

A BRIEF OVERVIEW OF SHARK AND RAY FISHERIES AND TRADE IN SRI LANKA



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Executive Summary

Sri Lankan waters are home to over 100 species of sharks and rays and at least 64% of them are considered threatened by the IUCN Red List. Of these, 20 are listed on the CITES Convention (2 on Appendix I and 18 on Appendix II), 20 on the CMS Convention (10 on Appendix I and 19 on Appendix II), and 20 on the CMS Sharks MoU. Studies show that Sri Lankan fisheries capture the most silky sharks in the Indian Ocean and the highest number of mobulid rays in the world, exceeding even that of global tuna purse seine fisheries combined. Species like *Mobula mobular* are being fished at rates exceeding their intrinsic population growth rate while other scientific information from the wider region indicates that declines in shark landings are far likely due to declining populations rather than a reduction in effort or from transitions out of shark fisheries.

With 22 major fishing harbours (21 currently operational) and an additional 883 minor fish landing centres along the entire 1,340 km coastline, monitoring is extremely challenging. This was demonstrated by a case study focusing on a 15 km stretch of coastline on the east coast of Sri Lanka, which revealed an extremely high number of vessels and landing sites within proximity to each other. When extrapolated, these figures are relatable to national statistics of registered vessels and total number of landing sites but at the same time highlights the scale and likely impact of such fisheries. It becomes apparent that conducting frequent and regular species-specific surveys across all landing sites in the country is not feasible for sharks and rays, let alone most other marine species.

The value and demand for sharks and rays and their derivatives, for national consumption and international trade, drive these fisheries. While target fisheries for deep-sea sharks or coastal sharks and rays exist at small scales in Sri Lanka, most landings are in the form of bycatch in tuna and billfish fisheries that are operating single- and multi-day vessels in both coastal and offshore waters. However, there are some reports of Sri Lankan fishers leaving national waters to target sharks in the high seas, and occasionally even illegally in foreign waters.

While Sri Lanka is publicly supportive of global shark and ray conservation efforts, such as at the CITES and CMS Conventions, there is limited national management in place. At present, aside from requiring all sharks to be landed with fins attached to the body, only five species enjoy legal protection: the pelagic thresher sharks (*Alopias pelagicus*), bigeye thresher sharks (*A. superciliosus*), common thresher sharks (*A. vulpinus*), oceanic whitetip sharks (*Carcharhinus longimanus*), and whale sharks (*Rhincodon typus*). Fishing regulations, such as the prohibition on bottom trawling or dynamite fishing are poorly enforced. Other IUU fishing practices continue, such as Sri Lankan vessels illegally encroaching into other Indian Ocean countries, and traders or companies (intentionally or otherwise) illegally exporting shark and ray products without permits or by mislabelling them. Many MPAs remain as paper parks with limited enforcement. Some legal gaps remain for CITES and to date, there is no regulation to implement CMS.

Efforts to strengthen enforcement of high seas fishing regulations, improve licensing of multi-day vessels operating outside the EEZ, and introduce and expand VMS, are promising. However, as the high seas vessels only comprise an extremely small proportion of national fishing effort, there is still much to be done. National policies to increase fish landings, consumption, and export revenue come in conflict with the need to regulate fisheries through controls on fishing effort and increasing management of multispecies fisheries with high levels of bycatch.

High trade of shark and ray products (export and import), along with discrepancies and gaps in data across national and international databases makes it challenging to obtain a clear image of the extent of trade, trends, and any potentially illegal activities. Some understanding of illegal trade is available through seizures undertaken by Sri Lankan enforcement agencies (Sri Lanka Customs, Sri Lanka Coastguard etc.), in addition to seizures by other countries involved in the IUU fishing or trade. Certain unusual records, for instance in the CITES trade database, are also cause for concern (e.g., the export of *Carcharhinus longimanus* fins in 2020 despite these species being fully protected in Sri Lanka since 2015, or records where the volume stated on the export permit did not match with the volume recorded in the importing country, or the exportation of several CMS Appendix I listed species in contravention of obligations to the CMS Convention).

Sri Lanka, as a founding member of the Indian Ocean Tuna Commission (IOTC), is well placed to take a leadership role in improving shark and ray conservation across the region. This would not just benefit the species but also safeguard national fisheries resources that are at times being encroached or exploited by other countries. Recommendations to improve the protection and management of these conservative and slow-growing species are outlined in this document under the following topics:

1. strengthening legislation to improve implementation of national policies and international biodiversity conventions,
2. improving research, data collection, and data sharing, and
3. implementing a recovery plan for species, including interim measures.

List of Abbreviations & Acronyms

Artisanal fleet	Artisanal fishing vessels are those under 24 meters in length. In 2019, only 23 out of the >50,000 vessels registered in Sri Lanka were over 24 meters in length (industrial/commercial vessels)
BEEZ	Beyond the EEZ
Bycatch	The incidental capture of a species that is often landed for its value (also referred to as “secondary catch” or “non-directed catch”)
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species of Wild Animals
CPUE	Catch Per Unit Effort
DFAR	The Department of Fisheries and Aquatic Resources
DG	Director General
DWC	The Department of Wildlife Conservation
EEZ	Exclusive Economic Zone
Elasmobranchs	All sharks and rays
FARA	The Fisheries and Aquatic Resources Act
FFBA	The Fisheries Regulation of Foreign Fishing Boats Act
FFPO	The Fauna and Flora Protection Ordinance
Finning	The act of removing the fins and disposing of the carcass at sea
FMA	Fishery Management Area
HS	High Seas
HS Codes	Harmonized System Codes
IDAY	Inboard single-day boats


IFS	Introduction From the Sea (for CITES)
IMUL	Inboard multi-day boats
IOTC	Indian Ocean Tuna Commission
IUU	Illegal, unreported, and unregulated fishing
MPA	Marine Protected Area
MTRB	Motorized traditional boats
NARA	National Aquatic Resources Research and Development Agency
NDF	Non-detriment finding (for CITES)
NTRB	Non-motorized traditional boats
OFRP	Out-board engine fiberglass reinforced plastic boats
REC	Recreational boats
Shark	FAO definition: all sharks, rays, and chimaeras
TAC	Total allowable catch
VMS	Vessel monitoring system

1. General Overview of Sri Lankan Fisheries

Sri Lanka is an island country situated within the Bay of Bengal. It has a coastline of over 1,340 km and an Exclusive Economic Zone (EEZ) of 532,619 km² within FAO areas 51 and 57. Around 32% of the estimated population of over 21 million live in coastal areas, and fisheries are extremely important for food security, livelihoods, and export earnings (Table 1). The high population density (338/km²) has resulted in significant pressures on national fishery resources. Most coastal and offshore marine resources are over-harvested and declines in catch per unit effort and fish size have been noted for some commercially valuable species^{1,2}.

Sri Lanka depends on marine fisheries as an essential source of protein, with over half of national animal protein consumed originating from seafood. High-value species include Spanish mackerel, horse mackerel, trevally, tunas, and tuna-like species. There is also significant consumption of sharks and rays, and small pelagics such as sardines, herrings, anchovies, and Indian mackerel. Since the 1950s, Sri Lanka has supplemented local fish production with cheap imports to meet domestic demand. Currently Sri Lanka imports over 70,000 tonnes of dried and canned fish annually (Table 1).

Table 1: Fish production in Sri Lanka (2019)³

Marine Fish Production:	415,490 Mt		Seer	7,740 (2%)
Inland/Aquaculture Fish Production:	90,340 Mt		Trevally	21,070 (5%)
Total Fish Production:	505,830 Mt		Skipjack tuna	47,230 (11%)
			Yellowfin Tuna	44,760 (11%)
Total Import Volume:	95,637 Mt		Other tuna-like	44,710 (11%)
Total Export Volume:	28,771 Mt		Billfish	32,200 (8%)
Nationally Consumed/Used:	572,696 Mt		Sharks/rays	14,240 (3%)
			Rock fish	27,950 (7%)
Volume of Tuna Export:	14,252 Mt (49.5%)		Small fishes	119,500 (29%)
Tuna Export to the EU:	5,200 Mt (36.5%)		Shrimps	16,930 (4%)
			Lobsters	470 (0%)
Dry Fish Imports:	34,969 Mt (36.6%)		Crabs	13,600 (3%)
Canned Fish Imports:	36,806 Mt (38.5%)		Others	25,090 (6%)
			TOTAL:	415,490 (100%)
Population:	21,803,000			
Per capita fish consumption:	16.6 kg/year <i>(of which, 7.5% is likely shark)</i>			

¹ Gunasekara et al., 2019. Online at: <https://www.researchgate.net/publication/336034463> Historical changes in demersal fish stocks abundance and distribution of Sri Lanka

² Athukoorala et al., 2021. Online at: <https://www.sciencedirect.com/science/article/abs/pii/S0165783621001454>

³ Ministry of Fisheries & Aquatic Resources, 2020. Online at: <https://www.fisheriesdept.gov.lk/web/images/Statistics/FISHERIES-STATISTICS--2020-.pdf>

Coastal, offshore, and inland fisheries together employ around 224,610 active fishers and land approximately 505,830 tonnes of fish annually. Data does however suggest that fish catches are significantly higher than reported, largely due to poor information on artisanal fisheries, discarded bycatch, ghost nets, and IUU fisheries. A historical fisheries reconstruction for the period from 1950 to 2008 estimated the total catch to be 18 million tonnes, in contrast to official landings of 8.4 million tonnes. There has been a push to expand offshore fisheries to increase total catch and in recognition of the fact that coastal resources are overexploited. Offshore fisheries have also been identified as a more viable source of high value export-oriented species, including tuna. However, despite the increase in multi-day fishing vessels and other offshore industrial craft, the largest component of the marine fishing fleet continues to consist of small OFRP (out-board engine fiberglass reinforced plastic boats) boats with outboard motors, as well as non-motorized traditional craft.

Table 2: Registered vessels and vessel types in Sri Lanka⁴

Type of Vessel	Length Overall (m)	Registered Vessels	
		No.	%
Beach Seine Craft	4 - 9 m	1,287	3
Non-Motorised Traditional Boats	4 - 9 m	16,312	33
Motorised Traditional Boats	4 - 11 m	2,140	4
OFRP Boats	5.5 - 5.7 m	23,404	48
Single-Day Boats	8.5 - 9.8 m	948	2
Multi-Day Boats	10.5 - 28.5 m	4,885	10
Total Number of Vessels:		48,976	

Table 3: The number of Sri Lankan vessels operating in the high seas⁵

Year	Total (EEZ+HS)	Authorised (HS)	Active
2014	4294		2241
2015	4294	2470	1615
2016	4485	1603	1577
2017	4572	1536	1461
2018	4601	1337	1164
2019	4878	1449	1182

The total fishing fleet of Sri Lanka comprises just under 49 thousand vessels (Table 2 and 3), of which 23 vessels are >24 meters in length and only 1,449 were authorised to fish in the high seas (beyond the national EEZ) in 2019⁶. All high seas operating vessels must have operational VMS onboard, however some records of VMS being turned off has been documented⁷ in

⁴ Ministry of Fisheries & Aquatic Resources, 2020. Online at: <https://www.fisheriesdept.gov.lk/web/images/Statistics/FISHERIES-STATISTICS--2020-.pdf>

⁵ IOTC-2020-SC23-NR21. Available at: <https://www.iotc.org/documents/SC/23/NR21>

⁶ IOTC-2020-SC23-NR21. Available at: <https://www.iotc.org/documents/SC/23/NR21>

⁷ Collins et al., 2021. Online at: <https://www.frontiersin.org/articles/10.3389/fmars.2021.650276/full>

addition to many VMS being inactive, likely due to malfunctioning equipment because of age⁸. A new project funded by Australia is expected to provide new VMS units to existing and other vessels. Vessels operating within the EEZ are not required to have VMS and could in theory stray into international waters with low chances of being detected.

⁸ President's Media Division. Online at: <https://www.pmdnews.lk/සිසිට්%20%80%8Dජේලියාවෙන්-මෙරටට-බ/>

1.1 A case study to highlight the scale of Sri Lankan fisheries

While there are 22 major fishery harbours, of which 21 are currently in operation, it is estimated there are at least another 883 minor fish landing centres⁹. These landing centres (or sites) are found along the entire coastline of Sri Lanka, making fisheries monitoring extremely challenging. To demonstrate the scale of this issue, a 15 km stretch of coastline was selected on the east coast of Sri Lanka for an intensive survey (Figure 1 and Table 4). Of course, as vessels keep moving about or heading out to sea or returning, these figures are not absolute counts but rather a snapshot in time collected across 1 week in May 2021. The results demonstrate both the number of vessels and the number of landing sites within proximity to each other and highlight the challenges of surveying a 15 km stretch of coastline to document fishery landings, let alone the problem when this is scaled to a national level (1,340 km of coastline). It quickly becomes evident that daily, detailed surveys at all landing sites in Sri Lanka is not possible with the current national fisheries structure in place.

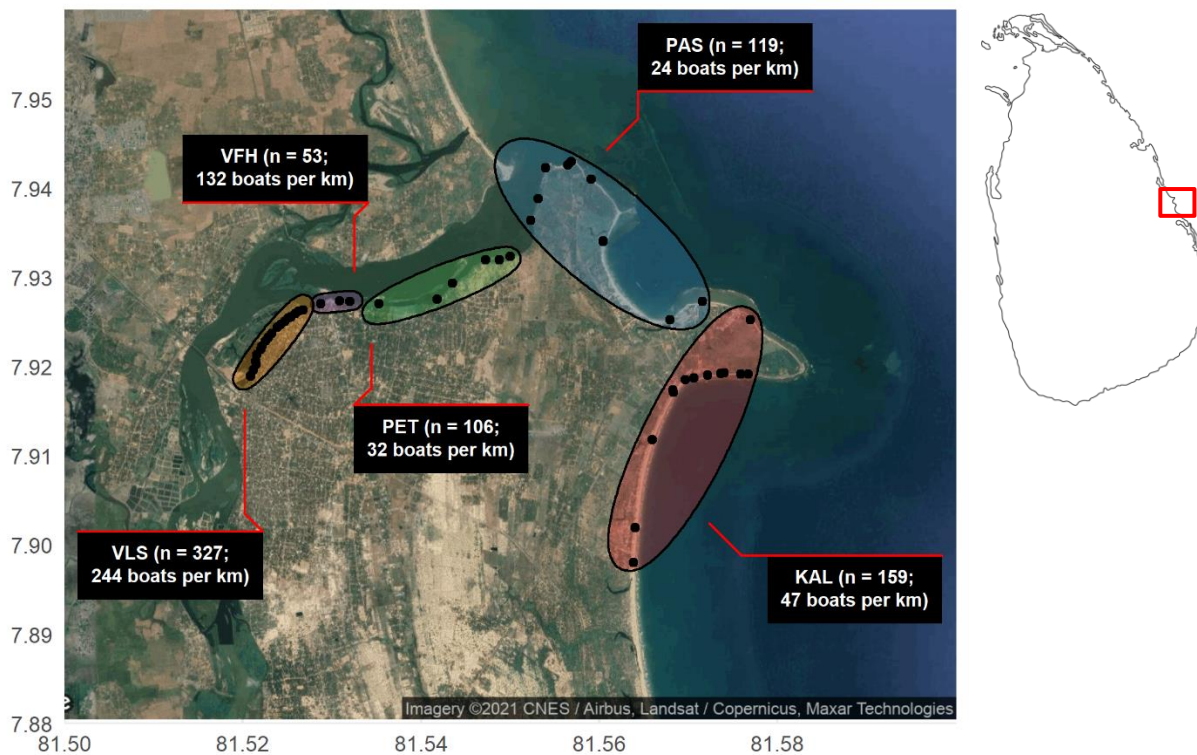


Figure 1 - The number of marine vessels documented in a 15 km stretch of coastline (and estuary) on the east coast of Sri Lanka. Each black dot corresponds to a landing site. These sites have been grouped as follows. VLS: Valaichchenai Landing Sites, VFH: Valaichchenai Fisheries Harbour, PET: Pethalai Landing Sites, PAS: Passikudah Landing Sites, KAL: Kalkudah Landing Sites. A more detailed breakdown by sector is available in [Appendix 7.1](#).

⁹ Ministry of Fisheries & Aquatic Resources, 2020. Online at: <https://www.fisheriesdept.gov.lk/web/images/Statistics/FISHERIES-STATISTICS--2020-.pdf>

Table 4: The vessel type, gear, target species, and other information available for each sector of the 15 km survey.

Boat type (%)	Cluster	Count	Gear *	Target species †	Additional info
IMUL ‡ n = 289 (37.83%)	VLS	n = 239 (83%)	Gillnets Longlines	Yellowfin Tuna, Swordfish, Shark, Marlin, Black Marlin, Skipjack Tuna, Sailfish	Trip duration: about 10 days Frequency: variable as it depends on income earned on the previous trip, weather conditions, local religious events etc.
	VFH	n = 45 (16%)	Gillnets Longlines		
	PET	n = 5 (2%)	Gillnets	Indo-Pacific King Mackerel, Marlin	Active: Only 4 All the boats (5) were recorded from one site Trips: 3 days (mostly), 10 days (occasionally)
	PAS	0			
	KAL	0			
OFRP n = 210 (33.77%)	VLS	n = 35 (17%)	Hook and line	Stingray, Trevally, Barracuda, Spanish Mackerel, Queenfish	
	VFH	n = 5 (2%)		Sardinella, Small Barracuda, Stingrays, Trevally, Barracuda, Goldbanded Jobfish, Red Snapper, Spanish Mackerel, Queenfish, Emperor	All the boats (5) were recorded from one site
	PET	n = 65 (31%)	Gillnets Longlines	Bluespotted Maskray, Lobster, Ponyfish, Flyingfish, Anchovy, Sardines, Flounder Groupers, Tuna (Skipjack Tuna) Trevally, Indo-Pacific King Mackerel, Spanish Mackerel	Seasonal shifts in target fishery
	PAS	n = 53 (25%)	Gillnets	Sardine, Indian Mackerel, Barracuda	All the boats (53) were recorded from one site They do not fish on full moon days (usually), Fridays (sometimes)
	KAL	n = 52 (25%)			
NTRB n = 258 (27.49%)	VLS	n = 53 (21%)			
	VFH	n = 3 (1%)			All boats (3) were recorded from one site
	PET	n = 35 (14%)	Hook and line Gillnets	Bluespotted Maskray, Whipray	Most of the boats collect clams from Jan to Oct/Sep

Boat type (%)	Cluster	Count	Gear *	Target species †	Additional info
REC n = 6 (0.92%)	PAS	n = 65 (25%)	Hook and line Gillnets	Rockfish (Red Snapper), Crab (occasionally), Trevally, Queenfish, Ribbonfish	
	KAL	n = 102 (40%)	Beach seine		20% (53) of this cluster's boats were recorded from one site
	VLS	0			
	VFH	0			
	PET	n = 1 (14%)			1 boat was near a restaurant, probably used for water safaris
	PAS	n = 6 (86%)			These are vessels for (local and international) tourists to show coral reefs
	KAL	0			

* There are additional variations within the gear types as well, such as different mesh sizes for gillnets, surface gillnets, mid-water gillnets, grouper longlines, yellowfin longlines etc.

† The bycatch from all vessels (apart from the recreational vessels) includes sharks.

‡ This may contain IDAY (Inboard Single-day Boats) vessels as it was not possible to distinguish between the two from the shore.

‡ Recreational vessels. While in other parts of the country there are recreational sport fishing vessels that (rarely) incidentally capture sharks, these vessels are purely for water/coral safaris and do not conduct any form of fishing.

2. Shark and Ray Fisheries in Sri Lanka

2.1 Overview

Sharks and rays (elasmobranchs) are a group of cartilaginous fishes that inhabit marine and coastal habitats in both tropical and temperate waters. Many sharks are higher level predators, playing vital ecological roles in the marine environment, including removing weaker individuals and controlling prey numbers. Most elasmobranchs have several conservative biological traits such as slow growth, late maturity, and low fecundity, making them extremely vulnerable to overfishing, with depleted stocks taking an extremely long time to recover. While elasmobranchs have historically been targeted for meat by local fisheries, growing international demand for products such as shark and ray fins, shark liver oil, cartilage, skin, jaws, teeth, and mobulid gill plates have resulted in the rapid expansion of shark and ray fisheries around the world. This increased exploitation has raised global concerns over the sustainability of many elasmobranch fisheries.

The elasmobranch fisheries in Sri Lanka were historically confined to coastal waters with meat being locally consumed. However, with growing domestic markets alongside international demand for products such as fins, the fishing fleet expanded to target offshore pelagic fish stocks; both within and beyond the EEZ. Commercial exploitation by offshore vessels began in the 1950s using large, meshed drift gillnets and longlines, and were rapidly expanded in the mid-1980s, resulting in a peak in the late 1990s. Since the late 1990s/early 2000s, the shark fishery transitioned into a primarily bycatch fishery in the offshore target tuna longline and gillnet fishery. Greater profitability in tuna and billfish fisheries (particularly for export), declining shark and ray catches, and changes to fisheries regulations (i.e., the shark finning ban in 2000) have been attributed to this change. A recent report by the FAO provides some additional insights into shark and ray food security, incomes, and livelihoods for some landing sites on the west coast of Sri Lanka¹⁰.

Shark Catches and Trends:

Despite extensive declines in elasmobranch stocks across the Indian Ocean, there are still considerable fisheries for these species in both coastal and offshore waters. Catch data provided to the FAO between 2000 and 2009 listed Sri Lanka as the 14th largest elasmobranch fishing country, contributing 2.4% (19,988 mt) of global elasmobranch catch¹¹. While data reported to the FAO in 2018 was 2,745 mt, down from 7,501 mt in 2017 (Figure 3)¹², a report from 2019¹³ suggests that in the Indian Ocean, Sri Lanka is presently the largest silky shark catcher and the second largest mobulid ray catcher. A more recent study on the mobulid rays highlights that these species are incidentally caught in nets deployed for tuna and skipjack, and that the numbers landed as bycatch by Sri Lankan vessels are estimated to even exceed

¹⁰ Herath et al., 2019. Online at: <https://www.fao.org/3/ca5641en/CA5641EN.pdf>

¹¹ Lack & Sant 2011. Online at: <https://www.bmis-bycatch.org/references/enum2vx2>

¹² FAO FishstatJ, 2020

¹³ Okes & Sant 2019. Online at: <https://www.traffic.org/publications/reports/an-overview-of-major-shark-and-ray-catchers-traders-and-species/>

the numbers captured by the total global tuna purse seine fisheries, likely making this the largest mobulid fishery in the world¹⁴.

Table 5: Total catch, bycatch, of fish and sharks in Sri Lanka (2014 – 2016)¹⁵

	Total Catch		Total Bycatch		Fish Species		Sharks	
	mt	%	mt	%	mt	%	mt	%
2014	124,804.5		24,389.5	19.5%	21,628.5	17.3%	2,761.0	2.2%
2015	122,090.3		34,651.6	28.4%	32,520.7	26.6%	2,130.9	1.7%
2016	126,791.2		43,873.0	34.7%	41,101.6	32.5%	2,771.4	2.2%
Total	373,656.0		102,884.1	27.6%	95,250.8	25.5%	7,633.3	2.0%
Av.	124,393.1		34,135.8	27.4%	31,750.3	25.5%	2,385.5	1.9%

The Sri Lankan national report to the IOTC in 2019 details that elasmobranchs accounted for 1.9% (1,508 mt) of the total fish catch from Sri Lankan fisheries within and beyond the EEZ (Table 5 for proportions between 2014 and 2016). In contrast, 37% of the total catch was yellowfin tuna, 34% skipjack tuna, 4% bigeye tuna, and 16% billfish (dominated by swordfish)¹⁶. Additionally, the total shark capture from the Indian Ocean (between 2014 and 2016) was 318,079 mt, while Sri Lanka accounted for 7,663.3 mt, or 2.4% of total Indian Ocean shark capture (Table 6). More than 84% of Sri Lanka's total shark catch between 2014 and 2016 originated from vessels operating within the EEZ, however it should also be noted that at times, some EEZ vessels have been suspected to be fishing illegally in the high seas¹⁷.

Table 6: The relative contribution of directed and non-directed shark catches in Sri Lanka compared to entire Indian Ocean shark catch between 2014 and 2016¹⁸

Indian Ocean Shark Catch		Sri Lanka Shark Catch					
Total		Total		EEZ		BEEZ	
Years	mt	mt	%	mt	%	mt	%
2014	94,932.0	2,761.0	2.9%	1,984.9	71.9%	776.1	28.1%
2015	111,094.0	2,130.9	1.9%	1,740.9	81.7%	390.0	18.3%
2016	112,053.0	2,771.4	2.5%	2,496.1	90.1%	275.3	9.9%
Totals	318,079.0	7,663.3	2.4%	6,221.9	81.2%	1,441.4	18.8%

¹⁴ Fernando & Stewart 2021. Online at: <https://doi.org/10.7717/peerj.11994>

¹⁵ Sri Lanka National Plan of Action (NPOA) for Sharks, 2018. Online at: <http://www.fao.org/3/bg315e/bg315e.pdf>

¹⁶ IOTC-2020-SC23-NR21. Available at: <https://www.iotc.org/documents/SC/23/NR21>

¹⁷ Collins et al., 2021. Online at: <https://www.frontiersin.org/articles/10.3389/fmars.2021.650276/full>

¹⁸ Sri Lanka National Plan of Action (NPOA) for Sharks, 2018. Online at: <http://www.fao.org/3/bg315e/bg315e.pdf>

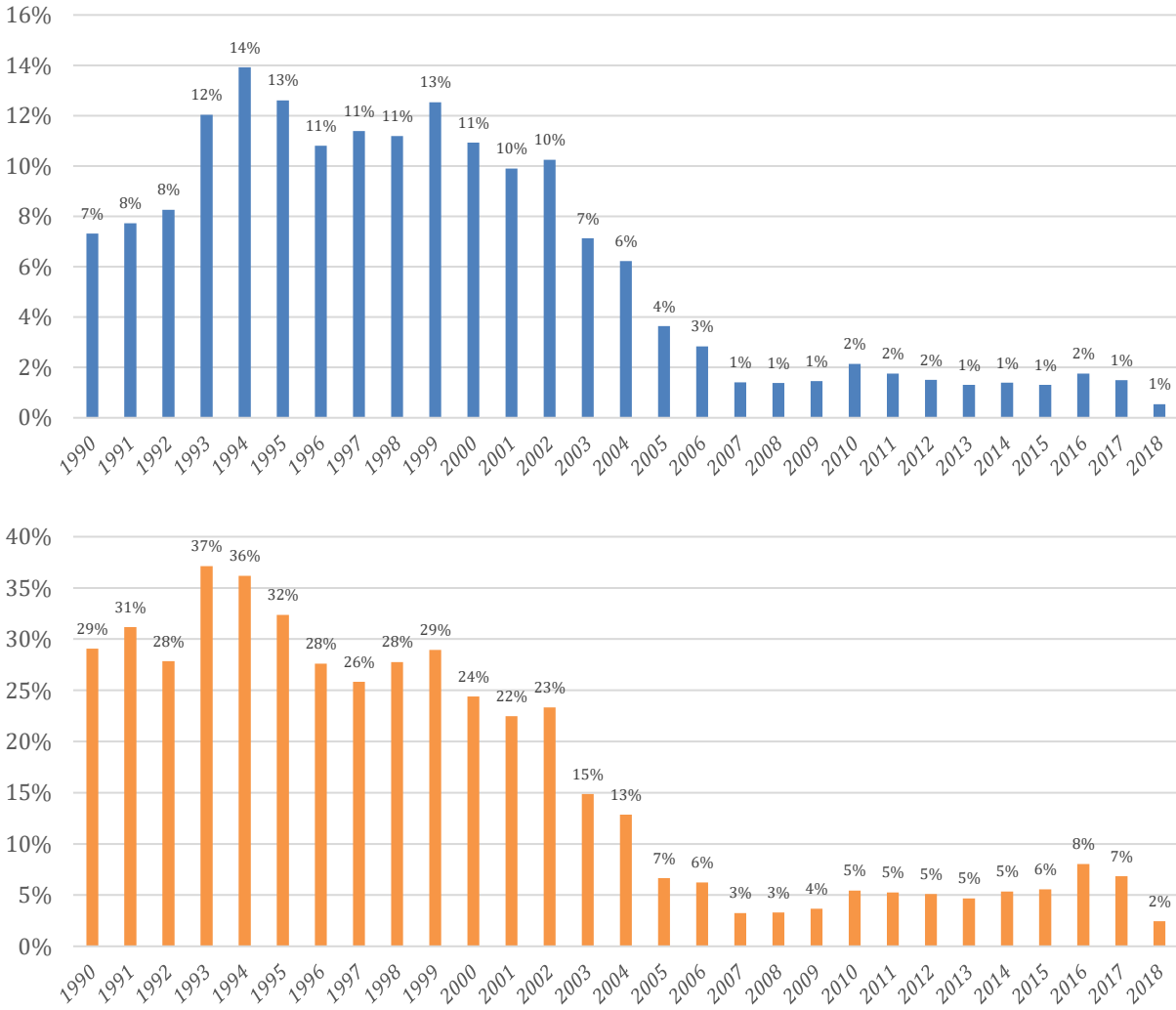


Figure 2 - Above, sharks as a proportion of all other marine catch, and below, sharks as a proportion of the “tunas, bonitos, and billfishes”; both data from Sri Lanka and reported to the FAO.

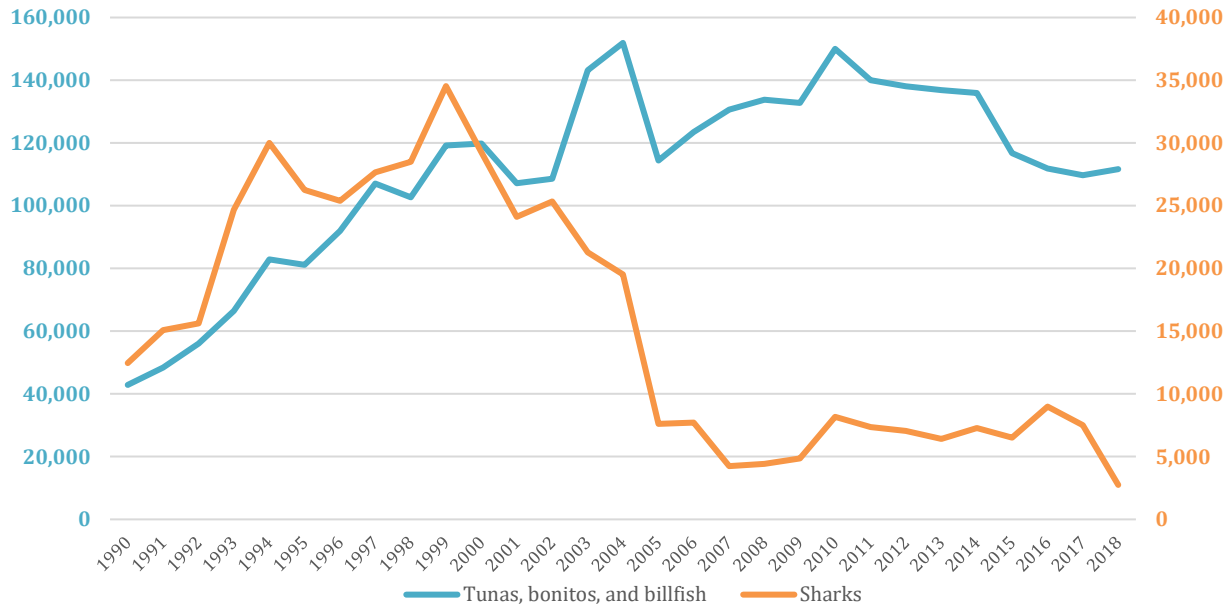


Figure 3 - A comparison of tuna, bonitos, and billfish (left-axis, in blue) and shark (right-axis, in orange) catches between 1990 and 2018, as reported to the FAO¹⁹. The tunas, bonitos and billfish highlights increasing effort and catch, while shark catches decline despite increasing effort.

Declared shark catches in Sri Lanka have steadily been decreasing since its peak in the late 1990s, despite increasing effort (Figures 2-3 and Table 7). De Silva²⁰ notes that some species of reef sharks such as the Zebra Shark (*Stegostoma fasciatum*), Tawny Nurse Shark (*Nebrius ferrugineus*), and Whitetip Reef Shark (*Triaenodon obesus*) have practically disappeared from Sri Lankan waters. Studies on mobulid rays suggest declines over a 9-year period (2011 to 2020) with some species, like *M. mobular*, being fished at rates above their intrinsic population growth rate²¹. Additionally, scientific information from the wider region²² suggests that declines in shark landings are likely a result of declining populations rather than simply a transition away from a shark fishery and to a target tuna fishery.

Table 7: The number of registered fishing vessels from 2010 to 2019 ²³. IMUL operate within and beyond the EEZ, while IDAY operate within the EEZ, and OFRP in coastal waters

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
IMUL:	3,346	3,872	4,080	4,111	4,447	4,218	3,996	4,196	4,581	4,885
IDAY:	1,177	1,120	890	802	876	719	786	868	918	948
SUB-TOTAL:	4,523	4,992	4,970	4,913	5,323	4,937	4,782	5,064	5,299	5,833
OFRP:	18,770	22,890	23,160	23,134	23,982	24,028	24,282	22,394	24,132	23,404
TOTAL:	23,293	27,882	28,130	28,047	29,305	28,965	29,064	27,458	29,631	29,237

¹⁹ FAO FishstatJ, 2020

²⁰ De Silva, R., 2006. Online at: <https://portals.iucn.org/library/sites/library/files/documents/2006-030.pdf>

²¹ Fernando & Stewart 2021. Online at: <https://doi.org/10.7717/peerj.11994>

²² Pacoureaux et al., 2021. Online at: <https://www.nature.com/articles/s41586-020-03173-9>

²³ Ministry of Fisheries & Aquatic Resources, 2020. Online at: <https://www.fisheriesdept.gov.lk/web/images/Statistics/FISHERIES-STATISTICS--2020-.pdf>

Target Shark and Ray Fisheries:

Directed or target fishing for shark and rays is largely restricted to a small number of motorised vessels (<7.0 m) at several locations around the island. One of the prominent target shark fisheries is for shark liver oil, capturing the gulper sharks (*Centrophorus* spp.), while target ray fisheries occur along the north-west and north coasts, bordering the Palk Bay and in the Gulf of Mannar.

Bycatch Shark and Ray Fisheries:

Non-directed or bycatch fisheries are found operating along the entire coastline of Sri Lanka and both within and beyond Sri Lanka's EEZ. The primary gear include gillnets, longlines, trolling, beach seine nets, and ring nets. These are operated by small scale or artisanal (<24 m) and industrial (>24 m) vessels.

Target Fisheries:

The main target fisheries for elasmobranchs in existence at present are fisheries for deep water sharks, skates, and rays. Seasonal fishing for deep water sharks, especially gulper sharks (*Centrophorus* spp.) is carried out in the coastal waters off Baththalanguduwa and Thalawila in the northwest coast, Beruwela in the west coast, Mirissa in the south coast, and Muttur and Valaichchenai in the east coast²⁴. These sharks are targeted for squalene rich liver oil that is exported. It has been reported that this fishery is in decline in recent years, with low production and the lack of appropriate technology being among the primary factors inhibiting the development of a commercial shark liver oil industry in Sri Lanka²⁵. However, low production may also be attributed toward population declines as recorded in other countries where deep sea shark fisheries collapsed within an extremely short period of time²⁶.

Localized, seasonal skate and ray fisheries exist in several places along the coastline, especially in the northern and north-western regions. Fishing is carried out using 5.8 m (19 ft) fiberglass boats with outboard motors and bottom-set gillnets. Until 2012, there was a target fishery for thresher sharks within the Sri Lankan EEZ, carried out predominantly in the southern coastal waters between November and April, using shark long-lines. However, this fishery ceased to exist with the prohibition on catching thresher sharks in 2012, leading to a significant decline of thresher shark landings (Blue Resources Trust, pers. comms and Tables 11-12. Also, Table 24 for implementation of the thresher shark prohibition).

There are also some Sri Lankan fisheries targeting pelagic sharks, even illegally in neighbouring countries such as the British Indian Ocean Territory (BIOT), which is the largest MPA in the Indian Ocean. These non-compliant fishers are primarily motivated by the earnings

²⁴ Blue Resources Trust, unpublished.

²⁵ Sri Lanka National Plan of Action (NPOA) for Sharks, 2018. Online at: <http://www.fao.org/3/bg315e/bg315e.pdf>

²⁶ Norse et al., 2012. Online at: <https://doi.org/10.1016/j.marpol.2011.06.008>

generated from such fisheries²⁷, again highlighting the importance of shark and ray fisheries for local fisher communities.

Fishing Gear:

The primary gear associated with shark and ray landings from Sri Lanka's EEZ, and high seas fishery, are gillnets (Table 8). Between 2014 and 2017, they accounted for 51.6% of total shark and ray catch. Of this, 36.7% were sharks, while the rays accounted for almost two thirds of the capture at 63.3% during this 4-year period. This is followed by longlines accounting for 36.5% of capture (79.9% sharks and 20.1% rays).

The combination of these two gear types (gillnet and longline) are responsible for 88% of shark and ray capture in Sri Lanka. The gillnets can be broken down further into various mesh sizes and the depth at which they are set (surface, midwater, or bottom-set), however catch breakdowns are not available at such higher resolutions of gear type. A smaller number of sharks and rays are also captured by trolling (2.8%), handlines (1.8%), ringnets (4.5%), and beach seines (2.9%). A unique factor about Sri Lankan fisheries is that many vessels (36%) utilise more than one gear type depending on season or target species.

Table 8: Total non-directed shark catch (tonnes) by gear type, cumulative from 2014 – 2017²⁸

Gear Type	All		Sharks		Rays	
Gillnet	5,642.2	51.6%	2,071.4	36.7%	3,570.8	63.3%
Longline	3,989.4	36.5%	3,187.4	79.9%	802.0	20.1%
Trolling	304.8	2.8%	228.0	74.8%	76.8	25.2%
Handline	192.4	1.8%	78.6	40.9%	113.8	59.1%
Ring Net	492.1	4.5%	430.2	87.4%	61.9	12.6%
Beach Seine	321.6	2.9%	44.9	14.0%	276.7	86.0%
All Gears	10,942.5		6,040.5	55.2%	4,902.0	44.8%

2.2 Primary shark and ray species in Sri Lanka and their IUCN status

While the precise number of elasmobranchs in Sri Lankan fisheries is largely unknown due to the lack of sufficient species-specific data in official reports, there are estimated to be around 60 sharks and around 50 rays, and at least 1 chimaera species (sharks, rays, and chimaeras together form the Class Chondrichthyes). Much of the data reported by the DFAR are grouped: e.g., Figure 4, where data reported to the FAO includes a large proportion categorised under "*Sharks, rays, skates, etc. nei*". Similarly, data reported to the IOTC includes categories such as "*Sharks various nei*" and "*Requiem sharks nei*". This is due to the challenges in identifying shark and ray species that are either taxonomically ambiguous or easy to misidentify (e.g., many requiem sharks). The lack of capacity (training in visual identification and the availability of rapid, genetic tools), the number of landing sites to be surveyed (and the number of trained personnel required), along with higher priorities (i.e., target species), has resulted in limited

²⁷ Collins et al., 2021. Online at: <https://www.frontiersin.org/articles/10.3389/fmars.2021.650276/full>

²⁸ Sri Lanka National Plan of Action (NPOA) for Sharks, 2018. Online at: <http://www.fao.org/3/bq315e/bq315e.pdf>

species-specific data being collected in Sri Lanka. As a result of this, species counts are only available through published checklists by independent or other research bodies (Table 9).

Table 9: Species counts for Sri Lanka, from a subset of checklists

Checklist	Sharks	Rays	Chimaeras	TOTAL
Sri Lanka NPOA, 2018	60	27	0	87
Rex de Silva, 2020	68	30	2	100
Blue Resources Trust, 2021 (unpublished) *	53	49	1	103
Moron, 1998	34	22	0	56
De Bruin, 1994	44	30	0	74

* This data originates from the Sri Lanka Elasmobranch Project (Blue Resources Trust), which is conducting a systemic, long-term survey on chondrichthyans in Sri Lanka. Over 64% of the species on the checklist are considered threatened by the IUCN Red List.

The most prominent shark species include the blue sharks (~12.7% of total shark and ray catch) and silky sharks (~32.9% of total shark and ray catch), while mako sharks, hammerhead sharks, oceanic whitetip sharks, along with several other species make up the remainder (Figures 4-5 and Tables 10-12). Among the rays, the most prominent are the devil rays (mobula rays; ~25% of total shark and ray catch), followed by other ray species; species breakdowns for rays are extremely limited, in comparison to the sharks. Overall, rays account for 44.8% of all elasmobranch landings and 63.3% of elasmobranch landings from gillnet fisheries, while the sharks account for 55.2% of all elasmobranch landings and 79.9% of elasmobranch landings from longline fisheries. A large proportion of the frequently encountered species are considered threatened by the IUCN Red List (Table 10).

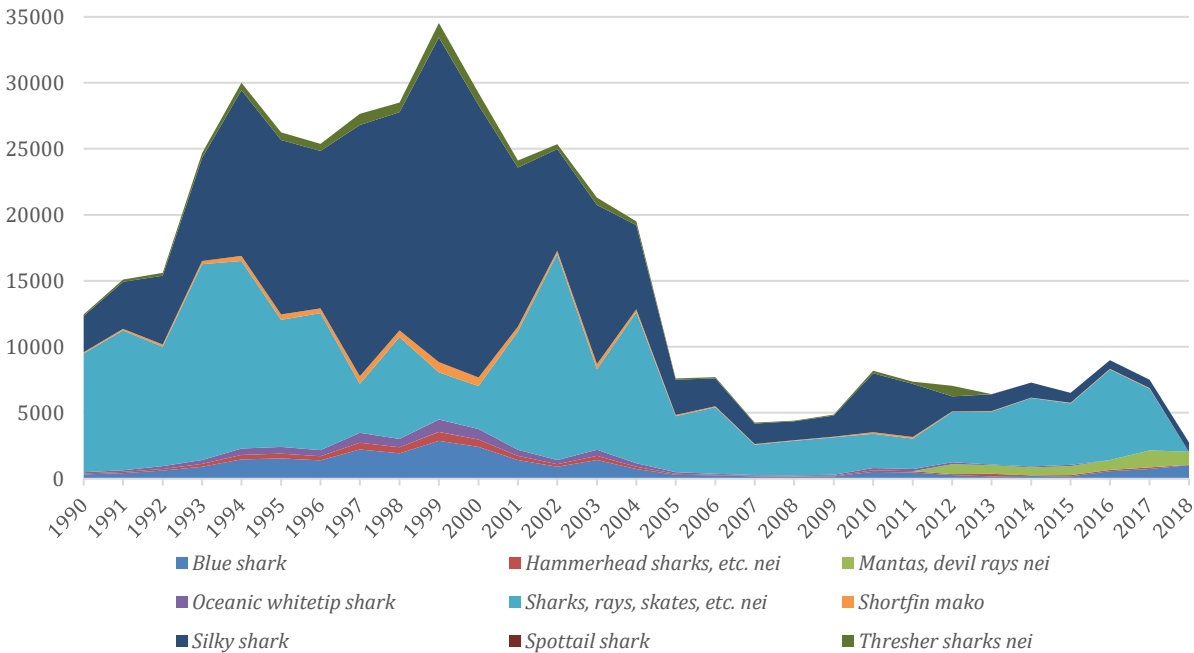


Figure 4 - The shark and ray capture across species in Sri Lanka between 1990 and 2018, based on national data submitted to the FAO²⁹.

²⁹ FAO FishstatJ, 2020

Table 10: The IUCN Red List statuses of some of the more frequently encountered shark and ray species in Sri Lanka³⁰

Species	Common name	IUCN Red List *	Year Assessed
<i>Aetobatus ocellatus</i>	Spotted Eagle Ray	Vulnerable	2015
<i>Alopias pelagicus</i>	Pelagic Thresher	Endangered	2018
<i>Alopias superciliosus</i>	Bigeye Thresher	Vulnerable	2018
<i>Carcharhinus falciformis</i>	Silky Shark	Vulnerable	2017
<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark	Critically Endangered	2018
<i>Carcharhinus sorrah</i>	Spottail Shark	Near Threatened	2007
<i>Isurus oxyrinchus</i>	Shortfin Mako	Endangered	2018
<i>Isurus paucus</i>	Longfin Mako	Endangered	2018
<i>Mobula birostris</i>	Oceanic Manta Ray	Endangered	2019
<i>Mobula mobular</i>	Spinetail Devil Ray	Endangered	2018
<i>Mobula tarapacana</i>	Sicklefin Devil Ray	Endangered	2018
<i>Prionace glauca</i>	Blue Shark	Near Threatened	2018
<i>Rhincodon typus</i>	Whale Shark	Endangered	2016
<i>Rhinoptera javanica</i>	Javanese Cownose Ray	Vulnerable	2006
<i>Sphyrna lewini</i>	Scalloped Hammerhead	Critically Endangered	2018
<i>Sphyrna mokarran</i>	Great Hammerhead	Critically Endangered	2018
<i>Sphyrna zygaena</i>	Smooth Hammerhead	Vulnerable	2018

* In bold are the IUCN Red List threatened categories

³⁰ The IUCN Red List. Online at: <https://www.iucnredlist.org>

Table 11: National landings of all recorded shark species in Sri Lanka (in tonnes): 2005 to 2015³¹

Common Name	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS:
Blue Shark (BSH)	118.00	78.69	83.20	64.22	99.13	323.85	831.01	284.00	183.00	203.00	207.00	2,475.10
Bigeye thresher shark (BTH)	813.00	426.95	602.92	505.91	327.84	514.09	495.12	465.00	0.00	0.00	0.00	4,150.83
Silky shark (FAL)	1,060.00	978.60	837.87	910.60	898.57	1,623.83	1,940.67	1,136.00	1,247.00	1,122.00	750.00	12,505.13
Great hammerhead shark (GRH)	25.00	15.01	3.71	19.93	6.83	51.07	2.34	8.10	8.00	4.00	4.70	148.69
Longfin mako shark (LFM)	19.00	12.14	20.08	17.82	17.54	30.36	69.45	52.00	70.00	14.00	9.60	331.99
Oceanic whitetip shark (OWT)	101.00	61.40	153.05	84.75	67.38	277.35	452.99	149.00	41.00	78.00	87.00	1,552.92
Pelagic thresher shark (PTH)	59.00	72.95	122.51	74.23	19.65	137.57	192.09	329.00	0.00	0.00	0.00	1,006.99
Scalloped hammerhead shark (SCH)	127.00	77.32	132.82	11.65	76.36	199.24	167.13	71.00	119.00	33.00	42.00	1,056.53
Shortfin mako shark (SFM)	10.00	14.81	9.77	23.94	15.92	19.07	49.03	63.00	56.00	41.00	49.00	351.54
Unidentified sharks (SKH)	15.00	324.58	403.75	126.01	408.16	929.29	144.88	560.47	0.00	88.00	19.00	3,019.14
Smooth hammerhead shark (SMH)	34.00	8.56	16.23	29.45	43.94	22.71	45.66	50.56	61.00	18.00	44.00	374.12
Spottail shark (SPT)	11.00	1.72	3.04	1.20	77.68	8.57	1.64	8.66	19.00	10.00	0.00	142.51
Thresher shark (THR)	0.00	28.26	0.05	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.59
TOTAL (tonnes):	2,392.00	2,101.00	2,389.00	1,871.00	2,059.00	4,137.00	4,392.00	3,176.79	1,804.00	1,611.00	1,212.30	27,145.09

³¹ Source: Non-Detriment Finding (NDF) of Sri Lanka for Silky sharks; *Carcharhinus falciformis*. Available at: <https://cites.org/sites/default/files/eng/prog/shark/docs/Sri%20Lanka%20Silky%20Shark%20NDF%20-%202017%20to%202019.pdf>

Table 12: Total number and weight of sharks, by species, retained by the Sri Lankan fleet in the IOTC area of competence from 2015 to 2019³²

Species	Common name	FAO codes	Total weight (t) *				
			2015	2016	2017	2018	2019
<i>Carcharhinus falciformis</i>	Silky shark	FAL	750	647	622.6	704.4	732
<i>Prionace glauca</i>	Blue shark	BSH	207	568	740	1028	711.8
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	OCS	87	0	0	5.2	0
<i>Isurus paucus</i>	Longfin mako	LMA	58.6	69	83.7	14.1	6.5
<i>Isurus oxyrinchus</i>	Shortfin mako	SMA					6.6
<i>Alopias superciliosus</i>	Bigeye thresher	BTH	0	0	0	0	0
<i>Alopias pelagicus</i>	Pelagic thresher	PTH	0	0	0	0	0
<i>Sphyrna lewini</i>	Scalloped hammerhead	SPL	42	75	117.6	16	24.6
<i>Carcharhinus sorrah</i>	Spottail shark	CCQ	0	0	2		-
<i>Sphyrna zygaena</i>	Smooth hammerhead	SPZ	44	22	11.4	1.4	7.3
<i>Sphyrna mokarran</i>	Great hammerhead	GRH	4	0	0	1	0
<i>Rhincodon typus</i>	Whale Shark	RHN	2	0	0	0	0
-	Other sharks (rays)	SKA	19	126	187	32.1	19.9
Total shark			1,214	1,507	1,764.3	1,802.2	1,508.6

* These figures are lower than national shark catches as they relate to tuna target fisheries only (as required by the data reporting to the IOTC)

³² IOTC-2020-SC23-NR21. Available at: <https://www.iotc.org/documents/SC/23/NR21>

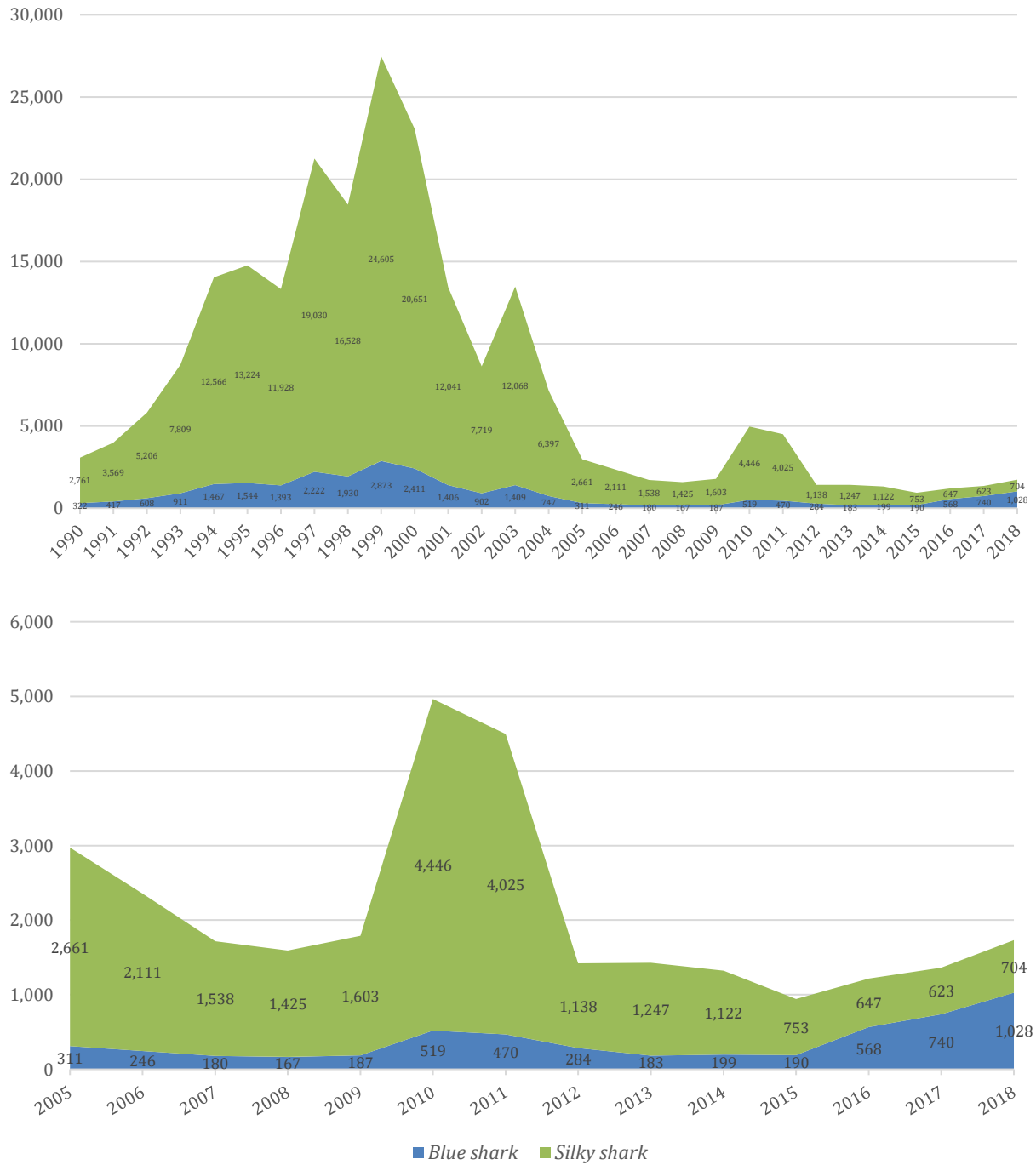


Figure 5 - Blue shark and silky shark catch in Sri Lanka. Above: between 1990 and 2018 and below: 2005 to 2018 (with catch numbers in mt)³³. In 2017 and 2018, the proportion of blue sharks increased, becoming the dominant species in Sri Lankan shark catches.

³³ FAO FishstatJ, 2020

2.6 Brief overview of the economic benefits of shark fisheries for Sri Lanka

Elasmobranch meat is consumed domestically, predominantly by low- and middle-income families. It is available both fresh and dried (salted and then dried). Some species, such as milk sharks, are extremely highly valued in certain communities due to beliefs that it benefits lactating mothers. Silky sharks, mako sharks, blacktip sharks are quite highly valued in fresh form, while thresher sharks, blue sharks, tiger sharks are generally dried before consumption³⁴. However, preferences appear to vary across regions. Other derivatives, including shark and ray fins, shark liver oil (extracted from deep water sharks as they have much larger livers), skin, jaws, teeth, and mobulid gill plates are predominantly exported. Destination countries include Hong Kong, Singapore, Japan, and Taiwan. At present, no further value addition is being conducted within Sri Lanka itself.

Although some instances of finning have been reported³⁵, it is not considered to be a common practice in Sri Lanka. Fishers tend to retain the entire shark given the national value for their meat and the general practices of complete utilisation.

2.3 Shark and ray regulations in Sri Lanka (local and international)

National: The Department of Fisheries and Aquatic Resources

The Department of Fisheries and Aquatic Resources (DFAR) is legally mandated to manage all fisheries in Sri Lanka. It is done through two Acts:

1. The Fisheries and Aquatic Resources Act, No. 2 of 1996 (FARA): *provides for the management, regulation, conservation and development of fisheries and aquatic resources harvested by fishing vessels registered and operated in Sri Lanka. The FARA also gives effect to Sri Lanka's obligations under international and regional fisheries agreements within Sri Lanka's EEZ and on the high seas.*
2. The Fisheries (Regulation of Foreign Fishing Boats) Act, No. 59 of 1979 (FFBA): *allows the regulation, control, and management of fishing activities by foreign vessels in Sri Lanka's EEZ. The Act was amended in 2018, as the Fisheries (Regulation of Foreign Fishing Boats) Act, No. 1 of 2018 (FFBA). The FARA and FFBA are administered by the DFAR, which has the overall mandate for the implementation of the provisions incorporated in them.*

History of shark measures: Management of shark fisheries has been undertaken with two different objectives, i.e., optimum utilization of the carcasses of harvested sharks, and the protection of threatened or vulnerable species. In 2001, legislation was gazetted to prohibit shark finning and the discarding and required that all sharks are landed whole with fins intact

³⁴ Blue Resources Trust, unpublished.

³⁵ Several posts by the Sri Lanka Coastguard. Online at: <https://www.facebook.com/srilanka.coastguard.79>

(Gazette 1206/20 of 17 October 2001). Following IOTC conservation measures, Sri Lanka also prohibited the catching of all species of thresher sharks (*Alopias vulpinus*, *A. superciliosus* and *A. pelagicus*) in both commercial and recreational fisheries in 2012 and requires that any thresher sharks caught incidentally be released alive and recorded in logbooks (Gazette 1768/36 of 27 July 2012).

Consolidation: To consolidate all shark measures, the previous gazette notices were rescinded and brought together under one single management measure entitled: the Shark Fisheries Management Regulations, 2015 (Gazette No. 1938/2 of 26 October 2015) and the Shark Fisheries Management (High Seas) Regulations, 2015 ([Appendix 7.2](#) and [Appendix 7.3](#)). These prohibit the removal of fins of any shark onboard a vessel, the discarding of a carcass from which the fins have been removed, the retention onboard, transshipment, or landing of fins unless naturally attached to the body of the shark. It requires the owner or skipper of the vessel to release live sharks, especially juveniles or pregnant sharks. It protects the three thresher shark species (see above) and includes prohibitions on the fishing and landing of oceanic white-tip sharks (*Carcharhinus longimanus*) and whale sharks (*Rhincodon typus*). In total, five species of shark belonging to three families are now protected in Sri Lanka.

Others: In 2013, Sri Lanka initiated its first national plan of action (NPOA) for sharks in consultation with all stakeholders, for the period of 2013 to 2017 (published and available online³⁶). In 2018 this was revised for the period of 2018-2022 (unpublished). Other fisheries management regulations directly or indirectly support shark management (Table 13). While some fishery managed areas (FMAs) exist, they do not explicitly encompass sharks.

Challenges: Some fishing regulations (such as the prohibition on bottom trawling or dynamite fishing) are not actively enforced^{37,38,39}, especially in the coastal fishery. However, there has been renewed effort in strengthening enforcement of offshore fishing regulations and licensing of multi-day fishing vessels operating outside the EEZ (including the introduction of VMS). As a result, there has been a significant increase in compliance and improvement in monitoring and surveillance of the offshore fishing fleet. The focus on species specific management measures rather than regulation of overall fishing effort has been a major drawback of fisheries management. This is especially so in multispecies fisheries with high levels of bycatch. National policy objectives to increase fish landings, consumption and export revenue are often in direct conflict with required management measures to ensure sustainability of fish stocks including sharks and rays, especially since export demand has been a major driver in expanding unsustainable fisheries in Sri Lanka. There is also low compliance by fishers and low capacity to enforce regulations.

³⁶ Sri Lanka National Plan of Action (NPOA) for Sharks, 2018. Online at: <http://www.fao.org/3/bq315e/bq315e.pdf>

³⁷ Rodrigo, 2019. Online at: <https://news.mongabay.com/2019/06/crackdown-after-sri-lanka-bombings-may-help-in-fight-against-blast-fishing/>

³⁸ Rodrigo, 2018. Online at: <https://www.sundaytimes.lk/180128/news/get-on-with-total-bottom-trawling-ban-say-conservationists-278835.html>

³⁹ Rubatheesan, 2020. Online at: <https://www.sundaytimes.lk/201011/news/vallam-fishermen-distraught-as-govt-bends-to-trawler-demands-419591.html>

Table 13: The legal provisions and regulations for fisheries management in Sri Lanka (that have a direct or indirect impact on shark and ray fisheries).

Provision in the Act: Regulations	Management Measure
Section 6,7,8,9, 29,61 of FARA; Fishing Operations Regulations of 1996 (Gazette, No. 948/25 of 07-11-1996)	Engaging in any of the prescribed fishing activities in Sri Lanka waters without a license obtained from Director General (DG) <u>Penalty for Non-Compliance:</u> Fine not exceeding LKR 25,000
Section 15 of FARA; Registration of Fishing Boats Regulations, 1980 (Gazette, No. 109 of 10 March 1980)	Use of a fishing boat that has not been registered as a fishing boat by DG for fishing in Sri Lanka waters <u>Penalty for Non-Compliance:</u> Fine not exceeding LKR 25,000
Section 27 of FARA as amended by Act, No. 4 of 2004	Use of poisonous, explosive, or stupefying substances (including dynamite) or other noxious or harmful material for fishing or dumping of poisonous, explosive, stupefying or other obnoxious or harmful material in Sri Lanka waters <u>Penalty for Non-Compliance:</u> Imprisonment (>3 years and <5 years) and a fine >LKR 100,000, or on a second or subsequent conviction imprisonment (>5 years and <7 years) and a fine >LKR 500,000
Sections 28, and 61 of FARA; Monofilament Nets Prohibition Regulations, 2006 (Gazette No. 1454/33 of 21 July 2006)	Using monofilament nets for fishing <u>Penalty for Non-Compliance:</u> Fine not exceeding LKR 25,000
Sections 4 and 15 (a) of FFBA	Using a foreign boat for fishing or related activities in Sri Lanka waters except under the authority of a permit issued by DG with approval of the Minister <u>Penalty for Non-Compliance:</u> Fine not exceeding LKR 1.5 million and repatriation costs of the crew, forfeiture of the boat and fishing equipment
Sections 61 of FARA; Fish Catch Data Collection Regulations, 2012 (Gazette 1755/32 of 25 April 2012)	Not maintaining a logbook issued by DFAR by a mechanized fishing boat fishing in Sri Lanka waters; not maintaining a record of the catch of each fishing trip, or not furnishing a certificate of the catch to the CA in the prescribed form or importing fish for re-export without a catch certificate & health certificate issued by the CA of the importing country.

Provision in the Act: Regulations	Management Measure
	<u>Penalty for Non-Compliance:</u> Fine not exceeding LKR 25,000
BEEZ Fishing Operations Regulation No.1 of 2014 published in Gazette Extraordinary No. 1878/12 of September 01, 2014	Engage in any prescribed fishing operation in high seas without the authority of a valid license granted by the DG; Not complying with the conditions imposed by the DG for fishing in the high seas; Unloading or transshipping fish in any port of any other country; Not carrying and using the line cutters and de-hookers on board to release sharks / turtles
BEEZ Fishing Operations Regulation No.1 of 2014 published in Gazette Extraordinary No. 1878/12 of September 01, 2014, amendment of item 3 of Schedule III	Fee for fishing operation license in the high seas (boats between 10.3 - 15 min length)
Fisheries and Aquatic Resource, Act No 2 of 1996, Fishing Gear Marking Regulations No.1 of 2015	Not marking all types of fishing gear and fish aggregating devices carried on board fishing boats as prescribed. <u>Penalty for Non-Compliance:</u> Fine not exceeding LKR 25,000 (Section 49 (5) as amended by Act, No 35 of 2013)
Fisheries and Aquatic Resource, Act No 2 of 1996, Fish Catch Data Collection Regulations, 2014	Not carrying onboard a log book issued by DFAR during each fishing trip, who uses mechanized fishing boat fishing in Sri Lanka waters; Not maintaining a record of the catch in the log book, relating to each fishing trip; Not submitting the log book to the authorized officer
Fisheries and Aquatic Resource, Act No 2 of 1996, Implementation of Satellite based Vessel Monitoring System (VMS) for Fishing Boats Operation in BEEZ Regulations 2015	Deploying fishing vessels having an overall length of 10.3 m or more for high seas fishing operations without Satellite based Vessel Monitoring System; Not taking steps to ensure that the Monitoring device on board is activated at all times irrespective of their geological location
Fisheries and Aquatic Resource, Act No 2 of 1996, Shark Fisheries Management Regulations, 2015	Engage in any prescribed shark species fishing operations in Sri Lanka waters; Remove onboard a local fishing boat the fins of any shark caught by local fishing boat and discard

Provision in the Act: Regulations	Management Measure
	carcass of such sharks of which fins have been removed; retain on board, tranship or land fins of any shark; Not releasing live sharks especially juveniles and pregnant sharks.
Fisheries and Aquatic Resource, Act No 2 of 1996, Shark Fisheries Management Regulations (BEEZ), 2015	Engage in any prescribed shark species fishing operations in Sri Lanka waters; Remove onboard a local fishing boat the fins of any shark caught by local fishing boat and discard carcass of such sharks of which fins have been removed; retain on board, tranship or land fins of any shark; Not releasing any shark caught incidentally or live sharks especially juveniles and pregnant sharks to the sea.
Fisheries and Aquatic Resource, Act No 2 of 1996, Fish and Fishery Products, Export, Import and Re-export Management Regulations- 2017	Not engaging to the terms and conditions imposed by DG for any export, import or re-import of fish or fishery products; Engage in export, import or re-import of fish or fishery products without register with DFAR; Engage in export, import or re-import of fish or fishery products without following requirements of CITES; Export, import or re-import of any fish or fishery products which are prohibited; Not declaring the species type and form of product according to the applicable HS codes

National: The Department of Wildlife Conservation

The Department of Wildlife Conservation (DWC) is legally mandated to conserve all fauna and flora in Sri Lanka. It is done through the FFPO:

1. The Fauna and Flora Protection Ordinance (FFPO), No. 02 of 1937, is the legal framework for the protection of species of wild animals that include mammals, birds, reptiles, amphibians, fishes and invertebrates, and plants in Sri Lanka. It includes the declaration of protected areas for the conservation of biodiversity.

Under the FFPO, several coastal areas comprising coral reefs, seagrass meadows, and mangroves have been declared as marine protected areas (MPAs). These MPAs, in the form of marine national parks, nature reserves, and marine sanctuaries provide partial protection to sharks and rays in near shore waters. At least one of the MPAs (the Pigeon Island National Park) is known to have healthy blacktip reef shark populations. However, the FFPO is yet to include any species of shark or ray on their list (schedule) of protected species.

The DWC is however the Management Authority for the CITES Convention, and the focal point for the CMS Convention and the CMS Sharks MoU (see below sections).

Challenges: Many MPAs remain as paper parks with limited enforcement. To date, there has not been any direct shark protection through the FFPO. There are some legal gaps in the implementation of CITES, and to date there is no regulation for any implementation of CMS.

Regional: The Indian Ocean Tuna Commission

Sri Lanka is a founding member of the Indian Ocean Tuna Commission (IOTC) and ratified the IOTC agreement in 1994. Among the actions initiated by IOTC concerning the conservation of sharks and rays caught in association with fisheries managed by IOTC include:

1. **Resolution 12/09:** On the conservation of thresher sharks (family Alopiidae) caught in association with fisheries in the IOTC area of competence. *This includes a non-retention measure for all thresher sharks captured by fishing vessels on the IOTC Record of Authorised Vessels.*
2. **Resolution 13/05:** On the conservation of whale sharks (*Rhincodon typus*). *This measure prohibits the intentional setting of a purse seine (or other gear type) on a whale shark in the IOTC Area of Competence and applies to all fishing vessels flying the flag of a CPC, on the IOTC Record of Fishing Vessels, or authorised to fish for tuna and tuna-like species managed by the IOTC on the high seas (it does not apply to artisanal fisheries operating exclusively in their respective EEZ).*
3. **Resolution 13/06:** On a scientific and management framework on the Conservation of sharks species caught in association with IOTC managed fisheries. *This measure prohibits the retention of oceanic whitetip sharks by all fishing vessels flying their flag and on the IOTC Record of Authorised Vessels, or authorised to fish for tuna or tuna-like species managed by the IOTC on the high seas. This measure also enables stock and*

other assessments on shark species to enable the Scientific Committee to provide recommendations or advice to the IOTC Commission for further action.

4. **Resolution 17/05:** *On the conservation of sharks caught in association with fisheries managed by IOTC. This measure applies to all fishing vessels flying the flag of a Contracting Party or Cooperating Non-Contracting Party (CPC) and on the IOTC Record of Authorised Vessels, or authorised to fish for tuna or tuna-like species managed by the IOTC. It requires that CPCs take all necessary measures for full utilisation of sharks and prohibits the removal of shark fins onboard vessels (unless frozen, in which case the fins cannot be more than 5% of the weight of sharks onboard). This measure also enables the IOTC Working Party on Ecosystems and Bycatch (WPEB) to establish long-term projects on sharks to collect additional data to inform the IOTC Scientific Committee.*
5. **Resolution 19/03:** *On the conservation of mobulid rays caught in association with fisheries in the IOTC Area of Competence. This measure applies to all fishing vessels flying the flag of a Contracting Party or CPC, and on the IOTC record of fishing vessels or authorized to fish for tuna and tuna like species managed by the IOTC. It prohibits the intentional setting of any gear type for mobulid rays in the IOTC Area of Competence and prohibits the retention of these species (with delayed implementation for unintentional capture by artisanal fisheries until 1st January 2022, and an exception for subsistence fisheries).*

International: The Convention on International Trade in Endangered Species of Wild Fauna and Flora

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a multilateral treaty (with 183 member states or 'Parties') to protect endangered plants and animals. It provides a framework enabling regulations on the international trade of specimens and their derivatives, ensuring that any extraction is not detrimental to their survival in the wild or to fulfilling their role in the ecosystem.

Sri Lanka has been a signatory since 1979, and the DWC is the management and scientific authority, while the DFAR is a scientific authority (for marine species), in Sri Lanka. At present, CITES regulations for marine species in Sri Lanka is implemented through the DFAR *Fish and Fishery Products, Export, Import and Re-export Management Regulations of 2017* that requires any "exporter, importer or re-exporter of any fish or fishery product shall fulfil the requirements stipulated in accordance with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)". Apart from the sawfishes listed on Appendix I of CITES (prohibition of commercial trade), all other shark or ray species currently listed are on Appendix II (Table 14). For Appendix II species commercial trade is regulated and may be authorised by the granting of an export permit following a non-detriment finding to assess impact of harvest and ensure that the trade will not be detrimental to the survival of the species in the wild. An additional requirement for listed species captured in the high seas is an

Introduction from the Sea certificate. Appendix II contains species that are not necessarily threatened with extinction at present but may become so unless trade is closely regulated.

Table 14: CITES listed shark and ray species and presence in Sri Lanka

Common Name	Scientific Name	CITES Appendix	Year Listed †	Present in Sri Lanka
Basking shark	<i>Cetorhinus maximus</i>	II	2003	No
Whale shark	<i>Rhincodon typus</i>	II	2003	Yes
Great white shark	<i>Carcharodon carcharias</i>	II	2005	No
Sawfishes	<i>Pristidae</i>	I	2007	Yes (2/5)
Great hammerhead shark	<i>Sphyrna mokarran</i>	II	2013	Yes
Manta rays	<i>Manta spp.</i>	II	2013	Yes (1/2)
Oceanic whitetip shark	<i>Carcharhinus longimanus</i>	II	2013	Yes
Porbeagle shark	<i>Lamna nasus</i>	II	2013	No
Scalloped hammerhead shark	<i>Sphyrna lewini</i>	II	2013	Yes
Smooth hammerhead shark	<i>Sphyrna zygaena</i>	II	2013	Yes
Devil rays	<i>Mobula spp.</i>	II	2016	Yes (5/8)
Silky shark	<i>Carcharhinus falciformis</i>	II	2016	Yes
Thresher sharks	<i>Alopias spp.</i>	II	2016	Yes (2/3)
Discus ray	<i>Paratrygon aiereba</i>	III*	2017	No
Freshwater stingrays	<i>Potamotrygon spp.</i>	III**	2017	No
Mako sharks	<i>Isurus spp.</i>	II	2019	Yes
Giant Guitarfishes	<i>Glaucostegidae spp.</i>	II	2019	Yes (1/6)
Wedgefishes	<i>Rhinidae spp.</i>	II	2019	Yes (2/10)

* Colombia

** Brazil

† For some species, a delayed implementation period of 18, 12, or 6 months was provided to enable time for capacity building and the updating of any national regulations.

International: The Convention on the Conservation of Migratory Species of Wild Animals

The Convention on the Conservation of Migratory Species of Wild Animals (CMS) is a legally binding international multilateral agreement that aims to conserve migratory species throughout their ranges. Sri Lanka is a Party to CMS since 1990. Appendix I of CMS includes species that are threatened with extinction and Parties that are Range States are obligated to provide them strict protection. Appendix II contains species that would benefit from international cooperation (Table 15).

CMS also includes daughter Agreements, such as the CMS Memorandum of Understanding on the Conservation of Migratory Sharks (CMS Sharks MoU), to which Sri Lanka became a signatory in 2017. This non-binding agreement aims to facilitate international coordination for the conservation and management of listed sharks (Table 15) through discussion and scientific research.

Table 15: CMS and the CMS Sharks MoU listed shark and ray species and presence in Sri Lanka

Common Name	Scientific Name	CMS Appendix	CMS Sharks MoU	Present in Sri Lanka
Thresher sharks	<i>Alopias</i> spp.	II	Yes	Yes (2/3)
Silky shark	<i>Carcharhinus falciformis</i>	II	Yes	Yes
Oceanic white tip shark	<i>Carcharhinus longimanus</i>	I	Yes	Yes
Dusky Shark	<i>Carcharhinus obscurus</i>	II	Yes	Yes
Great white shark	<i>Carcharodon carcharias</i>	I and II	Yes	No
Basking shark	<i>Cetorhinus maximus</i>	I and II	Yes	No
Tope Shark	<i>Galeorhinus galeus</i>	II		No
Mako sharks	<i>Isurus</i> spp.	II	Yes	Yes
Porbeagle shark	<i>Lamna nasus</i>	II	Yes	No
Manta rays	<i>Manta</i> spp.	I and II	Yes	Yes (1/2)
Devil rays (mobula rays)	<i>Mobula</i> spp.	I and II	Yes	Yes (5/8)
Blue Shark	<i>Prionace glauca</i>	II		Yes
Sawfish	<i>Pristis</i> spp.	I and II	Yes	Yes (2/5)
Whale shark	<i>Rhincodon typus</i>	I and II	Yes	Yes
Common Guitarfish, Violinfish	<i>Rhinobatos rhinobatos</i>	II	Yes	No
Common Guitarfish, Violinfish	<i>Rhinobatos rhinobatos</i> (Mediterranean Sea population)	I and II		No
White-spotted Wedgefish, Bottlenose Wedgefish	<i>Rhynchobatus australiae</i>	II	Yes	Yes
Giant Guitarfish, Whitespotted Wedgefish	<i>Rhynchobatus djiddensis</i>		Yes	Yes
Smoothnose Wedgefish	<i>Rhynchobatus laevis</i>		Yes	Possibly
Scalloped hammerhead shark	<i>Sphyrna lewini</i>	II	Yes	Yes
Great hammerhead shark	<i>Sphyrna mokarran</i>	II	Yes	Yes
Smooth hammerhead shark	<i>Sphyrna zygaena</i>	II	Yes	Yes
Spiny Dogfish	<i>Squalus acanthias</i>	II	Yes	No
Angelshark, Monkfish	<i>Squatina squatina</i>	I and II	Yes	No

Others:

UNCLOS: Sri Lanka is also a Party to the United Nations Convention on the Law of the Sea (UNCLOS, or also referred to as the Law of the Sea Convention) since 1982 and has ratified the United Nations Fish Stocks Agreement (UNFSA) in 1996. The UNCLOS is an international agreement that establishes a legal framework for all marine and maritime activities. It promotes cooperation among the relevant coastal and other states that fish for highly migratory species to ensure conservation and optimum utilisation of such stocks throughout the region, both within and beyond the EEZ. Annex I of the UNCLOS contains “highly migratory species”, which includes the following oceanic sharks: *Hexanchus griseus* (Bluntnose Sixgill Shark), *Cetorhinus maximus* (Basking Shark), Family Alopiidae (Thresher Sharks), *Rhincodon typus* (Whale Sharks), Family Carcharhinidae (Requiem Sharks), Family Sphyrnidae (Hammerhead Sharks), Family Isurida (Mackerel Sharks).

PSM: Sri Lanka ratified the UN FAO agreement on Port State Measures (PSM) in 2011 and was among the 25 countries needed for the agreement to enter into force in 2016. This agreement focuses on the prevention, deterring, and elimination of IUU fishing.

FAO Compliance Agreement: Sri Lanka acceded to the agreement to promote compliance with international conservation and management measures by fishing vessels in the high seas (FAO Compliance Agreement) in 2014. This ensures that flag states strengthen control over their vessels to ensure compliance with international conservation and management measures and to ensure that none of their vessels are fishing on the high seas unless authorised and also to prevent the re-flagging of vessels fishing on the high seas under the flags of States that are unable or unwilling to enforce international fisheries conservation and management measures.

2.5 Visual documentation of the shark fin process (from boat to exporter)⁴⁰



1: Vessels docked at the landing site



2: Sharks and rays are unloaded



3: Sharks and rays are sold



⁴⁰ All images are provided and copyright to Blue Resources Trust. To reuse, request permission. Email: info@blueresources.org



4: Fins removed from the sharks (and gill plates from mobulid rays)



5: Fins (or gill plates) are collected



6: Fins (or gill plates) are dried



4a: Shark (or mobulid) trunks are collected



4b: Shark (or mobulid) meat is sold fresh in some regions



7: Fins (and gill plates) are separated and sorted



8: Fins (and gill plates) are stockpiled



9: Fins (gill plates) are shipped



4c: Excess fresh, and all other shark and ray meat is dried



4d: Dried (or salted and dried) meat is sold for consumption

3. Official Trade Data

3.1 Shark and ray exports and imports

Disentangling available information on the exports and imports of shark and ray products proves to be quite challenging due to gaps in data and discrepancies in reporting. There are two commodity codes that appear in Sri Lanka trade data with respect to sharks and rays (Table 16). Hong Kong is by far the largest destination for shark fin products from Sri Lanka (90%), which is then followed by Singapore (8%) and then Vietnam and Malaysia, although not as regularly over the years for the last two countries (Figure 6 and Table 17-18). While the export of shark fins is well documented, it must be noted that Sri Lanka is importing shark meat; trade balance (in USD) for shark products is negative in 2015 and 2016 but positive in 2017, when the exported income becomes more than double that of imported expenditure (Table 19).

Table 16: Commodity codes in Sri Lanka

Commodity Code	Commodity description
30381	Fish; frozen, dogfish and other sharks, excluding fillets, fish meat of 0304, and edible fish offal of subheadings 0303.91 to 0303.99
30571⁴¹	Fish; edible offal, shark fins

Top Global Buyers (in \$1,000 imported)

Country/Region	Share	Trend	<	2012	2013	2014	2015	2016	2017
All	100% 			0	991	1,154	1,258	913	1,401
1. Hong Kong	90% 			0	839	981	1,181	814	1,351
2. Singapore	8% 			0	120	170	64	99	0
3. Vietnam	1% 			0	0	0	0	0	50
4. Malaysia	1% 			0	19	3.37	13	0	0
5. Maldives	<1% 			0	13	0	0	0	0

* n/a denotes missing data

Figure 6 - Sri Lanka's dried shark fin exports by value from 2012 to 2017⁴²

Table 17: Hong Kong shark fin imports from Sri Lanka 2017-2020

Year	Trade Flow	Commodity Code	Commodity	Net Weight (kg)	Trade Value (US\$)
2017	Import	30571	Fish; edible offal, shark fins	67,027.00	\$2,721,070.00
2019	Import	30571	Fish; edible offal, shark fins	66,729.00	\$3,046,739.00
2019	Import	30571	Fish; edible offal, shark fins	63,591.00	\$3,806,792.00
2020	Import	30571	Fish; edible offal, shark fins	42,609.00	\$2,638,825.00

⁴¹ UN Comtrade does not provide a definition for 30571 HS code. According to the Trade Map, 30571 includes: "Shark fins, smoked, dried, salted or in brine". Online at: <https://www.trademap.org>

⁴² Panjiva. Online at: <https://panjiva.com>

Gaps in the various datasets are quite evident. For example, Sri Lanka only declared shark fin trade data to UN Comtrade until 2017 (Table 18-19) but there is data from Hong Kong declaring shark fin imports from Sri Lanka until 2020 (Table 17). Therefore, although a drop in shark fin exports to Hong Kong is noticeable after 2017 (and particularly in 2020), there is insufficient information to confirm whether all trade from Sri Lanka has declined or if the destination countries have simply changed. There are also discrepancies between the data declared by the two countries; for example, in 2017 Hong Kong declared ~25% more shark fin imports in terms of quantity than what was declared as exported to Hong Kong by Sri Lanka. Finally, issues with HS codes complicates matters further as they are not specific to elasmobranchs, the products, or the species.

Table 18: Sri Lanka exports of dried shark fins (HS code 30571⁴³)

Year	Trade Flow	Partner	Sum of Net Weight (kg)	Sum of Trade Value (US\$)	Price / kg in USD
2015	Export	World	38,525	1,258,260	32.66
2015	Export	China, Hong Kong SAR	34,797	1,181,493	33.95
2015	Export	Singapore	2,950	64,210	21.77
2015	Export	Malaysia	778	12,558	16.14
2016	Export	World	35,712	913,112	25.57
2016	Export	China, Hong Kong SAR	33,132	814,151	24.57
2016	Export	Singapore	2,580	98,961	38.36
2017	Export	World	52,436	1,400,989	26.72
2017	Export	China, Hong Kong SAR	50,436	1,351,258	26.79
2017	Export	Viet Nam	2,000	49,730	24.87

Table 19: Imports and exports from Sri Lanka of shark products from 2015-2017, by type⁴⁴

Year	Trade Flow	Commodity Code	Commodity	Sum of Net weight (kg)	Sum of Trade Value (US\$)
2015	Import	30381	Fish; frozen, dogfish and other sharks, excluding fillets, livers, roes, and other fish meat of heading 0304	1,837,150	2,244,069
2015	Import	30571	Fish; edible offal, shark fins	6,551	26,515
2015	Export	30571	Fish; edible offal, shark fins	38,525	1,258,260
2016	Import	30281	Fish; fresh or chilled, dogfish and other sharks, excluding fillets, livers, roes, and other fish meat of heading 0304	0	22,910
2016	Import	30381	Fish; frozen, dogfish and other sharks, excluding fillets, livers, roes, and other fish meat of heading 0304	0	1,711,043
2016	Export	30571	Fish; edible offal, shark fins	35,712	913,112
2017	Import	30381	Fish; frozen, dogfish and other sharks, excluding fillets, fish meat of 0304, and edible fish offal of subheadings 0303.91 to 0303.99	300,991	679,245
2017	Export	30571	Fish; edible offal, shark fins	52,436	1,400,989

⁴³ UN Comtrade. Online at: <https://comtrade.un.org/data>

⁴⁴ UN Comtrade. Online at: <https://comtrade.un.org/data>

CITES trade data:

Sri Lanka, and other CITES Parties, are required to provide annual data documenting the volumes of CITES listed species trade (Table 20). However, it should be noted that this CITES trade data is not always a reflection of actual trade. This is because most CITES Parties are not comparing the issuance of CITES permits with actual exports (i.e., it would be possible to obtain an export permit for 100 kg but only export 50 kg, and the CITES trade database would reflect 100 kg). However, with some countries, such as Sri Lanka, transitioning into electronic permitting that is linked in with the national Customs authorities, such data are assumed to improve in the future. Data may also be validated by countries that report imported CITES trade volumes to CITES or other trade databases.

Table 20: Sri Lanka CITES shark species exports 2014-2020⁴⁵

Year	App.	Taxon	Importer	Importer reported quantity	Exporter reported quantity	Term	Unit	Source
2014	II	<i>Carcharhinus longimanus</i>	SG	451	451	fins	kg	Wild
2014	II	<i>Sphyrna lewini</i>	SG	160	160	fins	kg	Wild
2015	II	<i>Carcharhinus longimanus</i>	SG	872	872	fins	kg	Wild
2015	II	<i>Manta spp.</i>	HK		1,000	derivatives	kg	Wild
2015	II	<i>Sphyrna zygaena</i>	SG	150	50	fins	kg	Wild
2015	II	<i>Sphyrna zygaena</i>	SG		100	fins		Wild
2018	II	<i>Carcharhinus falciformis</i>	HK		2,125	fins	kg	Captivity
2018	II	<i>Carcharhinus falciformis</i>	HK		29,435	fins	kg	Wild
2018	II	<i>Carcharhinus falciformis</i>	HK		1,350	live	kg	Wild
2018	II	<i>Mobula japanica</i>	HK		550	gill plates	kg	Wild
2018	II	<i>Mobula japanica</i>	HK		550	gill plates		Wild
2018	II	<i>Mobula japanica</i>	HK		225	live	kg	Wild
2018	II	<i>Mobula tarapacana</i>	HK		450	gill plates	kg	Wild
2018	II	<i>Mobula tarapacana</i>	HK		300	gill plates		Wild
2018	II	<i>Mobula tarapacana</i>	HK		200	live	kg	Wild
2018	II	<i>Sphyrna lewini</i>	HK		950	fins	kg	Wild
2018	II	<i>Sphyrna lewini</i>	HK		40	live	kg	Wild
2019	II	<i>Carcharhinus falciformis</i>	HK	1,281.05	92,960	fins	kg	Wild
2019	II	<i>Carcharhinus falciformis</i>	HK	8,000		skins	kg	Wild
2019	II	<i>Carcharhinus falciformis</i>	MY		1,000	fins	kg	Wild
2019	II	<i>Isurus oxyrinchus</i>	US		24	bodies	kg	Wild
2019	II	<i>Manta birostris</i>	HK	250	750	gill plates	kg	Wild
2019	II	<i>Mobula spp.</i>	HK	607.8	1,050	gill plates	kg	Wild
2019	II	<i>Mobula japanica</i>	HK		630	fins	kg	Wild
2019	II	<i>Mobula japanica</i>	HK	721	5,620	gill plates	kg	Wild
2019	II	<i>Mobula tarapacana</i>	HK		250	fins	kg	Wild

⁴⁵ CITES Trade Database. Online at: <https://trade.cites.org>

Year	App.	Taxon	Importer	Importer reported quantity	Exporter reported quantity	Term	Unit	Source
2019	II	<i>Mobula tarapacana</i>	HK	1,436.5	7,785	gill plates	kg	Wild
2019	II	<i>Sphyrna lewini</i>	HK		60	fins	kg	Wild
2019	II	<i>Sphyrna mokarran</i>	HK		20	fins	kg	Wild
2020	II	<i>Carcharhinus falciformis</i>	HK		55,097.2	fins	kg	Wild
2020	II	<i>Carcharhinus falciformis</i>	HK		55,700	skins	kg	Wild
2020	II	<i>Carcharhinus falciformis</i>	NZ		180	bodies	kg	Wild
2020	II	<i>Carcharhinus falciformis</i>	SG		2,100	fins	kg	Wild
2020	II	<i>Carcharhinus longimanus</i>	HK		1,500	fins	kg	Wild
2020	II	<i>Glaucostegus spp.</i>	SG		500	fins	kg	Wild
2020	II	<i>Isurus oxyrinchus</i>	HK		300	fins	kg	Wild
2020	II	<i>Isurus oxyrinchus</i>	SG		600	fins	kg	Wild
2020	II	<i>Manta spp.</i>	HK		300	gill plates	kg	Wild
2020	II	<i>Manta birostris</i>	HK		1,024.5	gill plates	kg	Wild
2020	II	<i>Mobula japanica</i>	HK		7,192.1	gill plates	kg	Wild
2020	II	<i>Mobula japanica</i>	HK		100	gill plates		Wild
2020	II	<i>Mobula mobular</i>	HK		626.4	gill plates	kg	Wild
2020	II	<i>Mobula mobular</i>	HK		450	live	kg	Wild
2020	II	<i>Mobula tarapacana</i>	HK		3,183.8	gill plates	kg	Wild
2020	II	<i>Mobula tarapacana</i>	HK		100	live		Wild
2020	II	<i>Rhina ancylostoma</i>	SG		600	fins	kg	Wild
2020	II	<i>Rhynchobatus spp.</i>	HK		185.35	fins	kg	Wild
2020	II	<i>Rhynchobatus spp.</i>	SG		1,600	fins	kg	Wild
2020	II	<i>Rhynchobatus djiddensis</i>	HK		200	bodies	kg	Wild
2020	II	<i>Sphyrna lewini</i>	HK		1,302	fins	kg	Wild
2020	II	<i>Sphyrna lewini</i>	SG		1,200	fins	kg	Wild
2020	II	<i>Sphyrna zygaena</i>	HK		64.6	fins	kg	Wild

It should however be noted that a few unusual records exist in the CITES trade database for Sri Lanka. These include:

- 1) Larger imported quantities. E.g., 150 kg of *S. zygaena* fins were imported by Singapore in 2015, while it appears that the export permit was issued for 50 kg of fins.
- 2) The export of 2,125 kg of fins of *C. falciformis* (silky sharks), with the source referenced as "Captive". Given that no captive breeding of silky sharks occurs, particularly at a commercial scale, this is either the result of an incorrect entry into the database or an intentional mislabelling for exportation purposes.
- 3) The import of 1,281.05 kg of *C. falciformis* (silky shark) fins in 2019 in Hong Kong, while the export permit was issued for a volume of 92,960 kg of fins.

- 4) The exportation of 1,500 kg of *C. longimanus* (oceanic whitetip shark) fins in 2020, despite these species gaining full protection in Sri Lanka since 2015⁴⁶.
- 5) The exportation of several CMS Appendix I listed species (such as the mobulid rays), which is in direct contravention of CMS Appendix I, which prohibits even the “take” of these species⁴⁷.

Additionally, several discrepancies with other trade data sources have been recorded (Table 21).

Table 21: Discrepancies with other trade data sources

Other trade data sources	CITES data	Comments
Panjiva data indicates that 3,208 kg of silky sharks were exported to HK in 2020	55,097.2 kg of silky shark fins were exported to HK in 2020.	The CITES Trade Database volume is significantly larger than the Panjiva data. While it may be expected that CITES trade data is higher (since not all export permits may be utilised), such a large discrepancy is noteworthy.
Declared exports (by Sri Lanka) to UN Comtrade ⁴⁸	No commercial exports of CITES shark fins declared by Sri Lanka for 2016 and 2017.	Sri Lanka trade data is not available in the UN Comtrade after 2017.
Imports from Sri Lanka (declared by other countries) to UN Comtrade	Very few importer reported quantities are available. E.g., Hong Kong only declared 1281.05 kg imported shark fins out of the 184,879.15 kg of exported fins declared by Sri Lanka.	The total quantity of Hong Kong shark fins imported from Sri Lanka (declared to UN Comtrade) for 2019 is 63,591 kg, while the quantity declared by Sri Lanka to CITES is 93,920 kg in 2019 *.

* While it is established that the CITES Trade Database may contain higher quantities than actual exported volumes, further investigations are recommended to ensure these are not misrepresentations of the true extent of trade, and to identify methods to ensure more accurate data is reported to the CITES Trade Database.

⁴⁶ Informal investigations into this have revealed that these were fins collected prior to the prohibition.

⁴⁷ This is due to the lack of national regulations to implement CMS.

⁴⁸ UN Comtrade. Online at: <https://comtrade.un.org/data>

Sri Lankan businesses involved in the shark fin trade:

One online trading platform⁴⁹ indicates that thirty-nine (39) Sri Lankan companies are selling shark fins online ([Appendix 7.4](#)). While it is not confirmed if the data on this platform is up to date, this is still a relatively high number. One of these companies also indicates that they are selling their products to the EU. Also, only one of these companies is registered in the Sri Lanka exporters directory, however such databases may simply not be up to date.

Another trade data platform (Panjiva) indicates that eight Sri Lanka companies have exported shark fins in the past five years. Only three of these companies seem to be registered as authorised exporters with the Sri Lankan Government. Also, three of these companies exported silky shark fins to Hong Kong in 2020 (there is no discrepancy between these exports and the CITES trade data).

One company is vertically integrated with offices in the UK and North America and indicates that they own longliners that are “fishing sustainably”. Their markets are mainly the UK, European Union (accredited facility), Japan, the United States, and the UAE. They are listed as exporters of Shark fins and Beche de Mer on the Sri Lanka Department of Fisheries and Aquatic Resources⁵⁰. Another company is advertising on their website shark fins from CITES-listed species and has affiliates in India, Singapore, China, and Malaysia (Figure 7).

⁴⁹ go4WorldBusiness website. Online at:
<https://www.go4worldbusiness.com/find?searchText=sri&BuyersOrSuppliers=suppliers&countryFilter%5B%5D=&cityFilter%5B%5D=&FindSuppliers=>

⁵⁰ DFAR. Online at:
https://www.fisheriesdept.gov.lk/web/index.php?option=com_content&view=article&id=245:ocean-fresh-exporters&catid=33:service-providers&Itemid=233&lang=en

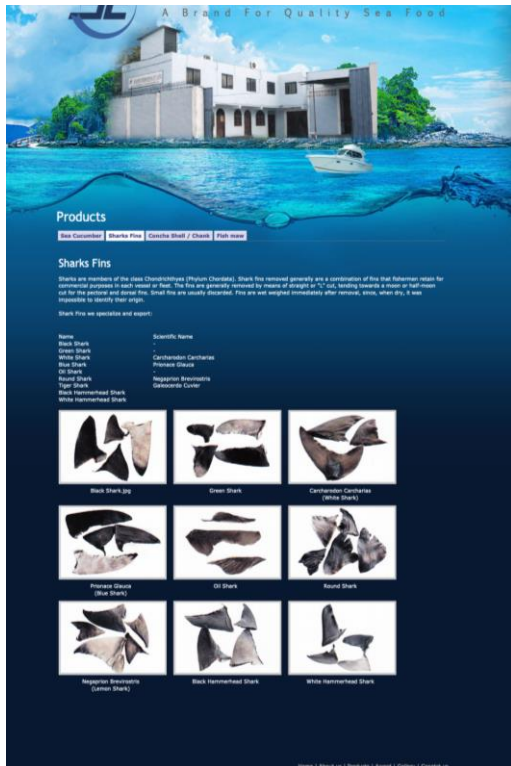


Figure 7 - Screenshots of the website of a Sri Lankan based company showing their operations and advertising CITES-listed shark fins to potential international customers. Of course, if the relevant CITES permits are obtained for the export of such fins and no nationally protected species are offered for sale, it is not illegal.

4. Potential Illegal Trade

Illegal, Unreported, and Unregulated (IUU) fishing is of concern in the region and in Sri Lanka. Issues exist throughout the supply chain, from the point of capture all the way to the point of consumption or export. This section provides a snapshot into illegal fishing operations, seizures of products in trade, along with concerns of other potential illegal fishing activities.

4.1 Illegal cases linked to Sri Lanka

Seizures by Hong Kong Customs

According to publicly available data, Hong Kong has seized at least 1,682 kg of shark fins originating from Sri Lanka between 2018 and 2020 (Table 22). Some of these were protected species that were lacking the necessary permits, while others were intentionally mislabelled. Other seizures, either at the point of export in Sri Lanka, or within Sri Lanka, are available via the TRAFFIC database (Table 23) and other online resources such as Sri Lanka Coastguard (Table 24).

Table 22: Shark fins seizures in Hong Kong

Date of seizure	Location of seizure	Details of seizure	Origin	Remarks
15/1/2020 ⁵¹	Kwai Chung Customhouse Cargo Examination Compound	502 kg of suspected scheduled dried shark fins	Sri Lanka	Case passed to the Agriculture, Fisheries and Conservation Department (AFCD) for investigation. Upon enquiry, AFCD replied on 26/8/2020 that no court proceeding has been initiated in relation to this case.
December 2019 ⁵²	Hong Kong Customs, Tsing Yi Cargo Examination Compound	200 kg dried shark fins	Sri Lanka	A container from Sri Lanka was inspected. The batch of suspected scheduled dried shark fins were mix-loaded with another batch of non-scheduled dried shark fins inside the container.
March 2018 ⁵³	Singapore Airlines Shipment	980 kg of assorted fins	Sri Lanka	Labelled as "dry seafood". *This record is also documented by the TRAFFIC database (Table 23)

⁵¹ C&ED Press Release. Online at: https://www.customs.gov.hk/en/publication_press/press/index_id_2821.html

⁵² The Government of the Hong Kong Special Administrative Region Press Release. Online at: <https://www.info.gov.hk/gia/general/201912/24/P2019122400591.htm>

⁵³ The Straits Times. Online at: <https://www.straitstimes.com/asia/east-asia/endangered-whale-shark-fins-found-in-singapore-airlines-shipment-to-hong-kong>

TRAFFIC seizure records:**Table 23:** TRAFFIC database seizures involving Sri Lanka⁵⁴

ID	Date	Category	Subject	Country of Incident	Countries Involved	Species
<u>33877</u>	22/03/2021	Seizure	250 kg of shark fins from two species seized in Colombo	Sri Lanka	Hong Kong	<i>Isurus oxyrinchus; Sphyrna</i>
<u>35074</u>	27/02/2021	Seizure	307 kg of dried shark fins seized in Sri Lanka destined to Hong Kong	Sri Lanka	Hong Kong	<i>Carcharhinus longimanus</i>
<u>32147</u>	31/12/2020	Seizure	8 kg of blue shark fins seized at Suduwella fishery harbour, six arrested	Sri Lanka		<i>Prionace glauca</i>
<u>32148</u>	18/12/2020	Seizure	2.8 kg of blue shark fins seized at Mirissa fishery harbour, six arrested	Sri Lanka		<i>Prionace glauca</i>
<u>35083</u>	16/02/2020	Seizure	775.3 kg of snaggletooth shark seized at Bandaranaike international airport	Sri Lanka	2 countries	<i>Hemipristis elongata</i>
<u>26518</u>	09/12/2019	Seizure	2kg of oceanic whitetip shark fins seized from a trawler, 8 suspects arrested	Sri Lanka		<i>Carcharhinus longimanus</i>
<u>14988</u>	01/07/2018	Seizure	1.8 kg of oceanic whitetip shark and 19.6 kg of dry shark fin seized at Dikkowita fishery harbour, seven fishermen arrested	Sri Lanka		<i>Carcharhinus longimanus</i>
<u>14099</u>	01/05/2018	Seizure	980 kg shark fins including those from whale sharks - found in Singapore Airlines shipment to Hong Kong.	Hong Kong	Singapore, Sri Lanka	<i>Rhincodon typus; Elasmobranchii</i>
<u>14989</u>	19/04/2018	Seizure	10 kg of oceanic whitetip shark fins seized at Oluvil fishery harbour, five crew members arrested, and vessel detained	Sri Lanka		<i>Carcharhinus longimanus</i>
<u>13395</u>	05/03/2018	Seizure	67.35 kg of shark products seized from fishing trawler at Dikkowita Fishing harbour, five crew members arrested	Sri Lanka		<i>Alopias; Carcharhinus longimanus, Elasmobranchii</i>
<u>13394</u>	04/03/2018	Seizure	220 kg of shark products seized from fishing trawler at Dikkowita fisheries Harbour, six crew members arrested	Sri Lanka		<i>Alopias; Carcharhinus longimanus; Elasmobranchii</i>
<u>14994</u>	13/02/2018	Seizure	127 kg of oceanic whitetip meat seized at Beruwela Fisheries Harbour	Sri Lanka		<i>Carcharhinus longimanus</i>

⁵⁴ Data extracted from the TRAFFIC Wildlife Trade Portal. Online at: <https://www.wildlifetradeportal.org/>

ID	Date	Category	Subject	Country of Incident	Countries Involved	Species
13376	11/10/2017	Seizure	The body of a 171 kg whale shark seized at Valaichchenai Fishery Harbour, four people detained	Sri Lanka		<i>Rhincodon typus</i>
12027	30/09/2017	Seizure	Body of an oceanic whitetip shark seized in the Port of Oluvil, four fishermen arrested	Sri Lanka		<i>Carcharhinus longimanus</i>

4.2 Cases under investigation by the Sri Lankan Government

Sri Lanka Coastguard:

Sri Lanka Coastguard have been actively enforcing national management regulations for sharks and rays. Several arrests and seizures have been made (Table 24), however it is unclear whether all these have proceeded to courts and what penalties, if any, were imposed.

Table 24: Seizures related to sharks and rays conducted by Sri Lanka Coastguard⁵⁵

Date of Seizure	Location	Seizure	Link
29/09/2021	Beruwela fishery Harbour	1 IMUL along with six fishermen in possession of 139 dried shark fins (approx. 4.3 kg)	https://www.facebook.com/100014314603158/posts/1220538658433276/
25/09/2021	Beruwela fishery Harbour	1 IMUL with shark fins, approximately 134.85 kg (233 fins)	https://www.facebook.com/srilanka.coastguard.79/posts/1216651185488690
14/09/2021	Dikkowita Fishery Harbour	1 IMUL returned after a month of fishing with 7 fishers in possession of illegally harvested dried shark flesh (20 kg).	https://www.facebook.com/srilanka.coastguard.79/posts/1208789759608166
04/09/2021	Beruwela Fishery Harbour	185.2 kg of dried shark fins concealed in a freezer lorry inside the harbour perimeters. Shark fins were collected from several multi-day fishing vessels over the previous days.	https://www.facebook.com/srilanka.coastguard.79/posts/1205984989888643
29/07/2021	Cod Bay Fishery Harbour, Trincomalee	1 IMUL. 6 fishers. 13 dried shark fins. 33 kg dried shark flesh (appear to be <i>C. falciformis</i> and <i>P. glauca</i>). Concealed in fishing gear. Fishing trip: 1 month	https://www.facebook.com/srilanka.coastguard.79/posts/1178906879263121

⁵⁵ Data extracted from the Sri Lanka Coastguard Facebook page: <https://www.facebook.com/srilanka.coastguard.79>

Date of Seizure	Location	Seizure	Link
11/07/2021	Myliddy Fishery Harbour	1 IMUL. 5 fishers. 27 kg Thresher Shark flesh. Fishing trip: 1 month	https://www.facebook.com/srilanka.coastguard.79/posts/1166283473858795
09/06/2021	Cod Bay Fishery Harbour, Trincomalee	1 IMUL. 6 fishers. 47 dried shark fins. Approx. 80 kg dried shark flesh. Concealed in the fishing gear. Fishing trip: 1 month	https://www.facebook.com/srilanka.coastguard.79/posts/1146855895801553
13/05/2021	Beruwela Fishery Harbour	1 IMUL. 6 fishers. Approx. 55 kg shark fins (appear to be <i>C. falciformis</i>). Hidden onboard during arrival formalities.	https://www.facebook.com/srilanka.coastguard.79/posts/1129940827493060
05/05/2021	Negombo Fishery Harbour	1 IMUL with fishers. Shark fins (appear to be <i>Sphyrna</i> spp.)	https://www.facebook.com/srilanka.coastguard.79/posts/1124914484662361
04/05/2021	Negombo Fishery Harbour	1 IMUL with fishers. Shark fins (appear to be <i>Sphyrna</i> spp.)	https://www.facebook.com/srilanka.coastguard.79/posts/1124914484662361
May 2021	Dikkowita Fishery Harbour	2 IMUL along with 13 fishers in possession of illegally harvested blue shark fins (41 fins).	https://www.facebook.com/srilanka.coastguard.79/posts/1208789759608166
19/02/2021	Cod Bay Fishery Harbour, Trincomalee	2 IMUL. 48 dried shark fins. 89 kg dried shark flesh. Hidden inside the boat. Fishing trip: 1 month	https://www.facebook.com/srilanka.coastguard.79/posts/1086795688474241
19/02/2021	Mirissa Fishery Harbour	1 IMUL. 5 fishers. Shark fins (appear to be <i>Alopias</i> spp.)	https://www.facebook.com/srilanka.coastguard.79/posts/1086795688474241
14/02/2021	Cod Bay Fishery Harbour	1 IMUL. 6 fishers. Shark fins (appear to be <i>C. falciformis</i>)	https://www.facebook.com/srilanka.coastguard.79/posts/1086788321808311
14/02/2021	Myliddy Fishery Harbour	1 IMUL. 1 fisher. Approx. 331 kg dried Thresher Shark flesh. 300 g dried shark fins. Fishing trip: 2 weeks	https://www.facebook.com/srilanka.coastguard.79/posts/1086788321808311
11/02/2021	Cod Bay Fishery Harbour, Trincomalee	1 IMUL. 5 fishers. Shark fins.	https://www.facebook.com/srilanka.coastguard.79/posts/1086773905143086
09/02/2021	Cod Bay Fishery Harbour, Trincomalee	1 IMUL. 133 dried shark fins. 83 kg dried shark flesh. Fishing trip: 1 month.	https://www.facebook.com/srilanka.coastguard.79/posts/1086773905143086
07/02/2021	Mirissa Fishery Harbour	1 IMUL. 5 fishers. 10 Longfin Mako Shark fins. Hidden in a compartment. Fishing trip: 1 Month.	https://www.facebook.com/srilanka.coastguard.79/posts/1086770768476733
05/01/2021	Cod Bay Fishery Harbour, Trincomalee	1 IMUL. 5 fishers. 25 dried shark fins (approx. 900g). Approx. 28.4 Kg dried shark flesh. Hidden in vessel's engine room & on upper deck. Fishing trip: 3 weeks.	https://www.facebook.com/srilanka.coastguard.79/posts/1048447598975717

Date of Seizure	Location	Seizure	Link
31/12/2020	Suduwella Fishery Harbour	1 IMUL. 6 fishers. 8 Kg Blue Shark fins. Fishing trip: 1 month. <i>*Also reported in the TRAFFIC list of seizures (Table 23)</i>	https://www.facebook.com/srilanka.coastguard.79/posts/1045126965974447
21/10/2020	Cod Bay Fishery Harbour, Trincomalee	1 IMUL fishing trawler. 6 fishers. 6 Kg dried Dolphin flesh. 12 shark fins. Hidden in a fertilizer sack & in a secret place.	https://www.facebook.com/srilanka.coastguard.79/posts/1011612492659228
20/09/2020	Negombo Fishery Harbour	Fishing Vessel: "Sahan Putha". 6 crew members. 423 Kg Thresher Shark. Fishing trip: 24 days	https://www.facebook.com/srilanka.coastguard.79/posts/965233447297133

4.3 Sri Lankan vessels or traders under investigation by other countries

Data on the status of foreign investigations of IUU fishing by Sri Lankan vessels is challenging to obtain. However, based on publicly available news reports, IUU fishing by Sri Lanka is not too uncommon and has been occurring as recently as this year. Countries with the most records are the Seychelles and the Maldives (Table 25).

Table 25: Some examples of reports highlighting IUU arrests and investigations of Sri Lankan fishers.

Date	Country	Details
August 2021 ⁵⁶	Seychelles	A Sri Lankan fishing boat was fined US\$ 167,000 in the Seychelles. The fisher onboard Sampath 7 was arrested on June 1 st by the patrol vessel Topaz. It was not licensed or authorized for fishing in Seychelles' waters.
July 2021 ⁵⁷	Seychelles	Six vessels registered in Sri Lanka or with Sri Lankan crew were caught in the Seychelles over the last year. Two were convicted, one was released (insufficient evidence for prosecution), and three are still in court. For the court cases of the three vessels, one of the captains has been charged for illegal fishing while investigations are ongoing for the others and their crew that are in remand.
July 2021 ⁵⁸	Maldives	The Maldivian Fisheries Ministry fined the owner of a Sri Lankan fishing boat caught operating illegally within the Maldives Exclusive Economic Zone in June 2021. The boat was fined MVR 400,000 (~25,800 USD) under Article 73 (b) of Fisheries Act - the maximum fine that can be imposed under the Act. The boat had been engaged in shark fishing within the Maldives EEZ without permits. Approximately 3 tons of fish were found onboard ("mostly shark").
December 2020 ⁵⁹	Maldives	One vessel (Asuruma-03) with 6 crew was taken into custody for illegal fishing.
April 2020 ⁶⁰	Seychelles	The Seychelles Fisheries Authority (SFA) is discussing new approaches to deter illegal fishing in its waters after a third Sri Lankan vessel was intercepted for the year. The 2 previous ones still in court.
March 2020 ⁶¹	Seychelles	The crew (7 fishers) of a Sri Lankan registered fishing vessel intercepted on suspicion of fishing illegally in the Seychelles' waters have been remanded for 14 days by the Seychelles Supreme Court.
2019 ⁶²	Seychelles	Seven cases were investigated by local authorities, resulting in five successful prosecutions in 2019.
July 2019 ⁶³	Maldives	Four Sri Lankan fishing boats with 27 fishers were captured for likely illegal fishing within the Maldives EEZ. The boats were not captured in the act of fishing but officers found signs that fishing was carried out on board all four boats.

⁵⁶ Daily News Sri Lanka. Online at: <https://www.dailynews.lk/2021/08/07/local/256019/sri-lankan-fishing-boat-fined-us-167000-seychelles>

⁵⁷ Seychelles News Agency. Online at: <https://allafrica.com/stories/202107130876.html>

⁵⁸ Sun Media Group. Online at: <https://en.sun.mv/67564>

⁵⁹ South Asia Monitor. Online at: <https://www.southasiamonitor.org/maldives/maldives-seizes-illegally-fishing-foreign-vessel>

⁶⁰ Seychelles News Agency. Online at: <https://shar.es/aWej6t>

⁶¹ Seychelles News Agency. Online at: <https://shar.es/aWejGT>

⁶² Seychelles News Agency. Online at: <https://shar.es/aWejGT>

⁶³ Sun Media Group. Online at: <https://en.sun.mv/54356>

Date	Country	Details
November 2018 ⁶⁴	Seychelles	The captain of a Sri Lankan-flagged vessel appeared in court after being arrested for allegedly fishing illegally in the waters of Seychelles, while a second captain is being investigated after two boats were intercepted by the Seychelles Coast Guard. If confirmed the case would be the third incidence of illegal fishing by Sri Lankan-flagged vessels in the waters of Seychelles in 2018.
December 2018 ⁶⁵	Maldives	A Sri Lankan vessel (Oshadi 1 with 6 crew) was caught illegally fishing in Maldivian territorial waters and was carrying ~1 tonne of fish. The illegal catch was mostly shark.
March 2013 ⁶⁶	Maldives	A Sri Lankan illegally fishing in Maldivian waters has been convicted by the Maldivian authorities and sentenced to six months in prison and fined 500,000 Maldivian rupees (\$32,425). Greenpeace had reported the sighting of two Sri Lankan fishing vessels in Maldivian waters.

4.4 Other information and potential concerns

Foreign fleets in Sri Lanka

There are foreign fishing vessels arriving in Sri Lankan ports, likely for unloading of catch or for refuelling and restocking (Table 26). Some vessels are not registered to the IOTC, raising questions surrounding the legality of their fishing operations within the Indian Ocean. However, if they are fishing for non-tuna species, it would not be in contravention to the IOTC. And of course, the question remains whether these vessels are also incidentally, or intentionally, capturing and landing sharks (with or without fins), and if so, what quantities.

A lack of transparency

Discrepancies across databases along with the lack of transparency makes it challenging at times to determine if certain activities or companies are acting within or outside the law. For example, one Sri Lankan company that is registered in the IOTC as an owner of several longliners (all flagged to Sri Lanka), is owned by a larger registered holding that has multiple subsidiaries; many of which are involved in fisheries. According to the FIS directory⁶⁷, this holding company owns fishing vessels and has as targeted species, sharks (tope shark and mako shark), in addition to tuna and billfishes. This holding company does not have any vessels registered with the IOTC. While it is highly likely that the exports and vessels (registered with the IOTC) being mentioned belong to this holding company's subsidiary, the lack in transparency makes it challenging to clearly distinguish who exactly is responsible for the vessels and resulting trade.

⁶⁴ Seychelles News Agency. Online at: <https://shar.es/aWej6Y>

⁶⁵ Maldives Independent. Online at: <https://maldivesindependent.com/society/sri-lankan-boat-was-seized-with-tonne-of-fish-143268>

⁶⁶ Emirates 24/7. Online at: <https://www.emirates247.com/news/sri-lanka/lankan-fined-for-illegal-fishing-by-maldives-2013-03-10-1.497982>

⁶⁷ Fish Information and Services (FIS). Online at: <https://seafood.media/fis/companies/index.asp?l=e>

Additionally, if a company were accused of collusion, racketeering, or other illegal practices as has been done in the past⁶⁸, a lack of transparency could enable them to continue trading and profiteering through a subsidiary company or a larger holding company, if available to them.

⁶⁸ Sri Lanka Mirror (March 2020). Online at: <https://srilankamirror.com/biz/17376-global-fisheries-engaged-in-global-racket>

Foreign fleets in Sri Lanka:**Table 26:** List of foreign vessels with regular visits in Dikkowita Fisheries Harbour between March 2020 and March 2021

Vessel Name	Flag	IRCS	Mmsi	IMO-LR	Vessel Type - Generic	Owner (IMO)	Owner address (IMO)	Notes	IOTC #
AL HASSAN AL MARRAKCHI	Morocco	CNA5587	242017400	9867061	Fishing	INSTITUT NATIONAL DE RECHERCHE	Club Equestrian Ould Jmel, route de Sidi Abderrahmane, Casablanca, Morocco		
ARDATOV	Russia	UFND	273449170	7703974	Fishing	ACTIVE MARINE FISHERY BASE		Status: Decommissioned or Lost; only transit tracks since April 2020; stopped in LK in July 2020.	
HAN RONG 358	China	BZW8H	412410046	9886861	Fishing	ZHEJIANG HAIRONG OCEAN (4236471)	601-5, No 4 Building Haitian Court, Taizhou, Zhejiang, China	Has 28 registered vessels, some of them flagged to Iran	
HAN RONG 365	China	BZW4I	412410056	9886914	Fishing	ZHEJIANG HAIRONG OCEAN (4236471)	601-5, No 4 Building Haitian Court, Taizhou, Zhejiang, China	Has 28 registered vessels, some of them flagged to Iran	
HAN RONG 368	China	BZW6I	412410058	9886938	Fishing	ZHEJIANG HAIRONG OCEAN (4236471)	601-5, No 4 Building Haitian Court, Taizhou, Zhejiang, China	Has 28 registered vessels, some of them flagged to Iran	
INDIAN STAR	Seychelles	S7SI	664541000	9202297	Fishing	INDIAN STAR FISHERY CO LTD (5734816)	Suite 12, Oliaji Trade Centre, Francis Rachel Street, Victoria, Mahe Island, Seychelles.	Indian Start Fishery co. Also owns the FV "Ocean Star"	IOTC00654
ISHANI 1			952000746	0	Fishing			No info on the vessels found in WCPFC or IMO	IOTC009798
LAK RAJINI 2			700360722	0	Fishing			Not in the WCPFC or IMO registry	IOTC009798

Vessel Name	Flag	IRCS	Mmsi	IMO-LR	Vessel Type - Generic	Owner (IMO)	Owner address (IMO)	Notes	IOTC #
RICH OC AN 101	Samoa	5WAN	561021014	9824801	Fishing	RICH WIN CEYLON FISHERIES (5971246)	Care of Rogers Agencies Pvt Ltd , 215, High Level Road, Colombo, 00500, Sri Lanka.	Not in the IOTC, WCPFC; Under the name of Rich Ocean 101 in the IMO registry; very little AIS activity in the past year	
SADUN PUTHA 4			700344423	0	Fishing			Not in the WCPFC or IMO databases	IOTC009798
SANJANA PUTHA 10			700010673	0	Fishing			Not in the WCPFC or IMO databases	IOTC009798
SHUN YING	Taiwan	BJ5012	416228700	8790601	Fishing	LIN J-S (4239706)	347, Xingdong Road, Donggang Township, Pingtung County, China, Republic of (Taiwan)		
XING BANG 901	China	BZ2UX	412549204	8562420	Fishing	ZHEJIANG XINGBANG OCEAN (4284622)	Taizhou, Zhejiang, China.	Owns 14 fishing vessels.	
XING BANG 902	China	BZ4UZ	412549205	8562432	Fishing	ZHEJIANG XINGBANG OCEAN (4284622)	Taizhou, Zhejiang, China.	Owns 14 fishing vessels.	
XING BANG 907	China	BZU8J	412549208	8562468	Fishing	ZHEJIANG XINGBANG OCEAN (4284622)	Taizhou, Zhejiang, China.	Owns 14 fishing vessels.	
XING BANG 909	China	BZ8UW	412549211	8562482	Fishing	ZHEJIANG XINGBANG OCEAN (4284622)	Taizhou, Zhejiang, China.	Owns 14 fishing vessels.	
XING BANG 910	China	BZ9UW	412549212	8562494	Fishing	ZHEJIANG XINGBANG	Taizhou, Zhejiang, China.	Owns 14 fishing vessels.	

Vessel Name	Flag	IRCS	Mmsi	IMO-LR	Vessel Type - Generic	Owner (IMO)	Owner address (IMO)	Notes	IOTC #
						OCEAN (4284622)			
XING BANG 911	China	BZ1UX	412549213	8562509	Fishing	ZHEJIANG XINGBANG OCEAN (4284622)	Taizhou, Zhejiang, China.	Owns 14 fishing vessels.	
XING BANG 912	China	BZ3UZ	412549214	8562511	Fishing	ZHEJIANG XINGBANG OCEAN (4284622)	Taizhou, Zhejiang, China.	Owns 14 fishing vessels.	
XING BANG 915	China	BZ8UY	412549187	8562523	Fishing	ZHEJIANG XINGBANG OCEAN (4284622)	Taizhou, Zhejiang, China.	Owns 14 fishing vessels.	
XING BANG 916	China	BZ9UY	412549188	8562535	Fishing	ZHEJIANG XINGBANG OCEAN (4284622)	Taizhou, Zhejiang, China.	Owns 14 fishing vessels.	
XING BANG 917	China	BZ1UZ	412549189	8562418	Fishing	ZHEJIANG XINGBANG OCEAN (4284622)	Taizhou, Zhejiang, China.	Owns 14 fishing vessels.	
XING BANG 918	China	BZ2UZ	412549191	8562547	Fishing	ZHEJIANG XINGBANG OCEAN (4284622)	Taizhou, Zhejiang, China.	Owns 14 fishing vessels.	

5. SWOT Analysis

A SWOT analysis conducted for Sri Lankan shark and ray fisheries (Table 27), identifying strengths, weaknesses, opportunities and threats, provides a good overview of the status quo.

Table 27: SWOT Analysis for Sri Lankan shark and ray fisheries.

<p><u>STRENGTHS:</u></p> <ul style="list-style-type: none"> • Adoption of RFMO obligations into national policy, including prohibitions on species and shark finning. • VMS and port state controls in place and enforced with improved management of the high seas fishing fleet. • Developed non-detriment findings (NDF) for CITES listed species. • Revised the FAO National Plan of Action for Sharks (NPOA-Sharks). • Implemented CITES electronic permits to reduce fraud and illegal trade. 	<p><u>WEAKNESSES:</u></p> <ul style="list-style-type: none"> • Large spatial scale of fisheries with limited structure (e.g., no mandated ports of landing). • Limited capacity. • Limited species-specific data, no stock status, and no catch per unit effort (CPUE) for sharks and rays. • Overlapping jurisdictions of multiple agencies related to marine resources. • Insufficient implementation of the CITES Convention⁶⁹ and a lack of regulations to implement the CMS Convention. • Some IUU fishing and illegal trade is occurring.
<p><u>OPPORTUNITIES:</u></p> <ul style="list-style-type: none"> • Scope to develop large Fishery Management Areas (FMAs) and Marine Protected Areas (MPAs), considering sharks and rays. • Interest to develop the management of FMAs and MPAs to include sharks and rays. • Community-based management for small coastal fisheries that either target sharks and rays or have high levels of bycatch. • International regulations provide a strong incentive to manage shark and ray fisheries. 	<p><u>THREATS:</u></p> <ul style="list-style-type: none"> • Increasing demand for shark and ray products. • Declining catches and likely low CPUE will increase pressure on sharks and rays. • High priority to expand fisheries production that is backed by strong political and public opinion. • Politically motivated decision-making that conflicts with long-term policy for species or ecosystem management. • Introducing new legislation or regulations is time-consuming.

⁶⁹ On the 18th of October 2021, a Cabinet Decision was taken to amend the Fauna and Flora Protection Ordinance to formalize implementation of CITES (<https://www.news.lk/cabinet-decisions/item/33145-cabinet-decisions-18-10-2021>). The Gazette will be printed and presented in Parliament for adoption. Once approved, it will significantly strengthen Sri Lanka's implementation of the CITES Convention.

6. Recommendations

Despite the obvious issues and challenges that must be overcome, it is essential to take into consideration:

- 1) the extremely conservative life cycles of many shark and ray species,
- 2) their high mortality from fisheries,
- 3) current depleting population trends,
- 4) ongoing international trade for their derivatives,
- 5) the lack of adequate management and conservation measures in place, and
- 6) the time these slow growing species would require, recovering from their state of depletion.

These are compelling reasons for stringent actions to prevent further overexploitation and enable recovery to ensure long-term sustainable fisheries, benefitting both the species and associated livelihoods.

Sri Lanka and the Indian Ocean:

At present, much of the national management in Sri Lanka for sharks and rays has been largely reactionary, and many following mandatory conservation measures introduced at the IOTC. This is very much in contrast to Sri Lanka's commitment at international conventions such as CITES⁷⁰ and CMS⁷¹, where they have been proactive in engaging and advocating other countries in successfully listing shark and ray species, both raising awareness and pushing to regulate overexploitation because of fisheries and trade. Therefore, there is a need to encourage similar proactive measures at the national level, particularly given the extent of overexploitation that is likely taking place due to the largely unregulated fisheries, operating at the immense scale that they are, and given the conservative life histories of most sharks and rays captured by these fisheries.

One of the primary challenges is the lack of capacity (training in visual identification and the availability of rapid, genetic tools), the number of landing sites to be surveyed (and the number of trained personnel required), along with higher priorities (i.e., target species); all resulting in limited species-specific data being collected in Sri Lanka.

Given the role of the IOTC in the Indian Ocean for sharks and rays, increased engagement at this RFMO is essential to provide updated science to inform relevant management processes. This includes active participation at the IOTC Working Party on Ecosystems and Bycatch

⁷⁰ Multiple news articles over several years. E.g., The Pew Charitable Trusts. Online at: <https://www.pewtrusts.org/en/about/news-room/press-releases-and-statements/2016/05/02/pew-commends-broad-global-support-for-proposed-shark-and-ray-protections> and <https://www.pewtrusts.org/en/research-and-analysis/articles/2018/03/19/sri-lanka-again-shows-its-commitment-to-protecting-sharks> and <https://www.pewtrusts.org/en/about/news-room/press-releases-and-statements/2019/08/28/pew-applauds-new-shark-and-ray-trade-regulations>

⁷¹ Multiple news articles, including: <https://www.sprep.org/news/samoa-and-sri-lanka-step-protect-blue-shark-global-migratory-species-conference>

(WPEB), the IOTC Scientific Committee (SC), and the IOTC Commission. Recommendations to regulate shark fisheries through the IOTC have been proposed to curb overexploitation and prevent the commercial extinction of species⁷². Following Sri Lanka's leadership at international forums, the intrinsic value of maintaining national marine biodiversity, and the direct economic value of sharks and rays for fishers, it is imperative that the management of these species, and of national fisheries, are improved.

Other relevant regulation bodies:

Sri Lanka is also a member of several regional environmental bodies, including:

1. BOBP-IGO: The Bay of Bengal Programme Inter-Governmental Organisation
2. BOBLME: Bay of Bengal Large Marine Ecosystem
3. BIMSTEC: Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
4. SAWEN: South Asia Wildlife Enforcement Network
5. SACEP: South Asia Co-operative Environment Programme.

Apart from BOBLME, which played a role in supporting the development of the NPOA-Sharks for Sri Lanka, none of the other bodies have had a shark or ray focus. However, given their regional environmental focus, reaching out to such bodies for opportunities is recommended.

⁷² Fernando & Tanna, 2019. Status of sharks in Sri Lankan fisheries. Online at: <https://www.iotc.org/documents/WPEB/15/17>

It is therefore recommended that:

- 1) **Legislation is strengthened** through revisions that improve implementation of national policy and international biodiversity conventions. This includes:
 - a. strengthening implementation of CITES, including increasing transparency by incorporating information on the exporting companies,
 - b. implementing the CMS Convention,
 - c. revising national species lists to reflect upcoming IOTC conservation and management measures (e.g., mobulid rays in January 2022) and to protect other threatened species. Timely revisions are vital to provide sufficient time for awareness and outreach programs, transitions of fisheries, and any monitoring capacity building that may be necessary for effective implementation,
 - d. signing and ratifying the Cape Town Agreement⁷³,
 - e. increasing fines and sentences for IUU activities by Sri Lankan fishers, traders, or companies,
 - f. removing fisheries subsidies (that promote unsustainable fishing practices),
 - g. requiring species-specific HS codes,
 - h. encouraging proactive shark and ray fisheries management.

Additionally, improved regional and international coordination, along with new legislation by other states impacting Sri Lankan shark and ray resources, must be explored. This includes:

- i. curbing IUU fisheries by other countries in the region,
- ii. prohibiting foreign flag states from operating in Sri Lankan waters or from landing their catches at Sri Lankan ports,
- iii. increasing oversight of foreign fleets fishing in the high seas around Sri Lanka and the northern Indian Ocean (including via the IOTC),
- iv. requiring species-specific HS codes to improve monitoring of trade,
- v. expanding the use of electronic CITES permitting to reduce the mismatch between the CITES Trade Database (issued permits) and actual exports (such as the e-permitting system implemented by Sri Lanka that integrates the Sri Lanka Customs database (ASYCUDA) with the national CITES Management Authority,
- vi. ensuring that data submitted to the various databases (e.g., FAO, IOTC, UN Comtrade, CITES Trade Database) is consistent.

All management should be ambitious to protect species and enable recovery but also be realistic, financially viable, implementable, and flexible to accommodate updated circumstances (e.g., the introduction of catch/export quotas that are revised annually).

⁷³ The Pew Charitable Trusts - Cape Town Agreement. Online at: <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2018/10/the-cape-town-agreement-explained>

- 2) **Research and data collection** are focused on national and regional priorities identified through the existing NPOA-Sharks, CITES NDF's, and other management requirements. **Data is shared** with other management conventions, including but not restricted to CITES, CMS, the CMS Sharks MoU, IOTC, and other relevant bodies.

For example:

- i. Long-term datasets are maintained to monitor trends. These should continue, even once management is introduced to evaluate changes and enable feedback to tweak management as required.
- ii. Research:
 - i. support implementation of the upcoming IOTC conservation and management measure for mobulid rays captured by artisanal fisheries through the development of best handling and release practices etc.,
 - ii. quantifying the impact of increased fishing on FADs for (silky) sharks,
 - iii. genetic stock assessments,
 - iv. tagging and other spatial movement or habitat studies,
 - v. identifying total allowable catches (TACs) for species.
- iii. Exploring alternative methods of data collection for small scale vessels (<24 m); e.g., EMS/crew-based observers/increased port sampling coverage).
- iv. Implementing 100% observer coverage on purse seine vessels to report all interactions.
- v. Data on vessels operating and capturing sharks in the high seas are made available for CITES Introduction from the Sea (IFS) certificates and for Non-Detriment Findings (NDFs).

Scientific data must be used to promote proactive sustainable management ahead of time, benefiting species and fisher livelihoods, rather than as reactionary non-retention policies that are required at the last-minute to prevent the imminent collapse of a species or fisheries.

- 3) A **recovery plan** is introduced and implemented. This includes:
- i. An **interim measure**, such as non-retention until stock assessments are available for a species, at which point regulated capture could be permitted depending on the assessment outcome.
 - ii. Controls on gillnets (temporarily alter gear configuration - e.g., sub-surface gear/gear element, while identifying a pathway to transition away from gillnets).
 - iii. Accurate reporting on fleet composition to better manage fishing effort.
 - iv. Bycatch mitigation (e.g., mandatory use of corrosive circle hooks, prohibiting the use of wire leaders, and improving handling and release techniques).
 - v. Spatial closures (time/area/gear/nursery areas/ecologically significant areas/high density).

7. Appendix

7.1 Vessel distribution in the 15 km survey (east coast of Sri Lanka).

IMUL* Inboard Multi-day Boats

NTRB Non-motorized Traditional Boats

OFRP Out-board engine Fiberglass Reinforced Plastic Boats

IDAY Inboard Single-day Boats

*This may contain IDAY (Inboard Single-day Boats) vessels as it was not possible to distinguish between the two from the shore.

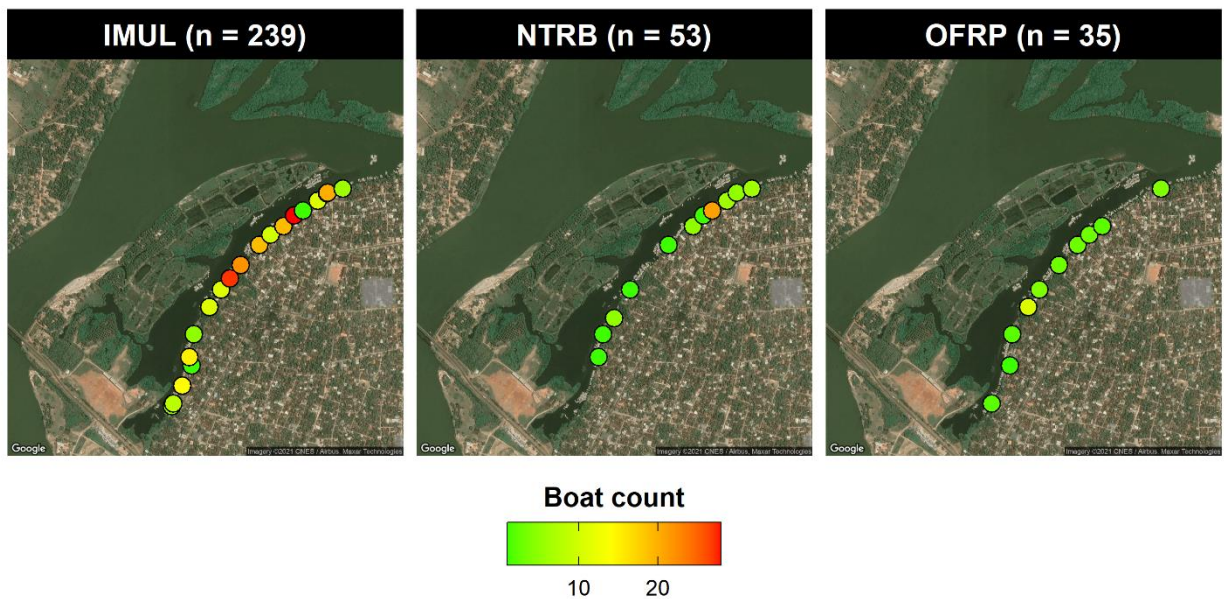


Figure 8 - The number of marine vessels documented at VLS: Valaichchenai Landing Sites

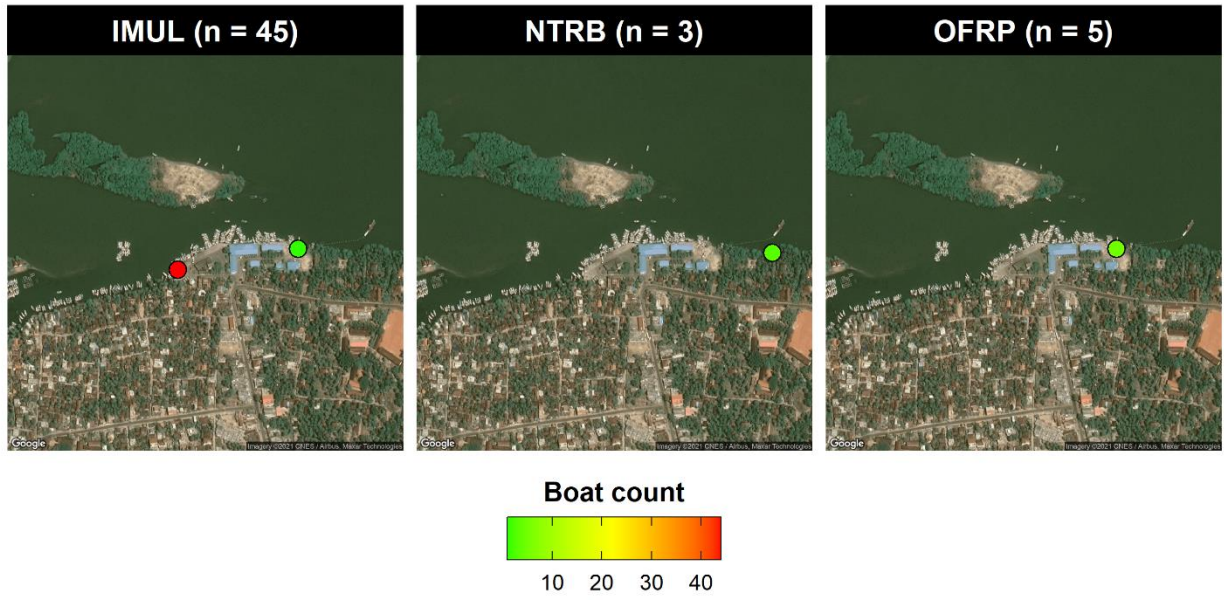


Figure 9 - The number of marine vessels documented at VFH: Valaichchenai Fisheries Harbour.

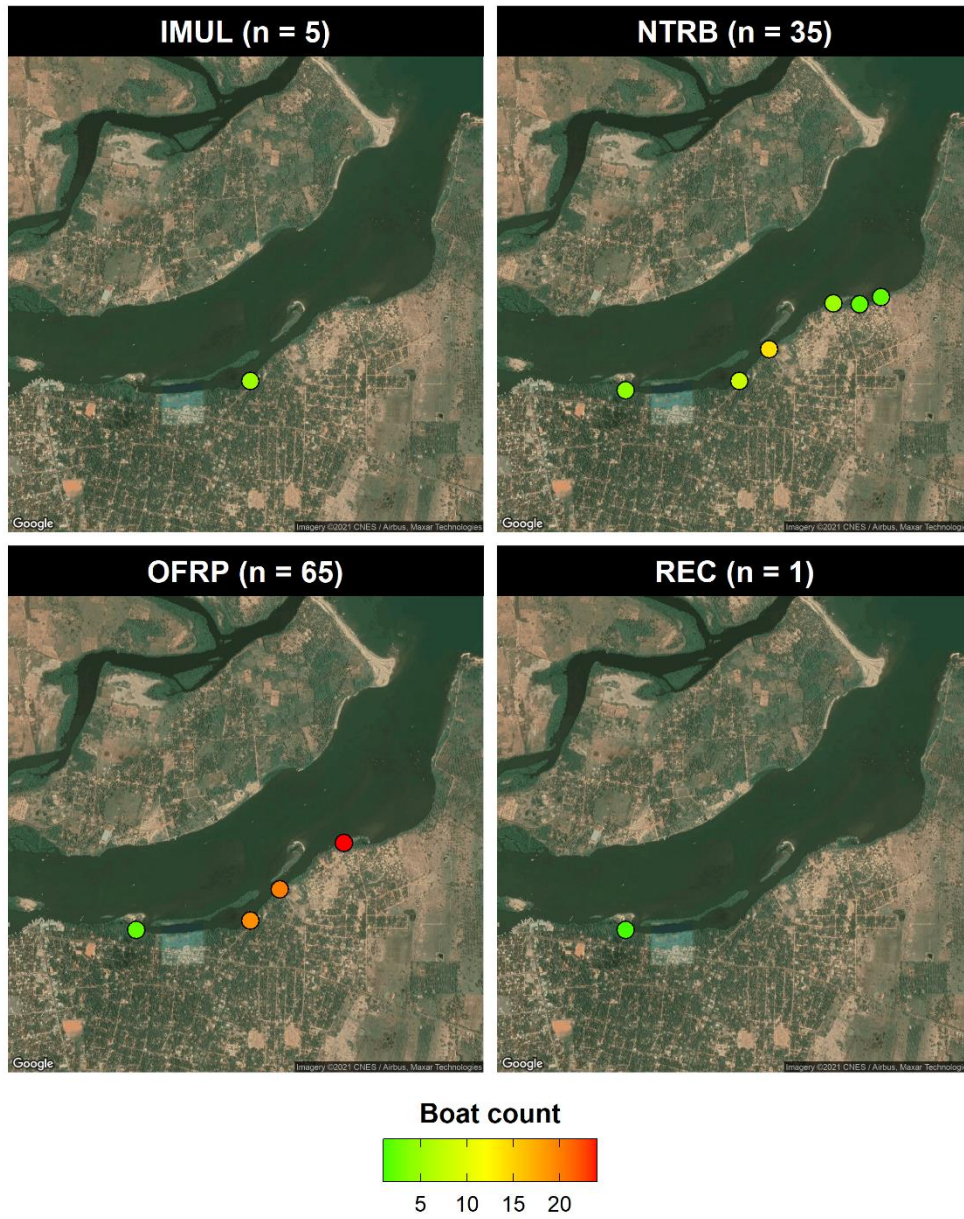


Figure 10 - The number of marine vessels documented at VFH: Valaichchenai Fisheries Harbour.

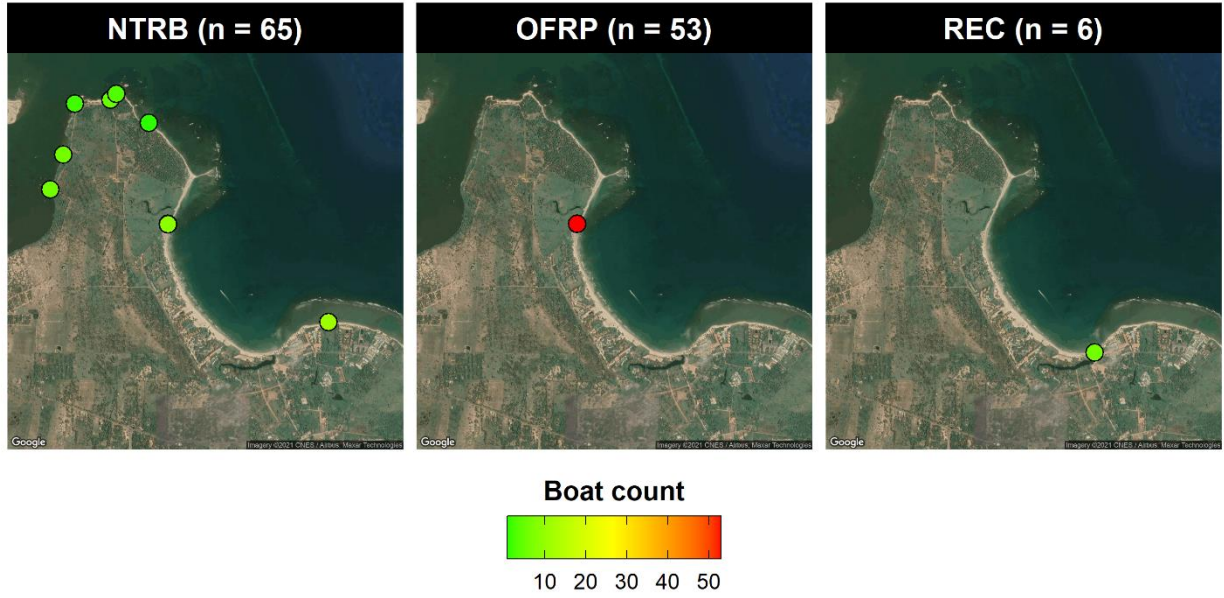


Figure 11 - The number of marine vessels documented at PAS: Passikudah Landing Sites.

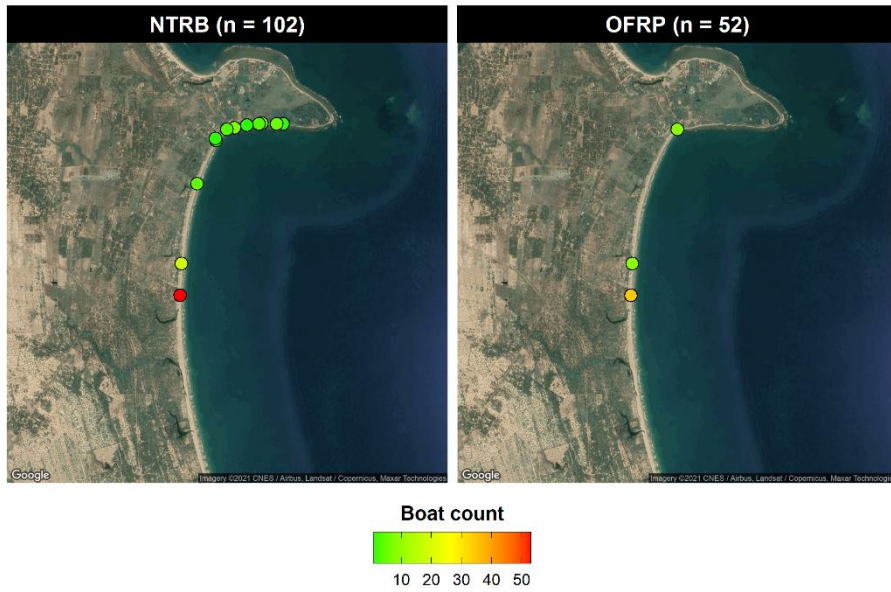


Figure 12 - The number of marine vessels documented at KAL: Kalkudah Landing Sites.

7.2 The Shark Fisheries Management Regulations 2015

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The Gazette of the Democratic Socialist Republic of Sri Lanka
EXTRAORDINARY

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No. 1938/2 - MONDAY OCTOBER 26, 2015

(Published by Authority)

PART I : SECTION (I) — GENERAL

Government Notifications

L.D.B. 1/2012 (II)

FISHERIES AND AQUATIC RESOURCES ACT, No. 2 OF 1996

REGULATIONS made by the Minister of Fisheries and Aquatic Resources Development under Section 61 read with Section 29 of Fisheries and Aquatic Resources Act, No. 2 of 1996.

MAHINDA AMARAWEEERA,
Minister of Fisheries and Aquatic Resources Development.

Colombo,
14th October 2015.

Regulations

1. These regulations may be cited as Shark Fisheries Management Regulations, 2015.
2. No person engaged in fishing operations in Sri Lanka Waters shall catch any shark of the species specified in the Schedule hereto except for the collection of museum, biological sampling for taxonomic study and research purposes.
3. No person shall -
 - (i) remove on board a local fishing boat the fins of any shark caught by such local fishing boat and discard carcass of such shark of which fins have been removed.
 - (ii) retain on board, transship or land fins of any shark unless such fins are naturally attached to the body of such shark.
4. Subject to the provisions of regulation 2, it shall be the duty of the owner or skipper of a fishing boat engaged in fishing operations to release live sharks especially juveniles and pregnant sharks.



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PART I: SEC. (I)-GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA-26.10.2015

5. The Landing of Fish (Species of Shark and Skates) Regulations, 2001 published in the *Gazette Extraordinary* No. 1206/20 of 17th October 2001 and the prohibition of Catching Thresher Shark Regulations, 2012 published in the *Gazette Extraordinary* No. 1768/36 of 27th July 2012 are hereby rescinded.

6. In these regulations “Shark” include species of sharks.

SCHEDULE

1. Shark species of the Family Alopiidae.
Alopias vulpinus (Thresher shark)
Alopias superciliosus (Big-eye thresher shark)
Alopias pelagicus (Pelagic thresher shark)
2. *Carcharhinus longimanus* (Oceanic white-tip shark)
3. *Rhincodon typus* (Whale shark)

11-204/1

7.3 The Shark Fisheries Management (High seas) Regulations 2015

2A I කොටස : (I) ඡේදය - ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජයේ අති විශේෂ ගැසට් පත්‍රය - 2015.10.26
PART I: SEC. (I)-GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA-26.10.2015

L.D.B. 1/2012 (II)

FISHERIES AND AQUATIC RESOURCES ACT, No. 2 OF 1996

REGULATIONS made by the Minister of Fisheries and Aquatic Resources Development under Section 61(1)(t) of the Fisheries and Aquatic Resources Act, No. 2 of 1996, for the purpose of implementing conservation and management measures adopted by the Indian Ocean Tuna Commission.

MAHINDA AMARAWEEERA,
Minister of Fisheries and Aquatic Resources Development.

Colombo,
14th October 2015.

Regulations

1. These regulations may be cited as Shark Fisheries Management (High seas) Regulations, 2015.
2. No person engaged in fishing operations in high seas shall catch any of the species specified in the Schedule hereto except for the collection of museum, biological sampling for taxonomic study and research purposes by the scientific observer on board.
3. No person shall engaged in fishing operations in high seas shall -
 - (i) remove on board a local fishing boat the fins of any shark caught by such local fishing boat and discard carcass of such shark of which fins have been removed.
 - (ii) retain on board, transship or land fins of any shark unless such fins are naturally attached to the body of such shark.

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PART I: SEC. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA - 26.10.2015

4. No person engaged in fishing operations in high seas shall, retain on board of a local fishing boat, transship, land, store, sell or offer for sale any shark of the species specified in the Schedule hereto or any part of its body.

5. No person engaged in purse seine fishing operations in high seas shall deliberately operate purse seines in the areas frequently inhabited by whale shark (*Rhincodon typus*)

6. Subject to the provisions of regulations, it shall be the duty of the owner or skipper of a local fishin boat engaged in fishing operations in high seas -

- (i) to release to the sea any shark caught incidentally and belonging to the species specified in the Schedule hereto without any harm to the extent practicable.
- (ii) to record and release or disposal of incidentally caught shark belonging to the species specified in the Schedule hereto including number, the location, the steps taken to ensure safe release in the logbook maintained on board of the local fishing boat.
- (iii) to release live sharks specially juveniles and pregnant sharks

7. The Landing of Fish (Species of Shark and Skates) Regulations, 2001 published in the *Gazette Extraordinary* No. 1206/20 of 17th October 2001 and the prohibition of Catching Thresher Shark Regulations, 2012 published in the *Gazette Extraordinay* No. 1768/36 of 27th July 2012 are hereby rescinded.

8. In these regulations “Shark” include species of sharks.

SCHEDULE

1. Shark species of the Family Alopiidae.
Alopias vulpinus (Thresher shark)
Alopias superciliosus (Big-eye thresher shark)
Alopias pelagicus (Pelagic thresher shark)
2. *Carcharhinus longimanus* (Oceanic white-tip shark)
3. *Rhincodon typus* (Whale shark)

11-204/2

7.4 A list of companies that appear to export shark fins

The following are from the go4WorldBusiness website database⁷⁴:

- | | |
|--|---|
| 1) Aashiya Imp. & Exp. (Pvt) Ltd. | Mct |
| 2) Krish Sea Food Exp. (Pvt) Ltd. | 22) Mohideens Exports Pvt. Ltd. |
| 3) Meera Sahibo And Sons | 23) Nani Quality Food |
| 4) Ocean Flower Lanka Pvt., Ltd. | 24) Nu Concepts |
| 5) Ocean Fresh Exp. (Ocean Fresh Pvt?) | 25) Nurah |
| 6) Seneviratne Bandula Co. | 26) Pioneer Marine Traders |
| 7) Suganth Atollinx International Pl | 27) Rafeek And Sons |
| 8) Suganth International (P) Ltd. | 28) Rashmi Deep Sea Fishing Company |
| 9) Amara Fish Deals | 29) Roy And Brothers Pvt.Ltd. |
| 10) Arshad Trading Pvt Ltd | 30) Rumes Gunathilake |
| 11) Bizlanka International | 31) Savannah Exports (Pvt.) Ltd. |
| 12) Capital Sea Holdings Pvt. Ltd. | 32) Sri Ganesh Export |
| 13) Capt. S. Bashkkaran. | 33) Sularo Seafood |
| 14) Fathima International | 34) Tender Plus |
| 15) Glory Star International | 35) The Crab Company (Established As
Nirma Seafoods) |
| 16) John Asia International | 36) Universal Fish & Fins |
| 17) Kingfisher Impex | 37) Wfresh |
| 18) Kushuhara Trading (Pvt) Ltd. | 38) World Point Holdings Pvt Ltd |
| 19) Lanka Fishing and Processing Limited | |
| 20) Lanka Sea Cucumber | |
| 21) Lanka Seafood | |

⁷⁴ go4WorldBusiness website. Online at:
<https://www.go4worldbusiness.com/find?searchText=sri&BuyersOrSuppliers=suppliers&countryFilter%5B%5D=&cityFilter%5B%5D=&FindSuppliers=>

List of companies from the Panjiva Trade Database:

1. Aashiya Imp. & Exp. (Pvt) Ltd.
2. Krish Sea Food Exp. (Pvt) Ltd.
3. Meera Sahibo And Sons
4. Ocean Flower Lanka Pvt., Ltd.
5. Ocean Fresh Exp. (Ocean Fresh Pvt?)
6. Seneviratne Bandula Co.
7. Suganth Atollinx International Pvt
8. Suganth International (P) Ltd.

While some or all the above companies may be authorised to trade and export shark fins, it is not clear from current publicly available information to verify which of the trade is legitimate.