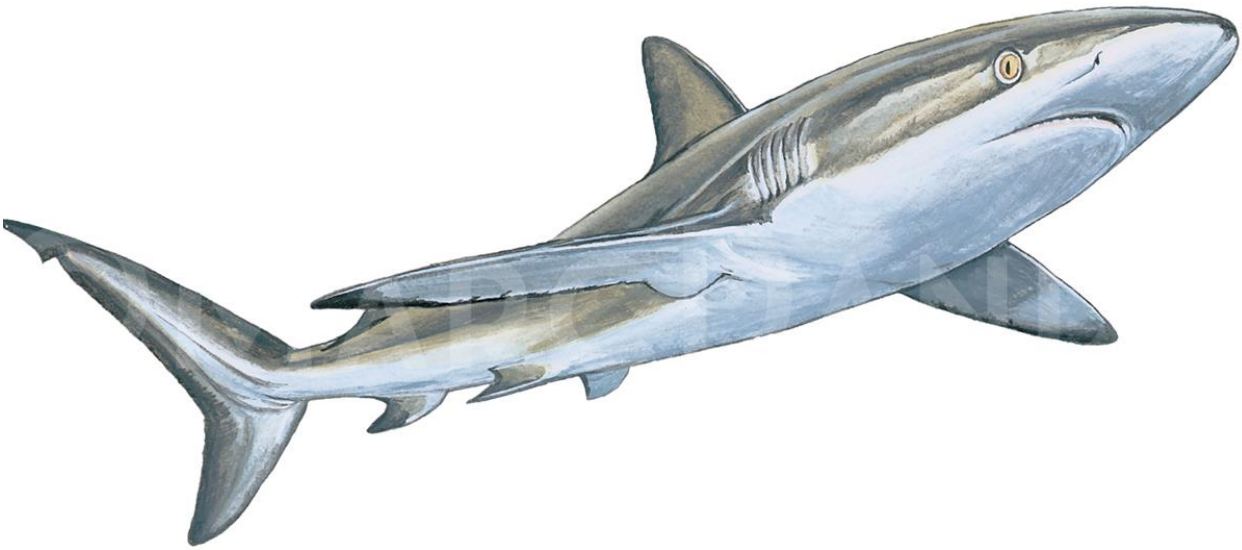
Memorandum of Understanding on the Conservation of Migratory Sharks

Silky Shark Fact Sheet



Class:	Chondrichthyes	Silky shark Requin soyeux Tiburon sedoso
Order:	Charcharhiniformes	
Family:	Charcharhinidae	
Species:	*Carcharhinus falciformis*	Illustration: © Marc Dando

1. BIOLOGY

The silky shark *Carcharhinus falciformis* is an abundant, oceanic and epipelagic carcharhinid shark (Compagno et al., 2005). The silky shark can be characterized as a long lived (up to 30 years) species, relatively slow growing, and maturing at between 5-10 years of age. Depending on the study, litter size ranges from 2-25 individuals.

2. DISTRIBUTION

Silky shark is an oceanic and coastal species with circumtropical distribution found along continental shelves and slopes from the surface to 500 m of depth, with adults tending to occupy deeper waters than its juveniles. Silky shark are often associated with seamounts, and juveniles with floating objects (Ebert et al. 2016).

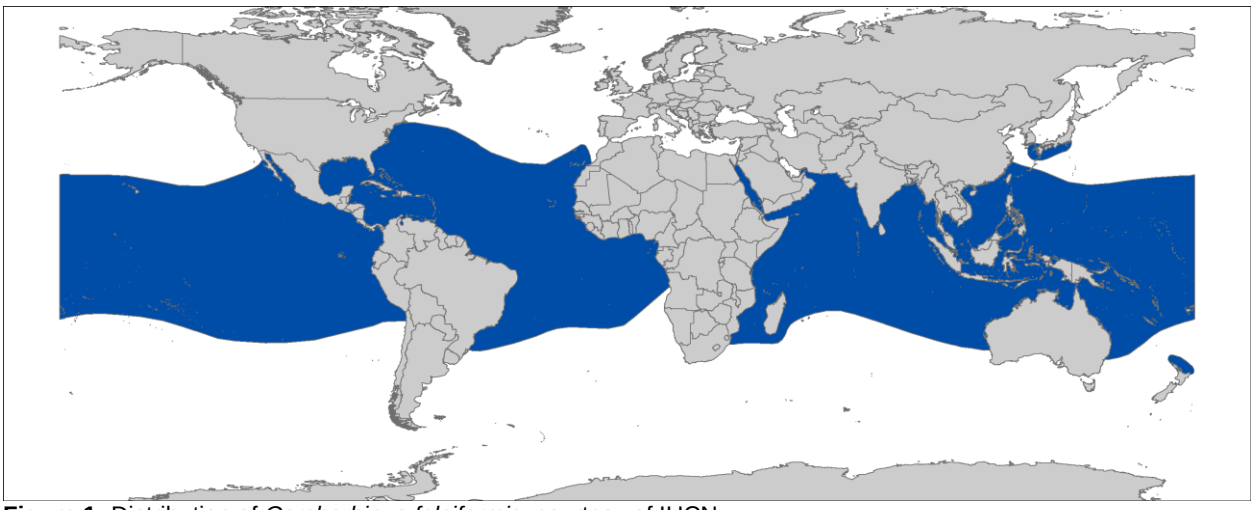


Figure 1: Distribution of *Carcharhinus falciformis*, courtesy of IUCN.

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. Critical sites have not been accurately defined for these species in all areas, but some potentially important grounds have been proposed REFS.

4. POPULATION STATUS AND TRENDS

Information available on the population status and trends in this taxon consists of fisheries catch data analyzed in a generalized linear modeling approach and stock assessments. RFMOs assessing silky shark are examining stocks in the Pacific and Indian Ocean IOTC to be undertaken in 2019. Stock units have not been defined in the Pacific Ocean. The current IUCN Red List status for the global populations of silky shark is Vulnerable (Rigby et al. 2017)[1].

Region	Population trend	Time Period	Reference
ATLANTIC			
Western North Atlantic (Gulf of Mexico and Caribbean Sea)	46% (observer) to 50% (logbook) Decline	1992-2005	(Cortés et al. 2007)
INDO-PACIFIC			
Western Indo-Pacific	30% decline	1995-2009	Rice and Harley (2013)
Western Indo-Pacific	No trend	1995–2014	Rice (2015)
EASTERN PACIFIC			
Eastern Pacific Ocean	60-80% Decline	1994-2004	(Minami et al. 2007)
USA/Mexico (Northern EPO)	37% Decline	1994-2015	(FAO 2016; Lennert-Cody et al. 2016)
Columbia/Ecuador (Southern EPO)	77% Decline	1994-2013	(FAO 2016; Lennert-Cody et al. 2016)
Columbia/Ecuador (Southern EPO)	65% Decline	1994-2015	(FAO 2016; Lennert-Cody et al. 2016)

1 See the IUCN website for further details on the population assessment: http://www.iucnredlist.org/details/39370/0.

5. THREATS

- **Fisheries:** The silky shark are caught as bycatch in longline and purse-seine fisheries (Clarke et al. 2013b; Oliver et al. 2015). Silky sharks are under both high fishing and bycatch pressures in the Gulf of Mexico, which has caused a large decline in their population (Hoyos-Padilla et al. 2012). Entanglement of silky sharks in Fish Aggregating Devices is also a large source of mortality, with one study estimating it to be 5-6 times larger than bycatch in the Indian Ocean (Filmalter et al. 2013).
- **International trade:** Silky shark meat is used for human consumption where permitted. Its fins are also commonly taken for international trade, representing 3-4% of the fin trade in the Hong Kong markets (Clarke et al. 2006).

6. KEY KNOWLEDGE GAPS

- Recent and accurate estimates of population sizes and demographic structure with regard to sustainable levels of fishing pressure are urgently needed;
- Further, the distribution, life-history, and ecological parameters of both species are lacking. Especially, data relative to critical habitats beyond seamounts.

7. KEY MANAGEMENT AND CONSERVATION GAPS

- High mortality associated with fish aggregation devices (FADs);
- National fishery or conservation measures are limited;
- Full stock assessments have only been conducted in the Pacific Ocean;
- Critical habitats have not been identified and delineated;
- Fishery data (landings, discards, size frequency, catch and effort) are lacking in some areas.

8. RECOMMENDATIONS FOR CONSERVATION AND MANAGEMENT ACTION

A multifaceted approach is required to address the management and conservation gaps for white sharks. Sharks MOU Signatories and other Range States are encouraged:

a) Incorporate conservation measures for silky sharks into national legislation of all Parties/Signatories.

- Implement relevant international measures (e.g. CMS, CITES and RFMOs).

b) Improve the understanding of silky shark through strategic research, monitoring and information exchange, including data collection of biological and distributional data and population status.

- Identify critical sites of silky shark abundance and seasonality;
- Further investigate post-release survivorship of silky sharks to inform improved handling and release protocols especially associated with purse seine fisheries;
- Address data gaps in biological knowledge (life-history and ecological parameters) of silky sharks;
- Conduct long-term monitoring of silky shark populations;
- Enhance or develop where necessary collection of fishery data (including landings, discards, size frequency, catch and effort where needed);
- Develop stock assessment in cooperation with RFMOs for silky sharks.

d) Improve multilateral cooperation among regions & RFBs

- Support the introduction of appropriate management and conservation measures for silky sharks at international and regional fora (e.g. Co-sponsor proposals / resolutions within multilateral agreements);
- Promote better regional cooperation between RFMOs and RFBs (e.g. data-sharing or involvement in the Kobe process[2]);
- Support development and implementation of appropriate management plans for silky sharks;
- Identify synergies with other Range States/stakeholders to support coordinated and resource-effective research & conservation programs.

e) Identify the effective approaches to reduce bycatch and improve survivorship of silky sharks.

- Including gear modifications e.g. hook and trace type and fishing practices and safe release handling guidelines.

f) Raise awareness about the threats to silky sharks

- Inform the public about the need of shark conservation via educational, social media and local outreach campaigns.

9. LEGAL INSTRUMENTS

Instrument	Description
CITES Convention on International Trade in Endangered Species of Wild Fauna and Flora	**Appendix II**: Species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival.
CMS Convention on the Conservation of Migratory Species of Wild Animals	**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.
EU European Union	Council Regulation (EU) 2017/127 prohibits to fish for, to retain on board, to tranship or to land silky sharks for Union vessels in the ICCAT and WCPFC Convention Areas. When accidentally caught, the specimens shall not be harmed and promptly be released
FAO Food and Agriculture Organization	**IPOA Sharks**: International Plan of Action for Conservation and Management of Sharks

2 http://www.tuna-org.org

Instrument	Description
IATTC Inter-American Tropical Tuna Commission	**Res. C-16-01:** Amendment of resolution C-15-03 on the collection and analysis of data on fish-aggregating devices **Res. C-16-04:**Amendment to resolution C-05-03 on the conservation of sharks caught in association with fisheries in the eastern Pacific Ocean **Res. C-16-05:**Resolution on the management of shark species **Res. C-16-06:** Conservation measures for shark species, with special emphasis on the Silky Shark (*Charcharhinus falciformis*), for the years 2017, 2018, and 2019
ICCAT International Commission for the Conservation of Atlantic Tunas	**Res. 95-02**: Cooperation with FAO to study status of stocks & shark by-catches **Res. 03-10:** Resolution by ICCAT on the sharks fishery **Rec. 04-10:** Recommendation by ICCAT concerning the conservation of sharks caught in association with fisheries managed by ICCAT **Rec. 07-06:** Supplemental recommendation by ICCAT concerning sharks **Rec. 11-08:** Recommendation by ICCAT on the conservation of Silky Sharks caught in association with ICCAT Fisheries **Rec. 11-10:** Recommendation by ICCAT on information collection and harmonization of data on bycatch and discards in ICCAT fisheries **Rec. 13-10**: Recommendation on Biological Sampling of Prohibited Sharks Species by Scientific Observers
Sharks MOU Memorandum of Understanding on the Conservation of Migratory Sharks	**Annex 1**: Signatories should endeavour to achieve and maintain a favourable conservation status for these species based on the best available scientific information and taking into account their socio-economic value.
UNCLOS United Nations Convention on the Law of the Sea	**Annex I**: States whose nationals fish in the region for the highly migratory species listed 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.
WCPFC Western & Central Pacific Fisheries Commission	**CMM 2008-04:** Conservation and management measures to prohibit the use of large sale driftnets on the high seas in the Convention Area **CMM 2009-02:** Conservation and management measures on the application of high seas FAD closure and catch retention **CMM 2010-07:** Conservation and management measures for sharks **CMM 2013-08:** Conservation and management measure for Silky Sharks **CMM 2014-05:** Conservation and management measures for sharks

10. KNOWN CRITICAL SITE

Information on critical sites is limited. Some studies suggest potential areas are around seamount in the eastern Pacific. Ongoing and future research using pop-off archival satellite tags will help to further identify these areas.

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