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# PROPOSAL FOR A CONCERTED ACTION FOR THE BLUE SHARK (*Prionace glauca*) ALREADY LISTED ON APPENDIX II OF THE CONVENTION\*

#### Summary:

Marine Research and Conservation Foundation (MARECO) has submitted the attached proposal\* for a Concerted Action for the blue shark (Prionace glauca) in accordance with the process elaborated in Resolution 12.28 (Rev.COP13).

<sup>\*</sup>The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CMS 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.

# PROPOSAL FOR A CONCERTED ACTION FOR THE BLUE SHARK (*Prionace glauca*)) ALREADY LISTED ON APPENDIX II OF THE CONVENTION

# (i). Proponent

Marine Research and Conservation Foundation (MARECO)

# (ii). Target species, lower taxon or population, or group of taxa with needs in common

Class: Chondrichthyes

Subclass: Elasmobranchii
Order: Carcharhiniformes
Family: Carcharhinidae

Genus: Prionace

Species: *Prionace glauca*Listed on CMS Appendix II

#### (iii). Geographical range

The blue Shark is one of the most wide-ranging of all sharks, found throughout all oceans in tropical and temperate waters, usually in water temperatures of 12–18 °C, but tolerating water temperatures of 10–30 °C, from the surface to >1,100 m (Ebert et al. 2021). The global population shows little or no genetic variation according to Bailleul et al. 2018 and Verissimo et al. 2017; but Nikolic et al. (2023) identified two genetic clusters in the northern Atlantic/Mediterranean and the Indo-Pacific.



Figure 1: Distribution of the blue shark (©IUCN Red List).

# (iv). Summary of Activities

- 1) Encourage Parties to engage with CITES for the development of non-detriment findings;
- 2) Support Parties with recommendations for a species management plan for the blue shark, through consultation and collaboration, and in-line with the Conservation Strategy for Pelagic Sharks and Rays of the Sharks Specialist Group of the IUCN Species Survival Commission (IUCN SSC SSG). Please refer to section (v.) for further details on this initiative.
- Develop recommendations for Parties to work with t-RFMOs, in line with the IUCN SSC SSG Conservation Strategy for Pelagic Sharks and Rays;
- 4) CMS Parties encourage the development of climate change adaptive management strategies for blue shark fisheries;
- 5) CMS Parties encourage the development of tourism guidelines to limit negative impacts from rising tourism interactions with the species;
- 6) CMS Parties support research with the purpose of informing the establishment/development of technical and management measures to ensure that overall fisheries induced mortality does not exceed sustainable levels. This includes:
  - Assessment of overall fisheries-induced mortality caused by direct and incidental catch to prioritize fishing areas and fishery types for mitigation of incidental catch.
  - b. Post-release mortality of blue sharks from fisheries and recreational angling across different geographies;
  - c. Estimation of sub-population and genetic differences to support regional Total Allowable Catch (TACs) through fisheries-independent data;
  - d. Definition of CPUE and identification of inconsistency on levels of protection by different Party Range States, focusing on Indian Ocean fleets;
  - e. Identification of critical habitats and where best to implement no-take zones or spatial management.
  - f. Assessment of climate change impact on blue sharks.

#### (v). Activities and expected outcomes

Blue sharks would benefit from the improved information, management and conservation efforts proposed. This document should act as a blueprint for CMS Parties to help with their implementation of obligations under CMS, whilst also delivering a sustainable future for blue sharks. Blue sharks are one of the most broadly distributed species of shark, and therefore, any recommendations to enhance their conservation outlook will likely have positive implications for other threatened and CMS-listed species that have the same range and are caught by the same fisheries and fishing gears. Such obligations will also align with the Pelagic Shark Conservation Strategy, which is currently being developed by the Shark Specialist Group of the International Union for the Conservation of Nature Species Survival Commission (IUCN SSC SSG). Signatories to the Memorandum of Understanding on the Conservation of Migratory Sharks (Sharks MOU) welcomed this initiative and progress made and agreed to support the approach outlined in CMS/Sharks/MOS4/Doc 10.2/Rev.1.

The Annex provides a source of actions that Parties could, where relevant, follow and adopt for the successful management of the blue shark (see NDF Step 6 in Mundy-Taylor et al.

2014). The Annex is not exhaustive and could be used as a mold for shaping a species conservation action plan if necessary.

#### (vi). Associated benefits

Blue sharks would benefit from the improved information, management and conservation efforts proposed. This document should act as a blueprint for CMS Parties to help with their implementation of obligations under CMS, whilst also delivering a sustainable future for blue sharks. Blue sharks are one of the most broadly distributed species of shark, and therefore, any recommendations to enhance their conservation outlook will likely have positive implications for other threatened and CMS-listed species. Such obligations will also align with the Pelagic Shark Conservation Strategy and Action Plan.

Blue sharks are also the most commonly caught species of shark globally, and therefore any socio-economic losses resulting from enhanced management would need to be diligently addressed.

# (vii). Timeframe

Please refer to the Annex for an overview.

# (viii). Relationship to other CMS actions:

This CA would significantly contribute to the implementation of the following mandates established under CMS and the Sharks MOU:

- o Resolution 12.22 and Decisions 13.62 to 13.63 on Bycatch
- o Resolution 13.3 and Decisions 13.71 to 13.73 on Chondrichthyan Species
- Decisions 13.66 to 13.68 on Marine Wildlife Watching
- Sharks MOU Programme of Work 2023-2025: Development of a global strategy and regional action plans for pelagic sharks

#### (ix). Conservation priority

Blue sharks in the Mediterranean are Critically Endangered, with numbers having declined by ~78-90% over three generations (Sims et al. 2016). Atlantic stocks are believed to be at second greatest risk globally, with spatial overlaps of close to 80% with longline fisheries (Queiroz et al. 2019), and a median population change for the blue sharks in the North Atlantic over three generations of -53.9% in 2018 (Rigby et al. 2019). Although TACs have been adopted in ICCAT, these have not yet been allocated to fishing States in the form of quotas. In the Indian Ocean, population levels are also decreasing (Rigby et al. 2019), but stocks appear to be stable or increasing in the Pacific Ocean (Li et al. 2020; WCPFC stock assessments, 2022).

A recent analysis (Poseidon, 2022) estimated that ~10M blue sharks are caught annually, globally, frequently in target multi-species fisheries. These intensive fisheries for blue shark take a bycatch of other, seriously depleted pelagic sharks listed in the CMS Appendices (Pacoreau et al. 2021), whose recovery is also dependent upon conservation action for blue shark.

#### (x). Relevance

CMS provides a global platform for the conservation of migratory animals and their habitats, aiming to ensure that their use does not exceed sustainable levels. The blue shark is one of the most migratory species (if not the most) of shark and this Concerted Action will add value

to the enhanced conservation of this highly migratory shark. This CA will contribute significantly by: (i) strengthening the political will to implement conservation measures in a coordinated and timely fashion; (ii) bridging migratory shark fisheries and conservation interests; and (iii) contributing to the implementation of the FAO's IPOA-Sharks for the world's most heavily fished shark

#### (xi). Absence of better remedies

Only few t-RFMOs have adopted management measures for this species and the mandate of the Convention on the International Trade in Endangered Species of Fauna and Flora (CITES) is narrowly focused on ensuring that international trade does not endanger the species further. Therefore, the Concerted Action proposed here provides an important avenue for addressing the threats to and lack of cooperative management for this species and for promoting further research and conservation.

#### (xii). Readiness and feasibility

There are engaged NGOs, experts, and community organizations ready to support Range States to develop, fund and implement collaborative work. Recent initiatives at other international fora, shows that expert networks exist that could support Range States with the implementation of the proposed activities. Furthermore, support will be appreciated from the Sharks MOU and Cooperating Partners, to support the development and implementation of the action plans.

# (xiii). Likelihood of success

Supported by engaged NGOs, experts and organisations, and these Concerted Actions, it is bound for success. Moreover, the alignment of some of the Concerted Actions herein with the Conservation Strategy and Action Plans for Pelagic Sharks and Rays under the Sharks MOU, means that there is already active engagement of stakeholders. No risk factors were identified that have the potential to significantly jeopardize the success of the proposed activities.

# (xiv). Magnitude of likely impact

It is anticipated that these Concerted Actions can improve the management of blue shark practices, with a greater degree of protection for the species across its geographic range by ensuring all CMS Parties are engaged in these activities. Simultaneously, it can pave the way for greater consideration of blue shark conservation in the high seas by working together with RMFOs.

Tourism is a fast-growing industry (e.g. UK, Mexico) and blue sharks are becoming increasingly popular. It is expected that the demand for blue shark tourism will rise globally, becoming both a threat and an opportunity. If well managed, this economic activity can assist in the management of the species, help raise awareness and facilitate research. CMS can provide effective guidelines to ensure this practice is sustainable and equitable, with a model replicable to other species.

# (xv). Cost-effectiveness

This CA is of particular importance given that the Sharks MOU Signatories have not yet listed the blue shark in the Annex 1 of the MOU. One of the key components of the Concerted Actions is to encourage cooperation between Parties, information and knowledge exchange, and the development of effective strategies. If conservation successes can be replicated and best practices (such as tourism guidelines) established, this collaboration will prove vastly more cost-effective than individual countries forging their own path separately.

#### References

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- Li, W. W., Kindong, R., Wu, F., Tian, S. Q., & Dai, X. J. (2020). Catch rate and stock status of blue shark in the Pacific Ocean inferred from fishery-independent data.
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**Consultations-Planned/Undertaken:** planned workshop with Parties and relevant stakeholders to implement the concerted actions listed herein.

# **ANNEX**

Activity list under this Concerted Actions for blue shark. This detailed activity list is intended to guide positive change for the species under CMS and can be expanded and molded into a conservation action plan for the species.

Act	ivity	Expected Outcomes	Timeframe	Entity responsible for implementation	Indicators for success
		Managei	ment	·	
1.	Encourage Parties to engage with CITES for the development of non-detriment findings.	NDFs conducted	2024-2026	NGOs, experts	International trade from sustainable populations
2.	Support Parties with recommendations for a species management plan for the blue shark, through consultation and collaboration, and in-line with the IUCN SSC SSG Conservation Strategy for Pelagic Sharks and Rays.	Species Management Plans for the blue shark	2025	NGOs, experts	Successful long-term management of the blue shark
3.	Develop recommendations for Parties to work with t-RFMOs, in line with the IUCN SSC SSG Conservation Strategy and Action Plan for Pelagic Sharks and Rays.	Cooperation between stakeholders	2025-2026	NGOs, experts	Active stakeholder engagement and data reporting
Are	ea-based management/critical habitats				
4.	Encourage the protection of blue shark critical habitats (i.e. feeding or mating habitats) and migratory routes.	Established network of MPAs for key blue shark habitats and migratory routes	2025	CMS Parties (and non-Party Range States)	Critical habitats for blue sharks effectively managed
		International c	ooperation		
5.	Support the coordination with RMFOs to encourage information and knowledge exchange.	RMFOs knowledge exchanges	2024 – 2025	CMS Parties	A coordinated network of knowledge exchange across RFMOs
6.	Engage non- Party Range States in the conversation to protect blue sharks and encourage their integration.	non-CMS Party Range States become engaged in the implementation of this CA	2024 – 2025	CMS Parties	non-CMS Party Range States engaged
7.	Develop action plans for the conservation of blue sharks.	National blue shark conservation action plans in Party Range States developed	2024 – 2026	CMS Parties (and non-Party Range States)	All Party Range States developing shark National Action Plans

Act	ivity	Expected Outcomes	Timeframe	Entity responsible for implementation	Indicators for success
8.	Develop regional action plans to foster cooperation between Party Range States with connected populations.	Regional conservation action plans developed	2024 – 2026	CMS Parties (and non-Party Range States)	Regional Action Plan committee formed with the aim of coordinating Parties.
9.	Develop guidelines from countries with established blue shark tourism (e.g. Azores, UK, South Africa).	Protocols for responsible blue shark tourism interaction established	2024	CMS Parties (and non-Party Range States)	All Parties with tourism activities implementing or incorporating the implementation of good practices into their tourism management plans
		Resear	ch		·
10.	Support the assessment into the impacts of fisheries on blue shark interactions (fisheries-induced mortality, discards to design mitigation strategies	<ul> <li>Interactions         incidence and         mortality rates         determined;</li> <li>Proposals to reduce         risk of interactions of         blue sharks         produced;</li> <li>Effects of fisheries         interaction on blue         shark populations         assessed</li> </ul>	2024 – 2026	CMS Parties (and non-Party Range States)	80% of Party Range States developing research on interactions and catch risk.
11.	Support the identification of sub-population and genetic differences (to support regional TACs through fisheries-independent data)	Sub-populations identified	2025	CMS Parties (and non-Party Range States)	All management units /populations/ stocks genetically identified.
	Support the assessment of post-release mortality of blue sharks across regions, demographics and fishing gears	Post-release survival for blue sharks determined.	2024 – 2026	CMS Parties (and non-Party Range States)	Good knowledge of species- specific post-release survival across gears and regions.
13.	Identify inconsistencies in the level of protection ensured by different Party Range States.	Protection gap analysis undertaken.	2024	NGOs	All of Party Range States with gaps identified
14.	Identify critical habitats and understand the connectivity and migrations	<ul> <li>Critical areas</li> <li>identified;</li> <li>Migratory routes</li> <li>identified;</li> </ul>	2024 – 2025	NGOs/Research groups	A global database of blue shark key habitats and key migratory routes PACs identified.

Activity	<ul> <li>Expected Outcomes</li> <li>Priority areas for conservation (PAC) identified.</li> </ul>	Timeframe	Entity responsible for implementation	Indicators for success
<ol> <li>Support assessments into the impacts of climate change on blue sharks by stock or region</li> </ol>	Vulnerability and impacts of climate change on blue shark populations better understood.	2025	NGOs/Research groups	Risk assessments done to define blue sharks' vulnerability to climate change