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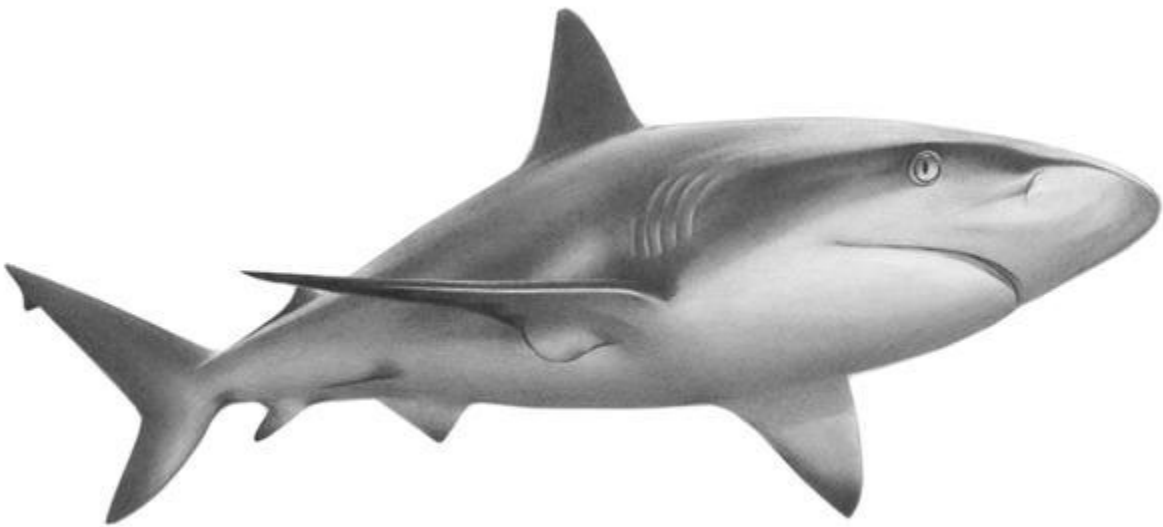
Tenth Meeting of the Scientific and Technical
Advisory Committee (STAC) of the Protocol
Concerning Specially Protected Areas and Wildlife
(SPA W) in the Wider Caribbean Region

Virtual, 30 January – 1 February 2023

**PROPOSAL OF THE KINGDOM OF THE NETHERLANDS FOR
LISTING THE CARIBBEAN REEF SHARK (*CARCHARHINUS PEREZI*)
ON ANNEX III OF THE SPA W PROTOCOL**

This meeting is being convened virtually. Delegates are kindly requested to access all meeting documents electronically for download as necessary.

Caribbean Reef Shark (*Carcharhinus perezii*)



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1 Overview

1. Listing of Caribbean Reef Shark (*Carcharhinus perezii*) on Annex III of the SPAW protocol is justified based on several criteria and, as this species is endemic to the Wider Caribbean region, it is particularly pertinent to manage this species under the SPAW protocol.
2. The Caribbean Reef Shark is a meso-predator that feeds on bony fish and is found mainly around coral reefs in the Caribbean. It is medium sized shark (max recorded length 295cm) that is estimated to live for about 15 years and starts reproducing when it is approximately 4 years old. Reproduction is viviparous on a biennial cycle with litter sizes of 3–6 pups and a gestation of approximately one year. This slow generation time makes this species vulnerable to overexploitation.
3. The species is caught in targeted fisheries and as bycatch throughout its range and there is evidence of local depletion in areas of heavy fishing pressure. Even though a substantial part of its range consists of designated shark sanctuaries, extensive Baited Remote Underwater Video studies have shown that this does not prevent population decline within the sanctuary if the fisheries outside the protected area are unmanaged.
4. In 2019 the species was re-assessed for the IUCN red list and scored down from vulnerable to endangered. This was due to the relatively high level of inadequately-managed fishing pressure, its relatively unproductive life history, the lack of enforcement in established protected areas, and a continuing decline in habitat quality, it is estimated that the Caribbean Reef Shark has undergone a population reduction of 50–79% over the past three generation lengths (29 years).
5. In June 2022 Panama together with several other nations including SPAW signatories Colombia, Dominican Republic and the European Union (France and the Netherlands) proposed a list of 19 requiem shark species, including Caribbean Reef Shark for CITES Appendix II. This proposal will be considered at the next CITES CoP to be held in Panama in November 2022.

In summary, listing of the Caribbean Reef Shark under SPAW Annex 3 (III) would be justified based on the criteria 1: as there is clear evidence decline in population; 2: precautionary approach can be applied based on the slow life history and vulnerability to overexploitation; 4 IUCN red list status has been updated to endangered; 5: CITES could be considered in light of the proposal from Panama; 6 and 9: the importance of regional cooperation to protect the species and status as a regional level apply because this species only occurs in the Wider Caribbean Region this means that SPAW is the logical framework to use for its protection and management.

2 Species information

2.1 Scientific and common names of the species

6. 1.1 Class: Chondrichthyes
7. 1.2 Order: Carcharhiniformes
8. 1.3 Family: Carcharhinidae
9. 1.4 Species: *Carcharhinus perezii* (Poey, 1876)
10. 1.5 Scientific synonyms: *Carcharhinus springeri* (Sadowsky & Amorim 1977), *Carcharhinus perezii* (common misspelling)
11. 1.6 Common names: English: Caribbean reef shark; French: Requin De Recif; Spanish: Cabeza Dura

2.2 Biology, estimated population of species and its geographic ranges

12. On its biology Carlson et.al. in their 2019 assessment for the IUCN red list state: “The Caribbean Reef Shark is a tropical inshore shark inhabiting coral reefs on continental and insular shelves across a wide depth range from the surface to a depth of 378 m. It reaches a maximum size of 295 cm total length (TL), males mature at 150–170 cm TL and females mature at 180–190 cm TL. Reproduction is viviparous with litter sizes of 3–6, an approximately one year gestation and biennial reproductive cycle, and size-at-birth of 70 cm TL. Generation length was estimated as 9.6 years based on an age-at-maturity of 4.2 years estimated from the reported length-at-maturity and back-transforming length into age using the growth curve and maximum age of 15 year.”
13. Carlson et.al give the following description of the distribution and population of *C. perezii*: “The Caribbean Reef Shark occurs throughout the Western Central and Southwest Atlantic Oceans from the North Carolina (United States of America), the Bahamas, the Gulf of Mexico and Caribbean Sea to Brazil. In areas where it is not protected, there have been population reductions of 99% over the past three generation lengths (29 years) based on Baited Remote Underwater Videos Stations (BRUVS). However, in areas where protection measures are in place such as “shark sanctuaries” (e.g. Bahamas), the population has remained relatively stable since the 1980s. A comparison of the number of sharks per reef throughout the Caribbean Sea based on BRUVS data also suggest abundance is six times higher in areas where protections are in place.”
14. In support of the IUCN assessment 2 estimates of population decline were made, the first a Bayesian state-space framework for estimating population reduction found a strong decline in a study area with no management in place and a slight increase in an area where

the species was protected. But the authors note that this increase might be due to a shift from an area with high fishing pressure to an area with less human activity. The second estimate by Simpfendorf et.al was based on extensive Baited Remote Underwater Video (BRUV) surveys throughout the range of *C. perezii* as part of the Global Fin Print project. Their analysis found the weighted population depletion level for Caribbean Reef Sharks was 52.5%. With the strongest depletion around Jamaica, Dominican Republic and Colombia (both the coast of the mainland and islands).

2.3 [Ecological interactions with other species and specific habitat requirements](#)

15. *C. perezii* are classed as a meso-predator since they are both active predators of smaller animals and preyed upon by larger fish for example by tiger sharks. However within the reef ecosystem where they are found they can also take the roll of top predator as the adult Caribbean Reef sharks are often the largest predator on a particular reef.
16. Stoffers et.al 2021 found that that *C. perezii* difference in spatial distribution of juvenile and adult sharks around reefs in the Dutch Caribbean, with adult sharks less prevalent in shallow areas, Baremore et.al observed this pattern in female shark around Belize. Bruns & Henderson 2020 found that the Caribbean Reef Sharks around Turks & Caicos island would venture out onto the sandy flats further removed from the reef outside of the reef habitat.

2.4 [Threats to the species, its habitats and associated ecosystems](#)

17. A review of the threats to sharks and rays in the Western Central Atlantic by Talwer et.al from 2022 found that, based on IUCN assessment information nearly 40% of the species in the region have an elevated risk of extinction. The authors also note that there is limited catch information available for the region and many species are classed as data deficient making the possible conservation status of elasmobranchs in the region even worse. In addition, the meta-analysis by Dulvy et.al from 2021 shows that the highest extinction risk in sharks and rays is for those species inhabiting coastal waters at more shallow depths as their range fully overlaps with fishing and other human activities.
18. An in depth study of the fisheries around Los Roques Archipelago National Park, Venezuela (Tavares, 2009) showed that the *C. perezii* was the species most commonly caught by the artisanal shark fishermen active in the area with over 88% of the individuals caught juvenile or neonates caught in water below 30m depth. Although at the time of this study (2001-2002) the population of *C. perezii* in the area did not seem to be averse affected by the fishery the author does not that this could change in future if levels of fishing pressure remain the same and suggests a closed season when females come inshore to pup.
19. Over the past decade a large number of BRUV studies have been conducted in the Caribbean region, among them the Global Fin Print project which specifically focused on

shark presence around reef assemblages (Ivy, 2021; Clementi 2021; Stoffer 2021; Dwyer 2020). These studies unvaryingly find larger abundances of *C. perezi* within areas that have protective measures for sharks than outside of them, indicating that spatial protection measures or a good way to manage this species. However as most of these studies are of a short duration they do not track abundance over a longer time period and are not suitable for giving trend predictions. A ten year study of the shark populations around Glover's Reef Marine Reserve in Belize did find a concerning negative trend in *C. perezi* within the reserve (Flowers; 2022). The authors give active fishing along the edge of the reserve as a possible reason. This result indicates that in addition to spatial protection in reserves and sanctuaries management of the fisheries interacting with Caribbean Reef Sharks is necessary to sustainably manage this species (MacNeil 2020).

3 Status of legal protection (with reference to relevant national legislation or regulation)

3.1 International Legislation and Management

3.1.1 CITES

20. The Convention on International Trade in Endangered Species (CITES) is a trade treaty that regulates the international trade in threatened and endangered species. For the CITES CoP to be held in Panama in November 2022 a proposal to list 19 endangered and critically endangered requiem sharks on Annex II of CITES was presented in June 2022 by Panama together with a number of parties which include SPAW signatories Colombia, Dominican Republic and the European Union (France and The Netherlands). The Caribbean Reef Shark was one of the species proposed for listing under this proposal.
21. Listing on Annex II would mean that all transboundary trade has to be licensed, based on an analysis of the effects of the removal from the wild through a Non-Detriment Finding. For international trade an export permit or re-export is required which is to be issued by the Management Authority of the State of export or re-export. This export permit may be issued only if the specimen was legally obtained and if the export will not be detrimental to the survival of the species. (www.cites.org)

3.1.2 International Plan Of Action (IPOA) for Sharks

22. The IPOA-Sharks is a voluntary international instrument, developed within the framework of the 1995 FAO Code of Conduct for Responsible Fisheries, that guides nations in taking positive action on the conservation and management of sharks and their long-term sustainable use. Its aim is to ensure the conservation and management of sharks and their long-term sustainable use, with emphasis on improving species-specific catch and landings

data collection, and the monitoring and management of shark fisheries. The Code sets out principles and international standards of behavior for responsible fishing practices to enable effective conservation and management of living aquatic organisms while considering impacts on the ecosystem and biodiversity. The IPOA-Sharks recommends that FAO member states 'should adopt a national plan of action for the conservation and management of shark stocks (NPOA-Sharks), if their vessels conduct directed fisheries for sharks or if their vessels regularly catch sharks in non-directed fisheries'.

23. To date 10 countries in the SPAW region have a National Plan of Action for Sharks (Antigua & Barbuda, Belize, Brazil, Colombia, Costa Rica, Cuba, Mexico, Panama, Venezuela and The United States). As the French islands are part of the EU the EU's Community Plan of Action for the conservation of sharks applies here. In 2019 The Netherlands adopted an International Shark Strategy which has specific objectives for shark and ray conservation in the Caribbean.

3.2 [Regional Management](#)

3.2.1 WECAFC

24. The Western Central Atlantic Fishery Commission (WECAFC) is a regional fishery advisory body with thirty-three countries and the European Union as members. The Commission members have an interest to cooperate in responsible fisheries management and development in the Wider Caribbean Region, it includes FAO Statistical Area 31 and the northern part of Statistical Area 41.

3.2.2 SICA

25. The Dominican Republic has, together with Belize and six other Central American countries, united under the name SICA (Central American Integration System), signed an agreement to prohibit shark finning. This ban is also applicable to fishing vessels in international waters under the flag of SICA member states. This arrangement OSP-05-11 entered into force in 1 January 2012.

3.2.3 OSPESCA

26. The Organization of the Fisheries and Aquaculture Sector of the Central American Isthmus (Organización del Sector Pesquero y Acuícola del Istmo Centroamericano, OSPESCA) aims at promoting coordinated and sustainable development of fishing and aquaculture, in the framework of the Central American integration process (SICA), defining, approving and implementing policies, strategies, programmes and regional projects on fisheries and aquaculture. This is a legally binding framework and its members are Belize, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

27. In 2011 OSPESCA adopted measures on shark finning and the sustainable use of sharks.

3.3 [National Legislation](#)

3.3.1 USA

28. In July 2006, the United States National Marine Fisheries Service finalized the Consolidated Atlantic Highly Migratory Species Federal Management Plan. This Federal Management Plan includes a range of management measures including quotas and seasonal closures. Caribbean Reef Sharks are listed as a prohibited species to commercial and recreational harvest under this management plan.

3.3.2 Bahamas

29. The Bahamas have had a longline fishing ban since 1993 and consequently there has been no commercial shark fishing activity. This longline ban has effectively made the whole archipelago of the Bahamas a shark “no-take” zone. In July 2011 the Bahamas went a step further and legally banned all shark fishing. That law firmly turns all 630,000 sq km of Bahamian waters into a shark sanctuary. The fines for shark fishing were raised from 3000 to 5000 USD per incident.

3.3.3 EU (French islands)

30. In 2009 the EU adopted a Community Plan of Action on Sharks (CPOA-sharks). This Action Plan had the objective to ensure sustainable management of all EU shark and ray species in EU water and caught by EU fisheries.

3.3.4 Dutch Caribbean

31. The islands of Aruba, Bonaire, Curacao in the leeward Caribbean and Saba, St. Eustatius and Sint Maarten in the windward Caribbean together with the European part of The Netherlands together form the Kingdom of the Netherlands.

Saba, St Eustatius and Bonaire

32. These three islands are special municipalities of the Kingdom of The Netherlands but not part of the European Union. In 2019 the Dutch government adopted an International Shark Strategy. The strategy sets out which protective and management actions for sharks and rays are to be taken by the government in all seas and oceans where the Netherlands has influence (the North Sea, international waters and the Dutch Caribbean).
33. In Bonaire, all shark species are listed as protected species by means of Island Ordinance AB 2010, No. 15. All catches and landings are illegal.

Sint Maarten

34. St. Maarten issued a temporary moratorium on shark fishing in accordance with Art. 4 of the St. Maarten National Ordinance on Maritime Management (landsverordening Maritiem Beheer (PB 2007, No. 18) and Art. 5 of the National Fisheries Ordinance (Visserijlandsverordening (PB 1991, No. 74) which provides for temporary closures and moratoria. The shark fishing moratorium prohibits the take and landing of sharks and requires immediate release of incidentally caught sharks, under penalty of a maximum of 500,000 Antillean Guilders or 3 months in prison. This moratorium is currently under review.

3.3.4.1 Curacao

35. Curacao is in the process of adopting marine management and fisheries actions as part of their SDG14 strategy.

3.3.5 Mexico

36. In Mexico, there is a closed season for the shark fishery in May and June in the states of Tamaulipas, Veracruz and Quintana Roo, and May 15–June 15, and August 1–29 in the states of Tabasco, Campeche and Yucatán. The Official Standard NOM-029-PESC-2007 establishes management measures that finning be prohibited. It also establishes that fishing is prohibited at the surrounding area of 5 km of coral reef areas, at adjacent areas in front of mouth rivers and coastal lagoons (delimited by a semicircle of 2.5 km in the mouth), and at nursery areas (prohibited the use of gill-nets in June) in front of Playa Bagdad, Tamaulipas.

3.3.6 Panama

37. Panama has established nationwide conservation and management policies for the fisheries industry. In 2006, an official regulation was approved that prohibits shark finning in Panama waters. In 2017, new regulations were implemented for longline fisheries (e.g. limits of the number of hooks to 1,000 per surface longline strand).

3.3.7 Venezuela

38. Towards implementing its Plan de Acción Nacional (PAN) de conservación for sharks, in June 2012 Venezuela joined the rest of the Americas in outlawing the finning of sharks in its waters and established a 3,730 km² shark sanctuary surrounding the touristic archipelago of Los Roques.

3.4 [MPAs and Shark Sanctuaries](#)

3.4.1 Bahamas

39. The Bahamas created the first shark sanctuary in the Atlantic Ocean in 2011. Over 40 shark species reside in its 630,000 km² marine area. The Bahamian sanctuary was created by adding an amendment to the Fisheries Resources (Jurisdiction and Conservation) Act (Chapter 244) to prohibit commercial shark fishing along with the sale, importation and export of shark products.

3.4.2 Belize

40. Belize has 13 marine reserves to specifically protect shark species against illegal fishing, there is no additional marine management to regulate fisheries outside the reserves.

3.4.3 Dutch Caribbean

Saba, St. Eustatius and Sint Maarten

41. In 2015, the Dutch government designated the Economic Exclusive Zones of Saba and Bonaire as the Yarari marine mammal and shark sanctuary, in 2017 the EEZ of St. Eustatius was added.

Curacao

42. Curacao has committed to protecting 30% of its waters by establishing nearshore protected areas and an offshore marine sanctuary. The protective regime for these is not developed yet.

3.4.3.1 Sint Maarten

43. Sharks are protected within the Man of War Shoal Marine Protected Area

3.4.4 Cuba

44. Cuba has designated 21% of the country as a Marine Protected Area. There is no fishing for sharks or rays in these areas. The most important Marine Protected Area is Jardines de la Reina, Alejandro de Humbolt, Guanacabibes.

3.4.5 Colombia

45. The archipelago of San Andrés y Providencia, Colombia, was declared a Biosphere Reserve by UNESCO in 2000, and covers an area of 180,000 km² (i.e., 10% of the total area of the Caribbean Sea) and comprises some of the most productive and biodiverse reefs in the region. Since 2008, all shark species have been fully protected in the Seaflower Biosphere Reserve, banning fishing and possession of all sharks and their byproducts..

3.4.6 Honduras

46. In June 2011 Honduras created the first shark sanctuary in America and declared all its marine waters in both the Pacific and Caribbean as a permanent shark sanctuary. This had

been preceded in 2010 by a shark fishing moratorium and created the first shark sanctuary of the Americas amounting to about 240,000 km² of national waters, most of which lie along the 700 km-long Caribbean coast of the nation.

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5 Criteria for SPAW listing

47. Criterion 1. Is the listing of the species warranted by the size of the population, evidence of decline, restrictions on its range of distribution, degree of population fragmentation, biology and behavior of the species, as well as other aspects of population dynamics, or other conditions clearly increasing the vulnerability of the species?
48. [If applicable] Criterion 2. Why is a precautionary approach necessary i.e., the lack of full scientific certainty about the exact status of the species is not to prevent the listing of the species on the appropriate annex?
49. Criterion 3. [In particular with respect to species proposed for Annex III], what are the levels and patterns of use and how successful are national management programs?
50. Criterion 4. Does the evaluation according to IUCN criteria, applied in a Caribbean context, i.e., the status of the population at the regional level, warrant listing of the species?
51. Criterion 5. Is the species subject to local or international trade, and is the international trade of the species regulated under CITES or other instruments?
52. Criterion 6. How important and useful are regional cooperative efforts for the protection and recovery of the species? [Include strengthening of existing cooperative efforts through global MEAs such as CMS]
53. Criterion 7. The species is not an endemic species [or there are specific reasons why cooperative action is important for its recovery].
54. Criterion 8. The species is not a sub-species.
55. Criterion 9. The status of the population at the regional level warrants listing, not only of a sub-population.
56. Criterion 10. Is the species essential to the maintenance of such fragile and vulnerable ecosystems/habitats, as mangrove ecosystems, seagrass beds and coral reefs and is the listing of the species felt to be an "appropriate measure to ensure the protection and recovery"?