CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

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Twenty-ninth meeting of the Animals Committee
Geneva (Switzerland), 18-21 July 2017

Species specific matters

Aquatic species

PRECIOUS CORALS (ORDER ANTIPATHARIA AND FAMILY CORALLIIDAE)

SUMMARY OF PARTIES' RESPONSES TO NOTIFICATION 2017/025 ON PRECIOUS CORALS

1. This information document has been submitted by the Secretariat in relation to agenda item 22 on *Precious corals (Order Antipatharia and family Coralliidae)*[*].

2. At its 17th meeting (CoP17, Johannesburg, 2016), the Conference of the Parties adopted Decisions 17.190 to 17.193 on Precious corals (Order Antipatharia and family Coralliidae). By Decision 17.190, the Secretariat was instructed to:

   a) *issue a notification that invites precious coral range States and relevant Regional Fisheries Management Organizations, on a voluntary basis, to complete a questionnaire/survey (Annex 2 of document CoP17 Com. I. 11) to report data on their precious coral resources (black, red, and pink coral species including species within the order Antipatharia, and family Coralliidae), especially current and historical abundance, biological status, management, and any known harvest for domestic or international trade; and*

   b) *compile range States' and Regional Fisheries Management Organizations' data into a report for submission to the 29th meeting of the Animals Committee for its consideration.*

3. Pursuant to Decision 17.190, the Secretariat issued in Notification to the Parties No. 2017/25 the survey on precious corals, inviting Parties and Regional Fisheries Management Organizations (RFMOs) to provide, on a voluntary basis, information on precious coral resources. To ensure wide distribution, the Secretariat also sent the questionnaire to RFMOs with mandates relating to corals.

4. The Secretariat has compiled the responses[1] to the survey into a report classified into eight main categories, reflecting the structure of the survey, which are "General Information and Population Status", "Legislation/Regulatory Framework", "Management Framework", "International Trade",

[*] *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

[1] *Australia, Croatia, the European Union, France, Greece, Indonesia, Japan, Malaysia, Mexico, Monaco, the Netherlands, New Zealand, Poland, Portugal, Spain, Switzerland, the United Kingdom, the United States of America, and the North Pacific Fisheries Commission (NPFC). There have been one further response following the deadline, which is from the South Pacific Regional Fisheries Management Organisation (SPRFMO).*

"Enforcement", "Current or Past Research on Precious Corals" and "Mariculture". In addition to the existing categories, another category, "the Role of Regional Fisheries Management Organisations (RFMOs)" has been included to give feedback on responding RFMOs[2].

5. Responses to the survey indicate that there are possibly gaps in terms of information on population and conservation status of precious corals. Even though there have been various efforts/activities undertaken by Parties, in light of the existing information on corals, mostly based on aforementioned research activities, need for further research on the status of corals and management seems requisite.

6. Regarding legislation, or other measures, to manage harvest and regulate international trade in precious corals, the majority of the responding Parties have in place measures to regulate international trade.

7. Most of the Parties have national legislation identifying penalties that can be imposed for illegal activity concerning harvest and/or trade in precious coral(s), or specimens of precious coral.

8. Many Parties cited illegal trade as a non-threat since there have not been concrete data concerning any illegal activity. Other parties highlighted this issue as being of specific importance.

9. In terms of coral mariculture, no activity has been reported to the Secretariat by any Parties.

[2] European Union provided information related to the work of the General Fisheries Commission of the Mediterranean (GFCM)

A. GENERAL INFORMATION AND POPULATION STATUS

A.1 - Is your country a range State for precious corals?

Yes*	Australia, Croatia, Greece, European Union (EU), Indonesia, Japan, Malaysia, Mexico, Monaco, Caribbean Netherlands, New Zealand, Portugal, Spain, Ascension Island (UK), Bermuda (UK), Cayman Islands (UK), Montserrat (UK), Turks and Caicos Islands (UK), United States of America, Monaco
No	Netherlands, Poland, Switzerland

Please see **Annex I to see which species occur in the respective countries*

A.2 - Does recent information, not already available, exist about the conservation status of each precious coral species in your country?

Yes	Croatia, Japan, Monaco, New Zealand (for some species), Bermuda (UK), Turks and Caicos Islands (UK), Monaco
No	Australia, Greece, Indonesia, Malaysia, Mexico (between 2011 and 2017), Caribbean Netherlands, New Zealand (for most species), Poland, Portugal, Spain, Ascension Island (UK), Cayman Islands (UK), United States of America

**Parties that have not given any replies to this question are not added.*

Additional information

Croatia (All the related species are strictly protected according to the Ordinance of Strictly protected species (Official Gazette No. 144/13 and 73/16) (not available in English). Based on the IUCN criteria (assessed as Critically endangered (CR) for *Corallium rubrum* and *Antipathella subpinnata*, Endangered (EN) for *Leiopathes glaberrima* and Vulnerable (VU) for *Antipathes dichotoma*) (Red Book of Corals of Croatia (in preparation))

Monaco: For further information go to www.gouv.mc – rubrique environnement

New Zealand: Some YES; Most NO

Eleven species of black corals (Order Antipatharia) have been described from the New Zealand region, and several species of precious red corals (Order Alcyonacea) are known from New Zealand waters, but none of the latter are CITES-listed species.

The conservation status of four species of black corals and five precious red corals were assessed in 2013 as part of a review of the conservation status of marine invertebrates in New Zealand (Freeman et al. 2014), but the status of the five precious red corals (*Corallium* spp.) were accidentally omitted from the final publication (Debbie Freeman, pers. comm.). Of the four species of black coral included in the review, *Antipathes fruticosa* was classified as “Data Deficient”, while *Antipathella fiordensis*, *Lillipathes lilliei*, and an undescribed new species of Antipathes were classified as “At Risk – Naturally Uncommon”. The five precious red corals (*Corallium* spp.) were all classified as “At Risk – Declining”.

Reference:http://www.doc.govt.nz/Documents/science-and-technical/nztcs9entire.pdf

A.3 - Based on the best available information, did the precious coral population(s) in your country over the last 5 years:

Increase	USA **(Some species)**
Remain stable	**Japan** (As shown in answers to Sections B and C, harvests of precious corals are restricted in Japan under relevant laws and regulations, taking into account distributions of precious corals and fishery practices in each region. The restrictions include a licensing system for precious coral fishing, limitation on the number of licenses, limitation on the total harvest amount, restriction of fishing gears and methods, time closure, establishment of protected areas, recording and retention of the positions of the fishing boats and submission of fishing data. Precious coral resources around Japan are utilized together with management measures to protect certain part of precious coral bed in each distribution area. Overfishing motivated by price increase has not occurred, as the precious coral fisheries are strictly managed through limiting the number of fishermen (licenses) and therefore the harvest amount of precious corals has not changed significantly, even though the price of precious corals has increased recently in Japan.)
	Bermuda (UK) - Recent submersible and technical diving surveys by Project Nekton in 2016 revealed high densities of antipatharians at several sites from 30m to 300m depth.
	Monaco - Inventory and monitoring of biological indicators of hard substrates
Decline	**Croatia** (*Corallium rubrum* - population decline of almost 75% in the last 40 years)
	New Zealand - Population trend data is lacking for most precious corals in New Zealand, but the three black coral species considered “At Risk - Naturally Uncommon” are currently considered to be moderately stable (+/- 10% change in 3 generations). The five precious red corals reviewed were classified as “At Risk – Declining (i.e. >10% but <30% decline in 3 generations), mainly due to impacts from bottom trawling. Data is absent for the majority of precious corals in New Zealand waters, but some may be similarly impacted. Over time it is hoped to add more precious corals (Order Antipatharia and Family Coralliidae (*Corallium* spp. and *Hemicorallium* spp.) to the New Zealand threat classification review process.
Data deficient	**Australia**
	Croatia - *Antipathes dichotoma* - rare species in eastern Adriatic, known from several localities; deeper parts of eastern Adriatic Sea are poorly investigated, so there is no data on presence or population size in deep sea; main threat is fishery (destruction of colonies by fishing gear) and diving (collection by divers). *Antipathella subpinnata*, *Leiopathes glaberrima* – extremly rare species in eastern Adriatic, known only from few localities; deeper parts of eastern Adriatic Sea are poorly investigated, so there is no data on presence or population size in deep sea; main threat is fishery (destruction of colonies by fishing gear) and diving (collection by divers)
	Indonesia (Source for *H. reginae* and *H. halmaheirense*: Kukenthal, W. 1924. Das Tierreich, Gorgonaria. Berlin und Leipzig)

	Malaysia
	Mexico
	Caribbean Netherlands
	New Zealand
	Portugal
	Spain
	Ascension Island (UK) (No scientific data sources available. Anecdotal dive surveys over last 3 years indicate populations appear stable but no quantitative analysis done.)
	Cayman Islands (UK)
	Turks and Caicos Islands (UK)
	USA (Species reported by Florida) - There is insufficient information to determine the distribution or population sizes for most species on the list. However, there is sufficient information to determine the conservation status of the major commercially-important species potentially-harvestable under current management plans. Populations of species that are potentially-harvestable under current management plans appear to have remained stable or increased over the last 5 years.* **Please see Annex 2 of US response to the survey for further information.*

A.4 - If available, please provide data or information on the impact of (international and domestic) legal trade, and, if possible illegal trade, on the precious coral population(s) in your country.

The most of the responses* stated that there is neither legal trade, nor indications of illegal trade with the exception of the following Parties,

**Please see Annex II to see the complete list of replies.*

Croatia: Only red coral (*Corallium rubrum*) is being harvested for domestic and international trade. Harvest of red coral is possible only with permit issued by Ministry of Agriculture. 15 entities are registered with Ministry of Agriculture and permitted to harvest red coral from Adriatic Sea. Additionally, annual quota of maximum of 200 kg is appointed to each permit and harvest season is from April 1st until December 1st. According to data provided by Ministry of Agriculture in period between 2008 and 2012 a total of 6074,1 kg of red coral was harvested from Adriatic Sea. Even though harvested quantities are in line with prescribed quota, scientific research has shown that populations of red coral in Adriatic Sea are still declining.

Additionally, due to its high commercial value, red coral is also under threat by illegal harvesting. Today, approximately hundred locations along east Adriatic coast are known sites for red coral. On almost 75% of all known locations red coral was harvested and on almost 65% colonies were completely or almost completely destroyed. Continuous monitoring done by scientists on 8 sites within protected areas has shown that red coral has been completely harvested and populations are irreversibly destroyed. Unfortunately, there is still no continuous monitoring in place for deeper populations of red coral. New information is expected in next 5 years from marine seabed habitat mapping project in Croatian Adriatic (in preparation).

Intensive harvesting of red coral has resulted in a decline of almost 75% of the population over the past 40 years. The quantity of red coral harvested in the late 1970s was about 100 tonnes per year, while just 20 years later, this was reduced to less than 30 tonnes. Today

red coral is a relatively rare species, considering that the population density not so long ago was known to be more than 1000 colonies per square metre. Such a population density today can only be seen in strictly protected areas, but not in the Adriatic Sea, where even the protected areas have been decimated.

Overexploitation without proper management pose main threat to survival of red coral in Adriatic Sea. Management plan with Action plan for conservation of red coral in Adriatic Sea has been in preparation since 2009, but still not finalized and adopted.

Japan: As for data on international legal trade, please refer to our answers to D.1 and D.2.

As for data on international illegal trade, the number of illegal-import injunction of all coral species listed in CITES Appendices (include stony coral, which is not a precious coral) is as follows;

2015	2014	2013	2012	2011
10 (App. II : 9, App. III : 1)	8 (App. II : 7, App. III : 1)	6 (App. II : 6, App. III : 0)	9 (App. II : 6, App. III : 3)	8 (App. II : 5, App. III : 3)

Portugal: Illegal collection and trade has been detected. Corals are not included in the list of marine organisms that can be legally captured/collected, so the collection of corals is illegal.

USA: The coral harvest industry is currently moribund in Hawaii, with the exception of the relatively shallow black corals (*Antipathes griggi*). There are only a few commercial harvesters who harvest a small number every year, and these harvests are monitored closely by the state of Hawaii.

We have no current information that illegal harvests or exports of either black or precious corals from U.S. waters have occurred in the recent past. Foreign fishing vessels were documented illegally coral dredging in the remote Northwestern Hawaiian Islands in the early 1970s (Grigg 1993). Currently, there is no evidence or even rumors of such illegal activity. However, much of the U.S. Pacific region is remote and unpopulated and any such activity could go undetected.

B. LEGISLATION / REGULATORY FRAMEWORK

B.1 - Has your country adopted legislation, or other measures, to manage harvest and regulate international trade in precious coral(s), or specimens of precious coral?

Yes	Australia, Croatia, Greece, European Union (EU), Indonesia, Japan, Mexico, Monaco, Caribbean Netherlands, New Zealand, Spain, Switzerland, Cayman Islands (UK), Montserrat (UK), Turks and Caicos Islands (UK), United States of America
No	Malaysia, Netherlands, Poland, Portugal, Bermuda (UK)

(If yes) B.1.1 - specify the titles and provisions of such measures for each species

Country	**Species**	**International Trade Measures**	**Title and relevant provisions of these measures**
Australia			Australia is a federation of six states which together with two self-governing territories, have their own constitutions, parliaments, governments and laws. Australia's national environmental law, the Environment Protection and Biodiversity Conservation Act 1999, ensures Australian Government managed fisheries and state and territory managed fisheries that export their product, are managed sustainably.
Greece			The Presidential Decree no 324/1994 (Government Gazette no 174/1994 B)
Croatia	*Corallium rubrum*	No	Ordinance on commercial fisheries at sea with bottom set-nets, traps, hook lines, spears and special fishing methods (OJ 84/15, 94/15 and 107/15), articles 27-30
European Union (EU)	*Corallium rubrum*		- Regulations under GFCM; * GFCM/35/2011/2 on the exploitation of red coral in the GFCM Competence Area * GFCM/36/2012/1 on further measures for the exploitation of red coral in the GFCM area - Regulation (EU) 2015/2102 of the European parliament and of the Council of 28 October 2015 - Annex III of the Specially Protected Areas Protocol to the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean - Annex V of the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora
Indonesia	Order Antipatharia (Black corals)	Yes	Appendix of Government Regulation of Republic of Indonesia No. 7/1999 concerning the plants and animals that protected.
Japan	Black Coral (*Antipatharia* spp. App. II), Red	Yes	Foreign Exchange and Foreign Trade Act.

	Coral (App. III), Pink Coral		
	Red Coral (App. III), Pink Coral (App.III)	No	Prefectural governments' licensing systems under the Fishery Act
	Red Coral (App. III), Pink Coral (App.III)	No	Instructions by Sea-area Fisheries Adjustment Commissions under the Fishery Act
Mexico	Black corals	Yes	*A. grandis*, *A. dichotoma* and *M. ulex* are species under special protection since they are in the list of threatened species (NOM-059-SEMARNAT-2010) and they are subject to General Law on Wildlife.
Monaco	*Corallium rubrum*	Yes	Ordonnance no 67 de 2005 (application CITES)
Caribbean Netherlands	All CITES listed species	Yes	Nature Conservation Framework Act BES (Additional information: General legislative framework requiring CITES permits for import and export of CITES listed species.)
New Zealand	*Antipatharia* spp.	Yes	International trade regulated under New Zealand legislation's Trade in Endangered Species Act 1989; CITES permit requirements to export/import
	Coralliidae spp.	Yes	
Spain	*Corallium rubrum*	Yes	El Real Decreto 629/2013. The Autonomous Communities of Catalonia and the Balearics have specific regulations for the extraction of red corals in their domestic/internal waters.
Switzerland	*Coralliidae elatius, japonicus, konjoi, secundum* (Appendix III)	Yes	- Federal Act of 16 March 2012 on the Convention on International Trade in Endangered Species of Wild Fauna and Flora (RS 453, in French) - Ordonnance du 4 septembre 2013 sur la circulation des espèces de faune et de flore protégées (OCITES, RS 453.0) - Ordonnance du DFI du 4 septembre 2013 sur le contrôle de la circulation des espèces de faune et de flore protégées (Ordonnance sur les contrôles CITES, RS 453.1)
	Antipatharia (Appendix II)	Yes	
Ascension Island (UK)	*Stichopathes occidentalis, Antipathella wollastoni, Tanacetipathes sp.*	Yes	Wildlife Protection Ordinance 2013, no trade allowed. Customs check imports and exports to the island.
Cayman Islands (UK)	Antipatharia	Yes	Endangered Species Trade & Transport Law (CITES enabling legislation)
	All corals	No	No take of any coral in Cayman waters without a permit. Permits not issued for commercial or personal collection
Montserrat (UK)		Yes	Trade in Endangered Species Act 2016 - No. 10 of 2016
Turks and Caicos Islands (UK)	All corals	Yes	Fisheries Protection Regulations

USA	All marine corals in Florida	No	68B-42.009 Prohibition on the Taking, Destruction, or Sale of Marine Corals Sea Fans, and Non-erect, Encrusting Octocorals; Exception. Annex 3.1 - B.1.1 - Florida regulations

See Annex III for detailed information regarding legislation/regulatory framework of some Parties.

***B.2 -** What penalties can be imposed, in accordance with your national legislation or trade measures, for illegal activity concerning harvest and/or trade in precious coral, or specimens of precious coral?*

Australia: The maximum penalty for wildlife trade offences under the Environment Protection and Biodiversity Conservation Act 1999 is 10 years imprisonment and $180,000 for individuals ($900,000 for corporations). Penalties of 5 years imprisonment and $180,000 for an individual ($900,000 for corporations) may apply for the possession of specimens that have been illegally imported. There are also penalties for breaching relevant state and territory laws.

Croatia: Art 38 of the Act on transboundary movement and trade in wild species:

A fine in the amount of 25,000.00 to 200,000.00 kunas shall be imposed on a legal person, in amount of 7,000.00 to 30,000.00 kunas shall be imposed for an offense referred to natural person and responsible person in the legal person, and in amount of 10,000.00 to 50,000.00 kunas shall be imposed on the natural person craftsman or a person pursuing other self-employed if the offense is committed in connection with performing the craft or other independent activities, if in a very small quantity or to a lesser extent or commercially uses and / or exports live or dead specimens of strictly protected native that are not listed in Annex A to the Regulation (EC) No. 338/97 and their parts or derivatives, or which movea live specimens taken from the wild from the location specified in the permit, without confirmation from the Ministry of Environment and Energy.

Greece: According to the article 8 of Law no 2040/1992 which replaced the paragraph no 1 of article no 2 of Law no 1740/1987, regarding the exploitation and protection of coral habitats, aquaculture environments etc, the harvesting, transport, trade and processing of corals without a specific license is sanctioned by infringement and imprisonment penalty of at least 3 months.

In addition, according to a specific provision of the presidential decree no 324/1994 the offender is excluded from licensing for three years.

Indonesia: Based on Act No. 5 Year 1990 art. 40

Maximum 5 years in prison and Rp. 100.000.000 - penalties for intentional crime

Maximum 1 year in prison and Rp. 50.000.000 - penalties for violation

Japan: *Foreign Exchange and Foreign Trade Act*

Any person who has exported or imported goods without obtaining approval shall be punished by imprisonment with labor for not more than five years, a fine of not more than five million yen, or both; provided, however, that when five times the price of the subject matter of the violation exceeds five million yen, the fine shall be not more than five times the price.

Prefectural governments' licensing systems under the Fishery Act

Any person who has operated a fishery without being granted the permission under licensing systems managed by prefectural governments shall be punished by imprisonment with labor for not more than three years or a fine of not more than two million yen.

Instructions by Sea-area Fisheries Adjustment Commissions under the Fishery Act

Any person who has violated the order of the Governor to follow the instruction shall be punished by imprisonment with labor for not more than one year, a fine of not more than 500,000 yen, detention or a petty fine.

Malaysia: For trade measure, we have Act 686 International Trade in Endangered Species of Wild Fauna & Flora.

Mexico: In line with the Article 127 of the General Law on Wildlife, the imposition of fines will be determined according to the following criteria:

- With the equivalent of 20 to 5000 times of minimum salary to who commits the infractions Indicated in sections XII, XVII, XXI and XXIII of article 122 of the present Law and "Fracción reformada DOF 10-01-2002"

- With the equivalent of 50 to 50000 times of minimum salary to who commits the infractions. As indicated in sections I, II, III, IV, VI, VII, VIII, IX, X, XI, XIII, XIV, XV, XVI, XVIII, XIX, XX and XXII of article 122 of the present law. "Fracción reformada DOF 10-01-2002"

The imposition of these fines will be calculated on the basis of the current general daily minimum salary by the Federal District at the time of the infraction.

In case of recurrence, the amount of the fine may rise up to the double of the amount originally imposed.

Furthermore, in the Federal Penal Code, article 420 establishes that a penalty from one to nine years in prison and for the equivalent of three hundred to three thousand days fine, will be imposed to whom illicitly:

- III. Carry out hunting, fishing, capturing activities with forbidden tools specimens of wild fauna species or threatening the biological viability of a wild population or species.

- VI. Carry out any activity with the purpose of traffic, capture, possess, transport, collection/stockpile, introduce in the country or take out from it any specimen, any of its products or sub-products and other genetic resources, of a species of wild, terrestrial or aquatic, flora or fauna during a certain period of closure, which are considered endemic, endangered, at risk of extinction, subject to special protection, or regulated by any international treaty of which Mexico is a party.

An additional penalty of up to three years of prison and up to a thousand days fine will be imposed when the conduct described in this article are carried out in or affect a protected natural area or when they are carried out for commercial purposes.

Monaco: Ordonnance no 67 de 2005 and Code de la Mer article L.230-3

Netherlands: When encountering illegal trade in specimens of precious coral, administrative law enforcement measures can be taken. These include the seizure of specimens, cancelling issued permits and issuing official warnings.

Caribbean Netherlands: Maximum fine of US$ 560,000 for import or export without the required CITES permits.

New Zealand: Imprisonment, fines and seizure of specimens.

Spain: As indicated in art. 16 of RD 629/2013, infractions of the provisions contained in this royal decree will be sanctioned, in accordance with what established in Title V of Law 3/2001, of March 26, of “Pesca Marítima del Estado” (modified by Law 33/2014 of December 26).

Likewise, article 79 of Law 3/2001 establishes certain prohibitions in the field of market/trade of fishery products. The amount of fines, depending on their level between low, serious, very serious and the degree to which they are applied, ranges between 60 and 600.000 euros. (Fines range between 60 and 600.000 euros depending on the importance of the infraction)

Switzerland: According to the applicable provisions of article 26 of the Federal Act on CITES, the following penalties can be imposed for violations of

(1) duty to register any import, export, re-export,

(2) duty to obtain a permit,

(3) only salesmen: duty to maintain an inventory on CITES Appendix I-III specimen:

> Intentional offence: Fine up to 40'000 CHF

> Offence through negligence: Fine up to 20'000 CHF

> If the offender acts on a regular basis or for commercial gain, a custodial sentence of up to three years or a monetary penalty of up to CHF 1,080,000 (360 daily penalty units of a maximum of CHF 3,000) may be imposed

> Criminal liability also for attempts, wilful incitement, wilful complicity

Ascension Island (UK): Any person who fails to comply with or contravenes any of the provisions of the Ascension Wildlife Protection Ordinance, 2013, or any subsidiary legislation made hereunder, shall be guilty of an offence for which the maximum penalty on conviction is a fine of £20, 000 or imprisonment for a term of 12 months, or both.

Bermuda (UK): Antipatharians are listed comprehensively under the Protected Species Act, 2003 and the Protected Species Order, 2015, and carries penalties of up to US$25,000 or two years imprisonment.

Cayman Islands (UK): Up to CI$500,000 fine and/or 4 years in prison and/or confiscation of vessel, etc., used in commission of offence.

Montserrat (UK): (51) Illegal trade in specimen of Appendix I, II or III species

(1) A person who contravenes section 12 commits an offence and is liable on conviction—

(a) in the case of an individual to a fine of $25,000 or one year imprisonment or both; and

(b) in the case of a corporation, to a fine of $50,000.

(52) Possession of specimen of Appendix I, II or III species without permit or certificate

(1) A person who has in his possession a specimen of an Appendix I, II or III species that he knows or has reasonable grounds to suspect, was traded into or from Montserrat in contravention of this Act commits an offence and is liable on conviction—

(a) in the case of an individual, to a fine of $25,000 or one year imprisonment or both; and

(b) in the case of a corporation, to a fine of $50,000

Turks and Caicos Islands (UK): Fisheries Protection Regulations

Restriction on taking, processing, etc. marine products without a license

4. (1) Subject to the provisions of paragraph (2) any person who, not being the holder of and acting in conformity with the conditions of a license authorizing him so to do –

(a) takes or is in possession of any species of marine product; or (Amended by L.N. 9/2004)
(b) processes or exports any species of marine product,
Commits an offence and is liable on summary conviction to a fine of $50,000 or to a term of imprisonment of twelve months, or to both such fine and imprisonment.

(2) Notwithstanding that he is not the holder of a license authorizing the taking, processing or exporting of marine products (as the case may be) –
(a) a Belonger (except during any close season for that species of marine product by a prohibited apparatus or method) may take or process reasonable quantities of any species of marine product for pleasure or recreation or for consumption by himself or in his home;
(b) any person proceeding to a place outside the Islands, upon payment of any export duty payable under any law for the time being in force, may take with him any worked black coral, not more than three of any sponge or in the case of any other species of marine product other than black coral not more than ten pounds in weight of each of any species of marine product without being the holder of an export license;
(c) any non Belonger being the holder of a valid license issued under regulation 6(1)*(h)* proceeding to a place outside the Islands, upon payment of any export duty payable under any law for the time being in force, may (with the prior written consent of a Fishery Officer) in addition to the marine products specified in paragraph *(b)* take with him one fish of unlimited weight for the purpose of mounting as a trophy.

USA: Misdemeanor violations, with maximum fine of $500.00

Penalty Provisions in U.S. FISH & WILDLIFE Statutes								
Act	*Penalty Provisions*	*Criminal Cases*						
		Felony			*Misdemeanor*			
		Class	*Jail*	*Fines*	*Class*	*Jail*	*Fines*	*Civil*
Lacey Act	*16 USC 3373*	*D*	*5 YEARS*	*250,000 (I) 500,000 (O)*	*A*	*1 YEAR*	*100,00 (I) 200,000 (O)*	*$625 (marking) $25,000 or max of predicate law*
Endangered Species Act	*16 USC 1540*				*A (Endangered) B (Threatened)*	*1 YEAR 6 MONTHS*	*100,000 (I) 200,000 (O) 25,000*	*$23,744/ $49,467*

The types of violations, described above, can violate local, state, and federal U.S. law. The federal statutes below could be used to address the violations depending on the specific circumstances.

C. MANAGEMENT FRAMEWORK

C.1 - *Is harvest of precious coral managed in your country?*

Yes: Australia, Croatia, Greece, Indonesia, Japan, Mexico, Monaco, New Zealand, Spain, Ascension Island (UK), Turks and Caicos Islands (UK), USA

No: Malaysia, Netherlands, Caribbean Netherlands, Poland, Portugal, Switzerland, Bermuda (UK), Cayman Islands (UK), Montserrat (UK)

(If yes) C.1.1 - Please provide detailed information on how harvest is managed. Do you have management plans or management measures to address harvest?

Australia: (same as B.1.1) Australia is a federation of six states which together with two self-governing territories, have their own constitutions, parliaments, governments and laws. Australia's national environmental law, the *Environment Protection and Biodiversity Conservation Act 1999*, ensures Australian Government managed fisheries and state and territory managed fisheries that export their product, are managed sustainably. All harvest for export is assessed to ensure impact on target stocks is not damaging to the species or surrounding ecosystem. The collection of corals for trade is directed by management plans or harvest strategies. There is no trade in precious corals sourced in Australian waters.

Croatia: Harvesting is managed by national legislation. It is prohibited by Marine fisheries Act (OJ 81/13, 14/14 and 152/14) harvesting of corals in small scale artisanal fisheries and leisure fisheries. Ordinance on commercial fisheries at sea with bottom set-nets, traps, hook lines, spears and special fishing methods (OJ 84/15, 94/15 and 107/15) defines annual maximum quantity per licence at 200 kg. Also it prescribes number of hand gears, minimum depths for harvesting (50 meters) and temporal restriction (from 1st December till 31st March.

Greece: (Same as B.1.1) The management of harvest and transport of precious corals in Greece has been regulated by the Presidential Decree no 324/1994 (Government Gazette no 174/1994 B).

In particular, provisions have been implemented for the harvesting of corals (protected species excluded) in designated marine areas up to 5 years, according to a fallowing system, by professional ship owners holding a specific harvesting licence, issued by the Ministry of Rural Development & Food, in which the area and the gears are determined.

Each professional discovering the existence of a coral habitat has the obligation to map the area and submit the relevant data to the Port Authorities.

In addition, provisions have been implemented by the aforementioned Presidential Decree for the transport and storage of harvested corals (protected species excluded) by professionals holding a specific transport license, issued by the competent authorities of the Ministry of Economy & Development, following strict rules for recording items.

Indonesia: Antipatharia is one of animal that is protected according to the Appendix of Government Regulation of Republic Indonesia No. 7/1999.

Japan: *Prefectural governments' licensing systems and instructions by Sea-area Fisheries Adjustment Commissions under the Fishery Act*;

Harvests of precious corals are restricted by prefectural governments' licensing systems and instructions by Sea-area Fisheries Adjustment Commissions under the Fishery Act,

taking into account distributions of precious corals and fishery practices in each region. The restrictions include a licensing system for precious coral fishing, limitation on the number of licenses, limitation on the total harvest amount, restriction of fishing gears and methods, time closure, establishment of protected areas, recording and retention of the positions of the fishing boats and submission of fishing data.

In October 2015, the Fisheries Agency issued an administrative instruction to relevant prefectural governments with a view to strengthening conservation and management measures for precious corals.

Combination of these measures have been introduced and implemented in all prefectures which have precious coral fisheries

Mexico: (Same as B.1.1) There is no national plan for coral harvest and each request is evaluated case by case.

Monaco: The Law of the Sea: Harvest is prohibited except for non-profit marine scientific research (article L.241-1 and following).

File to be submitted - obtaining authorization from the Minister of State, articles O241-2 – O241-7 and following.

New Zealand: No commercial harvesting permits issued under New Zealand legislation. Permits to catch and handle issued for research purposes only. Other legislation controlling the take of marine specimens including animals is found in the Wildlife Act 1953, Antarctic Marine Living Resources Act 1981, Fisheries Act 1996, Marine Reserves Act 1971 and others.

Under the Fisheries (Benthic Protection Areas) Regulations 2007, 17 areas in the New Zealand EEZ, totalling 1.2 million square kilometres, or an area four times the landmass of New Zealand, have been closed to bottom trawling and dredging. These closed areas are likely to provide good protection to precious corals in the New Zealand EEZ.

Spain: As indicated in RD 629/2013

As established in RD 629/2013 there is a national management framework that regulates the procedure for issuing authorizations every two years, as well as the management of their extraction in the external waters. This regulation includes, among other measures, a licensing system with certain access requirements (maximum of 47 licenses in external national waters, 37 in the Mediterranean and 10 in the South Atlantic), temporal and spatial closures (five only authorized and delimited zones, in the Mediterranean fishing season between 1 May and 31 October), a maximum quota per year and fisherman (300 kg), minimum size of 7mm with a tolerance of 10%, a log book for captures and sales, etc. The real decree also refers to the latest Recommendations of the General Fisheries Commission for the Mediterranean regarding red coral fishing.

As mentioned above, the Autonomous Communities of Catalonia and the Balearic Islands have their own standards to regulate this fishery in their domestic/internal waters.

Ascension Island (UK): Wildlife Protection Ordinance prohibits taking or damage to corals without prior permission from Administrator – unlikely to be given.

Cayman Islands (UK): Harvest is not allowed.

Montserrat (UK): Corals are not permitted to be harvested.

Turks and Caicos Islands (UK): Licences are required. However, no such licence has been issued for a number of years.

USA: In Florida, the harvest of species within the order Antipatharia is prohibited in state and federal waters of Florida, per Chapter 68B-42, Florida Administrative Code

In the United States, there is no commercial harvest of these precious coral species outside of the State of Hawaii, and any potential harvests would be managed in U.S. federal waters under the Magnuson-Stevens Fishery Conservation and Management Act. The Gulf of Mexico, South Atlantic and Caribbean Fishery Management Councils have developed coral Fishery Management Plans (FMP) that prohibit the harvest of black corals.

D. INTERNATIONAL TRADE

D.1 - Have any precious coral, or precious coral specimens been legally imported into your country since 1 January 2010 that are not reflected in the CITES annual reports submitted?

Yes: Japan

All coral species (including not only precious corals, but also all other coral species such as stony corals. Not limited to CITES Appendices listed species.)

Additional information: The statistics include all coral species. However, judging from the price, most of the imports are estimated to be stony coral, rather than precious corals.

Country	Species	Specimen (i.e. Jewellery, decorative, live, coral sand or other)	Quantity	Unit of measure	Date	Origin	Country of last re-export	Source	Purpose
Japan			436,456	KG	2016		PH, ID, IT		
			512,501	KG	2015		PH, TW, TN		
			492,586	KG	2014		PH, ID		
			509,716	KG	2013		PH, ID		
			475,967	KG	2012		PH, ID, AU, VN, TN		

No: Australia, Croatia, Greece, Indonesia, Malaysia, Mexico, Monaco, Netherlands, Caribbean Netherlands, New Zealand, Poland, Portugal, Switzerland, Ascension Island (UK), Bermuda (UK), Cayman Islands (UK), Montserrat (UK), Turks and Caicos Islands (UK)

D.2 - Have any precious coral, or precious coral specimens been legally exported or re-exported from your country since 1 January 2010 that are not reflected in the CITES annual reports submitted?

Yes: Japan

All coral species (including not only precious corals, but also all other coral species such as stony corals. Not limited to CITES Appendices listed species.)

Additional information: The statistics include all coral species. However, judging from the price, most of the imports are estimated to be stony coral, rather than precious corals.

Country	Species	Specimen (i.e. Jewellery, decorative, live, coral sand or other)	Quantity	Unit of measure	Date	Origin	Country of last re-export	Source	Purpose
Japan			56,956	KG	2016		US, TW, KR, ID, HK, AU, IN, CN		

			34,881	KG	2015		US, TW, KR, ID, AU, HK, IN, IT		
			51,623	KG	2014		US, KR, TW, ID, IN, IT, HK		
			76,350	KG	2013		US, KR, TW, ID, AU, IT, IN HK		
			54,997	KG	2012		US, TW, KR, HK, ID, IT		

No: Australia, Croatia, Greece, Indonesia, Malaysia, Mexico, Monaco, Netherlands, Caribbean Netherlands, New Zealand, Poland, Portugal, Switzerland, Ascension Island (UK), Bermuda (UK), Cayman Islands (UK), Montserrat (UK), Turks and Caicos Islands (UK), USA

- See Annex of the response of Switzerland for detailed information on legal import and export of precious corals in Switzerland.

- See Annex 4 of the US response for detailed information on legal import and export of precious corals in the United States from 2010 through 2015 (USFWS Law Enforcement Management System Data)

E. ENFORCEMENT

E.1 - Is the illegal harvest or illegal trade of precious corals, or precious coral specimens, an issue in your country?

Yes: Japan, Portugal

No: Australia, Indonesia, Malaysia, Mexico, Monaco, Netherlands, Caribbean Netherlands, New Zealand, Poland, Switzerland, Ascension Island (UK), Bermuda (UK), Cayman Islands (UK), Montserrat (UK), Turks and Caicos Islands (UK), USA

(If yes) E.1.1 - Please describe the problem and what solutions are needed to address the problem.

Croatia: Even though there are no official records or files on illegal harvest or trade in red coral in Croatia, Management and Scientific Authority have reports and evidence documented by field scientists on illegal activities in regard to harvest of red coral. Such activities include harvesting in protected areas, overexploitation in certain localities, etc. Additionally, only harvest of red coral is managed, but not the trade itself. Therefore illegal trade is very difficult to prove. Furthermore, there are some reports indicating exceeded annual quotas.

Japan: In recent years, more than 200 Chinese fishing vessels illegally operated fisheries in the waters around Japan, such as waters around Ogasawara Islands, and presumably harvested precious corals. In response, the Japanese government strengthened enforcement activities and raised the amount of fines for illegal fishing in Japan's EEZ. The Chinese government also strengthened its enforcement activities within Chinese jurisdictions. Consequently, illegal fishing by Chinese fishing vessels decreased drastically, and illegal fishing has rarely been observed since January 2015.

Mexico: There are no examples of detections of irregularities in international trade, even if TRAFFIC (2015) noted that "precious and semi-precious corals are traded world-wide for jewellery and ornaments; this importantly affected their population", but since these articles are for personal use, it is difficult to say if there is illegal trade.

Portugal: Despite the absence of concrete data, the sporadic episodes of illegal collection/trade led the authorities to prepare regulations that will cover this problem. However those regulations are still under appreciation by the Portuguese government.

USA: All harvesting and sales of precious coral are reported in standardized reporting logs and coral harvesting vessels and catch are subject to inspection by enforcement agents of the National Marine Fisheries Service and/or State of Hawaii.

See Annex 6 of US response to have detailed information on precious coral specimens not cleared for entry into the United States (2012 - 2016) (USFWS Law Enforcement Management System Data)

Switzerland: *See Annex of Swiss response to have information on detected illegal trade in Switzerland. (Illegal trade - no criminal trials with regard to illegal trade in/import of Corillidae or Antipatharia spp. 2010-2016)*

F. CURRENT OR PAST RESEARCH ON PRECIOUS CORALS

F.1 - Is there, or have there been, research projects which relate to the conservation needs of precious coral in your country?

Most of the Parties either did not respond to this question, or informed that there is no available data or any current study concerning precious corals.

Information provided by Parties (Croatia, Greece, Japan, Mexico, New Zealand, Portugal, Ascension Island (UK), Bermuda (UK), Montserrat (UK) and United States of America – *See Annex IV to see responses in detail*) shows that there have been various projects and studies on coral species both on national and international level. Projects and studies cover, in general, subjects such as biodiversity, interaction between coral and fisheries, status of marine habitats, long term monitoring, spatial distribution, population status and impact analyses.

Some research projects have led to important information, such as the assessment of *Corallium rubrum*, a non-CITES listed species, as critically endangered (CR).

G. ROLE OF REGIONAL FISHERIES MANAGEMENT ORGANIZATIONS (RFMOs)

The conservation and management of red corals (*Corallium rubrum*) is regulated under the General Fisheries Commission for the Mediterranean (GFCM), which adopted in 2011 and 2012 two recommendations for the sustainable exploitation of red corals, as follows:

- GFCM/35/2011/2 on the exploitation of red coral in the GFCM Competence Area

- GFCM/36/2012/1 on further measures for the exploitation of red coral in the GFCM area

The Scientific Advisory Committee of the GFCM (SAC) held on 7-8 March 2017 a dedicated workshop on red coral. It discussed the current exploitation rates of red coral and technical options for the implementation of an adaptive regional management plan; scientific data available from national research programmes, including through the use of remotely operated vehicles (ROV); and a proposal for a regional research programme on Mediterranean red coral. Also the results of the analysis carried out on red coral management and harvesting data transmitted by GFCM contracting parties from 2013 to 2015 were presented to the workshop.

In some cases, the information available was not sufficient to provide a comprehensive picture of the fishery as well as a precise advice on the status of the stock. Still, there is no sufficient consistency between available data (e.g. on harvesting) and the operational objectives outlined in the GFCM Guidelines on the management of red coral (2014), namely Operational objective 1 (To control that the legal size limit for harvesting red coral colonies is enforced at the GFCM level) and Operational objective 2 (To maintain the same catch level as that of the three previous years in order to keep the fishery working while waiting for a consistent assessment of red coral populations based on sound scientific information). Also a review of monitoring, control and surveillance (MCS) measures implemented at the national level was carried out. The contents of the GFCM concept note for a research programme on red coral were revised and updated by the experts during the meeting and the importance of using ROV for scientific research was discussed in light of the results of some studies presented to the meeting.

The issue of next steps at GFCM level was also addressed. In response to the request of advice on the implementation of a GFCM management plan, the workshop agreed on:

- the need to standardize the data collection towards the provision of advice in support of management measures, including those identified in the 2014 GFCM Guidelines for the management of Mediterranean red coral populations. In particular, the need to agree on a common methodology to obtain total production data (e.g. using either live weight or dry weight and following a common methodology to measure it), as well as the need to validate information from the logbook, including through observers on board and on landing sites. It was highlighted that differences in the exact methodology used, as well as the timing of the weighing (immediately when fished, when landed at the port or some time after) would result in large differences which could make it difficult to analyse the variations of red coral production between areas, countries and in time;

- the importance of addressing IUU fishing and mitigating its impact on the fishery;

- the importance of adopting additional management and MCS measures, including those proposed by the 2014 GFCM Guidelines, considering that some of these have been already implemented by GFCM CPCs (e.g. with regard to the use of logbook, designation of ports and traceability mechanisms);

- the need to involve stakeholders in the discussions towards the adoption of management plans as well as in the implementation of management measures, in line with the new GFCM Agreement;

In more general terms, the issue of red coral has been highlighted in the GFCM Mid-term strategy (2017–2020) towards the sustainability of Mediterranean and Black Sea fisheries, adopted in GFCM intersessional meeting in September 2016. On the basis of work done, GFCM has decided to adopt in this strategy a comprehensive regional management plan for red coral, based on previous technical work carried out in the context of the GFCM subsidiary bodies, including relevant GFCM guidelines, and updated scientific advice. This action has been benchmarked in the strategy under the GFCM objective to minimize and mitigate unwanted interactions between fisheries and marine ecosystems and environment.

GFCM has noted that specific actions towards the protection of Mediterranean populations of red coral have been developed, and, within the context of the MoU between the GFCM and the United Nations Environment Programme – Mediterranean Action Plan (UNEP-MAP), a number of indicators for good environmental status (GES) of exploited marine populations have been established.

The South Pacific Regional Fisheries Management Organisation (SPRFMO) and the North Pacific Fisheries Commission (NPFC), supporting protection of vulnerable marine ecosystems (VMEs) acts in line with United Nations General Assembly Resolution 61/105, which calls upon RFMOs to assess, on the basis of the best available scientific information, whether individual bottom fishing activities would have significant adverse impacts on vulnerable marine ecosystems, and to ensure that if it is assessed that these activities would have significant adverse impacts, they are managed to prevent such impacts, or not authorized to proceed.

NPFC has management measures on Alcyonacea, Antipatharia, Gorgonacea, and Scleractinia species as they are documented or considered sensitive and potentially vulnerable to deep-sea fisheries in the high seas.

In addition, the Scientific Committee of the NPFC is instructed to develop a guideline, species list and identification guide for benthic species, including corals, whose presence in a catch will indicate that fishing occurred in association with a vulnerable marine ecosystem (VME) in northwest and northeast Pacific.

H. MARICULTURE ACTIVITIES

H.1 - Are precious corals maricultured in your country?

Yes	**-**
No	Australia, Croatia, Greece, Indonesia, Japan, Malaysia, Mexico, Netherlands, Caribbean Netherlands, New Zealand, Poland, Portugal, Switzerland, Ascension Island (UK), Bermuda (UK), Cayman Islands (UK), Montserrat (UK), Turks and Caicos Islands (UK), USA

Annex I

Species occurred in range States for precious corals

Australia

Antipathes sp.	*Bathypathes alternate*
Cirrhipathes spiralis	*Cupressopathes sp.*
Leiopathes sp.	*Leiopathes bullosa*
Parantipathes helicosticha	*Stichopathes sp.*
Bathypathes sp.	*Bathypathes patula*
Cladopathes sp.	*Cupressopathes abies*
Leiopathes acanthophora	*Leiopathes secunda*
Parantipathes plana	*Stichopathes variabilis*
Chrysopathes sp.	*Dendrobathypathes sp.*
Cupressopathes cylindrical	*Myriopathes antrocrada*
Myriopathes sp.	*Trissopathes sp.*
Triadopathes sp.	*Cirrhipathes sp.*
Chrysopathes tetracrada	*Dendrobathypathes grandis*
Myriopathes myriophylla	*Cirrhipathes proprinqua*
Trissopathes tristicha	*Dendrobathypathes isocrada*
Parantipathes sp.	

Croatia

Order Antipatharia	Family Coralliidae
Antipathes dichotoma (syn. *Antipathes mediterranea*)	*Corallium rubrum*
Antipathella subpinnata	
Leiopathes glaberrima	

Greece

Leiopathes glaberrima or *Antipathes glaberrima*	*Parantipathes larix* or *Antipathes larix*
Antipathella subpinnata	*Antipathes dichotoma*

European Union

Corallium rubrum

Indonesia

Order Alcyonacea	Order Antipatharia (Black corals)
Hemicorallium reginae	
Corallium halmaheirense	

Japan

Corallium japonicum, Appendix III	*Corallium elatius*, Appendix III

Malaysia

Unknown

Mexico

Acanthopathes humilis	*Acanthopathes thyoides*

Antipathes atlantica	*Antipathes caribbeana*
Antipathes dichotoma	*Antipathes galapagensis*
Antipathes gracilis	*Antipathes grandis*
Antipathes lenta	*Bathypathes patula*
Distichopathes disticha	*Distichopathes filix*
Elatopathes abietina	*Heteropathes americana*
Leiopathes glaberrima	*Myriopathes ulex*
Parantipathes tetrasticha	*Phanopathes rigida*
Plumapathes pennacea	*Stichopathes lutkeni*
Stichopathes pourtalesi	*Stylopathes columnaris*
Stylopathes litocrada	*Tanacetipathes hirta*
Tanacetipathes tanacetum	*Tanacetipathes thamnea*
Umbellapathes bipinnata	

Monaco

Corallium rubrum

Caribbean Netherlands

Antipathes pennacea	*Antipathes furcate*
Stichopathes gracilis	*Antipathes tanacetum*
Stichopathes gracilis	

New Zealand

Antipathes glutinata	*Bathypathes platycaulus*
Stichopathes variabilis	*Dendrobathypathes isocrada*
Antipathes fruticosa	*Lillipathes lilliei*
Antipathella aperta	*Saropathes scoparia*
Antipathella fiordensis	*Stylopathes tenuispina*
Antipathella strigosa	Family Coralliidae (No CITES listed species)

Portugal

Corallium rubrum	*Stichopathes setacea*
Antipathes erinaceus	*Leiopathes glaberrima*
Antipathes furcate	*Antipathella subpinnata*
Antipathes gracilis	*Antipathella wollastonii*
Antipathes grayi	*Tanacetipathes squamosal*
Antipathes virgate	*Stauropathes punctate*
Stichopathes gracilis	

Spain

Corallium rubrum

Ascension Island (UK)

Stichopathes occidentalis	*Tanacetipathes sp.*
Antipathella wollastoni	

Bermuda (UK)

Antipathes atlantica	*Tanacetipathes hirta*
Antipathes furcate	*Tanacetipathes tanacetum*
Stichopathes pourtalesi	*Tancetipathes thamnea*

Sticopathes cf. *speissi*	*Parantipathes tetrasticha*
Distichopathes filix	*Cupressopathes gracilis*

Cayman Islands (UK)

Antipatharia spp.

Montserrat (UK)

Acropora cervicornis (Staghorn coral - CR)	*Dendrogyra cylindrus* (Pillar coral - VU)
Acropora palmate (Elkhorn coral - CR)	*Dichocoenia stokesii* (Elliptical star coral - VU)
Montastraea annularis (Boulder star coral - EN)	*Montastraea franksi* (Boulder star coral - VU)
Montastraea faveolata (Mountainous star coral - EN)	*Mycetophyllia ferox* (Rough cactus coral - VU)
Agaricia lamarcki (Lamarck's sheet coral - VU)	

Turks and Caicos Islands (UK)

Cirrhipathes leutkeni (wire coral) – definitely	*Plumapathes pennacea* (feather black coral) – possibly
Antipathes caribbeana (bushy black coral) – possibly	*Antipathes gracilis* (orange sea fan black coral)

United States of America

Species that have been harvested commercially in the past 20 years are listed here*. Harvests have only occurred in Hawaii and these have been done in accordance with strict management plans. Commercial harvests of black and precious coralliid species are not currently allowed outside of the Hawaiian Archipelago (Note: *Corallium secundum* and *Pleurocorallium secundum* are the same species.)

*For the complete list of precious corals occurring in the United States, please see Annex I of the USA coral survey response.

Antipathes grandis (Verrill, 1928)	*Hemicorallium laauense* (Bayer, 1956) or *Corallium laauense* (Bayer, 1956)
Antipathes griggi (Opresko, 2009) or *Antipathes dichotoma* (Pallas, 1766)	*Hemicorallium regale* (Bayer, 1956) or *Corallium regale* (Bayer, 1956)
Myriopathes cf. *ulex* (Ellis & Solander,1786) or *Antipathes ulex* (Ellis & Solander, 1786)	*Pleurocorallium secundum* (Dana, 1846) or *Corallium secundum* (Dana, 1846)
Corallium sp. nov.	

Annex II

Data or information on the impact of (international and domestic) legal and illegal trade, on the precious coral populations in respective countries

Australia: No trade in precious corals sourced in Australian waters. No records of illegal trade.

Croatia: Of all precious coral species in Croatia, only red coral (*Corallium rubrum*) is being harvested for domestic and international trade. Harvest of red coral is possible only with permit issued by Ministry of Agriculture. Today, total of 15 entities are registered with Ministry of Agriculture and permitted to harvest red coral from Adriatic Sea. Additionally, annual quota of maximum of 200 kg is appointed to each permit and harvest season is from April 1st until December 1st. According to data provided by Ministry of Agriculture in period between 2008 and 2012 a total of 6074,1 kg of red coral was harvested from Adriatic Sea.

Even though harvested quantities are in line with prescribed quota, scientific research has shown that populations of red coral in Adriatic Sea are still declining. Additionally, due to its high commercial value, red coral is also under threat by illegal harvesting. Today, approximately hundred locations along east Adriatic coast are known sites for red coral. On almost 75% of all known locations red coral was harvested and on almost 65% colonies were completely or almost completely destroyed. Continuous monitoring done by scientists on 8 sites within protected areas has shown that red coral has been completely harvested and populations are irreversibly destroyed. Unfortunately, there is still no continuous monitoring in place for deeper populations of red coral. New information is expected in next 5 years from marine seabed habitat mapping project in Croatian Adriatic (in preparation).

Intensive harvesting of red coral has resulted in a decline of almost 75% of the population over the past 40 years. The quantity of red coral harvested in the late 1970s was about 100 tonnes per year, while just 20 years later, this was reduced to less than 30 tonnes. Today red coral is a relatively rare species, considering that the population density not so long ago was known to be more than 1000 colonies per square metre. Such a population density today can only be seen in strictly protected areas, but not in the Adriatic Sea, where even the protected areas have been decimated.

Overexploitation without proper management pose main threat to survival of red coral in Adriatic Sea. Management plan with Action plan for conservation of red coral in Adriatic Sea has been in preparation since 2009, but still not finalized and adopted.

Japan: As for data on international legal trade, please refer to our answers to D.1 and D.2.

As for data on international illegal trade, the number of illegal-import injunction of all coral species listed in CITES Appendices (include stony coral, which is not a precious coral) is as follows;

2015	2014	2013	2012	2011
10 (App. II: 9, App. III: 1)	8 (App. II: 7, App. III: 1)	6 (App. II: 6, App. III: 0)	9 (App. II: 6, App. III: 3)	8 (App. II: 5, App. III: 3)

Mexico: At present no information or recent study is available on the impact of legal and illegal trade of black coral in Mexico. However, we know that it reaches high price in the international market and that there are some guidelines considered as ideal for sustainable management (Cooper et al., 2011; Grigg, 2001; Harriott, 2003).

Monaco: No impact. The coral present in Monaco waters is not the object of any exploitation or trade. It is (some species) located in protected areas.

Caribbean Netherlands: No legal trade is taking place, no indications of illegal trade.

New Zealand: All precious corals are fully protected in the New Zealand EEZ, so there is no legal trade, except for the acquisition of small numbers of specimens for scientific research purposes. Illegal trade is believed to be negligible, and 'Trade Me' the main internet sales outlet has a note stating that the sale of precious corals is illegal and they will not carry out any transactions of products sourced from NZ precious corals.

Portugal: Illegal collection and trade has been detected. Corals are not included in the list of marine organisms that can be legally captured/collected, so the collection of corals is illegal.

Ascension Island (UK): No known legal or illegal trade. Potential for illegal trade to become an issue is extremely small. Only small populations of corals present here so unlikely to warrant legal trade.

Bermuda (UK) - There is no known legal or illegal trade in black corals.

Cayman Islands (UK): No (or minimal) illegal trade detected. No harvest of any coral is allowed locally. No reports of illegal local harvest, nor detections of illegal imports, in recent (5) years.

Montserrat (UK): There seems to be no evidence supporting the Trade of Coral in Montserrat.

USA: The coral harvest industry is currently moribund in Hawaii, with the exception of the relatively shallow black corals (*Antipathes griggi*). There are only a few commercial harvesters who harvest a small number every year, and these harvests are monitored closely by the state of Hawaii.

We have no current information that illegal harvests or exports of either black or precious corals from U.S. waters have occurred in the recent past. Foreign fishing vessels were documented illegally coral dredging in the remote Northwestern Hawaiian Islands in the early 1970s (Grigg 1993). Currently, there is no evidence or even rumors of such illegal activity. However, much of the U.S. Pacific region is remote and unpopulated and any such activity could go undetected.

References:

Grigg R.W. (1993). Precious coral fisheries of Hawaii and the U. S. Pacific Islands. Marine Fisheries Review 55:50-60

Parrish F.A., Baco A.R. (2007). State of deep coral ecosystems in the U.S. Pacific Islands Region: Hawaii and the U.S. Pacific Territories. In: Lumsden S.E., Hourigan T.F., Bruckner A.W., Dorr G. (eds). The State of Deep Coral Ecosystems of the United States, Silver Spring MD.

Annex III

Further information regarding legislation/regulatory framework of some Parties

Australia: Australia is a federation of six states which together with two self-governing territories, have their own constitutions, parliaments, governments and laws. Australia's national environmental law, the *Environment Protection and Biodiversity Conservation Act 1999*, ensures Australian Government managed fisheries and state and territory managed fisheries that export their product, are managed sustainably. All harvest for export is assessed to ensure impact on target stocks is not damaging to the species or surrounding ecosystem. The collection of corals for trade is directed by management plans or harvest strategies. There is no trade in precious corals sourced in Australian waters.

Greece: The management of harvest and transport of precious corals in Greece has been regulated by the Presidential Decree no 324/1994 (Government Gazette no 174/1994 B).

In particular, provisions have been implemented for the harvesting of corals (protected species excluded) in designated marine areas up to 5 years, according to a fallowing system, by professional ship owners holding a specific harvesting licence, issued by the Ministry of Rural Development & Food, in which the area and the gears are determined.

Each professional discovering the existence of a coral habitat has the obligation to map the area and submit the relevant data to the Port Authorities.

In addition, provisions have been implemented by the aforementioned Presidential Decree for the transport and storage of harvested corals (protected species excluded) by professionals holding a specific transport license, issued by the competent authorities of the Ministry of Economy & Development, following strict rules for recording items.

European Union: The conservation and management of red corals (*Corallium rubrum*) is regulated under the General Fisheries Commission for the Mediterranean (GFCM), which adopted in 2011 and 2012 two recommendations for the sustainable exploitation of red corals (GFCM/35/2011/2 on the exploitation of red coral in the GFCM Competence Area and GFCM/36/2012/1 on further measures for the exploitation of red coral in the GFCM area). The implementation of these recommendations is being reported to the GFCM Secretariat and assessed annually by the GFCM Compliance Committee.

These recommendations have been implemented into EU law through Regulation (EU) 2015/2102 of the European parliament and of the Council of 28 October 2015. The regulation sets out rules designed to ensure the sustainable exploitation of red corals, in particular by:

• prohibiting the harvesting of red coral at depth less than 50 m;

• prohibiting the use of remotely operated underwater vehicles for the harvesting of red coral;

• prohibiting the harvesting, retaining on board, transhipment, landing, transfer, storage, sale or display as raw product of red corals from colonies whose basal diameter is smaller than 7 mm at the trunk, measured within one centimetre from the base of the colony.

The species is also listed in Annex III of the Specially Protected Areas Protocol to the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, and is therefore considered as a species whose exploitation is regulated. The EU as Contracting Party to the Protocol shall therefore take all appropriate

measures, in cooperation with competent international organisations, to ensure its conservation, while at the same time authorising and regulating its exploitation so as to ensure and maintain its favourable state of conservation.

In line with the above, *Corallium rubrum* is listed in Annex V of the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. The species is therefore considered as a species of EU interest, whose taking in the wild and exploitation may be subject to management measures.

Mexico: In Mexico 3 species of black corals (*A. grandis, A. dichotoma* and *M. ulex*) are recorded in the list of threatened species NOM-059-SEMARNAT-2010 (DOF, 2010a) as species under special protection. This category contains those species that could be threatened by factors with negative impact on their surviving, which implies the necessity to promote the recovery and conservation of these species, as well as other associated species.

In accordance with the "Ley General de Vida Silvestre" (DOF, 2010b) (General Law on Wildlife) the management and the exploitation of species listed in NOM-059-SEMARNAT-2010 are performed under the following criteria:

Article 85. The exploitation of specimens of endangered species will be allowed only when priority is given to collection and capture for restauration, repopulation, reintroduction and scientific research. Any other exploitation, in case of population threatened and in danger of extinction, shall be subject to demonstration that it has been complied satisfying any of the 4 abovementioned activities and if:

a) Specimens are the product of controlled reproduction, contributing to the development of populations which are in programmes, projects and actions - when existing - endorsed by the Secretariat, in case of captive specimens.

b) Contribute to the development of populations through controlled reproduction, in case of wildlife specimens.

Moreover the General Law on Wildlife mention the following:

Article 60 TER. – It is forbidden: removal, refilling, transplantation, pruning or any work or activity affecting the totality of the hydrological flow of the mangrove; of the ecosystem and its area of influence; of natural productivity of the ecosystem, of the carry capacity of the ecosystem for tourist projects; of nesting, breeding, sheltering, feeding and fry, or of the interaction between the mangrove, the rivers, dunes, the contiguous sea area and corals, or that modifies the ecological features and ecosystem (ecological) services.

Monaco: Some populations are located in marine protected areas. Regulation by the Law of the Sea (le Code de la Mer)(articles L.230-1 and following + L.750-1).

Spain: (also C1.1) There is a specific regulation for red coral, the "Real Decreto 629/2013", of August 2, which regulates the fishing of red coral, its first sale and the authorization procedure to obtain licences for fishing in external waters.

Likewise, the Autonomous Communities of Catalonia and the Balearics have specific regulations for the extraction of red corals in their domestic/internal waters.

Switzerland: Under the Federal Act of 16 March 2012 on the Convention on International Trade in Endangered Species of Wild Fauna and Flora, import/export/re-export of the

respective Coralliidae and Antipatharia spp. is regulated in accordance with the provisions of the CITES-Convention on Appendix I-III specimen. In Switzerland, each person in possession of Coralliidae (*elatius, japonicus, konjoi, secundum*) or Antipatharia spp. has a "burdon of proof" i.e. must be able to prove the legal origin within Switzerland at any time (e.g. CITES export permit or re-export certificate). Additionally, for the import of Coralliidae (*elatius, japonicus, konjoi, secundum*) and Antipatharia spp. an import permit is required.

USA: (also C.1.1) Legislative / Regulatory / Management Framework in Hawaiian and Federal waters

In the United States, there is no commercial harvest of these precious coral species outside of the State of Hawaii, and any potential harvests would be managed in U.S. federal waters under the Magnuson-Stevens Fishery Conservation and Management Act (more information can be found at: http://www.fisheries.noaa.gov/sfa/laws_policies/msa/index.html). The Gulf of Mexico, South Atlantic and Caribbean Fishery Management Councils have developed coral Fishery Management Plans (FMP) that prohibit the harvest of black corals.

West Pacific Region

An FMP for the precious corals fisheries of the western Pacific region was implemented in September 1983 (48 FR 39229). It established the plan's management unit species and management area, as well as classifying several known beds.

Precious corals management unit species (MUS) means any coral of the genus *Corallium* (includes species now placed in the genera *Hemicorallium* and *Pleurocorallium*) in addition to the following species of corals:

- Pink coral (also known as red coral), *Corallium secundum* (=*Pleurocorallium secundum*)
- Pink coral (also known as red coral), *Corallium regale* (=*Hemicorallium regale*)
- Pink coral (also known as red coral), *Corallium laauense* (=*Hemicorallium laauense*)
- Gold coral, *Gerardia* spp. (= *Kulamanamana haumeaae*)
- Gold coral, *Narella* spp.
- Gold coral, *Calyptrophora* spp.
- Bamboo coral, *Lepidisis olapa*
- Bamboo coral, *Acanella* spp.
- Black coral, *Antipathes dichotoma*
- Black coral, *Antipathes grandis*

Under the FMP and its amendments, the following regulations (described below) were developed:

- Permits

Any vessel of the United States fishing for, taking or retaining precious corals in any precious corals permit area must have a permit. Each permit will be valid for fishing only in the permit area. No more than one permit will be valid for any one person at any one time. The holder of a valid permit to fish one permit area may obtain a permit to fish another permit area only upon surrendering to the NMFS Regional Administrator any current permit for the precious corals fishery.

- Prohibitions

It is unlawful for any person to:

(1) Use any vessel to fish for, take, retain, possess or land precious coral in any precious corals permit area, unless a permit has been issued for that vessel and area and that permit is on board the vessel.

(2) Fish for, take or retain any species of precious coral in any precious corals permit area by means of gear or methods prohibited; in refugia; or in a bed for which the quota specified has been attained.

(3) Take and retain, possess or land any live pink coral or live black coral from any precious corals permit area that is less than the minimum height.

- Seasons

The fishing year for precious corals begins on July 1 and ends on June 30 the following year, except at the Makapuu Bed, which has a 2-year fishing period that begins July 1 and ends June 30, 2 years later.

- Quotas

The quotas limiting the amount of precious corals that may be taken in any precious corals permit area during the fishing year are listed in Table 1. Only live coral is counted toward the quota. Live coral means any precious coral that has live coral polyps or tissue.

Table: Current harvest quotas for each bed

NAME OF BED	TYPE OF BED	HARVEST QUOTA	NUMBER OF YEARS
Makapuu Bed, main Hawaiian Islands	Established[8]	Pink - 2,000 kg Gold - 0 kg Bamboo - 600 kg	2
Keāhole Point, main Hawaiian Islands	Conditional	Pink - 67 kg Gold - 20 kg Bamboo - 17 kg	1
Kaena Point, main Hawaiian Islands	Conditional	Pink - 67 kg Gold - 20 kg Bamboo - 17 kg	1
Brooks Bank, Northwestern Hawaiian Islands	Conditional	Pink - 17 kg Gold - 133 kg Bamboo - 111 kg	1
180 Fathom Bank, Northwestern Hawaiian Islands	Conditional	Pink - 222 kg Gold - 67 kg Bamboo - 56 kg	1
Westpac Bed, Northwestern Hawaiian Islands	Refugium	Zero (0 kg)	N/A
Hawaii, American Samoa, Guam, US Pacific Island possessions	Exploratory	1,000 kg per area. All species combined (except black corals)	1

[6] Established Beds are ones for which appraisals of MSY are reasonably precise. Conditional Beds are ones for which estimates of MSY have been calculated by comparing the size of the beds to that of Makapuu Bed and then multiplying the ratio by the yield from the Makapuu Bed. Refugia beds are areas set aside for baseline studies and possible reproductive reserves. Exploratory areas are the unexplored portions of the EEZ.

- Closures

If the NMFS Regional Administrator determines that the harvest quota for any coral bed will be reached prior to the end of the fishing year, or the end of the 2-year fishing period at Makapuu Bed, NMFS will issue a field order closing the bed involved by publication of an action in the Federal Register and through appropriate news media. Any such field order must indicate the reason for the closure, the bed being closed and the effective date of the closure. A closure is also effective for a permit holder upon the permit holder's actual harvest of the applicable quota.

- Size Restrictions

The height of a live coral specimen shall be determined by a straight line measurement taken from its base to its most distal extremity. The stem diameter of a living coral specimen shall be determined by measuring the greatest diameter of the stem at a point no less than one inch (2.54 cm) from the top surface of the living holdfast. Live pink coral harvested from any precious corals permit area must have attained a minimum height of 10 inches (25.4 cm). Live black coral harvested from any precious corals permit area must have attained either a minimum stem diameter of 1 inch (2.54 cm), or a minimum height of 48 inches (122 cm). An exemption permitting a person to hand-harvest from any precious corals permit area black coral which has attained a minimum base diameter of 3/4 inches (1.91 cm), measured on the widest portion of the skeleton at a location 1 inch above the holdfast, will be issued to a person who reported a landing of black coral to the State of Hawaii within 5 years before the effective date of the final rule. A person seeking an exemption under this section must submit a letter requesting an exemption to the NMFS Pacific Islands Area Office.

- Gear Restrictions

Only selective gear may be used to harvest coral from any precious corals permit area. Selective gear means any gear used for harvesting corals that can discriminate or differentiate between type, size, quality, or characteristics of living or dead corals.

- Area Restrictions

Fishing for coral on the WestPac Bed is not allowed. The specific area closed to fishing is all waters within a 2-nm radius of the midpoint of 23°18.0' N latitude, 162°35.0' W longitude.

- Reporting and recordkeeping

The operator of any fishing vessel must maintain on board the vessel an accurate and complete record of catch, effort, and other data on report forms provided by the NMFS Regional Administrator. All information specified on the forms must be recorded on the forms within 24 hours after the completion of each fishing day. The original logbook form for each day of the fishing trip must be submitted to the Regional Administrator within 72 hours of each landing of precious corals management unit species. Each form must be signed and dated by the fishing vessel operator. Precious corals permit area means the area encompassing the precious corals beds in the management area. Figure 1 shows the locations of known precious corals beds in Hawaii. Each bed is designated by a permit area code and assigned to one of the following four categories:

Established Beds

(i) Makapuu (Oahu), Permit Area E-B-1, includes the area within a radius of 2.0 nm of a point at 21°18.0' N latitude, 157°32.5' W longitude.

Conditional Beds

(i) Keāhole Point (Hawaii), Permit Area C-B-1, includes the area within a radius of 0.5 nm of a point at 19°46.0' N latitude, 156°06.0' W longitude.

(ii) Kaena Point (Oahu), Permit Area C-B-2, includes the area within a radius of 0.5 nm of a point at 21°35.4' N latitude, 158°22.9' W longitude.

(iii) Brooks Bank Bed, Permit Area C-B-3, includes the area within a radius of 2.0 nm of a point at 24°06.0' N latitude, 166°48.0' W longitude.

(iv) 180 Fathom Bank, Permit Area C-B-4, northwest of Kure Atoll, includes the area within a radius of 2.0 nm of a point at 28°50.2' N latitude, 178°53.4' W longitude.

Refugia

(i) Westpac Bed, Permit Area R-1, includes the area within a radius of 2.0 nm of a point at 23°18' N latitude, 162°35' W longitude.

Exploratory Areas

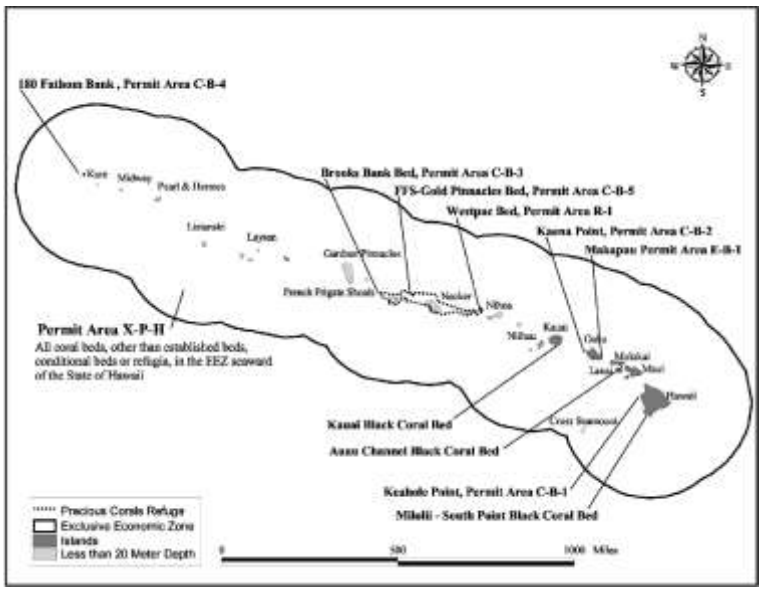
(i) Permit Area X-P-H includes all coral beds, other than established beds, conditional beds or refugia, in the EEZ seaward of the State of Hawaii.

(ii) Permit Area X-P-AS includes all coral beds, other than established beds, conditional beds or refugia, in the EEZ seaward of American Samoa.

(iii) Permit Area X-P-G includes all coral beds, other than established beds, conditional beds or refugia, in the EEZ seaward of Guam.

(iv) Permit Area X-P-PI includes all coral beds, other than established beds, conditional beds, or refugia, in the EEZ seaward of the U.S. Pacific Island possessions.

Figure: Precious Corals Management Areas in the Hawaiian Archipelago



In 2009, the Precious Corals FMP was absorbed into the Council's archipelagic Fishery Ecosystem Plans. In 2011, Annual Catch Limits were specified for fisheries in the Western Pacific and the existing Precious Coral quotas were adopted as the annual catch limits.

Amendments to the FMP

Amendment 1 to the FMP became effective July 21, 1988 (50 FR 27519) and applied the management measures of the FMP to the Pacific Remote Island Areas (Palmyra and Johnston Atolls, and Wake, Kingman, Jarvis, Baker, and Howland Islands) by incorporating them into a single Exploratory Permit Area, expanded the management unit species to include all species of the genus Corallium, and outlined provisions for the issuance of experimental fishing permits designed to stimulate the domestic fishery.

Amendment 2 to the FMP became effective January 22, 1991 (56 FR 3072, January 28, 1991) and defined overfishing for Established beds as follows: An Established bed shall be deemed overfished with respect to recruitment when the total spawning biomass (all species combined) has been reduced to 20% of its unfished condition. This definition applies to all species of precious corals and is based on cohort analysis of the pink coral, *Corallium secundum*.

Amendment 3 to the FMP became effective November 18, 1998 (63 FR 55809, October 19, 1998) and established a framework procedure for adjusting management measures in the fishery.

Framework Measure 1 to the FMP became effective April 17, 2002 (67 FR 11941, March 18, 2002) and revised the definitions of "live coral" and "dead coral," suspended the harvest of gold coral at Makapu'u Bed, applied minimum size restrictions only to live precious corals, prohibited the harvest of black coral with a stem diameter of less than one inch or a height of less than 48 inches (with certain exceptions), prohibited the use of non-selective fishing gear to harvest precious corals, and applied the minimum size restrictions for pink coral to all permit areas. The framework measure included additional proposed measures that would have applied only to the NWHI, but they were not approved because they were determined to be inconsistent with the management regime of the NWHI Coral Reef Ecosystem Reserve (see below).

Amendment 4 addressed new requirements under the 1996 Sustainable Fisheries Act (SFA). Portions of the amendment that were immediately approved included designations of essential fish habitat, definitions of overfishing and descriptions of bycatch and of some fishing communities. Those provisions became effective on February 3, 1999 (64 FR 19067, April 19, 1999). Remaining portions that were approved on August 5, 2003 (68 FR 46112) were provisions regarding Hawaii fishing communities.

Of relevance to the management of the NWHI precious corals fishery is the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, established December 4, 2000 through Executive Order (EO) 13178 (65 FR 76903, December 7, 2000), as modified by EO 13196 on January 18, 2001 (66 FR 7395, January 23, 2001). The Reserve is managed by the Department of Commerce under the National Marine Sanctuaries Act. The EO includes prohibitions on commercial and recreational fishing, including the taking of living coral and dead coral, in certain "Reserve Preservation Areas" within the Reserve. It also includes provisions that cap the number of permits and the "annual aggregate take" for particular types of fishing based on historical levels of permit issuance and "take." These numbers and takes have not yet been determined. The EO also calls for the Secretary of Commerce to initiate the process to designate the Reserve as a National Marine Sanctuary.

Amendment 5 to the FMP was prepared and transmitted to NMFS for approval in parallel with the FMP for Coral Reef Ecosystems of the Western Pacific Region. This amendment prohibits the harvest of Precious Coral Management Unit Species in the no-take marine protected areas established under the Coral Reef Ecosystems FMP. The Coral Reef Ecosystems establishes such areas around Rose Atoll in American Samoa, Kingman Reef, Jarvis Island, Howland Island, and Baker Island. No-take areas were also proposed for the NWHI, but all measures proposed in the Coral Reef Ecosystems FMP that would have applied to the waters around the NWHI (including Midway) were disapproved because of possible conflict and duplication with the management regime of the NWHI Coral Reef Ecosystem Reserve. Accordingly, NMFS issued a Record of Decision on June 14, 2002 that partially approved the Coral Reef Ecosystems FMP and Amendment 5 to the Precious Corals FMP. A final rule implementing the Coral Reef Ecosystem FMP (including Amendment 5 to the Precious Corals FMP) was published on February 24, 2004 (69 FR 8336).

Amendment 6 became effective October 12, 2006 (71 FR 53605) and included the federal waters around the Commonwealth of the Northern Mariana Islands (CNMI) and the Pacific Remote Island Areas within the FMP's management area. Amendment 6 also extended existing requirements for Federal permits and logbooks to include all harvests of precious corals in EEZ waters in these areas.

Regulatory Amendment 1 to the FMP became effective November 14, 2007 (72 FR 58259, October 15, 2007) and removed an exemption allowing fishermen who reported black coral harvest to the State of Hawaii within five years prior to April 17, 2002 to harvest black coral at a minimum base diameter of 3/4 inch. All harvest of black corals must be done at a minimum of 1 inch base diameter or 48 inch minimum height.

Amendment 7 became effective September 12, 2008 (73 FR 47098, August 13, 2008) and designated the Au'au Channel bed as an established bed with a harvest quota for black coral of 5,000 kg every two years for Federal and state waters combined. It also implemented a five year gold harvest moratorium for the entire region while research on life history is done.

Fishing Specifications

NMFS specifies annual catch limits (ACLs) for precious coral, and coral reef ecosystem fisheries, and accountability measures (AMs) to correct or mitigate any overages of catch limits. The ACL and AM specifications support the long-term sustainability of fishery resources of the U.S. Pacific Islands. The most recent specifications can be found at the following link: https://www.regulations.gov/document?D=NOAA-NMFS-2016-0049-0016.

NMFS recently prepared an updated environmental assessment for precious coral fisheries and has established ACLs for these fisheries as deemed necessary. NMFS will not establish ACLs for MUS that are currently subject to Federal fishing moratoria or prohibitions. The current prohibitions on fishing for these MUS serve as the functional equivalent of an ACL of zero. Tables 1-4 below list the final 2016 ACL specifications for precious corals (82 FR 18716, April 21, 2017).

Table 1—American Samoa

Fishery	Management unit species	ACL specification (lb)
Precious Coral	Black coral	790
	Precious corals in the American Samoa Exploratory Area	2,205

Table 2—Mariana Archipelago—Guam

Fishery	Management unit species	ACL specification (lb)
Precious Coral	Black coral	700
	Precious corals in the Guam Exploratory Area	2,205

Table 3—Mariana Archipelago—CNMI

Fishery	Management unit species	ACL specification (lb)
Precious Coral	Black coral	2100
	Precious corals in the CNMI Exploratory Area	2,205

Table 4—Hawaii

Fishery	Management unit species	ACL specification (lb)
Precious Coral	Auau Channel black coral	5,512
	Makapuu Bed—Pink coral	2,205
	Makapuu Bed—Bamboo coral	551
	180 Fathom Bank—Pink coral	489
	180 Fathom Bank—Bamboo coral	123
	Brooks Bank—Pink coral	979
	Brooks Bank—Bamboo coral	245
	Kaena Point Bed—Pink coral	148
	Kaena Point Bed—Bamboo coral	37
	Keahole Bed—Pink coral	148
	Keahole Bed—Bamboo coral	37
	Precious corals in the Hawaii Exploratory Area	2,205

Accountability Measures

NMFS and the Council will use the average catch during fishing year 2014, 2015, and 2016 to evaluate fishery performance against the appropriate 2016 ACL. At the end of each fishing year, the Council will review catches relative to each ACL. If NMFS and the Council determine that the three-year average catch for the fishery exceeds the specified ACL, NMFS and the Council will reduce the ACL for that fishery by the amount of the overage in the subsequent year.

Enforcement

All harvesting and sales of precious coral are reported in standardized reporting logs and coral harvesting vessels and catch are subject to inspection by enforcement agents of the National Marine Fisheries Service and/or State of Hawaii.

Florida regulations

68B-42.009 Prohibition on the Taking, Destruction, or Sale of Marine Corals Sea Fans, and Nonerect, Encrusting

Octocorals; Exception.

(1) Except as provided in subsection (2), no person shall take, attempt to take, or otherwise destroy, or sell, or attempt to sell, any sea fan of the species Gorgonia flabellum or of the species *Gorgonia ventalina*, or any hard or stony coral (Order Scleractinia), any black coral (Order Antipatharia), or any fire coral (Genus Millepora). No person shall possess any such fresh, uncleaned, or uncured sea fan, hard or stony coral, black coral, or fire coral. No person shall harvest or possess any non-erect, encrusting species of the Subclass Octocorallia within or without state waters.

(2) Subsection (1) shall not apply to:

(a) Any sea fan, hard or stony coral, fire coral, or non-erect, encrusting specifies of the Subclass Octocorallia legally harvested outside of state waters or federal Exclusive Economic Zone (EEZ) waters adjacent to state waters and entering Florida in interstate or international commerce. The burden shall be upon any person possessing such species to establish the chain of possession from the initial transaction after harvest, by appropriate receipt(s), bill(s) of sale, or bill(s) of lading, and any customs receipts, and to show that such species originated from a point outside the waters of the State of Florida or federal Exclusive Economic Zone (EEZ) adjacent to state waters and entered the state in interstate or international commerce. Failure to maintain such documentation or to promptly produce same at the request of any duly authorized law enforcement officer shall constitute a violation of this rule.

(b) Any sea fan, hard or stony coral, fire coral, or non-erect, encrusting species of the Subclass Octocorallia harvested and possessed pursuant to the aquacultured live rock provisions of paragraph 68B- 42.008(3)(a), F.A.C., Chapter 597, F.S., or pursuant to a Live Rock Aquaculture Permit issued by the National Marine Fisheries Service under 50 C.F.R. Section 622.41(a) and meeting the following requirements:

1. Persons possessing these species in or on the waters of the state shall also possess a state submerged lands lease for live rock aquaculture and an Aquaculture Certificate of Registration issued pursuant to Chapter 5L-3, F.A.C., or a federal Live Rock Aquaculture Permit and an Aquaculture Certificate of Registration issued pursuant to Chapter 5L-3, F.A.C. If the person possessing these species is not the person named in the documents required herein, then the person in such possession shall also possess written permission from the person so named to transport aquacultured live rock pursuant to this exception.

2. The nearest office of the Fish and Wildlife Conservation Commission, Division of Law Enforcement shall be notified at least 24 hours in advance of any transport in or on state waters of aquacultured live rock pursuant to this exception.

3. Persons possessing these species off the water shall maintain and produce upon the request of any duly authorized law enforcement officer sufficient documentation to establish the chain of possession from harvest on a state submerged land lease for live rock aquaculture or in adjacent Exclusive Economic Zone (EEZ) waters pursuant to a federal Live Rock Aquaculture Permit.

4. Any sea fan, hard or stony coral, fire coral, or non-erect, encrusting species of the Subclass

Octocorallia harvested pursuant to paragraph 68B-42.008(3)(a), F.A.C., shall remain attached to the cultured rock.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, Laws of Fla. Law Implemented Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, Laws of Fla. History–New 1-1-95, Amended 7-15-96, Formerly 46-42.009, Amended 7-1-09, 10-31-11, 11-1-12.

Annex IV

Current and Past Research on Precious Coral Populations

Country	Project	Year	Study objective	Primary findings	Conservation benefits identified	Implementation
Croatia	THAIS – Biology Students Association	1997 - 1999	coralligene research and negative impacts on coralligenous habitats within marine protected areas (National park Mljet and Nature park Telaščica)			
Croatia	Individual scientific research	1998	Inventory of coralligenous species on island Lastovo in southern Adriatic	list of species and their distribution		
Croatia	Project Adriatic	2000 - 2006	Coralligene research on several islands in southern Adriatic (Prvić, Grgur, Goli; Veliki i Mali Ćutin, Lastovo)	list of species and their distribution		
Croatia		2003	Inventory of species in littoral biocoenosis in Nature park "Telaščica"	list of species and their distribution		
Croatia		2006	Inventory of species in coralligenous biocoenosis in Nature park Telaščica and National park Mljet	list of species and their distribution		
Croatia		2009	Habitat mapping of sea cliffs in National park Kornati	marine habitats and their spatial distribution		
Croatia		2010 - 2014	Monitoring of marine habitats of the Ecological Network in Šibensko-Kninska County			
Croatia	THAIS – Biology Students Association	1997 - 1999	coralligene research and negative impacts on coralligenous habitats within marine protected areas (National park Mljet and Nature park Telaščica)			
Croatia		2010 – 2012	Impact of temperature changes on coral colonies in coralligenous biocoenosis of sea cliffs in National park Mljet			

Croatia	EU Project with Slovenia "CLIMAPARKS"	2012 – 2013				
Croatia	EU IPA Project with Italia and Slovenia "TRECORALLA"	2012 – 2014				
Croatia	MedMPANet pilot project in Croatia	2013 – 2014	Preparation of monitoring programme for coralligenous habitats (*Corallium rubrum* as indicator species)	No shallow populations in research area, only sporadic localities with small colonies	Proposal for continuous long-term monitoring of coralligenous communities	
Croatia		2012 – 2017	Monitoring of coralligenous biocoenosis of seacliffs in Nature park Telašćica			
Croatia		2012 – 2017	Impact of temperature changes on coral colonies in coralligenous biocoenosis of sea cliffs in National park Kornati			
Croatia		2013 – 2017	Monitoring of coral species in National park Mljet			
Croatia	Individual scientific research projects in several marine protected areas	2009 - present	Status of benthic coralligenous habitats and its indicator species including *Corallium rubrum*	Population decline	Data for IUCN red list assessment	*Corallium rubrum* assessed as Critically endangered (CR)
Japan	Development of resource management measures for sustainable use of precious corals by the Ministry of Agriculture, Forestry and Fisheries (Iwasaki et al. (2012),	2000 - 2012	Collection of information that is necessary for resource management measure, such as ecological and biological information. Development of resource management measures.	- Distribution and growth rate of precious corals - Reproductive season of red corals - DNA analysis	- It is scientifically suggested that certain period of time closure can achieve sustainable harvest. - It is suggested that protection of high density	- Establishment of time closure - Establishment of protected Area - Establishment of time closure in reproductive season.

	Morphometry and population structure of non-harvested and harvested populations of the Japanese red coral (*Paracorallium japonicum*) off Amami Island, southern Japan, Marine and Freshwater Research, 63, 468-474)				area and genetic diversity rich area are effective for conservation of precious corals. - It enables us to establish time closure in the reproductive season.	
Japan	Survey on the fishing ground of precious corals around Okinawa and Ogasawara Islands by Fisheries Agency	2014 - 2015	Survey on the impact by foreign countries' fishing operation.	Evidence of operation was recognized.	Precious corals were still observed even in the areas where illegal fishing had been conducted.	- Strengthening of enforcement activities - Raising the amount of fines for illegal fishing
Japan	Survey on the distribution of precious corals using Remotely Operated Vehicle (ROV) by Kochi prefecture	2011 - 2012	Collection of information that is necessary for resource management measures, such as distribution.	Recognition of distribution in protected areas and fishing grounds	- It will serve as basic data to know the trend of stock status in the future. - Effectiveness of protected area is enhanced.	Establishment of protected area
Japan	Establishment of precious coral habitat identification method by Kanazawa	2009-2010	Development of precious coral habitat identification method using minor component in precious coral skeleton.	The characteristics of each precious corals and fake products were revealed using fluorescence X ray analysis and X ray diffraction analysis.	- Establishment of precious coral habitat identification method - Real precious coral products	Establishment of precious coral habitat identification method

	University and Kochi University				can be discriminated from fake products.	
Japan	Development of infrastructure that precious coral larvae can settle down by Rissho University	2010 - 2017	Development of artificial basis that precious coral larvae can easily settle down	It was revealed that hydrocoral settled down on artificial basis.	It can increase precious coral stock by providing their larvae with more chance to settle down.	Development infrastructure that precious coral larvae can settle down
Japan	Development of artificial rearing method by Rissho University and Marine Ecology Research Institute	2012 - 2017	- Finding environmental condition enabling artificial rearing of precious corals. - Development of feed.	Trophic level	Biological and ecological study will be accelerated after artificial rearing method is established.	Development of artificial rearing method
Japan	Implant and release of precious corals by fishers	2016 -	Development of reproductive technique of precious corals and habitat conservation.	Survival and growth of all implanted segments were observed after 7 months.	It can suggest that implant and release are effective for conservation and restoration of precious coral.	Implant and release
Monaco	Monaco et le Corail Rouge - Coralliculture	1995	Installing artificial caves for colonization	Successful transplants, effective reproduction		
Monaco	Inventaire et suivi d'indicateurs biologiques de substrats durs	20..	Biodiversity monitoring Impacts of climate change and anthropogenic activities		Adaptation capacity, regeneration, Scientific monitoring	
Portugal	Deep reefs - Mapeamento da biodiversidade dos habitats marinhos	2013	Mapping of the biological diversity of deep habitats in three study sites (Berlengas, Cabo Espichel and			

	de profundidade um projeto de cooperação pela biodiversidade		Algarve) and the study of their connectivity using molecular markers			
Ascension Island (UK)	Biodiversity records of marine species	2012 - 2017	To collect data on species present and distribution	Biodiversity catalogue - 4 black coral species identified	Knowledge of location of coral species around island	3 coral species added to Wildlife Protection Ordinance
Bermuda (UK)	Project Nekton	2016	Document mesophotic communities	Rich antipatharian Communities observed in several locations across a wide depth range. Two new species records made	Not yet	
Montserrat (UK)	ZSL Endangered Coral Fellowship	2015 - 2017	Condition of *Orbicella faveolata* and perceptions of local stakeholders towards coral conservation in Montserrat	The mountainous star coral is the most common species of Orbicella in Montserrat's waters. Healthy colonies exist in the north of Montserrat. Coral knowledge is important if coral conservation is to be successful, but basic knowledge of corals was low, even amongst 20 Montserrat reef stakeholders.	Radio jingle has been useful in promoting awareness of importance of coral conservation.	On island research completed by fellow Ms.Robin Ramdeen robinramdeen@hotmail.com
USA	Ecological Impacts of *Carijoa riisei* on Black Coral Habitat	2002 - 2006	Determine the ecology and ecological impact of a highly invasive alien species in Hawaii, *Carijoa riisei*, on black coral habitat in Hawaii. The objective was to complement existing research in the Au au Channel, the primary black coral harvest area, to determine the spatial extent and ecological severity of *C. riisei*'s impact of on the deep water coral reef ecosystem - including the commercially valuable black corals.	Management of the proliferation and dispersal of *C. riisei* presents a challenging ecological problem with potentially significant economic impact. 2006 survey results of the Au'au Channel indicates while the impacts of *C. riisei* on back corals maybe severe, the invasion may have stabilized or abated slightly. The Keyhole Pinnacle area maybe the center of the invasion's intensity due to favorable environmental	N/A	N/A

				condition. Recommended additional monitoring to determine if apparent changes is a real long-term trend.		
USA	Reproductive characteristics of the Hawaiian black coral species *Antipathes griggi* with implications for future management	2007 - 2009	The objective of this research project was to characterize the reproductive biology of the commercially valuable Hawaiian black coral species *Antipathes griggi* (previously *A. dichotoma*). Specifically, this project sought to answer the following key questions about the sexual reproductive characteristics of *A. griggi*: (1) What is its reproductive strategy? (2) What is the reproductive cycle? (3) What is the mode of reproduction? (4) To what depth are colonies reproductively active? (5) What is the minimum size of reproduction? (6) To what extent does fecundity scale with colony size? Additionally, samples collected during this study were used to perform a taxonomic study of Hawaiian black corals. This taxonomic study was a necessity, as the differentiation of different species through the use of previously published guides proved to be impossible.	– *A. griggi* is the principal species targeted by the Hawaiian black coral fishery. However, at least two other cryptic species that were not reported from Hawaii previously exist in Hawaiian waters at depths similar to *A. griggi*. – *A. griggi* is gonochoric (separate sexes) with a 1:1 sex–ratio. Gametogenesis is highly synchronized both within and between colonies. Fertilization and larval development likely occur externally in the water column, following free–spawning in A. griggi. – Mature *A. griggi* colonies were found down to depths of 100 m. However, the low occurrence of colonies between 75–100 m suggests that while reproduction is still possible at these depths, it does not occur frequently and/or successfully. – Mature gonads were observed in all *A. griggi* colonies with a minimum height of 7 cm. – Reproductive output per polyp is constant across colonies of all sizes. Due to the highly 3-dimensional growth of *A. griggi*, total reproductive output therefore scales with the volume of the colony (height to the	N/A	N/A

				power of 3), which means that large colonies will contribute a disproportionately large portion to spawning events. – While *A. griggi* exists to depths of 100 m, it is rare deeper than the 75 m limit at which commercial harvest occurs. There is also reason to believe that reproductive success of isolated colonies at depths of 75–100 m is likely to be low. Thus, the depth refuge of *A.griggi* colonies below the harvesting zone appears to have been greatly over estimated in the past.		
USA	An Update on Recent Research and Management of Hawaiian Black Corals	2015	Summarize research and management of black corals in Hawaii with discussion of implications. (See link: https://deepseacoraldata.noaa.gov/library/2015-state-of-dsc-reportfolder/Ch6_black_coral_Wagner.pdf)	Through continued research partnerships between different fishery stakeholders, black coral populations in Hawai'i have become some of the best studied in the world, and it is imperative that adaptive management strategies continue to be pursued as new scientific information becomes available.	The U.S. Hawaiian black coral fishery serves as a commendable example of what can be achieved through close collaborations between resource managers, scientists and fishermen.	

Greece: In Greece, the following research program including corals has being conducted with the participation of the Hellenic Center of Marine Research:

Assessment of the interactions between corals, fish and fisheries, in order to develop monitoring and predictive modeling tools for ecosystem based management in the deep waters of Europe and beyond (Coral FISH).

The CoralFISH project aims to support the implementation of an ecosystem-based management approach in the deep-sea by studying the interaction between cold-water coral habitat, fish and fisheries. Within the CoralFish project, multidisciplinary research cruises will be carried out in areas around Zakynthos and Cephalonia involving fisheries biologists, marine biologists, geologists and oceanographers. The seabed will be mapped and surveyed with high technology imaging tools including multibeam sonar, side scan sonar and remotely operated vehicles, to locate areas of corals and to identify the key organisms and the conditions that they live in. Further cruises will be carried out to investigate the fish communities and their behavior around the coral areas by ROV observation and long-line fishing studies. The project will last over 4 years and brings together 16 participating institutions from 11 European countries investigating study sites from Northern Europe to the Azores and from Italy to Greece in the Mediterranean.

The information collected in Greece, along with data from the other sites, will be used by the project participants to:

- develop essential methodologies and indicators for baseline monitoring of closed areas

- integrate fish into coral ecosystem models to understand coral fish-carrying capacity,

- evaluate the distribution of deepwater bottom fishing effort to identify areas of potential interaction and impact upon coral habitat,

- use genetic fingerprinting to assess the potential erosion of genetic fitness of corals due to long-term exposure to fishing impacts,

- construct bio-economic models to assess management effects on corals and fisheries to provide policy options,

- produce as a key output, habitat suitability maps to identify areas likely to contain vulnerable habitat.

Malaysia: Not available

Mexico: For *Antipathes caribbeana* and *Plumapathes pennacea*, information exists from 1998 to 2000, and the population status was stable in Banco Chinchorro in 2003, and for *Tanacetipathes thamnea* and *Umbellapathes bipinnata*, it only exists information only on the species distribution records.

Caribbean Netherlands: No research on Antipatharia in the past 20 years.

New Zealand: Anderson, O.; Milkaloff Fletcher, S.; Bostock, H. 2015. Development of models for predicting future distributions of protected coral species in the New Zealand Region. A report prepared by the National Institute of Water and Atmosphere for the New Zealand Department of Conservation, Wellington.

http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/marine-conservationservices/reports/models-predicting-future-distributions-corals-nz-niwa-dec-2015.pdf

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http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/fishing/coral-id-guideupdated.pdf

Switzerland: No

Cayman Islands (UK): No

Turks and Caicos Islands (UK): No