

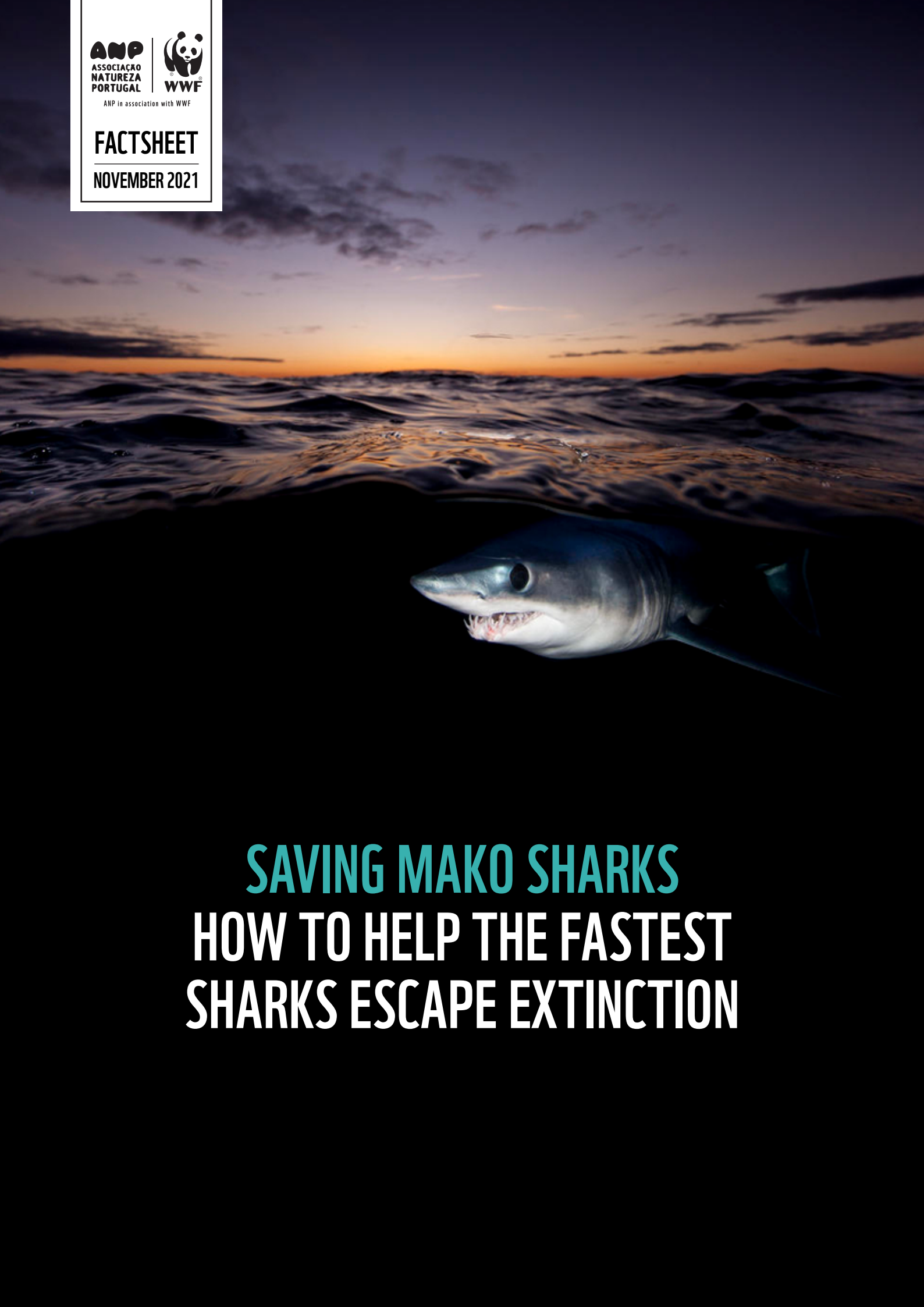
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FACTSHEET

NOVEMBER 2021



SAVING MAKO SHARKS

HOW TO HELP THE FASTEST SHARKS ESCAPE EXTINCTION

The problem

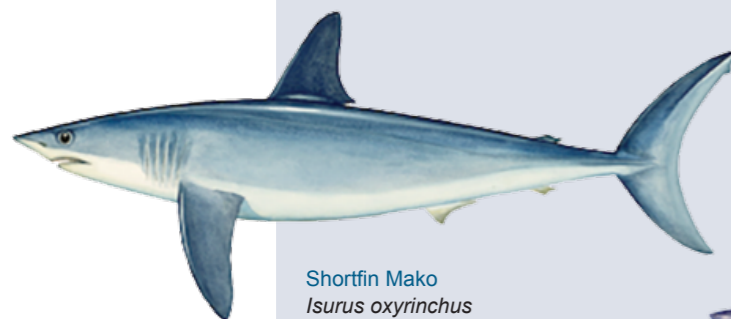
Like many oceanic sharks, shortfin mako (*Isurus oxyrinchus*) is a cosmopolitan, migratory shark and a top predator, playing a **key role in the balance and productivity of marine ecosystems**. The scarcity of target species such as swordfish and tunas, and the demand for its products (meat, liver, etc.) leads to **shortfin makos being nearly always retained on board in High Sea commercial fisheries**. Moreover, their strength and behaviour make it one of the most desirable big game fish in the world for recreational anglers.

Lack of management measures to regulate fishing effort and control bycatch has resulted in overfishing and population declines in almost all oceans. In the last decade globally, there was a reduction by 64% of shortfin mako landings. Sustainable harvest rates are approximately three to four times higher than sustainable levels¹. In the Atlantic Ocean, **it is considered one of the shark species at greatest risk of extinction due to overexploitation, especially the sub-population of the North Atlantic, with population declines of up to 79% over three generations²**. To reverse this trend, an ambitious and effective rebuilding plan needs to be implemented among ICCAT (International Commission for the Conservation of Atlantic Tunas) country members, specially the ones with higher catches, such as Spain and Portugal.

¹ CITES. 2019. Supplementary Information on CITES COP 18 Proposal 42: Confirming that Shortfin and Longfin Mako Sharks fully meet the criteria for inclusion on CITES Appendix II. Eighteenth meeting of the Conference of the Parties Geneva (Switzerland), 17–28 June 2019.

² ICCAT. 2017. Report of the 2017 ICCAT Shortfin Mako Assessment Meeting. Madrid, Spain 12-16 June 2017.

64%
REDUCTION IN
SHORTFIN MAKO
GLOBAL LANDINGS IN
THE LAST DECADE



Shortfin Mako
Isurus oxyrinchus



Longfin Mako
Isurus paucus

SPECIES ID

SCIENTIFIC NAME
Isurus oxyrinchus

COMMON NAME
en - shortfin mako
pt - anequim, Rinquim
es - marrajo dientuso
fr - taupe bleue

SIMILAR SPECIES
Isurus paucus

MAX WEIGHT
505.8 kg

MAX LENGTH
445 cm

LIFE SPAN
28-32 years

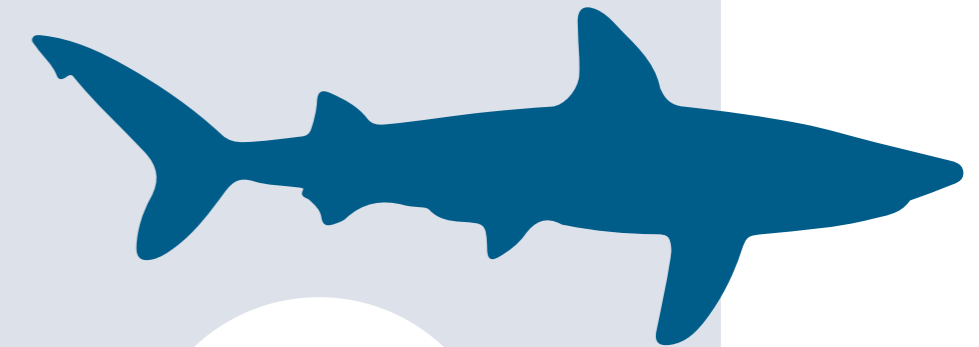
FEEDING HABITS & PREY
ambush predator,
mainly cephalopods
and bony fishes

REPRODUCTION & GESTATION
internal development of the
embryo and embryos may
feed on other embryos; 15-18
months gestation and 3-year
reproductive cycle

LITTER SIZE
4-25 pups
(mostly 10-18)

SIZE AT BIRTH
60-70 cm

MATURITY AGE, SIZE AND WEIGHT
♂ 7-9 years/
166-204 cm / 64 kg ;
♀ 18-21 years /
265-312 cm / 275 kg



Habitat & Distribution widespread in temperate and tropical waters of all oceans

Smaller sharks (110–140 cm) and medium-sized sharks (141–175 cm)
- most within shelf/slope areas

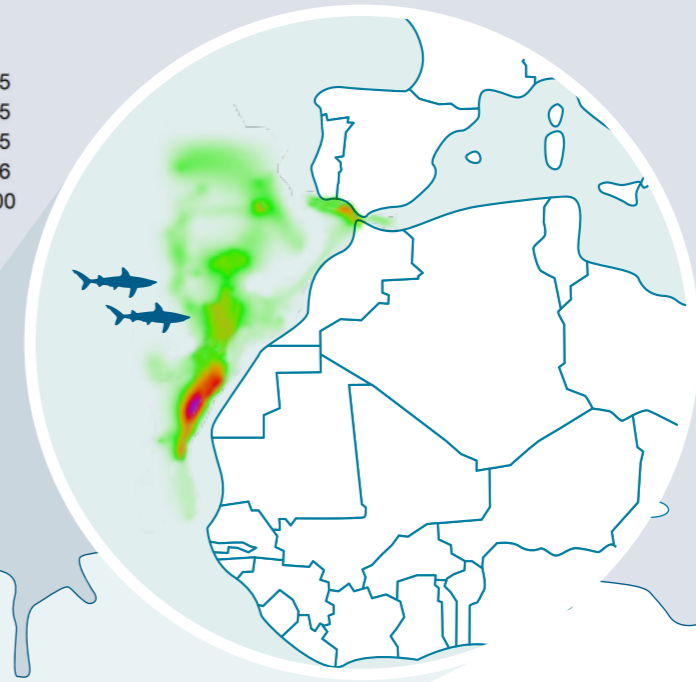
Larger sharks (176–220 cm)
oceanic waters

Shortfin makos move to areas where the Gulf Stream and the Labrador Current converge, having a significant spatial overlap (~60%) with oceanic longline vessels¹. Is one of the most important fishing ground in the world.

— Warm Current
— Cold Current

Probability surfaces of the spatial distribution of shortfin makos tagged in the Northwest Atlantic

2.0e-05
1.5e-05
1.0e-05
5.0e-06
0.0e+00



Possible important habitats:
North Atlantic
- shelf and slope waters in southern Portugal and North Africa;
South Atlantic
- waters off southern Brazil and Uruguay²:

THREATS

Overfishing and opaque Trade
Shortfin makos high-quality meat is utilized fresh, dried or salted, smoked and frozen for human consumption, and in some cases for fish meal and animal feed across the globe.

¹ Queiroz, N. et al. 2019. Global spatial risk assessment of sharks under the footprint of fisheries. *Nature*: 572 (7770)

² Santos et al. 2021. Movements, Habitat Use, and Diving Behavior of Shortfin Mako in the Atlantic Ocean. *Front. Mar. Sci.* 8:686343.

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CONSERVATION STATUS

IUCN

Global (2019): Endangered

Europe (2015): Data Deficient

Mediterranean (2016): Critically Endangered

NORTH ATLANTIC STOCK -ICCAT 2017 ASSESSMENT

The stock is overfished and experiencing overfishing. Even if zero catches are adopted now it will still continue to decline until 2035 before any biomass increases. Depending on the fishing levels:

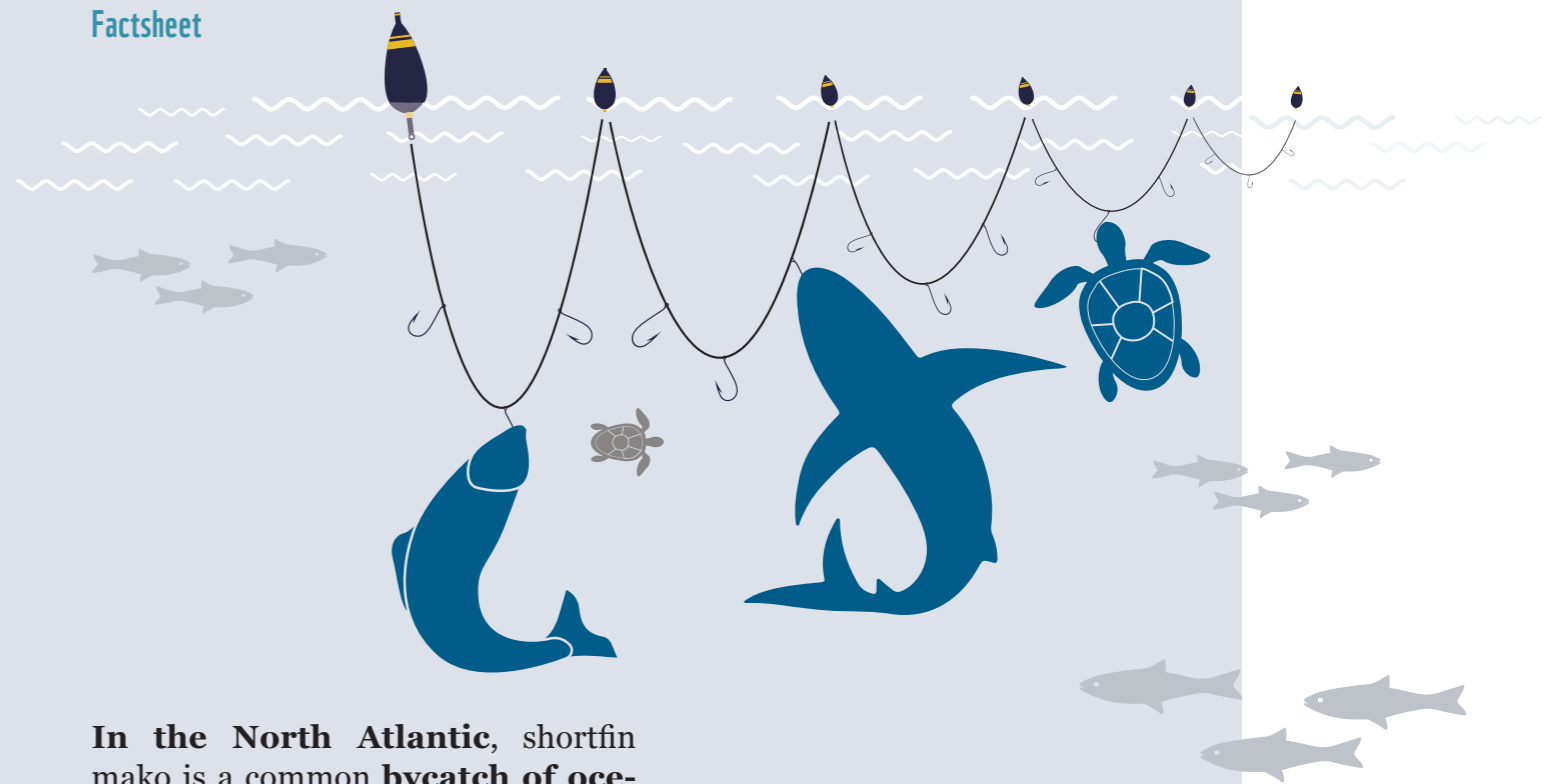
ZERO CATCHES
53% PROBABILITY OF
REBUILDING STOCK BY
2045

CURRENT CATCHES
LIMIT (500 TONS)
52% PROBABILITY OF
REBUILDING STOCK BY
2070

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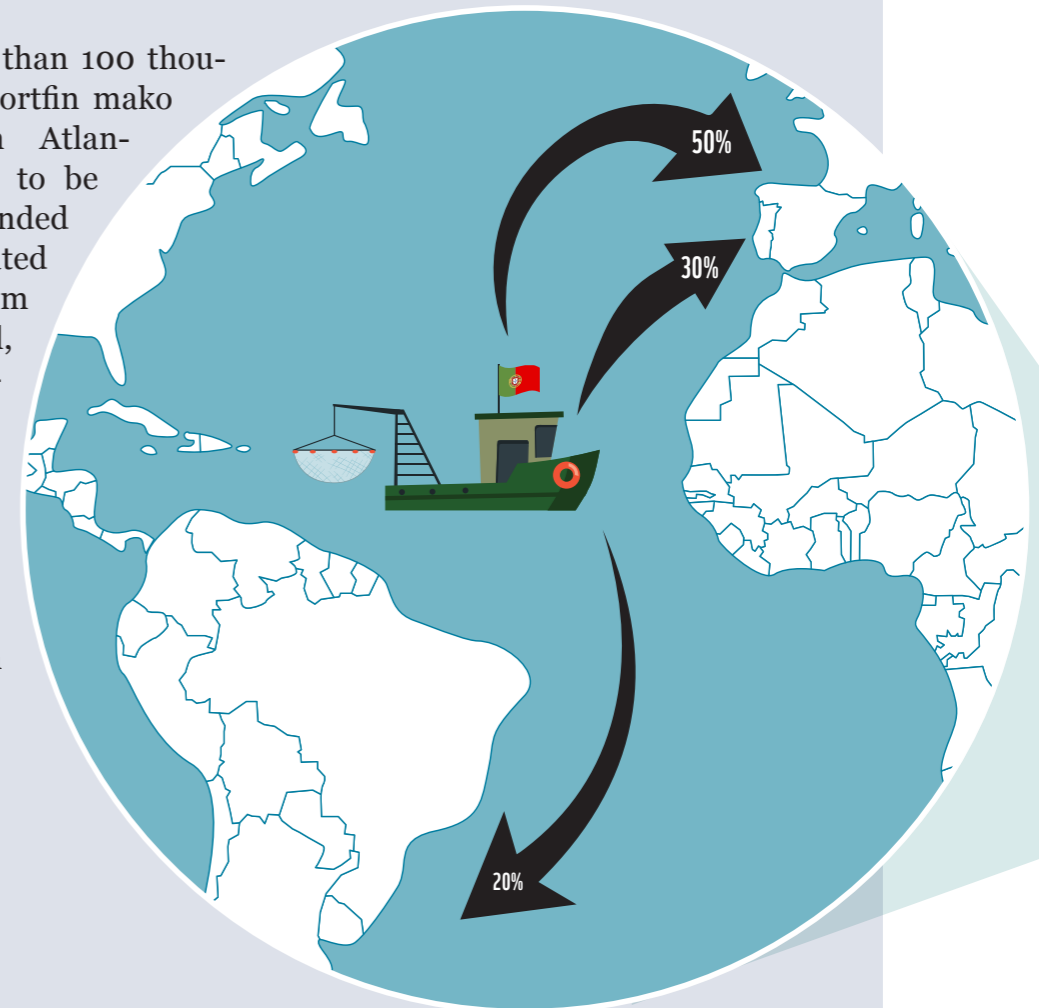
Factsheet



In the North Atlantic, shortfin mako is a common **bycatch of oceanic longline and gillnet fisheries that primarily target swordfish and tuna.**

In recreational fisheries they are targeted and caught in rod & reel fishing gears.

Since 1990, more than 100 thousand tonnes of shortfin mako from the North Atlantic were reported to be captured and landed by ICCAT-regulated fisheries, fleets from Spain, Portugal, Canada, USA, Morocco and Japan. **Spain and Portugal represent ~70% of the reported shortfin mako captures in the North Atlantic.**



SUCCESS STORY

Shark diving in the Azores - a sustainable alternative?

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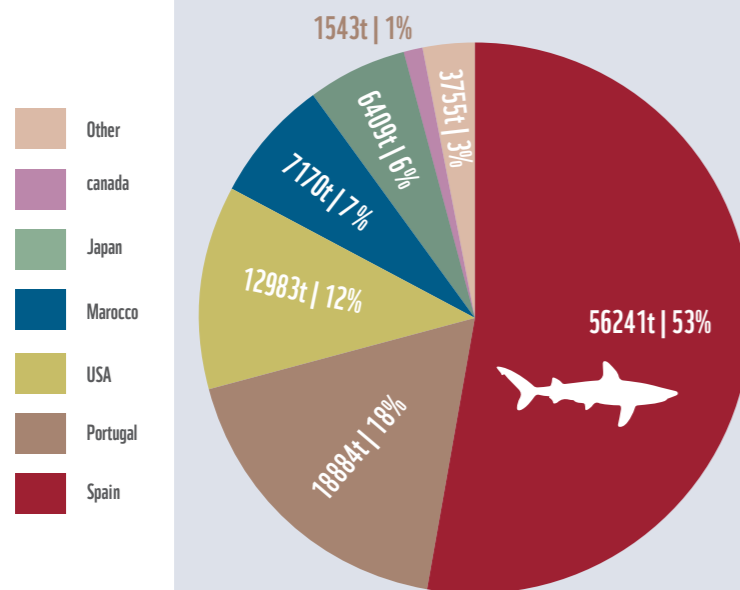


Shark diving is a relatively recent activity in the Azores archipelago (started in 2011), with the blue shark *Prionace glauca* and mako shark *Isurus oxyrinchus* as the main attractions. Dives last about 90 minutes in waters with high visibility and up to 200 meters deep, where a reasonable number of sharks (sometimes 5-6) is usually seen. To attract sharks, operators use chum (bait) buckets, and divers enter the water one by one when a shark

arrives, and cling to 10 m long cables.

This industry has been growing significantly and generated revenues of around two million euros in 2014 alone. Given the recent increase in tourist visits in the region, that amount has likely been exceeded. All would be willing to pay more for the privilege of enjoying this activity and would like to see that payment directed to species protection.

30%
OF SHORTFIN MAKO
LANDINGS BY THE
PORTUGUESE
FLEET TAKE PLACE
IN PORTUGUESE
HARBOURS



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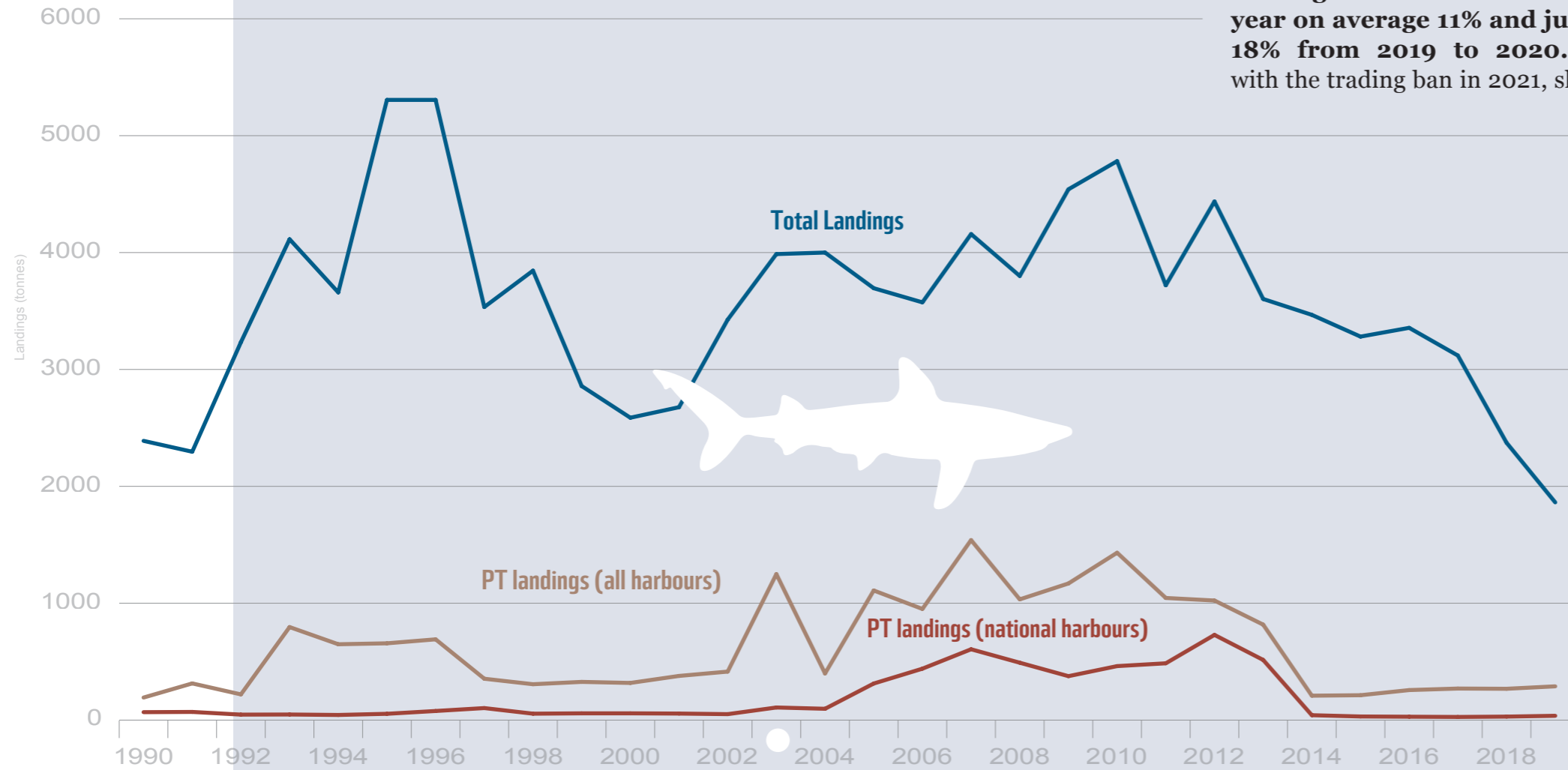


Shortfin mako is landed by the Portuguese fleet in different countries and only 30% of the volume in weight goes to national harbours (5636 t). Mainland harbours land more shortfin mako (56% in Sesimbra, 33% in Peniche, 4% in Olhão) than archipelagic ones (4% in Ponta Delgada, <1% in Funchal). Shortfin mako landings by the Portuguese fleet in other countries (13248 t) like Spain and Uruguay are more than double of those in national harbours.

- **The majority of shortfin caught in longliners are males and immature** individuals, mainly caught between May and June.
- During swordfish's low season (Winter/Spring), many longliners purposefully use steel wires instead of nylon monofilament to increase shark catches, creating a truly sharks-targeted fishery.
- After being fished, **more than 1/3 (36%) is already dead when brought on-board**, but larger specimens have a better chance of surviving after being hooked¹.
- For the ones that survive, if they are carefully released back into the ocean the **chances of survival are 75% in commercial longlines and 90% in big game fishing**².

¹ Coelho, R. et al. 2012. An overview of the hooking mortality of elasmobranchs caught in a swordfish pelagic longline fishery in the Atlantic Ocean. Aquatic Living Resources, 25(4), 311-319.

² ICCAT 2019. Report of the 2019 shortfin mako shark stock assessment ICCAT update meeting. SMA SHK SA Intersessional meeting - Madrid.



Despite the recent increase in protections and efforts to reduce fishing pressure, **since 2014, Portugal's landings have increased every year on average 11% and jumped 18% from 2019 to 2020.** Even with the trading ban in 2021, shortfin



mako landings were higher in most months in 2021 than the average for these same months between 1986 and 2020. Portuguese authorities prohibited the landing of shortfin mako from national waters from September 2021 until the end of the year.

¹ ICNF & APECE, 2021

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FROM 2019
TO 2020

1990
UN Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA)

1999
FAO IPOA for Conservation and Management of Sharks & Rays

2003
European Commission Finning regulation

2007
ICCAT countries to reduce fishing mortality on North Atlantic stocks

2008
Convention on Conservation of Migratory Species - Annex II

2010
Memorandum of Understanding Conservation of Migratory Sharks - Annex I

2013
European Commission prohibition of finning

2014
Portugal retention ban for recreational fishing

2017
ICCAT stock assessed as overfished and in overfishing

2018
Portugal Prohibition of the use of steel wires in pelagic longliners in the Azores Sea

2019
CITES Inclusion in Annex II

2019
Portugal Sets the annual catch and bycatch limits in the fishing territory of the Azores

2020
Portugal Negative NDF: Trade ban for specimens from international waters from 31st december 2020 onwards

2021
European Union Definition of Shortfin Mako TAC: 288 tonnes

2021
Portugal Prohibition of fishing in national waters

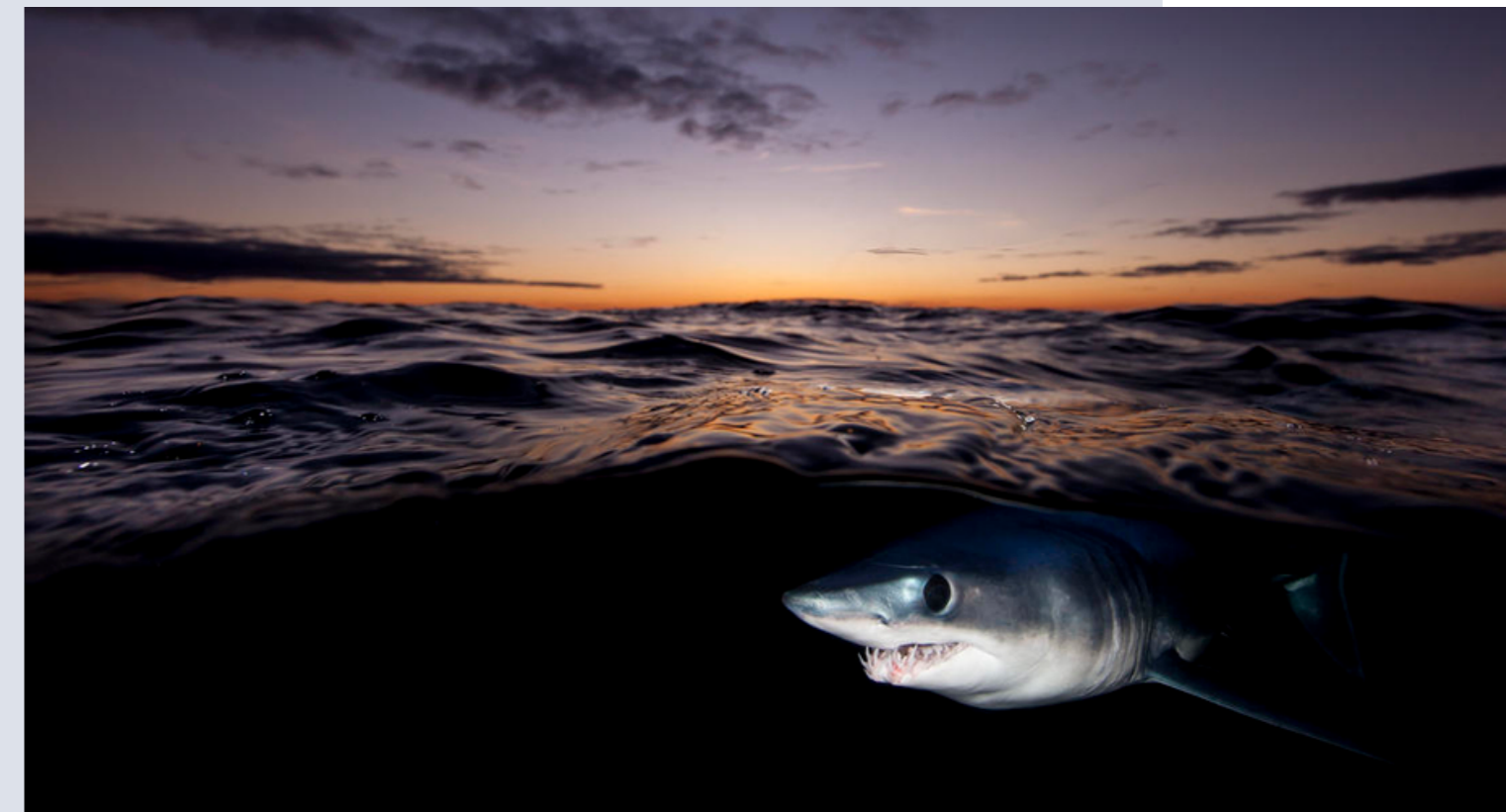
POLICY RECOMMENDATIONS

- Develop and implement, at the ICCAT level, a **rebuilding plan for the shortfin mako from the North Atlantic** stock and adopt an holistic approach for management of the South Atlantic stock.
- Establish a **temporary scientific TAC**, consistent with scientific projections of stock rebuilding, in the shortest term and highest probability of recover, and monitor bycatch considering all mortalities, **aiming at gradually achieve a zero-retention policy, while at the same time introducing mechanisms to improve data collection.**
- Test, implement and monitor **technical measures on fishing gears and practices for safe handling and release of live specimens.** As a priority, replace steel wires with monofilament ones in the longline fleet.
- Support the development and effective implementation of **area/time management zones, coupled with real time management measures** by the national fleets, and **fully protected areas.**
- **Raise independent observer coverage** (human and/or electronic) to, at least: 20% from 2022 in high risk fisheries for oceanic sharks; 100% in all industrial vessels by 2030 and for other fishing vessels to 10% by 2024 and 15% by 2026.
- Apply management measures and robust monitoring, effective control and surveillance to the genus *Isurus*, including both shortfin and longfin makos to avoid IUU fishing.
- Maintain the international waters trade ban for the North Atlantic stock and territorial waters of coastal states, issued by the Environmental authorities, while reinforcing monitoring, control and surveillance measures.
- Develop and implement, at Coastal States level, National Plans of Action for sharks and rays, with the stakeholders involvement and binding recovery measures for priority species as mako sharks.

FUTURE RESEARCH SHOULD CONTRIBUTE TO:

- Develop and share approaches and data across tuna RFMOs to evaluate the implementation and effectiveness of conservation and recovering measures, including better harmonization among national and international sharks and rays landings databases and increasing the reporting of live and dead discards per fishing event.
- Require tuna RFMOs to conduct regional CITES NDFs for the areas within their jurisdiction and species listed on CITES App. II and agreeing protocols on authorizing or not national CITES exports based on these NDFs.
- Reduce fishing mortality to achieve zero retention in the short term.
- Improve fishing gear selectivity, in collaboration with the fishing sector.
- Increase knowledge on shortfin mako reproductive behaviour and population dynamics.
- Update IUCN conservation status in Europe.
- Identify mako sharks critical areas in terms of locations, time and size, by using scientific and local ecological knowledge.
- Determine effectiveness of management measures on a regular basis (yearly) to check progress.

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CONCLUSIONS

Shortfin mako sharks in the Atlantic are in sharp decline and this trend needs to be reversed. Fishing mortality needs to be reduced to levels that allow its populations to recover and measures to achieve this should be part of an effective stock rebuilding plan at the RFMO level. At the national level, the stock rebuilding plan needs to be complemented with National Plans of Action as required by the FAO, particularly in Portugal and Spain. Otherwise even the fastest sharks will not escape extinction.

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