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Ninth Meeting of the Contracting Parties (COP) to
the Protocol Concerning Specially Protected Areas
and Wildlife (SPAW) in the Wider Caribbean
Region

Cayenne, French Guiana, 13 March 2017

**REPORTING FORMAT FOR EXEMPTIONS UNDER ARTICLE 11(2) OF THE
SPECIALLY PROTECTED AREAS AND WILDLIFE PROTOCOL (SPAW)**

(Includes case study from the Government of Curaçao)

For reasons of economy and the environment, Delegates are kindly requested to bring their copies of the Working and Information documents to the Meeting, and not to request additional copies.

ANNEX A - Revised
REPORTING FORMAT FOR EXEMPTIONS UNDER ARTICLE 11(2)

SECTION RESERVED FOR THE ADMINISTRATION

Application No :
Date of receipt:
Name of the reviewer :
Date of review by the STAC:
Recommendation made by the STAC: [Assessment of Pertinence by the STAC]
Date of review by the COP:
Decision of the COP on pertinence of exemption: [Decision of the COP to note STAC Assessment of Pertinence]

I. CONTRACTING PARTY *

Contracting Party:

Contact Person:

Title:

Department:

Contact address:

Email:Phone number:

** In the case of a common activity undertaken by a number of Parties in cooperation, a joint exemption report may be submitted, but assessment of the pertinence of an exemption is done on a Party-by-Party basis.*

II. DESCRIPTION AND JUSTIFICATION OF THE PROHIBITED ACTIVITY*

** If the space provided is insufficient, please add continuation sheets throughout this report to provide the details necessary for a STAC review*

A. Description of the activity:

☆Has the exemption already been granted by the Contracting Party? Yes No

☆Has the activity started? Yes No

☆General description of the activity :

★Place and full address of activity (Attach map if necessary):

.....

★Commencement date:

.....

★Termination Date/or On-going:

.....

★Name, affiliation and qualification of the personnel (governmental and non-governmental) responsible and involved in the activity :

| Name | Experience | Affiliation (name, address) |
|------|------------|-----------------------------|
| | | |
| | | |

★Identification of the Government department responsible for oversight of the activity – Reference the domestic legal authority under which the exemption is granted:

★ Request for exemption to the protection of species of flora listed in Annex I of the Protocol for:

- picking
- collecting
- cutting
- uprooting
- possession of, or commercial trade in such species, their seeds, parts or products

★ Request for exemption to the protection of species of fauna listed in Annex II for :

- the taking of the species, their eggs, parts or products
- possession of the species, their eggs, parts or products
- killing (including, to the extent possible, the incidental taking*, possession or killing)
- commercial trade of the species, their eggs, parts or products.

**Incidental take includes killing or destruction as an unintentional by-product of any kind of action, including fisheries, construction activities, recreational activities, mining, hydrological works, etc.*

★ The disturbance of the species, during periods of :

- breeding
- incubation
- estivation
- migration
- other periods of biological stress (please precise)

B. Justification for the exemption (check all the appropriate boxes; provide details on separate sheets if necessary)

- Scientific purposes
- Educational purposes
- Management purposes

★ Explain why the prohibited activity is necessary to ensure the survival of the impacted species or to prevent significant damage to forests or crops, and why it will not jeopardize any impacted species :

★ List the equipment and explain the methodology used for your activity (include substantive information as attachments or as hyperlinks). Consider that any methodology should conform to international best practices, which should be specified:

III. DESCRIPTION OF THE SPECIES IMPACTED BY THE EXEMPTION

(Please provide separate answers to the questions in this section for each listed species; use additional sheets if necessary):

★ SPAW listed species impacted by the exemption:

| <i>Species (Common name, Latin name)</i> | <i>Quantity harvested (if applicable)</i> | <i>Description of the species, specimen, individuals ¹</i> |
|--|---|---|
| | | |
| | | |
| | | |

¹ Any specific characteristics such as sex, age, etc. ...

★ Please give a detailed description of the current conservation status of the species subject to the prohibited activity (such information could include international and national status, management program, domestic legislation relating to the conservation of the species, nature of legal protection for the affected species, recovery plans for species, technical publications relevant to the species):

IV. DESCRIPTION OF THE IMPACTS AND MITIGATION MEASURES

★ Tick the box that applies to your situation concerning the principal threats to the subject species due to the prohibited activity :

- impacts on population size
- distribution (including number of sub-populations) and fragmentation
- cumulative impacts
- impacts on the quantity and quality of suitable habitats available for the species
- other threats to the species in the short- and long-term
- impacts on other species as a consequence of the prohibited activity

★ Explain why the prohibited activity will not jeopardize the species or, if relevant, other listed species.

**In the case of species or populations of a species migrating between two (or more) countries, the survival of the populations should be assessed separately for each country if the species resides in or migrates through and jointly for all countries the species resides in or migrates through.*

★ *Does the activity require a separate exemption by another Party, and if so which one?*

★ *Has an Environmental Impact Assessment (EIA) or equivalent process been completed? If so, please attach the EIS or other impact studies*

★ *Describe the mitigation measures designed to limit or counteract any deleterious effects (provide a list and supporting documentation, such as guidelines, policies, reports, videos/photographs etc. as attachments or hyperlinks)*

★ *Please give a detailed explanation of the monitoring or evaluation protocols that will be used to assess the effect of the activity on species populations, including changes in range, numbers, or reproductive success (include as attachments or hyperlinks)*

★ *Additional remarks*

Signature
(Authorized responsible for the Contracting Party)

Date

Appendix - Case Study from the Government of Curaçao



ANNEX A
REPORTING FORMAT FOR EXEMPTIONS REGARDING ARTICLE 11(2) OF THE
SPECIALLY PROTECTED AREAS AND WILDLIFE PROTOCOL (SPAW)

I. CONTRACTING PARTY'S IDENTIFICATION

| | |
|--|---|
| Contracting Party : | Curacao |
| Contact of Individual Submitting Report: | Faisal Dilrosun |
| Title : | Project manager |
| Organization : | Ministry of Health, Environment and Nature |
| Contact address : | Bellisimaweg 17, Willemstad Curacao |
| Email: | faisal.dilrosun@gobiernu.cw |
| Phone number | + (599 9) 738-1466 [F: +(599 9) 738-1467] |

Does the exemption have already been accorded ? Yes No

II. DETAILED DESCRIPTION OF THE PROHIBITED ACTIVITY

A. Description of the activity :

★ General description of the activity :

The reason for this request is the following.

One of the major economic pillars of Curaçao is tourism in general and cruise tourism in particular. With the increase of the size of cruise ships for Curaçao it has become important to accommodate such large ships as well. If not, Curacao might fall behind with other destinations causing loss of cruise ship arrivals. The St. Annabaai harbor, which is currently used to dock most cruiseships, is not big enough for these big ships to enter. Another important pillar of our economy is harbor related transportation and shipping. It is therefore that the Curaçao Port Authority has requested the Curaçao Government for a permit to construct a second mega pier suitable to receive the biggest (cruise)ships. As part of the recent adopted economic development strategy the Government of Curaçao is in favor to grant CPA the requested permit. However, the existing National Ordinance Fundamentals of Nature Management and Protection implementing i.a. the SPAW Protocol gives four endangered species of corals full protection. Also, the National Reef Ordinance protects all species of corals as well. These corals are abundant on the site where the new mega pier is projected. Because the country of Curacao strives towards sustainable development, the execution of large projects is monitored and regulated very carefully by the relevant government agencies. As such, project developers are required to carry out a nature assessment study, after which submitted requests for permits are evaluated. In the Annex I you will find a recent benthic survey (2015) and coral survey (2016) of the area.

Balancing economic development in relationship to marine environmental nature protection it is imperative to find a creative solution serving both interests. Therefore, the Government of Curaçao wants to propose the following solution: Using the legal possibility to exempt CPA from the prohibition to kill coral for the general interest and tied to strict conditions, CPA will be allowed to construct the second mega

pier near the harbor of Willemstad. Because the construction of the second mega pier will kill some protected coral reefs species, an exemption needs to be given. This is only possible if the Scientific and Technical Advisory Committee (STAC) according to article 11 paragraph 2 of the SPAW Protocol assesses the pertinence of the requested exemption. In addition, the Government of Curaçao proposes to compensate for aforementioned impacts by reinstating the Curaçao Underwater Park (CUP), providing protection to a large number of protected species that are very abundant in the area where the CUP is proposed.

★ Location: **Otrabanda Curacao due west of the existing (first) Mega Pier (12° 6'17.64"N, 68° 56'35.44"W)**

★ Period of time/ date: **September 2016 - December 2017**

★ Name, affiliation and qualification of the people involved in the prohibited activity:

| <i>Name</i> | <i>Experience</i> | <i>Affiliation (name, adress)</i> |
|---|-----------------------------------|-----------------------------------|
| Curacao Ports Authority N.V. / N.V. Bataafsche Aanneming Maatschappij (Royal BAM group) | Specialized in marine civil works | |

★ *Identification of the Government department responsible for oversight of the activity – References of the legal texts by which the exemption has been granted:*

Ministry of Health, Environment and Nature, in particular the Inspectorate of Nature and Environment.

★ Species concerned by the exemption:

| <i>Species (common name, latin name)</i> | <i>Quantity</i> | <i>Description (1)</i> |
|---|-----------------|------------------------|
| <i>Acropora cervicornis</i> | 0 | See ANNEX I |
| <i>Acropora palmata</i> | 0 | See ANNEX I |
| <i>Orbicella (Montastraea) annularis</i> | 2190 | See ANNEX I |
| <i>Orbicella (Montastraea) faveolata</i> | 1149 | See ANNEX I |

(1) any specific characteristics such as sex, age ...

B. Justification for the exemption (check the appropriate box)

- Scientific purposes
- Educational purposes
- Management purposes**

★ *Explain how the prohibited activity is likely to contribute to the species' survival or prevention of significant damage to forests or crops or the ecosystem :*

In order to show its commitment to sustainable environmental management, the Government of Curaçao wants to compensate for the loss of some of the protected coral reef species at the location of the second mega pier by legally establishing a marine park called the Curaçao Underwater Park. This underwater park, enacted through the National Ordinance Fundamentals of Nature Management and Protection will protect the most pristine coral reef structures along the South East Coast of Curaçao, whereby a designated underwater park authority will be established for day to day management and enforcement of rules and regulations to protect the coral reefs, mangroves and sea grass beds.

A draft National Decree for the establishment of said Curaçao Underwater Park has been drafted and is already following the legal procedure for adoption. It is envisioned that the Curaçao Underwater Park will legally be established within two months of this letter and certainly before the coming Conference of Parties to the Cartagena Convention and its Protocols. For your convenience a translation of the draft decree, including a map of the area, is attached to this letter.

Furthermore a management authority for the Curaçao Underwater Park will be formally appointed, and the Curacao Ports Authority has confirmed that they will contribute with the initial costs of investment and operational costs of the park management authority for 5 years. Moreover they will contribute with designing a digital and physical collection box for additional revenue for the park management authority.

★ *Request of exemption to the protection of species of flora listed in Annex I of the Protocol for:*

- picking
- collecting
- cutting
- uprooting
- possession of, or commercial trade in such species, their seeds, parts or products

★ *Request of exemption to the protection of species of fauna listed in Annex II for :*

- the taking of the species, their eggs, parts or products
- possession of the species, their eggs, parts or products
- killing (including, to the extent possible, the incidental taking, possession or killing)
- commercial trade of the species, their eggs, parts or products.

★ *The disturbance of the species, during periods of :*

- breeding
- incubation
- estivation
- migration
- periods of biological stress.

★ *List the equipment and explain the methodology used for your activity (include substantive*

information as attachments or hyperlinked). Take into consideration that any methodology should be conform to international best practices, and these should be specified:

Piling of posts (steel tubes), covered with a deck (see attachment II)

III. DESCRIPTION OF THE SPECIES CONCERNED BY THE EXEMPTION:

A. Status of the species :

★ Please give a detailed description of the current conservation status of the species subject to the prohibited activity (International and national status, management program, legislation relating to the conservation of the species, nature of legal protection for the species to be affected, recovery plans for species, technical publications relevant to the species):

Detailed description of the national status of *Acropora cervicornis* and *A. palmata* and legislation by dr. Mark Vermeij

Acropora species formed dominant constituents of the shallow (<10m) reef fauna and were found along Curacao's entire coast. In the early '80's *Acropora cervicornis* and *A. palmata* covered 5% and 7% of the shallow reef terrace respectively (Van Duyl 1985) before they experienced a massive Caribbean-wide decline in 1981 caused by white-band disease (Bak and Criens 1981). The decline in *Acropora* over the last four decades is estimated at 98% (Vermeij and Bak 2003) and continues to decline (Bright et al. 2013). The decline of both *Acropora* species has also resulted in a decline of *Acropora*- associated fish (Carmabi, unpubl. data) and coral species (Nagelkerken and Nagelkerken 2004). Locally healthy patches and well developed *Acropora* communities exist (Figure 1), especially of *A. palmata*, usually at exposed sites (i.e. the southeast facing shorelines near Oostpunt, Klein Curacao and Rif Marie) along the island's protected Southeastern shore.

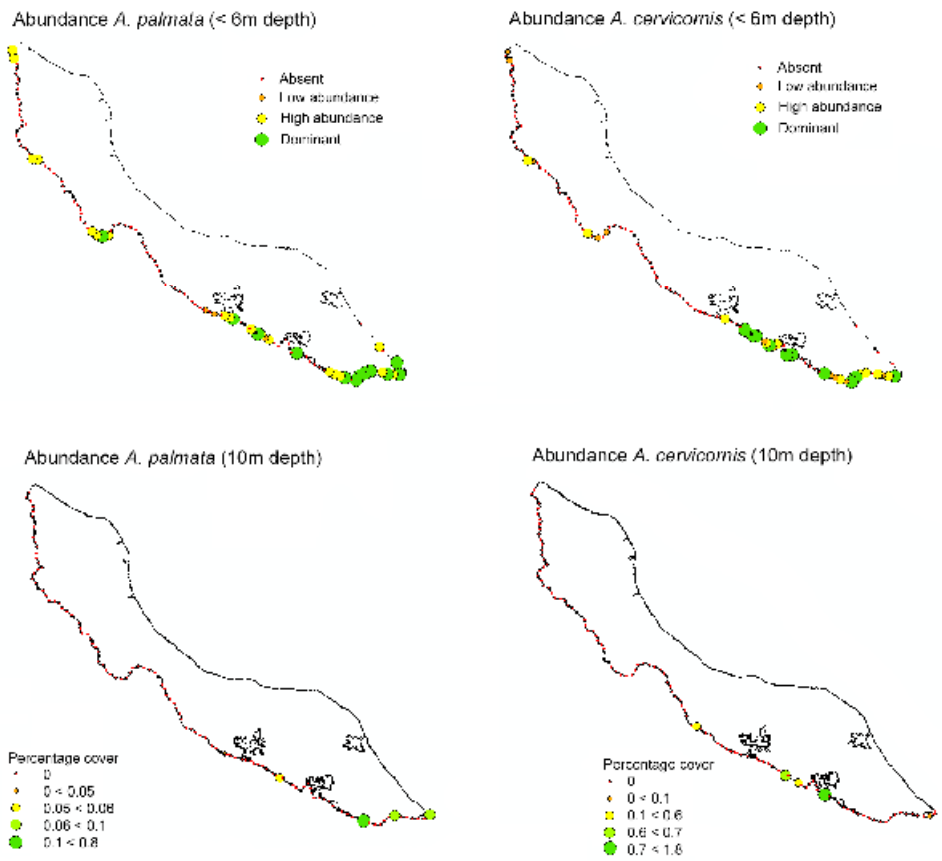


Figure 1 Distribution and abundance of *A. palmata* and *A. cervicornis* along Curacao's leeward coast in 2015

Effective recruitment of both species currently approaches zero (Vermeij et al. 2011) leaving asexual propagation as the main mechanism by which both species could increase in abundance in the near future. Recovering populations of *A. palmata* and *A. cervicornis* occur locally but are frequently impacted by storms, territorial damselfish and coastal development slowing the recovery of both species (Vermeij and Bak 2003; Bries et al. 2004; Nagelkerken and Nagelkerken 2004; Vermeij et al. 2015). When both species are present the hybrid *A. prolifera* is frequently observed. Genetic variability in *A. palmata* populations on Curacao are among the highest in the Caribbean and could act as a reservoir for future adaptation (Baums et al. 2006).

Detailed description of the national status of *Orbicella (Montastraea) annularis* and *M. faveolata*

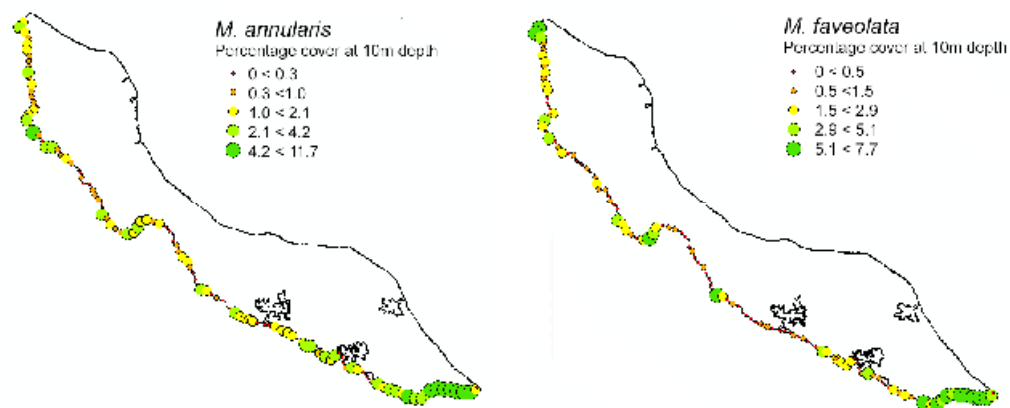


Figure 2 Distribution and abundance of *M. annularis* and *M. faveolata* along Curacao's leeward shore in 2015

Leeward reefs of Curaçao were dominated by extensive communities of members of the *M. annularis* complex between depth of 3 to 30m (Bruckner and Bruckner 2006). In 1998, colonies of the *M. annularis* complex accounted for more than 45% of all species >10 cm decreasing to 38% of all colonies in 2005, most likely due to several coral disease outbreaks (Bruckner and Bruckner 2006). Remaining communities were especially hit by Yellow band disease (YBD) emerged shortly after the 1995 bleaching event and several storms (Bries et al. 2004) causing high rates of mortality. Recruits of *Montastraea* spp. are virtually absent (Vermeij et al. 2011). *Montastraea* spp. are currently abundant along the island's eastern Leeward shore and at certain locations along the island's western shore (Figure 2). Large populations of extremely large (i.e., > 5 m diameter) *M. faveolata* colonies occur locally along the island's windward shore between depths of 20 and 40m. In 2015, *M. annularis* and *M. faveolata* covered on average 1.634% and 1.649% (n= 147 sites) of the reef bottom respectively. In contrast to *Acropora*, *Montastraea* populations on Curaçao appear dominated by a few genets dominated and should be considered genetically depauperate relative to other locations in the Caribbean (Foster et al. 2013).

References

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- Nagelkerken I, Nagelkerken W (2004) Loss of coral cover and biodiversity on shallow *Acropora* and *Millepora* reefs after 31 years on Curaçao, Netherlands Antilles. Bulletin of Marine Science 74:213-223
- Vermeij M, Bak R (2003) Status of *Acropora* Species on the Leeward Islands of the Netherlands Antilles. *Acropora Workshop: Potential Application of the US Endangered Species Act as a Conservation Strategy*:148
- Vermeij M, DeBey H, Grimsditch G, Brown J, Obura D, DeLeon R, Sandin S (2015) Negative effects of gardening damselfish *Stegastes planifrons* on coral health depend on predator abundance. Marine Ecology Progress Series 528:289-296
- Vermeij MJ, Bakker J, Hal Nvd, Bak RP (2011) Juvenile coral abundance has decreased by more than 50% in only three decades on a small Caribbean island. Diversity 3:296-307

Legislation

Relevant rules and regulations

Visserijeilandsbesluit (Island Fishing Decree)

Published on May 27th 2009, as: Fishing decree (2009, no. 48), implementing articles 13, 14, 15 and 20 of Fishing Ordinance (Visserijverordening Curacao, 2004; A.B. 2007, no. 117)

Visserijverordening Curacao 2004 (Fishing Ordinance Curacao 2004)

Published December 3th 2007, as: Fishing Ordinance Curacao 2004 (2007, no. 117) implementing articles 2.3 and 4 of the National Fishing Decree (Visserijlandsverordening; P.B. 1991, no. 74) in order to further regulate the economic exploitation of fish in Curacao's territorial waters and to protect the marine environment and preserve fish species therein

Visserijlandsverordening (National Fisheries Decree)

Published July 11th 1991, as: National Fisheries Decree (1991, no. 74) to provide fishing rules and regulations in the territorial waters of Curacao and its fishing zone as defined by Stb. 1977, no. 345. Made effective on November 22nd 1993 (1993, no. 110)

Rifbeheersverordening Curacao (Reef ordinance Curacao)

Published August 19th 1976, as: Reef ordinance Curacao (aka ROC; 1976, no. 48) to further protect corals, certain marine species and to maintain the natural balance within Curacao's territorial waters. This ordinance later slightly modified to allow the collection of corals for education, scientific purposes or for the general benefits of society as a whole (A.B. 1989, no. 21)

Eilandsbesluit bescherming zeeschildpadden (Island decree for the protection of sea turtles)

Published June 9th, 1996, as: Island decree for the protection of sea turtles; (A.B. 1996, no.8) to specifically protect and prevent the disappearance of sea turtles from Curacaoan waters. This decree was later amended to also include the nesting grounds and eggs of sea turtles (A.B. 1996, no. 13. These were mostly located on land, i.e., outside the scope of the original Reef Ordinance Curacao.

Landsverordening Maritiem Beheer aka, LvMB, (Maritime Ordinance)

Published March 2nd 2007, as: Maritime Ordinance (A.B. 2007, no. 18) to ensure safe ship traffic, to protect the marine environment and maritime archaeological resources of Curacao. 147 Curaçao Ramsar Proposal

Area to which rules and regulations apply

All fishing rules and regulations apply to territorial waters and inland bays of Curacao ([117], art. 2.1). Before Curacao became an independent country within the Dutch Kingdom these territorial waters concerned the territorial waters of the Netherlands Antilles as defined in Stb. 559, P.B. 1985, no. 174 (October 23rd, 1985). In locations where the distance between the islands Bonaire and Curacao is less than 24 nautical miles, this distance is divided by two to separate the areas within the former territorial sea of the Netherlands belonging to each island ([117], art. 2.2). Inland bays were defined as those areas located within the island contours of Curacao and Klein Curacao as defined by Royal Decree on December 12th, 1985 (P.B. 1985, no. 73).

General remarks

According to Curacaoan law, fishing also includes the harvesting and collecting of shellfish, corals, sea stars, sea urchins, invertebrates in general, algae, marine mammals and sea turtles, as well as eggs of fish and shellfish species ([117], art. 1.2). The Reef Ordinance Curacao 1976) additionally defines "corals" as nearly all marine species forming a calcareous skeleton, i.e., species belonging to the Scleractinia (stony corals), Antipatharia (black corals), Gorgonaceae (gorgonians), Milleporina (fire corals) and Corallinaceae (calcareous algae).

The Curacaoan government is allowed to regulate fishing practices and methods in its territorial waters through e.g. permits ([117], art. 3). Such permits, can come with certain restrictions and conditions ([117], art. 4) and detailing the period for which the permit is valid with a maximum of 12 months after which the permit needs to be renewed ([117], arts. 4.1, 4.2). When existing permits are renewed, restrictions and conditions can be changed or added ([117], art. 4.5) or a renewal can be refused if the proposed activities are expected to irreversibly impact local fish stocks ([117], art. 4.6). Permits are non transferable from person to person ([117], art. 4.8) and can be redrawn under certain conditions ([117], art. 5). Details on permitting procedures and requirements are given in [117] chapter II arts. 4-7 and chapter III arts. 12-16. For the provision of permits the Curacaoan government is allowed to ask for monetary compensation (detailed in [117] arts. 10, 21-23). Procedures to follow when regulations are violated or when one disagrees with decisions taken in this regards are overviewed in [117] arts. 24 – 52.

Responsibilities

The Department of Agriculture, Animal Husbandry and Fisheries (Dutch: Department Landbouw, Veeteelt and Visserij aka. LVV) is responsible for the sustainable management of the marine resources in Curacao's territorial waters in general ([117], art. 8) as well as for fish stocks of certain species for which a temporal fishing ban or size limits are deemed necessary to ensure its longterm survival ([117], arts. 9, 12, 13). LVV is also responsible, on behalf of the Curacaoan government, to issue, control and supervise all matters related to the permitting procedures described above ([117], art. 10). Enforcement of all rules occurs by those appointed by the government as described in art. 183 of the "Wetboek van

Strafrecht van de Nederlandse Antillen” (e.g., police officers) or those specifically appointed by the government specifically for this task ([117], art. 40). Similar procedures pertain to the Reef Ordinance Curacao and are described in ROC [48], arts. 4, 5, 8-14, some of which were later amended (A.B. 1996, no. 13).

No take zones

At present (January 2012), there are no no-take zones within Curacao’s inland bays and territorial waters, though the possibility to appoint such zones to ensure the long-term survival of marine species exists within the existing laws ([117], art. 17). In such areas, fishing other than with traditional gear types (i.e., lines, thrownets and fish traps) and the placement of any object and/ or facility would be forbidden ([117], art. 18).

Marine Park

The Curaçao Underwater Park stretches from the Breezes Hotel to the eastern tip of the island. The 60m depth contour represents the seaward boundary. The park covers 600 hectares of healthy coral reefs and 436 hectares of inland bays. Despite its good intentions and good start in 1983, the park has largely failed to accomplish the objectives of reef conservation and management. The reasons for this failure are only partly clear, the lack of an adequate legal basis for management being the most important. Despite this, the government of Curacao has expressed interest in the creation of a Marine Park on Curacao and impose additional legislation to protect its marine resources as stated in the “Memorie van Toelichting (2008. no. 3) which accompanies the proposed island ordinance “Eilandsverordening marien natuurbeheer en –bescherming Curacao). The government based its support on a report entitled “Curacao Marine Management Zone¹”, which showed that community support existed to establish a marine park on Curacao and that visitors would be willing to pay for the services rendered by a to be formed entity managing such park. The government’s desire to safeguard its coastal resources (e.g., coral reefs, mangroves, salinas, seagrass beds and inland bays) was also earlier expressed in Curacao’s Tourism Master Plan (1995) compiled by the Curacao Tourism Development Bureau (CTDB): “In order to conserve the coastal strip, both shore and sea, the Government will support the creation of a coastal protection zone around the island of Curacao, through the introduction of legislation to extend the existing marine park and to protect and conserve the foreshore, sea and the natural flora and fauna (Section 12.4, p. 119)”. The government states that tourism is crucial to the island’s economy and tourism depends to an important degree on “healthy” natural resources. As a consequence, nature protection is of economic importance as well. The possibility to create protected areas is also included in the Maritime Ordinance (LvMB [18], art. 29) following the stipulations mentioned in article 4 from the SPAW protocol which is underwritten by Curacao.

¹ Van ‘t Hof T, Debrot AO, Nagelkerken IA (1995) Curacao Marine Management Zone: a draft plan for consultation. Carmabi report in cooperation with Marine & Coastal Resource Management, Saba. 66pp.

This Curacao Marine Management Zone (CMMZ) plan builds on the original objectives of the Curaçao Underwater Park would extend management to the entire reef system of Curaçao. The overall goal is to manage the island’s near shore marine environment, including coral reefs, as well as sea grass beds and mangroves in inner bays, in such a manner that sustained economic and spiritual benefits for the people can be derived, in perpetuity. It proposes a somewhat different concept, i.e., that of a marine management zone rather than a marine park. This concept reflects the desire to manage a large area (in this case the entire near shore marine environment of Curaçao) for sustainable use. It reflects the intention of integrated management of a set of very important coastal resources. It is the closest one could come to integrated coastal zone management under the present circumstances.

Gear restrictions

Fishing without a permit in the territorial waters of Curacao is generally forbidden ([74], art. 2.1) but does not apply to those fishing from boats smaller than 12m in length or weighing less than 6 bruto tons ([74] art. 2.2), those fishing with four fishing lines or less ([74], art. 2.4). The former exception can be retracted in the future ([74], art. 2.3). 149 Curaçao Ramsar Proposal

In the territorial waters and inland bays of Curacao it is forbidden to fish with the following gear types ([no. 48],art. 2): (a) dragnets² (Dutch: Schrobnetten); (b) fish traps (Dutch: visfuiken) with a mesh size less than 38mm; (c) fish traps that are not equipped with an escape opening (measuring at least 15 x 15cm) that is closed with a biodegradable material that can be expected to decay in approximately 20 days; (d) fish traps that are not equipped with a vertical escape opening measuring at least 20 x 2.5 cm to allow small by catch to escape at all times; (e) chemical substances other than Quinaldine that can only be used to catch fish for the aquarium trade; (f) explosives and (g) gear using bait derived from marine mammals.

² Nets equipped with steel rings or cables predominantly used to drag sessile organisms such as selfish from the bottom

Within the territorial waters of Curacao it is forbidden within the 60m depth contour and inside the inland bays to fish with gill or trammel nets ([no. 48], art. 6.1). An exception to this rule is possible only when fishermen possessing gill or trammel

nets in 2009 applied for a permit from the government through the agency dealing with fisheries, agriculture and animal husbandry (LVV) before July 27th 2009 and only when their nets have the following characteristics: (a) a mesh width less than 57 mm; (b) are not left unattended and (c) are not longer than 150 m ([no. 48], art. 6.2). The aforementioned permit allowing fishermen to use gill or trammel nets following the specifics above is valid for 5 yrs ([no. 48], art. 6.3). Within the territorial waters of Curacao it is forbidden to fish outside the 60m depth contour and outside the inland bays with the following gear types: (a) gill nets longer than 500m; (b) gill nets that are left unattended and (3) trammel nets, i.e., gillnets consisting of two or more layers (Dutch: trammel net) ([no. 48], art. 7).

Inside the inland bays and within the territorial waters along the south side of Curacao from Watamula to Oostpunt and around the island of Klein Curacao it is forbidden to fish with bottom long-lines ([no. 48], art. 8) or beach seines ([no. 48], art. 10). The use of the beach seines can be allowed only when fishermen apply for a permit from the government ([no. 48], art. 10.1) that can come with certain restrictions and/ or conditions ([no. 48], art. 10.2).

Fishing with spear guns, harpoons or similarly shaped or used objects is forbidden at all times (ROC [48], art. 6.1) and are considered weapons similar to fire arms as guns or pistols. Hence, their use and possession are regulated under the Firearms Ordinance which came into effect in 1930 (P.B. 1930, no.2). In addition, it is forbidden to possess, to have for sale, sell and transport organisms that were caught with spear guns or equivalent equipment (ROC [48] art. 6.2). At present one exemption is in effect, i.e., the use of a specially modified spear gun designed to kill the invasive lionfish (*Pterois* spp.). Persons using this modified spear gun were provided with a written permit by the government that exempts them from the aforementioned regulations pertaining to the use of spear guns in Curacaoan waters.

Means to harvest of any sea organism that are somehow damaging to the marine environment are generally forbidden (ROC [48], art. 7.1). Only when the government deems a certain organism damaging to the environment (e.g, lionfish) can the aforementioned means of harvesting be allowed (ROC [48], art. 7.2), but only after consultation with all relevant stakeholder groups (ROC [48], art. 7.3).

Restrictions on fishing for other marine organisms: marine mammals

Within the territorial waters of Curacao it is forbidden to catch marine mammals without a permit from the government ([no. 48], art. 9.1) that can come with certain restrictions and/ or conditions ([no. 48], art. 9.2) and will only be provided when the catching of marine mammals is necessary for education or scientific purposes or is deemed necessary for the benefit of society as a whole ([no. 48], art. 9.3). 150 Curaçao Ramsar Proposal

Restrictions on fishing for other marine organisms: sea turtles and lobsters

In the territorial waters and inland bays of Curacao it is forbidden to catch any sea turtle species ([no. 48], art. 3a) and lobsters (*Panulirus argus*) if these carry eggs or are in the process of molding ([no. 48], art. 3b). Furthermore, it is forbidden to remove the eggs from lobsters mentioned in [no. 48], art. 3a ([no. 48], art. 4). When gravid or molding lobsters are unintentionally caught in fish traps they are to be released immediately ([no. 48], art. 5.3). It is forbidden to possess, kill or sell sea turtles and lobsters referred to in [no. 48], arts. 3 and 4, regardless of whether these organisms are dead or alive ([no. 48], art. 5.1). Sea turtles that were caught on accident or became entangled in fishing gear should be freed and released immediately ([no. 48], art. 5.2). Wounded sea turtles are to be transported immediately to a veterinarian and relevant government agencies are to be informed ([no. 48], art. 5.2). The Curacaoan government executed the right provided by the Reef ordinance Curacao (ROC [48], art. 3.1) to appoint certain species for additional protection, which led to additional legislation to protect all sea turtles (Island decree for the protection of sea turtles; A.B. 1996, no.8) meaning that the killing, possessing, processing, selling, offering for sale, having and transporting of six sea turtle species, dead or alive, is explicitly forbidden. These six species are: (1) *Dermochelys coriacea* (en: leatherback turtle, du: leerschildpad, pa: drikil), (2) *Caretta caretta* (en: loggerhead turtle, du: onechte karetschildpad, pa: kawama); (3) *Chelonia mydas* (en: green turtle, du: soepschildpad, pa: Tortuga blanku); (4) *Eretmochelys imbricata* (en: hawksbill turtle, du: karetschildpad, pa: karet); (5) *Lepidochelys kempii* (en: Kemp's Ridley turtle, pa: tortuga bastardo) and (6) *Lepidochelys olivacea* (en: olive Ridley turtle, pa: tortuga bastardo). In 1996 (A.B. 1996, no. 13), the disturbance and destruction of sea turtle nests as well the collection, possession, destruction, transporting or selling of their eggs were specifically forbidden.

Restrictions on fishing for other marine organisms: corals

In Curacao, it is forbidden to remove corals from the bottom at all times or to possess, to have for sale, sell, steal, transport corals that were derived from Curacaoan waters (ROC [48], art.2). The same goes for certain species that can be appointed by a special government decree (ROC [48], art.3). Exceptions to the latter measure are possible in the form of temporal bans on harvesting or through size restrictions (ROC [48], art.3). The Curacaoan government is allowed, under strict formal procedures and after consultation with all relevant stakeholder groups, to provide individuals or organizations to collect aforementioned organisms for e.g. education or scientific purposes (ROC [48], arts.4-5). Such permits can be withdrawn at all times, when reasonable doubt arises about the permitted action (ROC [48], arts.4-5).

Construction in the marine environment

It is forbidden to have or erect any form of construction in the territorial waters of Curacao, including the creation of new land and the laying of cables unless one has a permit from the government (LvMB [18], arts. 20-21, 23). To obtain such a permit, the effects of the proposed construction on local ship traffic, the marine environment and archeological sites of potential interest need to be evaluated (LvMB [18], art. 21). Procedures, rules and regulations are all found in the Maritime Ordinance (LvMB [18], arts. 51-85).

Relevance of International Treaties

Obligations from international treaties to which the former government of the Netherlands Antilles was an underwriting party are carried over to the new Curacao government. As a result Curacao forms party to several conventions and treaties. These include the RAMSAR Convention (since 1980), the Bonn Convention on migratory species (since 1983), the Cartagena Convention (since 1985), and its SPAW Protocol (since 1990), Convention on Biological Diversity as well as the CITES Convention. The national legal framework for nature management and conservation, enacted in 1998 (Landsverordening Grondslagen Natuurbeheer), still requires implementation at the island.

An overview of the most important treaties and conventions that Curacao forms party:

Oil Pollution Preparedness, Response and Co-operation (OPRC), London, 1990; (Trb. 1992, 1); included in LvMB chapter 4.2 (arts. 35-39). The International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), 1990 provides a global framework for international co-operation in combating major incidents or threats of marine pollution. A protocol to this convention (HNS Protocol) covers marine pollution by hazardous and noxious substances.

The SPAW (Specially Protected Areas and Wildlife) Protocol of the Cartagena Convention (Trb. 1990, 115). The Protocol concerning Specially Protected Areas and Wildlife (SPAW Protocol) has been internationally recognized as the most comprehensive treaty of its kind. Adopted in Kingston, Jamaica by the member governments of the Caribbean Environment Programme on 18 January 1990, the SPAW Protocol preceded other international environmental agreements in utilizing an ecosystem approach to conservation and was entered into force on 18 June 2000. The Protocol acts as a vehicle to assist with regional implementation of the broader and more demanding global Convention on Biological Diversity (CBD). The Protocol also assists with the promotion and linkages of the Ramsar and CITES Conventions.

1996 Protocol to the Convention on the prevention of marine pollution by dumping of wastes and other matter, 1972; (Trb. 1998, 134). The 1996 Protocol reflects a more modern and comprehensive agreement on protecting the marine environment from dumping activities than the original 1972 Convention and reflects the broader aims to protect the environment in general. The 1996 Protocol introduces (in Article 3) what is known as the "precautionary approach" as a general obligation. This requires that "appropriate preventative measures are taken when there is reason to believe that wastes or other matter introduced into the marine environment are likely to cause harm even when there is no conclusive evidence to prove a causal relation between inputs and their effects." The Curacao government has worked out the obligations following from the 1996 Protocol in the Maritime Ordinance (LvMB [18], arts. 44-48) which (amongst other) forbid the general disposal of any form of waste, other than ways and forms addressed in the Marpol Treaty (see: art. 6, P.B. 1993, no. 108) in its territorial waters and the sinking of ships or planes. The government is allowed to exempt persons from these laws through a permit (LvMB [18], arts. 45-46).

The Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or the Bonn Convention) This Convention aims to conserve terrestrial, marine and avian migratory species throughout their range. It is an intergovernmental treaty, concluded under the aegis of the United Nations Environment Programme, concerned with the conservation of wildlife and habitats on a global scale. Migratory species threatened with extinction are listed on Appendix I of the Convention. CMS Parties strive towards strictly protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them. Besides establishing obligations for each State joining the Convention, CMS promotes concerted action among the range states of many of these species. Migratory species that need or would significantly benefit from international co-operation are listed in Appendix II of the Convention. For this reason, the Convention encourages the range states to conclude global or regional Agreements. In this respect, CMS acts as a framework Convention. The agreements may range from legally binding treaties (called Agreements) to less formal instruments, such as Memoranda of Understanding, and can be adapted to the requirements of particular regions. The development of models tailored according to the conservation needs throughout the migratory range is a unique capacity to CMS.

The Convention on Biological Diversity (CBD), known informally as the Biodiversity Convention This Convention is an international legally binding treaty. The Convention has three main goals: (1) conservation of biological diversity (or biodiversity); (2) sustainable use of its components and (3) fair and equitable sharing of benefits arising from genetic resources. In other words, its objective is to develop national strategies for the conservation and sustainable use of biological diversity. It is often seen as the key document regarding sustainable development. The convention recognized for the first time in international law that the conservation of biological diversity is "a common

concern of humankind" and is an integral part of the development process. The agreement covers all ecosystems, species, and genetic resources. It links traditional conservation efforts to the economic goal of using biological resources sustainably. It sets principles for the fair and equitable sharing of the benefits arising from the use of genetic resources, notably those destined for commercial use. It also covers the rapidly expanding field of biotechnology through its Cartagena Protocol on Biosafety, addressing technology development and transfer, benefit-sharing and biosafety issues. Importantly, the Convention is legally binding; countries that join it ('Parties') are obliged to implement its provisions. The convention reminds decision-makers that natural resources are not infinite and sets out a philosophy of sustainable use. While past conservation efforts were aimed at protecting particular species and habitats, the Convention recognizes that ecosystems, species and genes must be used for the benefit of humans. However, this should be done in a way and at a rate that does not lead to the long-term decline of biological diversity. The convention also offers decision-makers guidance based on the precautionary principle that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat. The Convention acknowledges that substantial investments are required to conserve biological diversity. It argues, however, that conservation will bring us significant environmental, economic and social benefits in return.

CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora, also known as the Washington Convention)
This convention is a multilateral treaty, drafted as a result of a resolution adopted in 1963 at a meeting of members of the International Union for Conservation of Nature (IUCN). The convention entered into force on July 1, 1975. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species in the wild, and it accords varying degrees of protection to more than 33,000 species of animals and plants. CITES is one of the largest conservation agreements in existence. Participation is voluntary, and countries that have agreed to be bound by the Convention are known as Parties. Although CITES is legally binding on the Parties, it does not take the place of national laws. Rather it provides a framework respected by each Party, which must adopt their own domestic legislation to implement CITES at the national level. Often, domestic legislation is either non-existent, or with penalties incommensurate with the gravity of the crime and insufficient deterrents to wildlife traders. As of 2002, 50% of Parties lacked one or more of the four major requirements for a Party: designation of Management and Scientific Authorities; laws prohibiting the trade in violation of CITES; penalties for such trade; laws providing for the confiscation of specimens.

Ongoing developments

In 1998, the central government of the Netherlands Antilles ordered each island to develop policies and a legal framework to sustainably manage and protect its natural marine and terrestrial resources (P.B. 1998, no. 49, amended in 2001, P.B. 2001, no. 41). This decision came into effect on February 1st 1999 ("Landsverordening grondslagen natuurbeheer en –bescherming", P.B. 1999, no. 24). Specifically, this meant that islands were expected to establish nature parks and take measures to protect certain species listed in the appendices of international treaties undersigned by the former government of the Netherlands Antilles.

The Curacaoan government agreed that such legislation was required to further protect Curacao's marine resources and proposed a new island ordinance called "Island Ordinance for the management and protection of Curacao's marine resources" (du: "Eilandsverordening marien natuurbeheer en –bescherming Curacao"). This new ordinance would replace the existing Reef Ordinance Curacao (1976, no. 48) effectuating stricter regulations to preserve the island's natural resources (through the establishment of (marine) parks) and develop protective measures for certain species protected under several international treaties. In contrast to the Reef Ordinance Curacao (1976, no. 48), the proposed legislation would for example also forbid the harvesting of sand and construction activities in Curacao's territorial waters and inland bays (proposed art. 7), carry out any action that would harm the island's marine resources (proposed art. 10) and the formation of an marine park and marine reserves around the island except where harbors (as defined in "Binnenvaartverordening Curacao; P.B. 1957, no. 11 and "Landsverordening Maritiem Beheer" (P.B. 2007, no. 18) are located (proposed arts. 14-15).

A memorandum between the Ministry of Health and Environment (VOMIL) of the former Netherlands Antilles and the Dutch Ministry of Agriculture, Nature Conservation and Fisheries (LNV) have been signed an memorandum of agreement for cooperation in the preparation of an Integrated Coastal Zone Management (ICZM) Plan, but so far, work on the ICZM Plan has yet to begin.

Recovery plans for species

No formal plans in effect, but 2 private initiatives (under Government permits) underway:

Coral Restoration Foundation Curaçao asexual propagation (fragments/cuttings) 2015-2016 for both *Acropora* species; Secore/Carmabi sexual propagation (2009-2016) for both *Acropora* and *Orbicella* species.

Technical publications relevant to these species

See above under national status

B. Expected impacts on the affected species and management measures :

★*Tick the box that applies to your situation concerning the principal threats to the subject species due to the prohibited activity :*

- impacts on the population size
- distribution and fragmentation
- cumulative impacts
- impacts on the quantity and quality of suitable habitats available for the species
- other threats to the species in the short- and long-term
- impacts on other species as a consequence of the prohibited activity

★*Explain why the prohibited activity will not jeopardize the species or, if relevant, other listed species.*

Because the damage (on approximately 300 meter coastline) is mitigated by formalization of the Curacao Underwaterpark, where approximately 20 kilometer of coastline including the pristine Eastpoint reefs will become a MPA, including (1) control measures, (2) an appointed management authority (Carmabi) and (3) a budget for 5 years available from a private donor

★*In the case of species or populations of a species migrating between two (or more) countries, the survival of the populations should be assessed separately for each country the species resides in or migrates through and jointly for all countries the species resides in or migrates through.*

While genetic connectivity between populations on Curacao and other locations in the Caribbean has been shown for both *A. palmata* (Baums et al. 2005) and *O. annularis* (Foster et al. 2012), such connectivity was found to occur foremost on large time scales. This effectively means that the majority of larvae produced by the coral species relevant to this proposal are retained at small spatial scales, i.e., within islands, so that migration of these otherwise non-mobile, sessile species is likely ecologically irrelevant in the foreseeable future.

Baums IB, Miller MW, Hellberg ME (2005) Regionally isolated populations of an imperiled Caribbean coral, *Acropora palmata*. *Molecular ecology* 14(5):1377-90.

Foster NL, Paris CB, Kool JT, Baums IB, Stevens JR, Sanchez JA, Bastidas C, Agudelo C, Bush P, Day O, Ferrari R (2012) Connectivity of Caribbean coral populations: complementary insights from empirical and modelled gene flow. *Molecular ecology* 21(5):1143-57.

★*Describe the mitigation measures designed to limit or counteract any deleterious effects (provide a list only and supporting documentation, such as guidelines, policies, reports, videos/photographs etc. as attachments or hyperlinked)*

See detailed exemption request Curacao July 18th 2016 to SPAW Secretariat 2016/27094

★*Please give a detailed explanation of the monitoring or evaluation protocols that will be used*

to assess the effect of the activity on species populations, including changes in range, numbers, or reproductive success (include as attachments)

Using standard GCRMN methods (see below for reference), the status of coral communities at the impacted site will be monitored annually as part of Carmabi's annual monitoring program. The assessment on the same site in 2015 and 2016 can be used for historic reference.

Edwards PE, Torres RE, Belmont J. (2016) New Guidelines for Monitoring Coral Reef Ecological and Socio-economic Data in the Caribbean Nuevas Directrices para el Monitoreo Datos Ecológicos y Socio-económicos de Arrecifes de Coral en el Caribe Nouvelles Lignes Directrices pour la Surveillance de Données sur les Récifs Coralliens Écologiques et Socio-économiques dans les Caraïbes.

Annex I

Number (based on Ecovion's Table 5.4)

| Depth zone | Width from map | Surface along slope | Length | Surface |
|------------|----------------|---------------------|--------|---------|
| 5-10m | 23 | 23 | 470 | 10833 |
| 10-15m | 16 | 16 | 470 | 7744 |
| 15-25m | 10 | 14 | 470 | 6581 |

Cover (based on Carmabi data)

| depth zone | Width from map | Surface along slope | Length | Surface |
|------------|----------------|---------------------|--------|---------|
| 5-10m | 23 | 23 | 470 | 10833 |
| 10-15m | 16 | 16 | 470 | 7744 |
| 15-25m | 10 | 14 | 470 | 6581 |

Average density (colonies m⁻²)

| <i>Apal</i> | <i>Acer</i> | <i>Ofav</i> | <i>Oann</i> |
|-------------|-------------|-------------|-------------|
| 0,00 | 0,00 | 0,20 | 0,09 |
| 0,00 | 0,00 | 0,01 | 0,02 |
| n/a | n/a | n/a | n/a |

Total number of colonies in impacted area

| <i>Apal</i> | <i>Acer</i> | <i>Ofav</i> | <i>Oann</i> |
|-------------|-------------|-------------|-------------|
| 0 | 0 | 2112 | 975 |
| 0 | 0 | 77 | 174 |
| n/a | n/a | n/a | n/a |

Total 0 0 2190 1149

Average cover (%)

| <i>Apal</i> | <i>Acer</i> | <i>Ofav</i> | <i>Oann</i> |
|-------------|-------------|-------------|-------------|
| 0,00 | 0,00 | 0,98 | 1,85 |
| 0,00 | 0,00 | 0,16 | 1,41 |
| 0,00 | 0,00 | 0,00 | 0,00 |

Total surface (in m²) of colonies in impacted area

| <i>Apal</i> | <i>Acer</i> | <i>Ofav</i> | <i>Oann</i> |
|-------------|-------------|-------------|-------------|
| 0 | 0 | 106 | 201 |
| 0 | 0 | 12 | 109 |
| 0 | 0 | 0 | 0 |

Total 0 0 118 310

Annex II Mega Pier II

