INTRODUCTION

Having evolved over 400 million years ago, Elasmobranchs or Elasmobranchii — are a subclass of Chondrichthyes (cartilaginous fish) that include sharks, rays and skates; and are among the oldest and most diverse groups found in a variety of aquatic ecosystems worldwide (Compagnon, 1990; Jabado et al., 2018). Worldwide, there are more than 500 shark species (Ebert et al., 2021), and approximately 160 species have been reported in India (Kizhakudan et al., 2015).

Being top predators and detritivores in the oceanic food web, sharks prey on a wide variety of species (including plankton, fish, crustaceans and marine mammals) and hence, exert a powerful influence in maintaining ecosystem health and species diversity (Bomkov et al., 2014). As sharks search for prey, their movement helps transport vital nutrients across the marine ecosystem (Peel, 2019).

SHARK TRADE

Demand for shark products varies from affordable meat for local consumption to high-value export products like shark fins used as a culinary delicacy in Asia (Steinke et al., 2017; Dulvy et al., 2021). Other shark products that are less frequently used include shark skin (for leather); liver oil (squalene); cartilages for chondroitin sulphate extraction to prepare medicines; and jaws and teeth for jewellery and other curios (Raje et al., 2007; Sim et al., 2007). International markets that cater to this demand drive overfishing of sharks (Dent and Clarke, 2015; Jabado and Spaet, 2017; Dulvy et al., 2017; Shea and To 2017).

Overfishing, coupled with low biological productivity, put shark species at a higher risk of extinction when compared to most other vertebrates and thus sharks have garnered global conservation attention in recent years (Pacoureau et al., 2021). Over one-third of sharks and their Chondrichthyes relatives are threatened worldwide (Dulvy et al., 2021).

India is one of the world’s largest shark fishing nations globally (Kizhakudan et al., 2015). In India, shark meat is a local delicacy and it enjoys a large clientele, especially along the Southern coast (Kizhakudan et al., 2015).

The demand for shark fins and meat is a major driver of the global shark fishery. Shark fins are the most sought-after shark product used to make ‘shark-fin soup’ considered a delicacy. Other shark products are also demanded, albeit to a lesser extent. Shark’s meat is consumed as food; skin as leather; liver oil as a lubricant, in cosmetics and as a source of vitamin A; cartilages for chondroitin sulphate extraction in the preparation of medicines and jaws and teeth for making curios (Dent and Clark 2015; Shea and To 2017).

To highlight the threat of illegal trade to sharks in India, TRAFFIC analysed open-sourced media reports on incidences of seizure of shark derivatives from January 2010 - December 2022. For this analysis, the reported seizure information was assumed to be correct, and the parts seized were considered genuine.

TRAFFIC found a total of 17 incidents reporting shark derivatives in illegal trade for 2010-2022. Shark fins were the most seized derivative (15,839.5 kg) and were reported in 82% of the seizures. Other derivatives seized included - cartilage (1,600 kg) and teeth (2,445 in number).

In 35% of seizure incidences, other wildlife contraband were also seized along. These included sea cucumbers, sea horses, pipefish, corals, seashells, pangolin scales, skin and antlers of deer, elephant tusks, tiger claws, camel bone, kangaroo pelt, porcupine quills and tortoise shells.

PROTECTION STATUS

In India, 26 sharks and rays have been accorded the highest protection status under the amended Wild Life (Protection) Act, 1972 by listing them in Schedules I and II. CITES-listed (Appendix I and II) species have been listed in Schedule IV of the Act. Notice Notification: REGISTERED NO. DL—(NJ04/0007/2003—22; 20th December, 2022)

The listing of sharks in the Wild Life (Protection) Act, 1972 and CITES has changed over the years. For instance, in 2001, ten elasmobranchs including four sharks were added in the Schedule I of the Wild Life (Protection) Act, 1972. In 2022, after the amendment of the Act, 26 elasmobranchs including three sharks were included in the Schedule I and four sharks in Schedule II. Within the CITES Appendices, elasmobranchs began to be listed in 2003, when two shark species were added. Post the CITES CoP 19, nearly 100 shark species have been included in the CITES Appendices.

Various other policies have also been formulated to regulate the trade in sharks. In 2013, the Ministry of Environment, Forest and Climate Change, Government of India, banned shark finning in the sea under its ‘Fins Naturally Attached’ policy. In 2015, a blanket ban on shark fin trade was declared in India under the EXIM (Export-Import) policy of the Foreign Trade (Development and Regulation) Act, 1992.

SHARK SEIZURES IN INDIA

The highest number of seizures was reported in 2019 and the total seized derivatives (kg) were highest in 2018, with 9,600 kg derivatives seized.

Tamil Nadu accounted for nearly 65% of the seizure incidents. The other states reporting seizures were Karnataka, Delhi, Gujarat, Kerala, and Maharashtra. The confiscated derivatives were destined for Singapore in 24% of seizure incidents, Hong Kong SAR in 18% of incidents, Sri Lanka in 12% of incidents, and China in 6% of incidents. In the remaining 41% of incidents, the destination of the confiscated derivatives was unreported.

**DISCLAIMER**

The analysis is based on shark seizure incidences available in public domain and given on Page 7 of the Factsheet. The reported seizure information has been assumed to be correct, and the parts seized were considered genuine.

Most seizure incidents used a generic term ‘sharks’ in the seizure reports pertaining to derivatives such as fins and cartilage. These derivatives can also be sourced from shark-like rays including sawfish, guitarfish and wedgefish. Due to paucity of species-specific information, and due to protection and regulatory status being undertaken during different years, the annual trends could not be assessed.

Cover Image Credit: Digant Desai
OVERVIEW OF FINDINGS

2010-2022

- 82% of the incidents were of shark fins (15,839.5 kg)
- 65% of the seizure incidents were reported in Tamil Nadu
- 24% of the incidents, the confiscated derivatives were destined for Singapore, Hong Kong SAR in 18.57% of incidents, and Sri Lanka and China in 6.25% of incidents
- The total seized quantities (kg) were highest in 2018
- The highest number of seizures was reported in 2019

Seizure incidents of sharks indicated by yellow points, marked on the centroid of India’s districts
RECOMMENDATIONS

**CAPACITY BUILDING**

Species identification: Species-level information is rarely considered during seizures of sharks, making it challenging to assess species-specific exploitation rates. It is here that the capacity of law enforcement agencies such as the Forest Department, Coastal Guards, Customs Department, and Police Departments of the Coastal States and Island Union Territories especially, needs to be enhanced so they develop skills to identify protected and regulated species accurately. Visual identification tools such as 2D or 3D models developed through TRAFFIC and various molecular identification techniques can help.

Enhance capacity for interdiction: Shark derivatives, including shark fins, shark teeth, shark jaw, etc., concealed for transport throughentrepôts (air/sea ports) can be identified through X-ray screenings. Enhancing the capacity of officers from the Customs, Central Industrial Security Force, Railway Protection Force, international Post Office and private airline carriers at baggage screening points—to identify characteristics of shark fins, and shark teeth in imperative. Furthermore, training and deploying sniffer dogs at entrepôts to detect shark products could also be beneficial.

Supply chains for shark products remain largely concealed. Traceability helps elucidate the link between marine products, from harvest to consumption and enforcement agencies to verify provenance of shark products in transit.

Along with enhancing traceability, this will encourage trading companies to have a transparent supply chain.

**ADOPTION OF TRACEABILITY SYSTEM**

Despite being one of the largest shark fisheries in the world, India has little to no reports of legal trade for regulated shark species. The institutionalisation and application of molecular tools will enable and facilitate towards compliance in national legislation and India’s commitments towards the provisions of CITES. Along with enhancing traceability, this will encourage trading companies to have a transparent supply chain.

**IMPLEMENTATION OF CITES**

Engagement with coastal communities dependent on marine resources is crucial for holistic conservation of marine ecosystems. This can be done through ongoing government initiatives—such as village-level Biodiversity Management Committees (BMC)—and guided through the State and National-level Biodiversity Boards. They are institutions which can facilitate and act as a force multiplier towards the conservation and management of marine species. Engaging these institutions will help raise awareness, monitor, and assist in releasing protected sharks bycatch. This will further bolster protection and conservation of the species.

**COMMUNITY ENGAGEMENT**

With the adoption of traceability, the community will be able to track and verify the origin of their products, ensuring the sustainability of their livelihoods.

**REFERENCES**


**APPENDIX : SEIZURE INCIDENTS**

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FACTSHEET

TRAFFIC is a leading non-governmental organisation working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.

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