

APPENDIX A
PRIMARY IMPORTERS AND EXPORTERS OF SOME CORAL REEF SPECIES
BASED ON CITES ANNUAL DATA FOR 1997³

Species	Primary Exporters	Primary Importers
Live Coral (Reported to genus)	Indonesia (71%) Solomon Islands (6%) Fiji (12%)	United States (78%) Germany (8%) Japan (7%) Others (7%)
Live Rock (reported as scleractinia)	Fiji (89% by weight) Indonesia (74% by piece)	United States (95% by weight) United States (95% by piece)
Coral Skeleton	Indonesia (12% by piece) Mozambique (35% by piece) Fiji (42% by piece) Indonesia (31% by weight) Vietnam (37% by weight) Solomon Islands (25% by weight)	United States (30% by piece) Spain (65% by piece) Italy (5% by piece) United States (65% by weight) Japan (33% by weight)
Worked Coral Skeleton	Hong Kong (69% of stony corals) Korea (31% of stony corals) Hong Kong (95% of scleractinia) Taiwan (99% of antipatharians)	United States (99.5% of antipatharians) United States (95% of stony corals)
Giant Clams (live)	Solomon Islands (41%) Philippines (32%) Tonga (11%)	United States (82%) Germany (12.4%)
(Meat)	Philippines (64%) PG (36%)	Japan (64%) Singapore (32%) United States (4%)
(Shells)	Mozambique (85% by kg, 61% by piece)	Italy (61% by piece) Portugal (20% by piece) Spain (13% by piece) New Zealand (5% by piece) United States (<1% by piece) Italy (70% by weight) New Caledonia (16% by weight) Portugal (14% by weight)

³ Current (1999) data may differ slightly from listed values. For instance, Indonesia no longer allows the export of dead coral skeletons, Mozambique banned the export of all coral, and the volume of coral from Fiji has increased dramatically.

**APPENDIX B
FOREIGN NATIONAL LAWS PERTAINING TO CORAL HARVEST/TRADE
AND DESTRUCTIVE FISHING PRACTICES**

I. Pacific Countries

Country (Pacific)	Law/ Prohibition	Cite
Australia	<p><u>Coral Trade and Protection</u> Prohibits exports and imports of certain reef species except with a permit. Australian Minister shall not grant an import permit unless he makes certain determinations, depending on the species.</p> <p><u>Destructive Fishing Practices</u> Prohibits commercial fishing unless valid fishing license or permit; no license has been issued permitting the use of chemicals for taking fish</p> <p>Prohibits chemicals being added to water ways for the capture of fish, unless a permit has been issued</p>	<p>Wildlife Protection (regulation of exports and imports) Act 1982</p> <p>Fisheries Management Act 1991</p> <p>Each Australian State and Territory</p>
China	<p><u>Destructive Fishing Practices</u> Prohibits use of explosives, poisons and electric fishing and other behaviors destroying aquatic wildlife resources</p>	<p>Regulations on Breeding and Protection of Aquatic Products Resource, 1979, Art. II</p>
Indonesia	<p><u>Coral Trade and Protection</u> Export of recently dead coral prohibited. Export quota system for live coral: (1999 quota follows) Scleractinia substrate (soft corals with attached substrate) 675,000 pieces; Scleractinia base rock (live rock) 135,000 pieces; Live coral (broken down by genus, in some cases by species) 878,675 pieces. Prohibits harvest or sale of giant clams without permits; permits issued under extraordinary circumstances</p> <p><u>Destructive Fishing Practices</u></p> <p>Prohibits catch and cultivation of fish using materials or tools that "may possibly endanger the fishery resource and its environment," and any activity "which leads to pollution and damages the fishery sources and their environment."</p> <p>Prohibits use of explosive materials, toxic substances, and electric current for fishing. Use of such substances for scientific research or other technical activities is regulated.</p>	<p>Indonesian Act No. 9/1985 on Fishery, Article 6 & 7</p> <p>Clarification of the Act of the Republic of Indonesia No. 9 of 1985, Art. 6</p>

Country (Pacific)	Law/ Prohibition	Cite
Fiji	<p><u>Coral Trade and Protection</u> Requires baseline survey before coral harvesting is allowed. Export of coral banned unless exporter supplies full listing of species exported. Moratorium on new entrants into coral export market. Maximum annual harvest quantities for 1999: up to 1,500,000 kgs of live base rock and up to 450,000 live coral pieces, up to 130,968 pieces of unworked coral (curio)</p>	
Japan	<p><u>Destructive Fishing Practices</u> Prohibits taking or gathering of any aquatic animal or plant by means of any explosive substance, excluding marine mammals; prohibits taking or gathering by poisons (except by permit); prohibits possession or sale of aquatic animals or plants taken in violation of above</p>	Fishery Resources Conservation Law, Art. 5, 6, 7
Kiribati	<p><u>Destructive Fishing Practices</u> Prohibits use of explosives, poison or other noxious substance for killing, stunning, disabling or catching fish</p>	Fisheries Ordinance, Sec. 14
Marshall Islands	<p><u>Coral Trade and Protection</u> Virtual ban on trade in live fish trade for Asian markets Fines exceeding \$200,000 have been imposed and confiscation of vessels for destructive practices</p> <p>Export license for exporting live coral & aquarium fish is \$2,000 per year</p> <p><u>Destructive Fishing Practices</u> fine up to \$20,000 and/or imprisonment for up to 6 months for improper fishery practices.</p>	Marshall Islands Marine Resources Act
Palau	<p><u>Coral Trade and Protection</u> Exports of sponges and marine rocks are prohibited, including four types of hard corals. No laws or regulations protecting the coral s from Palauians using corals to make lime</p> <p><u>Destructive Fishing Practices</u> Prohibits knowingly catching marine life with explosives, poisons, chemicals or other substances which kill marine life; prohibits possession or sale of marine life caught in violation of above</p>	24 PNCA 1301, 1302

Country (Pacific)	Law/ Prohibition	Cite
Philippines	<p><u>Coral Trade and Protection</u> Prohibits collection, sale and export of coral</p> <p><u>Destructive Fishing Practices</u> Prohibits catching, taking, or gathering of fish and fishery aquatic products in Philippine waters with the use of explosives, obnoxious or poisonous substance (unless by permit for scientific, research or educational purposes)</p> <p>Prohibits the knowing possession, sale, or disposal of, for profit, of any fish or fishery/aquatic products which have been illegally caught, taken or gathered.</p>	<p>Presidential Decree 1219, 1977</p> <p>Official Gazette Vol. 71, No. 28, July 14, Ch. VI sec. 33</p>
Singapore	<p><u>Coral Take, Harvest, or Trade</u> Prohibits imports, exports and re-exports of CITES-scheduled species without a permit</p> <p><u>Destructive Fishing Practices</u> Prohibits use of any poisonous or explosive substances with the intent to stupefy, poison or kill fish (unless issued a license)</p>	<p>The Endangered Species (Import and Export) Act 1989, sec. 4</p> <p>Fisheries Act, sec. 12</p>
Solomon Islands	<p><u>Coral Take, Harvest or Trade</u> Coral exporters must obtain a fisheries license for coral extraction which cites place where coral may be extracted and the quantity. An export permit must then be obtained.</p>	
Taiwan	<p><u>Destructive Fishing Practices</u> Prohibits use of poison, dynamite or other explosives, electric shots or anesthetic agents to catch living marine resources</p>	<p>Taiwan Fishery Law Art 48</p>
Thailand	<p><u>Coral Take, Harvest, or Trade</u> Prohibits coral collection.</p> <p><u>Destructive Fishing Practices</u> Prohibits pouring, throwing away, draining or laying in the fisheries such poisonous substances as determined by Notification of the Minister, or any act that stupefies the aquatic animals</p> <p>Prohibits the use of an electric current in fisheries, or use explosives in fisheries in any other way (except by permission or permit)</p> <p>Prohibits possession for commercial purposes of aquatic animals that one knows have been taken in contravention of above</p>	<p>Fisheries Act B.E. 24909, 1947, and amendments 1972</p> <p>Fisheries Act B.E. 2490, sec. 19</p> <p>sec. 20</p> <p>sec. 20 bis</p>
Tuvalu	<p><u>Coral Trade and Protection</u> Regulates sand and coral removal</p>	<p>Wildlife Conservation Ordinance, 1975</p>

Country (Pacific)	Law/ Prohibition	Cite
Vanuatu	<u>Coral Trade and Protection</u> Limits coral collection, requires permits for export of trochus, green snail, crustaceans, aquarium fish, coral and beche-de-mer	Fisheries Regulations, 1983
Vietnam	<u>Destructive Fishing Practices</u> Prohibits all activities listed that are detrimental to aquatic resources and cause pollution to the living environment of all aquatic species: using toxic, harmful substances, explosives, gun powder, electric currents to paralyze or kill aquatic stock, and releasing or leaking harmful toxic substances stronger than the allowable limitation	Law on the Conservation and Management of Living Aquatic Resources, art. 8
Western Samoa	<u>Destructive Fishing Practices</u> Prohibits use of explosives or poisons for fishing	Fisheries Regulation Order No. 83, 1965

II. Caribbean/ Central American Countries

Country (Caribbean)	Law/ Prohibition	Cite
Bahamas	<u>Coral Trade and Protection</u> Bans collecting of corals; bans export of marine products by non-Bahamianians Bans take of fish, turtle, crawfish, conch, and welks in national parks; or destruction or removal of any animals, including coral, bans removal of sand in national parks <u>Destructive Fishing Practices</u> Prohibits use of bleach, poisons or explosives	Fisheries Resources Regulations, 1986 Bahamas National Trust Act, 1959 Fisheries Resources Regulations, 1986
Belize	<u>Coral Trade and Protection</u> Protects coral reefs within areas designated as national parks	National Park System Act, 1981
Bermuda	<u>Coral Trade and Protection</u> Prohibits take of coral, flora and fauna in coral reef preserves; regulates take of spiny lobsters, fish, scallops, turtles <u>Destructive Fishing Practices</u> Prohibits use of explosives	Coral Reef Preserves Act, 1966; Fisheries Regulation 1972 Fisheries Regulations, 1972
British Virgin Islands	<u>Coral Trade and Protection</u> Provides for protection of coral reefs in marine parks and protected areas	Marine Parks and Protected Areas Ordinance, 1979

Country (Caribbean)	Law/ Prohibition	Cite
Cayman Islands	<u>Coral Trade and Protection</u> Controls take of spiny lobsters, conch, coral and shells	Marine Conservation Law, 1978
Cuba	<u>Coral Trade and Protection</u> Controls take of conch	Legislation, 1977
Dominican Republic	<u>Coral Trade and Protection</u> Controls take of coral	Ley 1728, 1976
Guadalupe	<u>Coral Trade and Protection</u> Controls take of turtles, spiny lobsters and corals	Legislation , 1979
Honduras	<u>Coral Trade and Protection</u> Declares coral reefs as protected areas	Ley de Pescar, 1959
Jamaica	<u>Coral Trade and Protection</u> Protects black coral, turtles and other marine species <u>Destructive Fishing Practices</u> Prohibits fishing with poison or explosives	Wildlife Protection Law, 1945
Mexico	<u>Coral Trade and Protection</u> Bans collection of <i>plexaura homomalla</i> Requires export and import permit for corals , issued by the National Institute of Ecology.	Decree 1974 Agreement Establishing the Classification and Codification of Goods Whose Importation and Exportation Are Subject to Regulation by the Secretariat of the Environment, Natural Resources and Fisheries (9/22/97).
Netherland Antilles	<u>Coral Trade and Protection</u> Controls take of spiny lobster, take of turtle eggs, and collection or destruction of coelenterates and crustose coralline algae Bans collection or destruction of coelenterates and crustose coralline algae Bans coral collection	Bonaire, the Marine Environment Ordinance, 1985 Curacao – the Reef Management Ordinance, 1976 Aruba
St. Lucia	<u>Coral Trade and Protection</u> Prohibits sale and export of aquarium fish ; protects turtles and corals, controls take of conch <u>Destructive Fishing Practices</u> Prohibits dynamiting of coral reefs	Fisheries legislation Wildlife Protection Ordinance, 1980

III. Indian Ocean, Red Sea and Gulf Countries

Country (Indian Ocean, Red Sea, Gulf)	Law/ Prohibition	Cite
Comoros	<u>Coral Trade and Protection</u> Prohibits fishing with dynamite and poison	
Djibouti	<u>Coral Trade and Protection</u> Prohibits coral collecting in certain reserves Prohibits the export of reef fish, collection of shells, and collection, sale and export of dugong, turtles and their eggs until further notice	Arrete No. 72-1363 SG/CG Decret No. 80-062/ PR/MCTT, 1980
Egypt	<u>Coral Trade and Protection</u> Prohibits collection of corals, shells, and other marine animals, spearfishing and taking of marine fish prohibited in mainland Red Sea Province and on Sinai coast to south of El Tur Prohibits fishing and removal of species from reefs from Ras Muhammad to Taba in east and El Tur in West	Pollution legislation passed in 1962, revised in 1980 Sinai Peninsula, Decree 472, 1982
Jordan	<u>Destructive Fishing Practices</u> Prohibits coral collecting, spearfishing, dynamiting	Ministry of Agricultural Law 20, 1973
Maldives	<u>Coral Trade and Protection</u> Black coral may be exported only as a worked product, controls on coral mining, quota for collection of aquarium fish Bans commercial harvest of giant clams.	
Mauritius	<u>Coral Trade and Protection</u> Prohibits import or export without a permit of live fish, corals and shells, whether dead or alive <u>Destructive Fishing Practices</u> Prohibits use of poisons and explosives without a permit	Fisheries Act. 1980 and Fisheries Regulations 1983
Mozambique	<u>Coral Trade and Protection</u> Complete ban on coral and aquarium fish export until at least 2001	Decisions of Minister of Agriculture and Fisheries, dated 2/99 & 5/99
Reunion	<u>Coral Trade and Protection</u> Prohibits collection of living corals and molluscs other than mussels <u>Destructive Fishing Practices</u> Prohibits dynamite or poison for fishing	Arrete 2862, 21.7.76

Country (Indian Ocean, Red Sea, Gulf)	Law/ Prohibition	Cite
Seychelles	<u>Destructive Fishing Practices</u> Prohibits dynamite	
Somalia	<u>Destructive Fishing Practices</u> Prohibits dynamite, electric current, chemical methods of fishing	Maritime Code – Decree 1, 31.2.59 amended by Decree 7, 1.11.66
South Yemen	<u>Destructive Fishing Practices</u> Prohibits use of toxic, explosive or chemical substances for fishing	Law 24, 1979
Sri Lanka	<u>Destructive Fishing Practices</u> Prohibits use of dynamite and possession of fish killed by dynamite or poison	Fisheries Amendments Law 20, 1973
Sudan	<u>Coral Trade and Protection</u> Prohibits collection of corals, shells and aquarium fish	Marine Fisheries Regulations, 1927, Amendments, 19754

Note: **The above compilation of laws is a work in progress. Some of the references may be out of date. Please send any corrections to the International Trade Subgroup.**

**APPENDIX C
FEDERAL, STATE AND TERRITORY LAWS RELATING TO
CORAL HARVEST/TRADE AND DESTRUCTIVE FISHING PRACTICES**

I. Western Atlantic, Gulf of Mexico and the Caribbean

A. Federal Waters (Caribbean, South Atlantic, Gulf of Mexico)

Federal Waters: S. Atlantic, Gulf, and the Caribbean	Law/ Prohibition	Cite
<p>FMPs for Coral and Coral Reefs of the Gulf of Mexico and South-Atlantic, April 1982, with Amendment 2 & 3 (1994-1995) and</p> <p>FMP for Corals and Reef Associated Plants and Invertebrates of Puerto Rico and the U.S. Virgin Islands, July 1994</p> <p><i>Implemented at 50 C.F.R. Part 622</i></p>	<p>Regulations relating to Coral/ Live Rock</p> <p><u>Gulf of Mexico and South Atlantic EEZ</u></p> <p>Prohibits harvest or possession of wild live rock in the Gulf or South Atlantic EEZ after 1997, with an exception for aquacultured live rock if taken under permit.</p> <p>Prohibits harvest of Gulf and South Atlantic or Caribbean prohibited coral (listed in appendix, includes all corals in the Class Hydrozoa and Class Anthozoa), with an exception for scientific and educational purposes by permit.</p> <p>Foreign fishing of corals is prohibited. The direct take of stony corals and sea fans and the destruction of corals is prohibited. Corals taken incidentally in association with other fisheries must be returned to area of capture.</p> <p><u>Caribbean EEZ</u></p> <p>Prohibits take or possession of Caribbean prohibited coral (listed in Appendix) from the Caribbean EEZ Harvest and possession of stony corals, octocorals, and live rock, whether dead or alive, are prohibited, except for the purpose of scientific research, education, and restoration.</p> <p>Prohibits sale or purchase of Caribbean prohibited coral harvested in the Caribbean EEZ. Items will be presumed to be harvested in the Caribbean EEZ unless accompanied by documentation showing it was harvested elsewhere.</p> <p>Harvest and possession of any species, if attached to live rock, is prohibited. Harvest or possession of reef-associated invertebrates requires a permit</p>	<p>50 C.F.R. §§ 622.42(b); 622.43(a)(2)(ii); 622.33(b)(4)(iv)</p> <p>50 C.F.R. § 622.4(a)(1),(3)</p> <p>50 C.F.R. § 622.32(b)(2)</p> <p>50 C.F.R. § 622.32(b)(1)</p> <p>50 C.F.R. § 622.45(a)</p>

Federal Waters: S. Atlantic, Gulf, and the Caribbean	Law/ Prohibition	Cite
FMPs for South Atlantic, Gulf and Caribbean EEZs (Cont'd)	<p>Regulations relating to Aquarium Marine Fish</p> <p><u>Caribbean EEZ</u> Prohibits fishing or possession of Caribbean prohibited coral (listed in appendix) and certain fish (four-eye, banded, and longsnout butterfly fish; jewfish; Nassau grouper; and seahorses).</p> <p>Authorizes harvest of marine aquarium fish in the Caribbean EEZ only by a hand-held dip net or a hand-held slurp gun</p> <p>Destructive Fishing Practices</p> <p><u>Caribbean, Gulf or South Atlantic EEZ</u> Prohibits use of explosive, poison or toxic chemicals for fishing in the Caribbean, Gulf, or South Atlantic EEZ</p>	<p>50 C.F.R. § 622.32(b)</p> <p>50 C.F.R. § 622.41(b)</p> <p>50 C.F.R. § 622.31(a),(b), (e)</p>

B. State and Territorial Waters (Caribbean, South Atlantic, Gulf of Mexico)

State/ Territory Waters: W. Atlantic, Gulf of Mexico, Caribbean	Law/ Prohibition	Cite
Puerto Rico	<p>Laws/ Regulations relating to Coral</p> <p>Prohibits harvest or take of corals or live rock for commercial purposes, except under permit.</p> <p>Laws/Regulations relating to Marine Fish</p> <p>Prohibits fishing by means of explosives in the maritime waters of Puerto Rico and adjacent islands, or in the lakes, lagoons, rivers, and other bodies of water, or to sell or possess fish caught by means of any kind of explosive</p> <p>Harvest of other invertebrates and fish is not regulated. Harvesters and exporters of invertebrates for the marine aquarium trade are not licensed, and their activities are not regulated; collectors are not recognized as commercial fishermen.</p> <p>Destructive Fishing Practices Prohibits the use of poisonous substances in Puerto Rican waters.</p>	<p>P.R. Law No. 83, Law No. 132</p> <p>12 L.P.R.A. § 57</p> <p>P.R. Law No. 83</p>

State/ Territory Waters: W. Atlantic, Gulf of Mexico, Caribbean	Law/ Prohibition	Cite
Florida	<p>Laws and Regulations relating to Coral/ Live Rock</p> <p>Prohibits taking, destruction, or sale of sea fans and certain corals (stony coral, fire coral), or possession of any fresh, uncleaned or uncured specimen . Exceptions are provided for specimens legally harvested outside of state waters or federal EEZ waters adjacent to state waters (but burden is on person possessing species to show legality), harvested under permit for scientific or educational purposes, or pursuant to permit for aquacultured live rock.</p> <p>Prohibits harvest or sale of live rock from any state waters.</p> <p>Prohibits transport, destruction, damage, removal, defacing, or take of any coral or other material from the subsoil or seabed of the John Pennekamp Coral Reef State Park which has been taken in violation of any law or regulation of the Federal Government.</p> <p>Laws/ Regs relating to Aquarium Marine Fish</p> <p>Designates certain marine fish, corals, and invertebrates as "restricted species." It is unlawful to sell restricted species to a licensed wholesale dealer; or for a licensed wholesale dealer to buy restricted species, unless there is a restricted species endorsement on the seller's saltwater products license.</p> <p>Requires persons harvesting any tropical ornamental marine life species and plants to land such organisms alive and to have systems aboard the vessel to maintain such organisms in a healthy condition.</p> <p>Sets forth size limits for certain marine fish (angelfish, butterflyfishes, gobies, jawfishes, hogfish).</p> <p>Sets forth bag limits for tropical ornamental marine life and plants (e.g., 20 individuals per day; 5 angelfish per day; 6 colonies of octorals). Sets forth commercial harvest limits (e.g. 75 angelfish per person per day or 150 angelfish per vessel per day, whichever is less; 75 butterflyfishes per vessel per day)</p>	<p>Fl. Admin. Code Ann. R. 46-42.009</p> <p>Fl. Admin. Code Ann. R.46-42.008</p> <p>Fla. Stat. Ann. § 258.083</p> <p>Fla. Stat. Ann. § 370.01(20), § 370.06 Fl. Admin. Code Ann. r. 46-42.001(b)</p> <p>Fl. Admin. Code Ann. r. 46-42.0035</p> <p>Fl. Admin. Code Ann. r. 46-42.004</p> <p>Fl. Admin. Code Ann. r. 46-42.005, 46-42.006</p>

State/ Territory Waters: W. Atlantic, Gulf of Mexico, Caribbean	Law/ Prohibition	Cite
U.S. Virgin Islands	<p>Laws relating to Coral/ Live Rock</p> <p>Unlawful to take, catch, possess, injure, harass, kill, or attempt to take, catch, possess, injure, harass or kill, or sell or offer for sale, or transport or export, whether or not for sale, any indigenous species, including live rock; exception for valid fishing or hunting licenses, scientific or aquarium collecting permits, or indigenous species retention permits.</p> <p>Harvest of live rock and all corals for commercial and recreational purposes is prohibited without a permit. Permits to collect specimens of marine life forms, including live rock, whether or not for sale, and whether or not intended for shipment or export, are authorized for:</p> <ul style="list-style-type: none"> (A) A private aquarist collecting for a personal aquarium of not more than fifty (50) gallons capacity; (B) A person maintaining an aquarium of any size for a commercial purpose; and (C) A collector for shipment, export, and sale. <p>Permits for coral and live rock are provided on a one-time, case-by-case basis, and require submission of species name and number, location of activity, capture methods, and holding facilities.</p> <p>A permit is required for the harvest and export of other invertebrates for the marine aquaria trade; 53 permits were issued between 1990-1994.</p> <p>Prohibits taking of sand, rock, mineral, marine growth and coral (including black coral), natural materials, or other natural products of the sea, excepting fish and wildlife, from the shorelines without first obtaining a coastal zone permit.</p>	<p>12 V.I.C. § 105 (a)</p> <p>12 V.I.C. § 106(c)(1)</p> <p>12 V.I.C. § 906(a)(7)</p>
North Carolina	<p>Laws relating to Coral/ Live Rock</p> <p>Prohibits harvest or possession aboard a vessel of coral or live rock . Requires that live rock and coral shall be returned immediately to the waters where taken.</p>	<p>N.C. Admin. Code tit. 15A, r. 31.0116</p>

II. Pacific Region

A. Federal Waters (Indo Pacific Region)

FMPs for Federal Waters (Pacific)	Law/ Prohibition	Cite
<p>Fishery Management Plans (FMP) for the Western Pacific</p> <p><i>Implemented at 50 C.F.R. Part 660</i></p>	<p>Regulations relating to Coral/Live Rock</p> <p>Managed species in the Western Pacific region include commercially important fish (bottomfish and pelagic fish) and crustaceans and precious corals.</p> <p>Precious coral beds are treated as distinct management units because of their widely separated and patchy distribution. The beds are classified as Established, Conditional, Refugia, or Exploratory. Quotas are established for pink, gold, and bamboo coral in the one Established bed and in the Conditional beds. Use of selective and non-selective gear (tangle net dredges) is permitted at Conditional beds of Brooks Bank and the Exploratory beds. A minimum height of 10 inches is set for pink coral. No harvest is permitted at Refugia beds.</p> <p>Regulations relating to Aquarium Marine Fish</p> <p>Coral reef species for the aquaria trade are not regulated, however federal waters are unlikely to be a source of these types of animals due to their considerable depth</p>	<p>50 C.F.R. § 660</p> <p>50 C.F.R. § 660.82</p>

B. State/ Territorial Waters (Pacific/ Indo Pacific Region)

State/Territory Waters (Pacific region)	Law/ Prohibition	Cite
<p>California</p>	<p>Law relating to Coral/ Live Rock</p> <p>Prohibits take or possession for commercial purposes of sea fans, all species of coral and anemone, and live rock (exception for aquacultured live rock). Prohibits collection under marine aquarium collectors permits for certain specified areas.</p>	<p>Cal. Fish & G. Code § 8598</p>

Hawaii	<p>Laws relating to Coral/ Live Rock</p> <p>Prohibits taking, breaking or damaging of live stony corals from waters of Hawaii, including any live reef or mushroom coral. (Exception for scientific collection under permit). Prohibits taking any rock to which marine life of any kind is visibly attached or affixed.</p> <p>Collection of soft corals is allowed only when not attached to reef substrate.</p> <p>Prohibits sale of any stony coral as souvenirs (including rice coral, mushroom coral, lace coral, cauliflower coral, elkhorn coral, finger coral, lobe coral, and orange flower coral; does not include coral rubble pieces or fragments imported for the manufacture and sale of coral jewelry or obtained through dredging operations in Hawaii for agricultural or other industrial uses)</p> <p>Prohibits removal of sand, dead coral, or coral rubble seaward from shoreline with certain exceptions (one gallon per person per day for personal, noncommercial uses; for replenishment of public shoreline areas or construction of state-approved projects with permit, and cleaning activities)</p> <p>Laws relating to Marine Aquarium Fish</p> <p>Collectors must have an aquarium fish catch permit, and commercial collectors must obtain a commercial fishing permit to sell their catch. Permits, issued by DLNR's Div. of Aquatic Resources, allow take of live fish with nets and traps (plan to change regulations & limit net size) – DLNR has no authority to limit the #s of permits; #s increased from 167 to 274 between 1995 and 1998 – DLNR required to report monthly count of the quantities taken of each individual species of aquarium fish exported.</p> <p>Created a West Hawaii Regional Fishery Management Area that will designate 30% of West Hawaii's coastal waters (51.8 miles) as Fish Replenishment Areas in which aquarium fish collection is prohibited.</p> <p>Destructive Fishing Practices</p> <p>Possession or use of explosives, electrofishing devices, and poisonous substances is prohibited in State waters.</p>	<p>H.R.S. § 188-68(a)</p> <p>H.R.S. § 188-68(b)</p> <p>H.R.S. § 171-58.5</p> <p>H.R.S. § 188-31</p> <p>H.R.S. § 188-31.5</p> <p>H.R.S. § 188F-4</p> <p>H.R.S. § 188-23</p>

State/Territory Waters (Pacific region)	Law/ Prohibition	Cite
Guam	<p>Laws relating to Coral/ Live Rock</p> <p>Bans harvest of live coral except with under a license from the Director of Agriculture.</p> <p>Permits commercial taking of coral by permit issued from the Director of Agriculture. Permit may limit amount of coral to be taken, taking into account the location from which the coral is to be taken, the amount of living coral remaining and the likelihood of damage caused to the reef area by the taking of the coral.</p> <p>Bans willful destruction of coral growth for purposes of flushing fish from their habitat or for clearing an area for net fishing.</p> <p>Authorizes the Department of Public Works to distribute for non-commercial use government-owned coral mined from government-owned coral pits at the request and certification of need of the village commissioner or the assistant commissioner of the village where the coral is to be delivered.</p> <p>Destructive Fishing Practices</p> <p>Authorizes issuance of permits for the use of poison, electrical devices or small mesh nets for the purpose of bona fide scientific research.</p>	<p>5 G.C.A. § 63602</p> <p>5 G.C.A. § 63603</p> <p>5 G.C.A. § 63113</p> <p>5 G.C.A. § 54201</p> <p>5 U.S.C. § 63609</p>

THE MARINE AQUARIUM TRADE AND THE ENVIRONMENT: WHAT YOU CAN DO TO HELP PROTECT CORAL REEFS

Did You Know?

Coral reefs are in serious trouble worldwide.

- Coral reefs around the world are facing a powerful combination of stresses that are threatening their survival, such as increased input of nutrients, sewage and sediment, overexploitation of resources, and destructive fishing practices.
- Unprecedented levels of coral bleaching and mortality associated with abnormally high sea temperatures were reported in 1998. On some shallow Indo-Pacific reefs, 70 to 90% of the corals died as a result of the largest ever recorded bleaching event.
- A 1998 World Resources Institute study concluded that nearly 58% of the world's reefs are at risk from human impacts, and many have been degraded beyond recovery.

The trade in coral reef species for the aquarium and curio trade may be contributing to the worldwide decline and degradation of reefs.

- Although illegal in most countries, the use of cyanide to capture reef fish for the live food fish and the aquarium trade is widespread. Cyanide kills non-target marine organisms including small fish and coral.
- The mortality rate of some of the most popular species of coral from source reefs to home aquaria is estimated to be as high as 90%. The mortality is partially related to capture techniques and handling and transport techniques.
- Nine of the ten dominant taxa for the aquarium trade consist of large-polyp corals that are slow-growing, long-lived, and often rare. Overexploitation of these species could result in severe localized depletions, increased erosion and loss of important fishery habitat.
- The international trade in coral and live rock to supply the aquarium trade has increased at a rate of 12 to 30% per year since 1990.
- Many of the aquarium fish are herbivores, so their removal may alter ecosystem function through a reduction in herbivory, thereby increasing macroalgae that is harmful to corals.

American consumers of coral reef products may inadvertently contribute to the problem.

- The United States is a major global importer of coral reef species for the marine aquarium industry. There are approximately 1 million hobbyists in the United States out of about 1.5 million worldwide. American consumers buy approximately 80% of the live and dead coral and more than 50% of the marine aquarium fish that are traded worldwide.
- The United States strictly regulates or prohibits the domestic harvest of live rock and hard corals in most federal, state and territorial waters. The domestic market for these items is supplied primarily through imports from other countries.

What Is Being Done.

An international treaty aims to protect some coral species.

- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) aims to protect species from overexploitation through international trade. Over 2000 species of hard coral, giant clam, and queen conch are currently listed under CITES, but aquarium fish, soft corals, anemones and other invertebrates are not.

The U.S. Government is working to address some of these concerns.

- The United States is examining the issues relating to the trade in coral reef species through the U.S. Coral Reef Task Force, which is an interagency task force composed of federal agencies as well as representatives from States and territories with coral reefs in their jurisdiction.
- The federal government participates in a number of international agreements (such as CITES), organizations, and other activities aimed at protecting coral reefs around the world; providing technical and financial assistance to developing countries, including programs to retrain local fishers in less destructive fishing methods and the promotion of environmentally sustainable aquaculture techniques to propagate coral and reef fish for the aquarium industry.
- The U.S. Coral Reef Task Force has recommended the development of guidelines on sustainable aquaculture of coral reef species. Environmentally sustainable aquaculture includes minimizing potential impacts on native species, such as accidental introduction of alien species, diseases or viruses, and complying with all applicable federal, state, and local laws.

What You Can Do.

Become an informed consumer.

- Inform yourself about the threats facing coral reefs around the world.
- When purchasing corals, live rock, fish, and other organisms, ask your store for information about the origin of the items and methods of collection used in harvest. Encourage stores to obtain this information if they do not have it.
- Educate yourself about the species you are purchasing and about maintaining a healthy marine aquarium. Learn about the difficulty or ease of keeping particular species to avoid buying fish or coral that are difficult to maintain in captivity.

Choose responsibly aquacultured species or synthetic corals where possible.

- Consider buying synthetic corals or captive-reared coral from a facility certified to have raised the coral in an environmentally sustainable manner. Consider buying reef fish that are certified as cyanide-free or aquacultured in an environmentally sustainable manner.

For More Information.

Check out the U.S. Coral Reef Task Force website at <http://coralreef.gov>.

APPENDIX E

**MEMBERS OF TRADE SUBGROUP
OF INTERNATIONAL WORKING GROUP**

<u>Name</u>	<u>Agency</u>	<u>Phone</u>	<u>Fax</u>	<u>Email</u>
Sheila Einsweiler	DOI/USFWS	(703) 358-1949	(703) 358-2271	sheila_einsweiler@fws.gov
Bruce Weissgold	DOI/USFWS	(703) 358-2095	(703) 358-2298	bruce_weissgold@fws.gov
John Field	DOI/USFWS	(703) 358-1708	(703) 358-2276	john_field@fws.gov
Mary Jane Lavin	DOI/USFWS	(703) 358-1707	(703) 358-1947	maryjane_lavin@fws.gov
Barbara Best	USAID	(202) 712-0553	(202) 216-3174	bbest@usaid.gov
Leslie Johnston	USAID	(202) 712-5808	(202) 216-3122	ljohnston@usaid.gov
Roberta Chew	STATE	(202) 647-4683	(202) 736-7351	rchew@state.gov
Sylvia Quast	DOJ/ENRD	(202) 514-1806	(202) 514-4231	sylvia.quast@usdoj.gov
Sylvia Liu	DOJ/ENRD	(202) 305-0639	(202) 514-4231	sylvia.liu@usdoj.gov
JC Williams	DOJ/ENRD	(202) 514-5313	(202) 514-4231	jcarol.williams@usdoj.gov
Jonathan Blackmer	DOJ/ENRD	(202) 305-0201	(202) 305-0275	jonathan.blackmer@usdoj.gov
Nancy Daves	NOAA/NMFS	(301) 713-2319	(301) 713-0376	nancy.daves@noaa.gov
Andy Bruckner	NOAA/NMFS	(301) 713-2319	(301) 713-0376	andy.bruckner@noaa.gov
Tom Hourigan	NOAA/NMFS	(301) 713-2319	(301) 713-3076	tom.hourigan@noaa.gov
Roger Griffis	NOAA	(202) 482-5034	(202) 501-3024	roger.b.griffis@hdq.noaa.gov
Alice Mattice	USTR	(202) 395-3581	(202) 395-3640	Amattice@ustr.gov
Dan Mullaney	USTR	(202) 395-3581	(202) 395-3640	Dmullaney@ustr.gov
Allison Areias	USTR			Aareias@ustr.gov
Peter Lallas	EPA	(202) 260-8881	(202) 260-3828	lallas.peter@epa.gov
Tiffany Prather	EPA	(202) 564-6478	(202) 565-2918	Prather.tiffany@epa.gov

APPENDIX F

REFERENCES

- Aquarium Fish and Coral Fisheries Working Group. 1999. Queensland marine aquarium fish and coral collecting fisheries. Queensland Fisheries Management Authority Discussion paper No. 10. 83 pp.
- Barber, C.V. and V.R. Pratt, 1997, *Sullied Seas: Strategies for Combatting Cyanide Fishing in Southeast Asia and Beyond*, World Resources Institute. 57 pp.
- Barber, C.V. and V.R. Pratt, 1998. Poison and Profits: Cyanide Fishing in the Indo-Pacific. *Environment*, v.40(8):5-9,28-34.
- Brown, B.E. and R.P. Dunne. 1988. The environmental impact of coral mining on coral reefs in the Maldives. *Environmental Conservation*. 15: 159-166.
- Byrant, D., L. Burke, J. McManus and M. Spalding. 1998. Reefs at Risk. A map-based indicator of threats to the world's coral reefs. World Resources Institute, Washington D.C. 56 pages.
- Cesar, H., 1996. *The Economic Value of Indonesian Coral Reefs*. World Bank. Agricultural Operations Division CDIII, East Asia and Pacific Region, Environment Department.
- Cesar, H. 1997. Indonesian coral reefs: a precious but threatened resource. In *M.E. Hatzilolis, A.J. Hooten and M. Fodor* (eds.) *Coral Reefs: Challenges and opportunities for sustainable management*. World Bank, Washington DC pp.163-171.
- Clark, A. M. and D. Gulko. 1999. Hawaii's State of the Reefs Report, 1998. Department of Land and Natural Resources, Honolulu, Hawaii. 41pp.
- Couchman, D. and J.P. Beumer. 1992. The commercial fishery for the collection of marine aquarium fishes in Queensland – status management plan. Queensland Department of Primary Industries: Brisbane. 15 pp.
- Green, A. 1997. An assessment of the status of the coral reef resources, and their pattern of use, in the U.S. Pacific Islands. NOAA Cooperative Agreement No. NA67AC0940. Western Pacific Regional Fisheries Management Council. 279 pp.
- Green, E. and F. Shirley, 1999. *The Global Trade in Coral*. World Conservation Monitoring Centre Biodiversity Series No. 9. WCMC – World Conservation Press, 70pp.
- Hodgson, G., 1999. A Global Assessment of Human Effects on Coral Reefs. *Marine Pollution Bulletin*. 38(5):345-355.
- Holthus, P., 1999. Conservation, Culture and Certification: The Future of Marine Ornamentals. *Marine Ornamentals '99: First International Conference on Marine Ornamentals, Hawaii, U.S.* (Addendum to Abstracts.)
- Johannes, R.E. and M. Riepen, 1995. *Environmental, Economic and Social Implications of the Live Reef Fish Trade in Asia and the Western Pacific*. Report to the Nature Conservancy and the South Pacific Commission. 83 pp.

- Jones, R.J. and A.L. Stevens, 1997. Effects on Cyanide on Corals in Relation to Cyanide Fishing on Reefs. *Mar. Freshwater Res.* 48:517-522.
- Jaubert, J., Marchioretti, M., Ounais, N., Gilles, P., Priouzeau, F and E. Tambutte (1996): Potential use of cultured Coral Transplants in Aquarium Stocking and Reef Restoration, 4th International Aquariology Congress, Tokyo.
- Jennings, S. and Polunin, N.V.C. (1996) Impacts of fishing on tropical reef ecosystems. *Ambio* 25, 44-49.
- Lathrop, C and Hourigan, T (1998) The United States and the live reef fish trade: trade-based solutions to cyanide fishing in the Asia-Pacific Region. In Asia-Pacific Economic Cooperation Marine Resources Conservation Working Group ed., *Proceedings of the Workshop on the Impacts of Destructive Fishing Practices on the Marine Environment 16-18 December 1997*. Hong Kong, China: Agriculture and Fisheries Department, 315 pp.
- Lau, P.P.F. and R. Parry-Jones. 1999. The Hong Kong trade in live reef fish for food. Traffic East Asia and the World Wildlife Fund for Nature Hong Kong, Hong Kong.
- Lau, P and R.P. Jones. 1999. The Hong Kong trade in live reef fish for food. SPC Live Reef Fish Information Bulletin. 6:27-30.
- McAllister, D.E., Caho, N.L. and C T. Shih. 1999. Cyanide fisheries: where did they start. SPC Live Reef Fish Information Bulletin. 5:18-21.
- Moe, M. 1999. Marine Ornamental Aquaculture: Past, Present, and Future. Marine Ornamentals '99: First International Conference on Marine Ornamentals, Hawaii, U.S. p.63.
- Moss, S.M. and Van Der Wal, M. (1998) Rape and run in Maluku: exploitation of living marine resources in eastern Indonesia. *Cakelele* 9, 85-97.
- Mulliken, T.A. and S.V. Nash. 1993. The recent trade in Philippine corals. TRAFFIC Bulletin. 13:97-105.
- Oliver, J. and P. McGinnity. 1985. Commercial coral collecting on the Great Barrier reef. Proc. 5th Intern. Coral reef Congress. 5:563-568.
- Pajaro, M.G. 1992. Alternatives to sodium cyanide use on aquarium fish collection: a community-based approach. *Sea Wind*. 6: 2-17.
- Roberts, C.. 1995. Effects of fishing on the ecosystem structure of coral reefs. *Conservation Biology*. 9(5):989-92.
- Ross, M.A. 1984. A quantitative study of the stony coral fishery in Cebu, Philippines. *Marine ecology*. 5:75-91.
- Rubec, P.J. 1986. The effect of sodium cyanide on coral reefs and marine fish in the Philippines. Pp. 297-302. In: J.L. Maclean, L.B. Dizon, and L.V. Hosillos (ed.) *The First Asian Fish Forum*, Asian Fisheries Society, Manila.
- Rubec, P.J. (1988) The need for conservation and management of Philippine coral reefs. *Environ Biol Fishes* 23, 141-154.

- Stime, J. 1999. Hobbyist Perspectives, Uninformed or Blissfully Naïve? *Marine Ornamentals '99: First International Conference on Marine Ornamentals, Hawaii, U.S.* p77-78.
- Tissot, B.N. 1999. Adaptive management of aquarium fish collecting in Hawaii. *SPC Live Reef Fish Information Bulletin.* 6:16-19.
- Tissot, B.N. and L.E. Hallacher. 1999. Impacts of aquarium collectors on reef fishes in Kona, Hawaii. Final report, Dept. of Land and Natural resources, Honolulu HI. 32 pp.
- Vincent, A.C.J. 1996. The international trade in seahorses. *TRAFFIC International* . 162 pp.
- Vincent, A.C. J. 1997. Sea farming not a quick fix. *Newsletter of the Marine and Coastal Community Network.* Vol. 4. No. 3.
- Wells, S.M. 1997. Giant clams: status, trade and mariculture, and the role of CITES management. *IUCN, The World Conservation Union* 77 pp.
- Wilkerson, J. 1999. Status of Commercial Marine Culture, Marketing, and Future Trends. *Marine Ornamentals '99: First International Conference on Marine Ornamentals, Hawaii, U.S.* p86.
- Wood, E. (1999) Global advances in conservation and management of marine ornamental resources. *Marine Ornamentals 99, First Int. Conf. on Marine Ornamentals "Collection, Culture and Conservation"*. Addendum to Program & Abstracts.