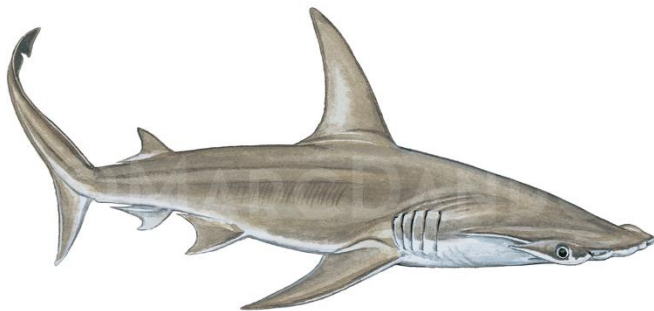
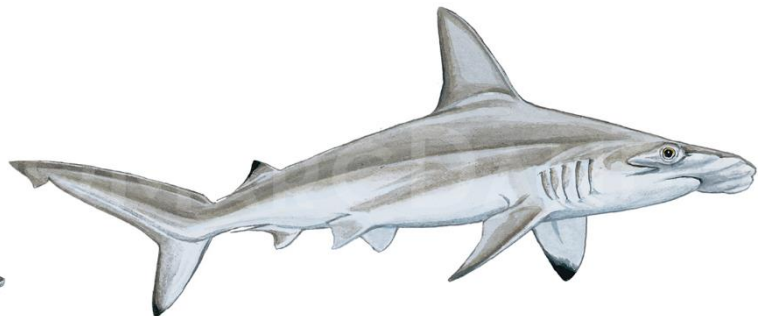


Fact Sheet

HAMMERHEAD SHARK
REQUINS-MARTEAUX
TIBURONES MARTILLO



Great Hammerhead
Sphyrna mokarran



Scalloped Hammerhead
Sphyrna lewini

HAMMERHEAD SHARK

Class: *Chondrichthyes*

Order: *Carcharhiniformes*

Family: *Sphyrnidae*

Species: *Sphyrna mokarran* - Great Hammerhead
Sphyrna lewini - Scalloped Hammerhead

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This fact sheet was produced by the Advisory Committee of the Memorandum of Understanding on the Conservation of Migratory Sharks (Sharks MOU).

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1. Biology

Great Hammerhead (*Sphyrna mokarran*) and Scalloped Hammerhead (*Sphyrna lewini*) sharks are long lived, late maturing, and relatively slow growing. Great Hammerhead Sharks can live to up to 44 years and have a gestation period of 11 months producing 6-33 pups biennially (Stevens and Lyle 1989; Piercy et al. 2010). Scalloped Hammerhead Sharks can live to up to 35 years and have a gestation period of 8-12 months producing 15-31 pups biennially (Branstetter 1987; Castro 2011).

2. Distribution

Great Hammerhead and Scalloped Hammerhead sharks are globally distributed species, but usually inhabit coastal waters and continental shelves in warm temperate and tropical seas (Compagno 1984).



Figure 1: Distribution of Great Hammerhead Shark (*Sphyrna mokarran*), courtesy of IUCNⁱ.



Figure 2: Distribution of Scalloped Hammerhead Shark (*Sphyrna lewini*), courtesy of IUCN.

ⁱ For figures 1 and 2, maps obtained from the International Union for Conservation of Nature (IUCN) on 20 November 2017.

3. Critical Sites

Critical sites are those habitats that may have a key role for the conservation status of a shark population, and may include feeding, mating, pupping, overwintering grounds and other aggregation sites, as well as corridors between these sites such as migration routes. While a number of aggregation sites can be highlighted for scalloped hammerhead shark including oceanic islands and seamounts in the tropical eastern Pacific (Klimley 1981; Hearn et al. 2010; Bessudo et al. 2011; Ketchum et al. 2014), basic knowledge about important habitats acting as nursery grounds or for other important life history stages is lacking in many areas. Knowledge about great hammerhead is limited. Critical sites have not been accurately defined in all areas, but some potentially important areas may exist in the Bahamas and southern Florida.

4. Population Status and Trends

Most information available on the status and trends consists of fisheries catch data for these species. However, catch data are often aggregated due to species identification issues. Data on the status of Hammerhead Shark species come from multiple sources including stock assessments, analysis of fishery data and bycatch in shark control programs. The current IUCN Red List status for both species is 'Endangered' globally (Baum et al. 2009; Denham et al. 2007). More details of the population status and trends can be found in the IUCN assessmentⁱⁱ.

5. Threats

- **Fisheries:** Hammerhead sharks are captured both as target and bycatch in longline (surface and bottom), gill net and purse-seine fisheries, where they exhibit high at-vessel mortality (Morgan and Burgess 2007; Ellis et al. 2017). Recreational fishing can also be a significant threat especially in the United States and Australia (Miller et al. 2014).
- **International trade:** Hammerhead Shark products (e.g. meat) appear on domestic markets and contribute to subsistence needs in some coastal communities. However, the predominant demand is in the international shark fin trade, where their fins are some of the highest value of all sharks (Denham et al. 2007). Other products such as cartilage, rostral and jaws structures are marketed as health or naturalistic curiosities (Vacchi, unpublished data, 2016).
- **Habitat degradation:** Great and Scalloped Hammerhead Sharks rely on coastal habitats, particularly as nursery areas for juveniles (e.g. mangrove habitat use by *S. lewini*). This reliance on coastal habitats exposes them to a variety of anthropogenic threats (e.g. mining operations, pollution and land reclamation).
- **Shark control programmes:** Scalloped Hammerhead and Great Hammerhead sharks have experienced decreases in population size off South Africa and Australia from beach protection programs (Miller et al. 2013; Miller et al. 2014).

ⁱⁱ The IUCN Red List of Threatened Species uses a set of criteria to evaluate the extinction risk of species and subspecies. For more information see <https://www.iucnredlist.org/>.

6. Key Knowledge Gaps

- Accurate estimates of species-specific population sizes and trends, stock structure and critical sites are lacking for many parts of the range.
- Bycatch mitigation measures are lacking, which is critical due to high at-vessel mortality.

7. Key Management and Conservation Gaps

- Limited actions for Hammerheads in RFMOsⁱⁱⁱ, although scalloped hammerheads are no retention species in ICCAT^{iv}.
- National fishery or conservation measures are limited.
- Full stock assessments have only been conducted in the northwest Atlantic (e.g. Jiao et al. 2008; Hayes et al. 2009).
- Bycatch mitigation measures are limited.
- Hammerhead catches are largely underreported compared to trade statistics, based in part on take of these species in artisanal fisheries and associated lack of data.
- Catch data is often reported at the genus level and is not species-specific.
- Critical habitats have not been delineated.

8. Suggestions for Conservation and Management Action

a) Incorporate conservation measures for Hammerhead Sharks into national legislation of all Parties/Signatories (in compliance with the obligations of the for the Appendix I listed species of CMS^v and in line with the objectives of the Sharks MOU)

- Evaluate and implement relevant international measures (e.g. CITES^{vi}, CMS and RFMOs);
- Consider adopting fins attached measures to effectively prohibit finning.

b) Conserve and restore suitable habitats

- Focus on key habitats and connectivity via migration corridors for future research to support the development of spatial fisheries management;
- Conserve mangroves and other important habitats (e.g. coral reefs).

c) Improve the understanding of Hammerhead Sharks through strategic research, monitoring and information exchange

- Identify critical sites (especially for *S. mokarran*);
- Prioritize research on the population structure of Hammerheads;
- Address data gaps in ecological and biological knowledge (life history parameters) of hammerhead sharks;

ⁱⁱⁱ Regional fisheries management organizations (RFMOs).

^{iv} The International Commission for the Conservation of Atlantic Tunas (ICCAT).

^v Convention on the Conservation of Migratory Species of Wild Animals (CMS).

^{vi} Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

- Investigate post-release survivorship of hammerhead sharks to improve handling and release protocols;
- Collect species-specific data on catch and bycatch especially in coastal and artisanal fisheries;
- Contribute to stock assessments in cooperation with RFMOs for hammerhead species.

d) Improve multilateral cooperation among regions and RFBs^{vii}

- Support the development and implementation of appropriate management plans for hammerhead sharks.
- Support proposals for "look-alike provisions" or "head-attached policy" (or to develop carcass ID guides) to close loop-holes and improve species-specific data collection.
- Engage neighboring countries, including non-Signatory Range States to protect and foster their integration in conservation planning and implementation workshops.
- Promote better regional cooperation between RFMOs, RFBs (e.g. data-sharing or involvement in the Kobe process ^{viii}).
- Identify synergies with other Range States/stakeholders to support coordinated and resource-effective research and conservation programs.

e) Enhance or develop where necessary collection of fishery data (including landings, discards, size frequency, catch and effort)

f) Identify effective approaches to reduce bycatch and improve survivorship of Hammerheads

- Identify gear modifications and fishing practices (e.g. soak time and safe release handling guidelines) to reduce interactions and increase survival;
- Encourage the development and application of sustainable fishing techniques (e.g. exploration of fishing depth as a means of avoiding capture);
- Reduce the soaking time of pelagic longlines or gillnets to increase survivorship.

^{vii} Regional Fishery Bodies (RFBs).

^{viii} The joint tuna Regional Fisheries Management Organization (tRFMO), also known as the Kobe process seeks to harmonize the activities of the five tuna regional fisheries management organizations. For more information see <http://www.tuna-org.org>.

9. Legal Instruments

Instrument:	Description:	Species:
<p>Barcelona Convention Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean</p>	<p>Annex II: Endangered or threatened species; Parties shall ensure the maximum possible protection and recovery of, while prohibiting the damage to and destruction of, these species.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>
<p>Cartagena Convention Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region</p>	<p>Annex III: Parties may regulate the use of these species of flora and fauna in order to ensure and maintain their populations at the highest possible levels.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>
<p>CCSBT Commission for the Conservation of Southern Bluefin Tuna</p>	<p>CCSBT encourages both Members and Cooperating Non-Members to comply with a variety of binding and non-binding measures in order to protect species ecologically related to Southern bluefin tuna, including sharks.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>
<p>CITES Convention on International Trade in Endangered Species of Wild Fauna and Flora</p>	<p>Appendix II: Species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>
<p>CMS Convention on the Conservation of Migratory Species of Wild Animals</p>	<p>Appendix II: Migratory species that have an unfavourable conservation status and need or would significantly benefit from international cooperation; CMS Parties shall endeavour to conclude global or regional agreements to benefit these species.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>

Instrument:	Description:	Species:
<p>EU European Union</p>	<p><u>Council Regulation (EU) 2017/127:</u> Prohibits to fish for, to retain on board, to transship or to land both hammerhead species for Union vessels in the ICCAT Convention Area.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>
<p>FAO Food and Agriculture Organization</p>	<p><u>IPOA Sharks:</u> International Plan of Action for Conservation and Management of Sharks based on which states should adopt and implement a national plan of action for conservation and management of shark stocks (NPO Sharks) if their vessels conduct directed fisheries for sharks or if their vessels regularly catch sharks in non-directed fisheries.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>
<p>GFCM General Fisheries Commission for the Mediterranean</p>	<p><u>Rec. GFCM/36/2012/3:</u> Shark species listed under Annex III of the Barcelona Convention cannot be retained on board, transshipped, landed, transferred, stored, sold or displayed or offered for sale and must be released unharmed and alive to the extent possible.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>
<p>IATTC Inter-American Tropical Tuna Commission</p>	<p><u>Res. C-16-01:</u> Amendment of resolution <u>C-15-03</u> on the collection and analysis of data on fish-aggregating devices.</p> <p><u>Res. C-16-04:</u> Amendment to resolution <u>C-05-03</u> on the conservation of sharks caught in association with fisheries in the eastern Pacific Ocean.</p> <p><u>Res. C-16-05:</u> Resolution on the management of shark species.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>
<p>ICCAT International Commission for the Conservation of Atlantic Tunas</p>	<p><u>Res. 95-02:</u> Cooperation with FAO to study status of stocks and shark by-catches.</p> <p><u>Res. 03-10:</u> Resolution by ICCAT on the sharks fishery.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>

Instrument:	Description:	Species:
	<p>Rec. 04-10: Recommendation by ICCAT concerning the conservation of sharks caught in association with fisheries managed by ICCAT.</p> <p>Rec. 07-06: Supplemental recommendation by ICCAT concerning sharks.</p> <p>Rec. 10-08: Recommendation by ICCAT on Hammerhead Sharks (Family <i>Sphyrnidae</i>) caught in association with fisheries managed by ICCAT.</p> <p>Rec. 11-10: Recommendation by ICCAT on information collection and harmonization of data on bycatch and discards in ICCAT fisheries.</p> <p>Rec. 13-10: Recommendation on Biological Sampling of Prohibited Sharks Species by Scientific Observers.</p>	
<p>IOTC Indian Ocean Tuna Commission</p>	<p>Res. 13/06: On a scientific and management framework on the conservation of sharks species caught in association with IOTC managed fisheries.</p> <p>Res. 15/09: On a fish aggregating devices (FADs) working group.</p> <p>Res. 17/05: On the conservation of sharks caught in association with fisheries managed by IOTC.</p> <p>Res. 17/07: On the prohibition to use large-scale driftnets in the IOTC Area.</p> <p>Res 17/08: Procedures on a FADs Management Plan including limitation on number of FADs, more detailed specifications of catch reporting from FAD sets, and development of improved designs to reduce incidence of entanglement of non-target species.</p>	<p><i>S. mokarran</i></p> <p><i>S. lewini</i></p>
<p>NAFO Northwest Atlantic Fisheries Organization</p>	<p>In order to safeguard the marine ecosystems in which the Convention Area's fisheries resources are found, NAFO develops and adopts conservation and enforcement measures to protect shark species in its region.</p>	<p><i>S. mokarran</i></p> <p><i>S. lewini</i></p>

Instrument:	Description:	Species:
<p>Sharks MOU Memorandum of Understanding on the Conservation of Migratory Sharks</p>	<p><u>Annex 1</u>: Signatories should endeavor to achieve and maintain a favorable conservation status for these species based on the best available scientific information and taking into account their socio-economic value.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>
<p>UNCLOS United Nations Convention on the Law of the Sea</p>	<p><u>Annex I</u>: States whose nationals fish in the region for the highly migratory species listed in Annex I shall cooperate directly or through appropriate international organizations to ensure the conservation and optimum utilization of such species throughout the region, both within and beyond the exclusive economic zone.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>
<p>WCPFC Western and Central Pacific Fisheries Commission</p>	<p><u>CMM 2008-04</u>: Conservation and management measures to prohibit the use of large sale driftnets on the high seas in the Convention Area.</p> <p><u>CMM 2009-02</u>: Conservation and management measures on the application of high seas FAD closure and catch retention.</p> <p><u>CMM 2010-07</u>: Conservation and management measures for sharks.</p> <p><u>CMM 2014-05</u>: Conservation and management measures for sharks.</p>	<p><i>S. mokarran</i> <i>S. lewini</i></p>

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About the Sharks MOU

The Memorandum of Understanding on the Conservation of Migratory Sharks (Sharks MOU) is the first global instrument for the conservation of migratory species of sharks, rays, skates and chimaeras.

The Sharks MOU is an instrument of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) that engages all relevant stakeholders in addressing threats to migratory species in concert with all other aspects of wildlife conservation and management.

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