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OF WILD FAUNA AND FLORA



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NOTES ON THE PROPOSAL FOR INCLUSION OF REQUIEM SHARKS (FAMILY: CARCHARHINIDAE)
IN APPENDIX II OF CITES IN RELATION TO GLOBAL MANAGEMENT DEFICIENCIES

1. This document has been submitted by Sri Lanka in relation to CoP19 Proposal 37^{*}.
2. This document was produced jointly with TRAFFIC and provides comments on the proposal for inclusion of requiem sharks (Family: Carcharhinidae) in Appendix II of CITES from the perspective of the research done on their global management.

Highlights

- M-Risk is a new framework to assess global fisheries management efficacy of sharks, rays, and chimaeras¹
- Requiem sharks are **globally distributed and highly threatened (70%)** as per the IUCN Red List of Threatened Species
- Globally, they are taken in both **targeted fisheries as well and landed as retained incidental catch in global fisheries** across the range of scales (subsistence, artisanal, commercial) and operating with many gears (for example, longline, trawl, hook and line, gillnet, etc.).

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

1 Sherman, C.S., Sant, G., Simpfendorfer, C.A., Digel, E.D., Zubick, P., Johnson, G., Usher, M., and Dulvy, N.K. 2022a. M-Risk: A framework for assessing global fisheries management efficacy of sharks, rays and chimaeras. *Fish and Fisheries* 10.1111/faf.12695.

- A new study² finds that, globally, requiem sharks are undermanaged, with range states having just half (50%) of the necessary management in place.
- Requiem sharks comprise **over half (60%) the reported annual global sharks and ray catch** globally and **over three quarters (up to 86%) of species included in the international fin trade**

Background

The requiem sharks (family Carcharhinidae) are a recent radiation found throughout tropical and subtropical waters and have historically dominated the shark catches of coastal fisheries (Lam and Sadovy de Mitcheson 2011). We estimated risk due to overexploitation based on the current state of global fisheries management for all 56 species from the family Carcharhinidae using a novel rapid assessment of management risk (M-Risk) (Sherman et al. 2022a).

M-Risk assessments are completed by scoring the efficacy of 21 different attributes related to fisheries management under five classes; Management System [$n=5$ attributes], Fishing Practices & Catch [$n=5$], Compliance, Monitoring & Enforcement [$n=5$], and two that were specific to either a country ($n=4$) or RFMO (Regional Fisheries Management Organizations; $n=2$), depending on the management unit being assessed. Attributes were scored in an ordinal manner on a Likert scale such that higher scores indicated management with a higher likelihood of sustainable outcomes (for full details see Sherman et al. 2022a). Assessments were independently completed using only publicly available data. The final management score was calculated as a percentage towards ‘ideal’, such that a higher score indicated better management.

In total, 831 assessments were completed across 30 countries and four tuna-RFMOs (Sherman et al. 2022b). Countries were selected based on their proportional contribution to global shark catch, ensuring global representation of all FAO fishing areas. Assessments were completed for all 56 species of Carcharhinidae in each management unit they occurred in. Therefore, species with global distributions were assessed in more management units than species with more restricted distributions. In addition to management assessments, we searched for all published lists of market surveys and shipment seizures identifying species through DNA barcoding to determine the species from the family included in international trade.

Findings

We found that overall, Carcharhinidae have only half of the ‘ideal’ management globally (Sherman et al. 2022b). Countries with the lowest management scores for requiem sharks were among the top 20 shark catching countries globally (Okes and Sant, 2019). Regionally, Oceania had the highest average management score and Africa had the lowest. The species most at-risk due to undermanagement (lowest management scores) that were assessed in at least three

2 Sherman, C.S., Digel, E.D., Zubick, P., Eged, J., Haque, A.B., Matsushiba, J.H., Simpfendorfer, C.A., Sant, G., and Dulvy, N.K. 2022b. High overexploitation risk due to management shortfall in highly traded requiem sharks. *bioRxiv* 10.1101/2022.06.09.495558.

countries were broadfin shark (*Lamiopsis temminckii*), blackspot shark (*Carcharhinus sealei*), and spadenose shark (*Scoliodon laticaudus*), respectively (**Table 1**). Almost half (48%: 27 of 56 species) of requiem sharks have less than 50% of 'ideal' management across their geographic ranges and of those species, 20 (74%) are listed in a threatened category as per the IUCN Red List (Dulvy *et al.* 2021).

Particular attributes that received low scores across requiem shark species were the management units understanding of a species' stock status (average score: 18%), species-specific compliance measures to reduce fishing mortality (21%), and taxonomic resolution of landing limits in place, if any limits existed (21%), respectively (Sherman *et al.* 2022b). This indicates that despite their high catch and trade volumes, there is little focus on management of requiem sharks or understanding of their stocks. Some species did have significantly higher than average scores for landing limits (i.e., the CITES Appendix II listed oceanic whitetip (*C. longimanus*) and silky shark (*C. falciformis*), which scored 66% and 50% in that attribute, respectively, compared to the 21% average across the whole family).

At least 39 species have been documented in the international shark fin markets in Hong Kong and Guangzhou, China. The Carcharhinidae family makes up 75% of the fin trade in these markets (Cardeñosa *et al.* 2020). Globally, at least 45 species, and up to 48 species from the family, have been documented in the international fin trade either through market sampling or shipment seizures (Sherman *et al.* 2022b). Of the shark and ray catch reported to FAO, 66% was reported as superorder (Selachimorpha) or higher (Elasmobranchii or Chondrichthyes). Of the catch reported below Order, 60% of the volume comprised requiem sharks (FAO, 2019). Based on the under-reporting of shark catch to the FAO by up to four times (Clarke *et al.* 2006), the true volume of Carcharhinidae catch is likely closer to 1,755,200 mt per year and possibly higher if the broad catch reporting includes Carcharhinids. This means there is limited understanding of the true catch and trade volume of requiem sharks, despite their prevalence in international trade and global catch.

Conclusions

Listing on CITES Appendix II ensures that specimens cannot be traded unless they are legally acquired from a sustainable fishery as determined through an NDF, and the exporting country has permits. Hence, such a listing would incentivise assessment and management of national fisheries in addition to improving traceability of shark products. We identified significantly higher scores in species-specific attributes, like landing limits, for the two species of the Carcharhinidae family already listed on CITES (oceanic whitetip and silky shark). **This indicates that CITES listing can be a tool for species control and recovery, as long-term sustainability is only possible through immediate action.**

Table 1. Average management score for each Carcharhinidae species including the number of management units the species was assessed in, whether they have been identified in international trade, and their IUCN status (summarized from Sherman *et al.* 2022b supp. material).

* indicates lead species in proposal, *** indicates species already listed on CITES Appendix II. An 'M' in the column of 'Identified in Trade?' means genetic testing indicated the species could be included, but was not possible to confirm to the species level.

Common Name	Latin Name	Average Management Score (out of 100)	No. Management Units Assessed	Identified in Trade?	IUCN Status
Creek Whaler	<i>Carcharhinus fitzroyensis</i>	73.14	1	Y	LC
Blacknose Shark *	<i>Carcharhinus acronotus</i>	62.38	4	Y	EN
Atlantic Sharpnose Shark	<i>Rhizoprionodon terraenovae</i>	61.10	3	Y	LC
Caribbean Reef Shark *	<i>Carcharhinus perezi</i>	60.28	3	Y	EN
Finetooth Shark	<i>Carcharhinus isodon</i>	59.60	5	Y	NT
Smalltail Shark *	<i>Carcharhinus porosus</i>	59.22	5	Y	CR
Australian Blackspot Shark	<i>Carcharhinus coatesi</i>	59.08	3	Y	LC
Galapagos Shark	<i>Carcharhinus galapagensis</i>	58.47	10	Y	LC
Nervous Shark	<i>Carcharhinus cautus</i>	58.40	2	N	LC
Australian Blacktip Shark	<i>Carcharhinus tilstoni</i>	58.39	3	M	LC
Daggernose Shark *	<i>Isogomphodon oxyrinchus</i>	58.33	1	N	CR
Australian Sharpnose Shark	<i>Rhizoprionodon taylori</i>	56.77	2	Y	LC
New Guinea River Shark	<i>Glyphis garricki</i>	56.71	2	Y	VU
Speartooth Shark	<i>Glyphis glyphis</i>	56.71	2	Y	VU

Common Name	Latin Name	Average Management Score (out of 100)	No. Management Units Assessed	Identified in Trade?	IUCN Status
Blue Shark	<i>Prionace glauca</i>	55.49	33	Y	NT
Oceanic Whitetip ***	<i>Carcharhinus longimanus</i>	55.08	29	Y	CR
Bronze Whaler	<i>Carcharhinus brachyurus</i>	54.89	19	Y	VU
Brazilian Sharpnose Shark	<i>Rhizoprionodon lalandii</i>	54.44	1	Y	VU
Silky Shark ***	<i>Carcharhinus falciformis</i>	53.62	27	Y	VU
Lemon Shark	<i>Negaprion brevirostris</i>	53.60	5	Y	VU
Night Shark *	<i>Carcharhinus signatus</i>	53.58	9	Y	EN
Pacific Sharpnose Shark	<i>Rhizoprionodon longurio</i>	52.75	4	Y	VU
Dusky Shark *	<i>Carcharhinus obscurus</i>	52.62	15	Y	EN
Whitenose Shark *	<i>Nasolamia velox</i>	51.66	4	N	EN
Pacific Sharpnose Shark *	<i>Carcharhinus cerdale</i>	51.34	3	N	CR
Bignose Shark	<i>Carcharhinus altimus</i>	51.11	17	Y	NT
Caribbean Sharpnose Shark	<i>Rhizoprionodon porosus</i>	50.60	2	Y	VU
Sandbar Shark *	<i>Carcharhinus plumbeus</i>	50.45	22	Y	EN
Silvertip Shark	<i>Carcharhinus albimarginatus</i>	50.16	15	Y	VU
Common Blacktip Shark	<i>Carcharhinus limbatus</i>	48.41	28	Y	VU
Bull Shark	<i>Carcharhinus leucas</i>	47.79	21	Y	VU
Spinner Shark	<i>Carcharhinus brevipinna</i>	46.45	21	Y	VU
Graceful Shark	<i>Carcharhinus amblyrhynchoides</i>	45.34	10	Y	VU

Common Name	Latin Name	Average Management Score (out of 100)	No. Management Units Assessed	Identified in Trade?	IUCN Status
Grey Reef Shark *	<i>Carcharhinus amblyrhynchos</i>	44.87	13	Y	EN
Whitetip Reef Shark	<i>Triaenodon obesus</i>	44.40	14	Y	VU
Sicklefin Lemon Shark *	<i>Negaprion acutidens</i>	44.13	12	Y	EN
Spottail Shark	<i>Carcharhinus sorrah</i>	43.88	14	Y	NT
Blacktip Reef Shark	<i>Carcharhinus melanopterus</i>	43.83	16	Y	VU
Milk Shark	<i>Rhizoprionodon acutus</i>	42.47	17	Y	VU
Hardnose Shark	<i>Carcharhinus macloti</i>	41.77	13	Y	NT
Sliteye Shark	<i>Loxodon macrorhinus</i>	41.22	14	Y	NT
Whitecheek Shark *	<i>Carcharhinus dussumieri</i>	41.19	4	Y	EN
Pigeye Shark	<i>Carcharhinus amboinensis</i>	41.14	13	Y	VU
Pondicherry Shark *	<i>Carcharhinus hemiodon</i>	41.14	4	N	CR
Smoothtooth Blacktip *	<i>Carcharhinus leiodon</i>	40.13	3	Y	EN
Pacific Spadenose Shark	<i>Scoliodon macrorhynchos</i>	39.38	4	Y	NT
Grey Sharpnose Shark	<i>Rhizoprionodon oligolinx</i>	39.04	7	Y	NT
Lost Shark *	<i>Carcharhinus obsoletus</i>	38.60	1	N	CR(PE)
Ganges Shark *	<i>Glyphis gangeticus</i>	38.42	3	M	CR
Indonesian Whaler Shark	<i>Carcharhinus tjutjot</i>	37.84	3	Y	VU
Borneo Shark *	<i>Carcharhinus borneensis</i>	37.59	2	N	CR
Borneo Broadfin Shark *	<i>Lamiopsis tephrodes</i>	37.59	2	M	EN
Spadenose Shark	<i>Scoliodon laticaudus</i>	36.80	3	Y	NT

Common Name	Latin Name	Average Management Score (out of 100)	No. Management Units Assessed	Identified in Trade?	IUCN Status
Blackspot Shark	<i>Carcharhinus sealei</i>	36.26	3	Y	VU
Broadfin Shark *	<i>Lamiopsis temminckii</i>	36.08	3	Y	EN
Human's Whaler Shark	<i>Carcharhinus humani</i>	30.99	1	N	DD

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