	
Poritidae	Alveopora daedalea	De+Cr	0.38	VU	0.14	LC	10	3	30	27		uncommon			x					x	
Poritidae	Alveopora excelsa	De+Cr	0.64	EN	0.24	NT	10	3	30	27		uncommon			x					x	
Poritidae	Alveopora fenestrata	De+Cr	0.36	VU	0.14	LC	10	3	30	27		uncommon			x					x	
Poritidae	Alveopora gigas	De+Cr	0.41	VU	0.16	LC	10	3	30	27		uncommon			x					x	
Poritidae	Alveopora japonica	De+Cr	0.37	VU	0.24	NT	10	unknown				uncommon	x		x					x	
Poritidae	Alveopora marionensis	De+Cr	0.36	VU	0.14	LC	10	1	30	29		rare			x					x	
Poritidae	Alveopora minuta	De+Cr	0.66	EN	0.24	NT	10	1	20	19	x	rare			x					x	
Poritidae	Alveopora ocellata	DD	N/A	DD	N/A	DD															
Poritidae	Alveopora spongiosa	De	0.20	NT	0.09	LC	10	3	50	47		uncommon			x					x	x
Poritidae	Alveopora tizardi	De	0.18	LC	0.08	LC	10	3	50	47		uncommon			x					x	
Poritidae	Alveopora verrilliana	De+Cr	0.34	VU	0.14	LC	10	3	30	27		uncommon			x					x	
Poritidae	Alveopora viridis	De+Cr	0.26	NT	0.14	LC	10	5	50	45		rare	x		x					x	
Poritidae	Calathiscus tantillus	DD	N/A	DD	N/A	DD															
Poritidae	Goniopora albiconus	De	0.33	VU	0.14	LC	10	3	30	27		uncommon			x					x	
Poritidae	Goniopora burgosi	De	0.33	VU	0.14	LC	10	2	30	28		uncommon			x					x	
Poritidae	Goniopora cellulosa	De	0.37	VU	0.16	LC	10	3	20	17	x	uncommon	x		x					x	
Poritidae	Goniopora ciliatus	De+Cr	0.14	LC	0.08	LC	30	1	30	29		uncommon	x		x					x	
Poritidae	Goniopora columna	De	0.21	NT	0.09	LC	10	2	15	13	x	common			x					x	

[illegible]



Poritidae	Porites flavus	DD	N/A	DD	N/A	DD														
Poritidae	Porites furcata	De	0.10	LC	0.21	LC	10	0.2	50	49.8		common		x		x		x		
Poritidae	Porites harrisoni	De+Cr	0.23	NT	0.15	LC	10	1	15	14	x	common	x			x		x		
Poritidae	Porites heronensis	De+Cr	0.11	LC	0.06	LC	10	1	20	19	x	rare				x		x		
Poritidae	Porites horizontalata	De+Cr	0.37	VU	0.15	LC	10	5	20	15	x	uncommon			x	x				x
Poritidae	Porites latistella	De	0.19	LC	0.09	LC	10	1	20	19	x	uncommon				x		x		
Poritidae	Porites lichen	De	0.20	LC	0.09	LC	10	1	30	29		common				x		x		x
Poritidae	Porites lobata	De	0.20	NT	0.09	LC	10	0	30	30		common				x		x		x
Poritidae	Porites lutea	De	0.20	LC	0.09	LC	10	0	30	30		common				x		x		x
Poritidae	Porites mayeri	De	0.22	LC	0.10	LC	10	3	20		x	uncommon				x		x		x
Poritidae	Porites monticulosa	De	0.18	LC	0.09	LC	10	3	20	17	x	common				x		x		x
Poritidae	Porites murrayensis	De	0.20	NT	0.09	LC	10	0	5	5	x	uncommon				x		x		x
Poritidae	Porites myrmdonensis	De+Cr	0.10	LC	0.05	LC	10	3	20	17	x	uncommon	x			x		x		
Poritidae	Porites napopora	De	0.33	VU	0.15	LC	10	3	15	12	x	uncommon				x		x		x
Poritidae	Porites negrosensis	De	0.23	NT	0.10	LC	10	2	15	13	x	uncommon				x		x		x
Poritidae	Porites nigrescens	De+Cr	0.35	VU	0.14	LC	10	0.5	20	19.5	x	uncommon				x		x		x
Poritidae	Porites nodifera	De	0.27	LC	0.10	LC	10	5	15	10	x	common	x			x		x		
Poritidae	Porites okinawensis	De+Cr	0.37	VU	0.24	LC	10	unknown				uncommon	x			x		x		
Poritidae	Porites ornata	De+Cr	0.66	EN	0.24	NT	10	3	15	12	x	uncommon			x	x				x
Poritidae	Porites panamensis	De	0.10	LC	0.03	LC	10	0	36	36		common				x		x		
Poritidae	Porites porites	De	0.10	LC	0.21	LC	10	0.5	35	34.5		common		x		x		x		
Poritidae	Porites profundus	De	0.19	LC	0.09	LC	10	3	15	12	x	uncommon				x		x		
Poritidae	Porites pukoensis	D	N/A	CR	N/A	CR		unknown				rare	x			x		x		
Poritidae	Porites rugosa	De+Cr	0.41	VU	0.15	LC	10	3	15	12	x	uncommon			x	x				x
Poritidae	Porites rus	De	0.20	LC	0.09	LC	10	1	20	19	x	common				x		x		x
Poritidae	Porites sillimaniana	De+Cr	0.39	VU	0.15	LC	10	1	5	4	x	uncommon			x	x				x
Poritidae	Porites solida	De	0.20	LC	0.09	LC	10	1	30	29		common				x		x		x
Poritidae	Porites somaliensis	De+Cr	0.22	NT	0.08	LC	10	1	20	19	x	rare	x			x		x		
Poritidae	Porites stephensoni	De	0.20	NT	0.09	LC	10	0	5	5	x	uncommon				x		x		x
Poritidae	Porites studeri	De+Cr	0.10	LC	0.09	LC	10	10	40	30		rare	x			x		x		
Poritidae	Porites sverdrupi	De+Cr	0.34	VU	0.11	LC	10	1	40	39		rare	x			x		x		
Poritidae	Porites tuberculosa	De+Cr	0.41	VU	0.15	LC	10	1	20	19	x	uncommon			x	x				x
Poritidae	Porites vauhani	De	0.21	LC	0.09	LC	10	1	40	39		uncommon				x		x		x
Poritidae	Poritipora paliformis	De	0.34	VU	0.15	LC	10	5	15	10	x	rare								
Poritidae	Stylaraea punctata	DD	N/A	DD	N/A	DD														
Rhizangiidae	Astrangia poculata	A2	N/A	LC	N/A	LC	10	unknown				common		x						
Siderastreidae	Anomastreaa irregularis	De+Cr	0.38	VU	0.18	LC	10	0	20	20	x	uncommon						x		
Siderastreidae	Coscinaraea columna	De	0.20	LC	0.09	LC	10	5	30	25		common								
Siderastreidae	Coscinaraea crassa	De	0.19	NT	0.09	LC	10	10	30	20	x	rare								
Siderastreidae	Coscinaraea exesa	De	0.19	LC	0.09	LC	10	0	35	35		common								
Siderastreidae	Coscinaraea hahazimaensis	B	N/A	VU	N/A	VU		unknown				rare	x							
Siderastreidae	Coscinaraea marshae	De+Cr	0.05	LC	0.03	LC	10	unknown				uncommon								
Siderastreidae	Coscinaraea mcneilli	De+Cr	0.05	LC	0.03	LC	10	unknown				uncommon								
Siderastreidae	Coscinaraea monile	De	0.24	LC	0.10	LC	10	0	52	52		common								
Siderastreidae	Coscinaraea wellsi	De	0.20	LC	0.09	LC	10	10	50	40		uncommon								
Siderastreidae	Craterestrea levis	De+Cr	0.18	LC	0.07	LC	10	30	70	40		common	x							

