

HIGHLY MIGRATORY SHARKS NEGLECTED IN ICCAT

NOVEMBER 2010

oceana.org/iccat



Scalloped hammerhead

Many shark species migrate vast distances through our oceans, swimming across various national and international jurisdictional boundaries along their way. These species of sharks, like tunas and swordfish, call large swaths of the ocean their home and their populations cannot be claimed by any specific country.

The United Nations Convention on the Law of the Sea (UNCLOS), the most important treaty for international maritime law, establishes that fishing nations must cooperate to ensure the conservation of “highly migratory species” (HMS) both within and beyond their exclusive economic zones through appropriate international organizations.¹ UNCLOS includes 72 shark species among its list of “highly migratory species” and thus these species should be under international management.² Unfortunately, the management of shark fisheries has been virtually ignored on an international level.

RFMO MANAGEMENT OF HIGHLY MIGRATORY SPECIES

Management of highly migratory fish species requires international cooperation, and the various Regional Fisheries Management Organizations (RFMOs) have been tasked with managing fisheries for highly migratory species.³ RFMOs should manage stocks of highly migratory fishes so that long term sustainability is guaranteed, emphasizing the application of ecosystem based management and the precautionary approach.⁴

The International Commission for the Conservation of Atlantic Tunas (ICCAT) is the most relevant and appropriate international organization to manage the highly migratory species, including sharks, that swim through the Atlantic Ocean. Of the 48 countries who are contracting parties to ICCAT, 46 are signatories to UNCLOS and 43 have ratified it. As UNCLOS is a binding agreement, management of highly migratory shark species in the Atlantic should be a priority for these countries.

HIGHLY MIGRATORY SHARKS ARE CAUGHT IN ICCAT FISHERIES

Sharks are caught in conjunction with many ICCAT fisheries and are sometimes targeted by surface longline fleets which harvest them mainly for their valuable fins. Most Atlantic pelagic sharks have exceptionally limited biological productivity and can be overfished even at very low levels of fishing mortality. In fact, some shark species are at an elevated risk of overexploitation, as shown in the 2008 ecological risk assessments carried out in conjunction with the ICCAT shark stock assessment.⁵

Of the 72 shark species listed in UNCLOS as Highly Migratory Species, 21 were reported caught in ICCAT waters in 2008⁶, accounting for a total catch of 65,049⁷ tonnes. Taking into account the average weight for each species recorded, our estimates reveal that over 1.3 million of these highly migratory sharks were caught in ICCAT waters. However, given that 11 countries did not any report shark catches in 2008, and that misreporting of shark catch data in ICCAT in general is an acknowledged problem⁸, it is highly likely that 1.3 million sharks caught is a gross underestimate. In fact, scientific estimates based on Hong Kong shark fin trade data have shown that real shark catches in the Atlantic may be from 200 to over 300% higher than reported catches to ICCAT.⁹ This implies that the real number of highly migratory sharks killed in ICCAT waters can be over three times higher than our estimate.

With the exception of a finning prohibition, these highly migratory sharks, for which UNCLOS requires international conservation measures, were caught freely, not subjected to any management measure such as catch limits, landing size limits, time/area closures, or gear modifications.



Juvenile oceanic whitetip sharks and a tuna landed from the longliner "Let's go". Harbour of Le Port, Reunion, France. 2007.



Blue sharks in the fresh market in Vigo, Spain. 2006.

Of the 21 highly migratory shark species reported caught in 2008, three quarters are classified as threatened with extinction in parts of the Atlantic Ocean, according to the International Union for Conservation of Nature (IUCN). Of particular concern in the Atlantic Ocean are porbeagle sharks (Critically Endangered in the Northeast Atlantic and Endangered in the Northwest Atlantic), oceanic whitetips (Vulnerable globally), and scalloped hammerheads (Endangered in the Northwest Atlantic and Western Central Atlantic). Additionally, the 2010 Standing Committee on Research and Statistics (SCRS) report pointed out the possibility that the North Atlantic shortfin mako stock could be overfished and overfishing may be occurring.¹⁰

In 2009, ICCAT Contracting Parties put in place specific management measures for one species of highly migratory sharks — bigeye thresher. The catches of the rest of the threatened highly migratory sharks are not regulated by ICCAT.

Number of sharks caught in ICCAT waters in 2008, based on reported catches and average weights of shark species.

SPECIES	COMMON NAME	REPORTED CATCHES 2008 (T)	AVERAGE WEIGHT (KG) ¹⁸	NUMBER OF SHARKS	IUCN REDLIST STAUTS ¹⁹
<i>Prionace glauca</i>	Blue shark	54,233	52	1,042,942	NT
<i>Isurus oxyrinchus</i>	Shortfin mako	5304	63	84,190	VU N and S Atlantic
Selachimorpha (Pleurotremata)	–	1,221	47.1	25,924	–
<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose	1,180	7.25	162,759	LC
Carcharhinidae	–	861	45.7	18,840	–
<i>Lamna nasus</i>	Porbeagle	604	83	7,277	CR NE Atlantic and Med; EN NW Atlantic
<i>Sphyrna</i> spp.	–	395	47	8,404	–
<i>Carcharhinus longmanius</i>	Oceanic whitetip shark	245	30	8,167	VU
Carcharhiniformes	–	234	45.7	5,120	–
<i>Sphyrna zygaena</i>	Smooth hammerhead	109	47	2,319	VU; VU Med
<i>Alopias</i> spp.	–	108	104.9	1,030	–
<i>Alopias superciliosus</i> ¹⁶	Bigeye thresher	105	99	1,061	EN NW and W Central Atlantic; NT SW Atlantic
<i>Alopias vulpinus</i>	Common thresher	70	122	574	VU NW Atlantic & W Central Atlantic & Mediterranean; NT NE Atlantic
Lamnidae	–	69	64.6	1,068	–
<i>Carcharhinus limbatus</i>	Blacktip shark	65	18	3,611	VU NW Atlantic
<i>Galeocerdo cuvier</i>	Tiger shark	65	110	591	NT
<i>Sphyrna lewini</i>	Scalloped hammerhead	56	47	1,191	VU Eastern Central Atlantic & SW Atlantic; EN NW & W Central Atlantic
<i>Carcharhinus signatus</i>	Night shark	41	15	2,733	VU; DD E Atlantic
<i>Carcharhinus falciformis</i>	Silky shark	30	22	1,364	VU NW and W Central Atlantic; NT SW Atlantic
<i>Isurus paucus</i>	Longfin mako	14	70	200	VU
<i>Isurus</i> spp.	–	14	63.02	222	–
<i>Carcharhinus brachyurus</i>	Copper shark	8	22	364	NT
<i>Alopias pleagicus</i> ¹⁷	Pelagic thresher	7	69.5	101	VU
<i>Hexanchus griseus</i>	Bluntnose sixgill	4	20	200	NT; NT Med
<i>Cetorhinus maximus</i>	Basking shark	2	3900	1	EN NE Atlantic, VU Med
<i>Carcharhinus plumbeus</i>	Sandbar shark	2	30	67	EN Med; LR NW Atlantic
<i>Carcharhinus obscurus</i>	Dusky shark	2	69	29	VU NW Atlantic and Gulf of Mexico
<i>Sphyrna mokarran</i>	Great hammerhead	1	47	21	EN NW Atlantic
TOTALS		65,049		1,380,369	

ICCAT SHOULD MANAGE HIGHLY MIGRATORY SHARKS

As previously noted, the only species-specific management measure agreed in ICCAT is the prohibition on the retention, transshipping, landing, storing, selling, and offering for sale any part or whole carcass of bigeye thresher sharks.^{11,12}

ICCAT parties should take responsibility for ensuring the conservation of the highly migratory sharks caught in its fisheries, beginning with those most threatened and highly vulnerable to overfishing. The 2010 SCRS noted, “For species of high concern (in terms of overfishing), and for which a high survivorship is expected in fishing gears after release, the Committee recommends that the Commission prohibits retention and landings of the species to minimize fishing mortality.”¹³ Such prohibitions should be agreed for highly migratory sharks such as oceanic whitetips and

common threshers, which both suffer severely depleted populations in the Atlantic and can be easily identified.

Further, ICCAT Contracting Parties should urgently manage the catches of sharks in their fisheries, beginning with those species most highly caught. Blue sharks alone comprised 83% of the highly migratory shark reported catches in 2008. While currently not overfished, blue sharks are highly migratory species that are subjected to targeted fisheries, and as such should be regulated as any other highly migratory species in ICCAT fisheries. Shortfin mako sharks¹⁴, the second most commonly caught species in ICCAT fisheries, have been shown to have very low productivity and an elevated risk of overfishing. Despite the 2007 ICCAT recommendation to reduce fishing mortality of North Atlantic shortfin makos, the 2010 SCRS report documented increased catches of North Atlantic shortfin makos in 2009.¹⁵



Bigeye threshers in the fresh market in Vigo, Spain. 2006. Retention, transshipment, landing and sale of this species are now prohibited for ICCAT parties.

ICCAT Contracting Parties must fulfill international commitments to manage highly migratory species, including sharks.

The Atlantic Ocean's sharks need urgent help.

REFERENCES

- ¹ UNCLOS Article 64.
- ² UNCLOS Annex I.
- ³ United Nations, 1982, The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (in force as from 11 December 2001).
- ⁴ United Nations, 1982, The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (in force as from 11 December 2001).
- ⁵ SCRS/2008/017 – SHK Assessment.
- ⁶ 2008 Task I catch data was used as 2009 catch reports to ICCAT were incomplete at the time of publication.
- ⁷ ICCAT Task I web statistical database. Catches 2008.
- ⁸ SCRS/2007/014 Report of the 2007 data preparatory meeting of the shark species group (Punta del Este, Uruguay – June 25 to 29, 2007). Collect. Vol. Sci. Pap. ICCAT, 62(5): 1325-1404 (2008); Report of the Standing Committee on Research and Statistics (SCRS) Madrid, Spain, October 4-8, 2010.
- ⁹ Report of the 2004 Inter-Sessional Meeting of the ICCAT Sub-Committee on By-Catches: Shark Stock Assessment (Tokyo, Japan, 14-18 June 2004). 2005. Col. Vol. Sci. Pap. ICCAT, 58(3): 799-890.
- ¹⁰ Report of the Standing Committee on Research and Statistics (SCRS) Madrid, Spain, October 4-8, 2010.
- ¹¹ This recommendation includes an exception for a Mexican small-scale coastal fishery with a catch of less than 110 fish.
- ¹² 09-07 Recommendation by ICCAT on the Conservation of thresher sharks caught in association with fisheries in the ICCAT convention area.
- ¹³ Report of the Standing Committee on Research and Statistics (SCRS). Madrid, Spain, October 4-8, 2010.
- ¹⁴ 07-06 Supplemental recommendation by ICCAT concerning sharks.
- ¹⁵ Report of the Standing Committee on Research and Statistics (SCRS) Madrid, Spain, October 4-8, 2010.
- ¹⁶ Retention, landing and sale of this species was prohibited for ICCAT CPCs in 2009. ICCAT Recommendation 09-07.
- ¹⁷ Geographic range of *A. pelagicus* is Indo-Pacific and Eastern Pacific. This is possibly a case of misidentification.
- ¹⁸ References for average weights: Kohler, N., Casey, J.G., and Turner, P.A. 1996. Length-length and length-weight relationships for 13 shark species from the western North Atlantic. NOAA Technical Memorandum NMFS-NE-110.; Florida Museum of Natural History. Biological profiles. <<http://www.flmnh.ufl.edu/fish/Education/biopofile1.htm>>; Bonfil, R. 1994. Overview of world elasmobranch fisheries. FAO Fisheries Technical Paper T341. 119 pg; Martin, R.A. Biology of Sharks and Rays. ReefQuest Centre for Shark Research; For *R. terraenovae*, MarineBio.org. 20 October 2010 <<http://marinebio.org/species.asp?id=372>>; For *H. griseus*, assigned weight of most appropriate recorded species, from same genus (*H. nakamurai*). Florida Museum of Natural History. Biological profiles. <<http://www.flmnh.ufl.edu/fish/Education/biopofile1.htm>>; For *C. brachyurus* assigned weight of most appropriate recorded species from same genus was used (*C. falciformis*); For *C. maximus*, only an upper limit of its average size range could be found (Martin, R.A. Biology of Sharks and Rays. ReefQuest Centre for Shark Research); For *Isurus* spp., *Alopias* spp., Lamnidae, Carcharhinidae, Carcharhiniformes, and Selachimorpha, the weighted averages of the weights of the shark species in their respective taxonomic groups were used.
- ¹⁹ The IUCN Red List categories: CR: Critically Endangered / EN: Endangered / VU: Vulnerable / LR: Lower Risk / NT: Near Threatened / LC: Least Concern / DD: Data Deficient. Species qualifying as Vulnerable, Endangered or Critically Endangered are considered Threatened with extinction. Atlantic Ocean regional assessments are listed; global categories are noted for species without regional evaluations.



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