

# Mako Sharks

*Isurus oxyrinchus* and *Isurus paucus* - Proposal 42

**PROPOSED ACTION:** List the Shortfin Mako Shark (*Isurus oxyrinchus*) in CITES Appendix II based on population declines, and the Longfin Mako Shark (*Isurus paucus*) based on similarities in appearance.

## PROPOSONENTS

Bangladesh, Benin, Bhutan, Brazil, Burkina Faso, Cabo Verde, Chad, Côte d'Ivoire, Dominican Republic, Egypt, European Union, Gabon, Gambia, Jordan, Lebanon, Liberia, Maldives, Mali, Mexico, Nepal, Niger, Nigeria, Palau, Samoa, Senegal, Sri Lanka, Sudan and Togo



Photo Credit: Steve De Neef

## OVERVIEW

The exceptionally fast and valuable Shortfin Mako is a highly migratory shark found in temperate and tropical ocean waters around the globe. This low productivity species is at risk from substantial targeted and incidental take in high seas fisheries driven by demand for its meat and fins, which enter international trade. The lack of limits on this take is leading to overfishing and a worldwide decreasing population trend. The Longfin Mako is rarer and thought to have a more tropical distribution; the two species look similar and are often grouped in fisheries and trade statistics. Both species were recently classified as Endangered on the IUCN Red List. Including Mako Sharks in CITES Appendix II could improve fisheries and trade data, bolster compliance with existing management commitments, prompt much-needed fishing limits, and facilitate international cooperation toward comprehensive conservation, thereby increasing the chances for sustainable use.

## BIOLOGY & DISTRIBUTION

Characterized by gun-metal blue skin and long, pointed teeth, the Shortfin Mako is considered the world's fastest shark. Conservative estimates put swimming speed at around 50 km/hour with bursts of more than 70km/hour. This highly migratory species moves seasonally across temperate and tropical waters worldwide (~50° N to 50° S), mainly in the open ocean.

Shortfin Mako Sharks are exceptionally vulnerable to overfishing due to slow growth, late maturity (8-21 years for females), lengthy gestation (15-18 months), a three-year reproductive cycle, and few young (4-25 pups per litter). They grow to about four meters and live approximately 30 years. The relatively rare Longfin Mako Shark is not well-understood but is similar in appearance and thought to have comparable life history characteristics. Mako Sharks play important roles in marine ecosystems as top predators.

## DISTRIBUTION MAP



*Isurus oxyrinchus*

*Isurus paucus*

## FISHERIES

The main threat to Mako Sharks is overfishing. Shortfin Makos are exceptionally valuable for their meat, fins, and for sport. The species is targeted and taken incidentally throughout its range by commercial fisheries, primarily high seas longline fleets, as well as by recreational fishermen, particularly in the United States, South Africa, New Zealand, and Europe. If carefully released, Shortfin Makos have relatively high chances for survival: ~90% in sport fisheries and as high as 75% from commercial longlines.

According to FAO, total Shortfin Mako Shark landings increased by 69% from 2004-2009 to 2010-2016. Sixty-two per cent of 2006-2016 reported annual Shortfin Mako catches were attributed to vessels from Spain (35%), Taiwan (15%), and Portugal (12%). Longfin and Shortfin Makos are often caught alongside one another and confused and/or combined in fisheries statistics.



Credit: Greg Skomal

## FIN TRADE AND OTHER USES

Global trade in Mako Sharks is driven by East Asian demand for shark fin soup, a Chinese celebratory dish. Mako Shark fins are sold under a broad category of fins that includes several other shark species. Studies of Hong Kong markets in 2006 and 2014 found the fins of Shortfin Makos to rank among the top five shark species with respect to presence in trade. Longfin Mako fins are generally grouped with those from Shortfin Makos, as well as Thresher Sharks, and have similar market value.

A 2006 study of Hong Kong markets estimated that Mako fins represented at least 2.7% of the global shark fin trade between 1999 and 2001, equating to an annual catch of ~40,000t or ~1 million Mako Sharks (both species combined). A 2014 Hong Kong market study detected Shortfin Mako in 0.2-1.2% of samples. Key sampling and methodology differences, however, make comparisons between these two studies problematic. Shortfin Makos are among the most valuable sharks for meat. Mako steaks are considered high quality all over the world, typically selling for more than US\$20/kg in U.S. supermarkets. While much of it is consumed locally, exports of frozen Mako fillets have been documented (in particular, from Japan to the EU). Mako meat may also be used for fish meal and animal feed.

Mako Shark skin has been made into leather, and the livers processed for oil. Jaws and teeth are used for decoration and sold as souvenirs. Shortfin Makos have recently become an attraction for tourism. Dive operators seek them out in various places around the world, including the Azores of Portugal, the United States, South Africa, and in the Maldives. Observing mako sharks is also a recreational activity in Mexico.



**POPULATION STATUS**

In 2019, both Shortfin and Longfin Mako Sharks were classified as globally Endangered on the IUCN Red List. The IUCN Shark Specialist Group estimated that Shortfin Mako abundance is declining in all oceans, except for the South Pacific. Under-reporting of catches hinders robust assessment of Mako Shark population health, but scientists associated with Regional Fishery Management Organizations (RFMOs) have been able to document declines in abundance.

Several Ecological Risk Assessments (ERA) convened by the International Commission for the Conservation of Atlantic Tunas (ICCAT) have ranked both the Shortfin Mako and the Longfin Mako as exceptionally high in terms of vulnerability to ICCAT fisheries. In 2019, ICCAT scientists reported that the overfished North Atlantic Shortfin Mako population is subject to continued overfishing, will decline for at least the next 15 years, needs substantial reductions in fishing mortality to begin rebuilding, and -- under the current ICCAT measure -- will not recover by 2070. They calculated that North Atlantic catches (including discards) need to be cut to zero to have a 53% chance of rebuilding by 2045. ICCAT scientists deemed South Atlantic Shortfin Mako biomass estimates unreliable yet infer that fishing mortality is likely unsustainable and warn of significant risk that this population will follow a similar history to that of the North. An analysis of standardized Shortfin Mako catch rates on South Atlantic longlines revealed declines of 99% in average catch per unit effort from 1979–1997 and 1998–2007. Declines in Mediterranean Shortfin Mako abundance since the early 19th century have been estimated at 99.9%.

A 2018 ERA conducted for the Indian Ocean Tuna Commission (IOTC) found the Shortfin Mako to be the most vulnerable shark species in terms of regional longline fisheries. A 2018 preliminary Indian Ocean Shortfin Mako stock assessment indicated that the Shortfin Mako stock is not currently overfished, but is subject to overfishing. The biomass trajectories, however, trend towards an overfished condition. In 2018, the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean assessed the Shortfin Mako population as likely (>50%) not overfished and likely not subject to overfishing. The IUCN trend analysis for this population, however, considered population change over a longer time period (72 vs. 40 years), which reveals a greater decline.

**CONSERVATION MEASURES**

Globally, there are very few limits on Shortfin Mako catch. Both Mako Shark species were listed on Appendix II of the Convention on Migratory Species (CMS) in 2008, thereby obligating Parties to work regionally toward conservation. Both species are also covered by the CMS Memorandum of Understanding for Migratory Sharks, which is aimed at facilitating implementation of the listing. Little concrete progress to that effect has been made to date.

In 2012, the General Fisheries Commission for the Mediterranean (GFCM) banned retention and mandated careful release for the Shortfin Mako and 23 other elasmobranch species listed on the Barcelona Convention Annex II. Implementation by GFCM Parties, however, has been lacking. Whereas the European Union implemented this measure through domestic regulations, it has yet to limit Shortfin Mako catch from anywhere else, even as Spain is consistently the world’s top Shortfin Mako fishing nation.

In 2017, in response to scientific advice to ban retention of overfished North Atlantic Shortfin Makos, ICCAT Parties instead passed a measure aimed at maximizing live release by narrowing the conditions under which Shortfin Makos from this population can be landed. Landings in 2018, however, remained above the overfishing threshold. ICCAT has taken no concrete steps to safeguard South Atlantic shortfin makos.

The few nations that specifically limit Shortfin Mako landings include Australia, New Zealand, South Africa, and the United States. The U.S. also bans retention of Atlantic longfin mako sharks.

A number of range states, including French Polynesia and the Maldives, have banned commercial shark fishing and trade. Mako range states that have marine protected areas where shark fishing is banned include Colombia, Costa Rica, Ecuador, Guinea-Bissau, and Mauritania. All of these conservation efforts would benefit from enhanced monitoring and complementary actions for adjacent waters through which Mako Sharks migrate. Bans on shark finning (slicing off a shark’s fins and discarding the body at sea) have been adopted by the relevant RFMOs and scores of countries. These bans could reduce Mako Shark fishing mortality in cases where enforcement levels are high and interest in the species’ meat is low. Many finning ban enforcement standards, however, are weak and demand for Mako Shark meat is high.



Photo Credit: Shawn Heinrichs

### EXPERT ADVICE

The IUCN-TRAFFIC Analyses conclude that “overall it would appear that regulation of trade in *I. oxyrinchus* is required to ensure that the harvest of specimens from the wild is not reducing the wild population to a level at which its survival might be threatened by continued harvesting. Therefore, *I. oxyrinchus* meets the criteria in Annex 2aB of Res. Conf. 9.24 (Rev. CoP17).” IUCN-TRAFFIC also find that “population trend data for *I. paucus* are limited but it is likely to be undergoing similar decreases to *I. oxyrinchus*, thus potentially also meeting the criteria in Annex 2aB of Res. Conf. 9.24 (Rev. CoP17).”

With respect to FAO 2001 criteria for aquatic species, Makos meet the thresholds for low productivity species: natural mortality under 0.2 (0.072 to 0.223), intrinsic growth rate under 0.14 (0.031 to 0.123), a von Bertalanffy growth constant under 0.15 (0.05 to 0.266), average age of maturity greater than 8 years (8 to 21 years), maximum age greater than 25 years, and a generation time above 10 years (25 years). The 2019 FAO expert advisory panel, while not recommending adoption of the proposal, noted that an effectively implemented CITES Appendix II listing “could act as a complementary measure for regulations implemented by fisheries management authorities.”

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### NEED FOR ACTION

Listing the Shortfin Mako and Longfin Mako Shark under CITES Appendix II would be:

- Critical for ensuring that international trade is held to sustainable levels;
- Important for prompting urgently needed catch limits;
- Pivotal for improving data on trade and fisheries;
- Complementary to national, regional, and global conservation commitments;
- Helpful for implementing the CITES Appendix II listing for other shark species, particularly threshers;
- Beneficial for preventing depletion and associated negative effects on ecosystems and economies; and
- Transformative for improving traceability, in line with pending recommendations for Parties (agenda item 42).

### OUR COALITION URGES CITES PARTIES AT COP18 TO:

Support Proposal 42 to include Mako Sharks in CITES Appendix II.

The Global Sharks and Ray Initiative is a collaboration between organizations working to conserve populations of sharks and rays from overfishing and other forms of non-sustainable consumption. Learn more here: <https://www.globalsharkraysinitiative.org>

**REFERENCES:** Information in this fact sheet is based the relevant listing proposals, associated analyses by IUCN and TRAFFIC, IUCN Red List assessments ([www.iucnredlist.org](http://www.iucnredlist.org)), FAO landings data, and the report of the FAO expert panel.



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