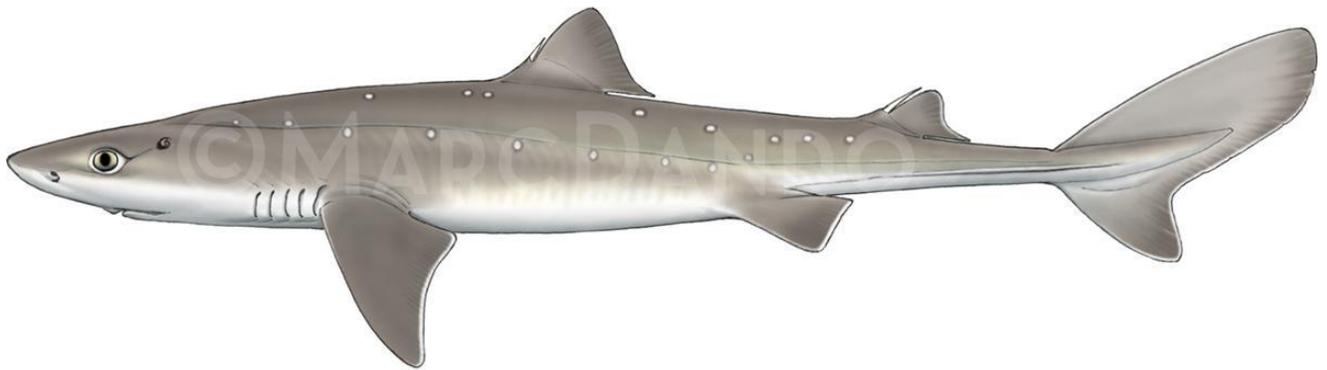




Fact Sheet

SPINY DOGFISH
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Spiny Dogfish
Squalus acanthias

SPINY DOGFISH

Class: *Chondrichthyes*

Order: *Squaliformes*

Family: *Squalidae*

Species: *Squalus acanthias*

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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

Spiny Dogfish (*Squalus acanthias*), also known as Picked Dogfish or Spurdog, is a demersal shark that has a maximum length of 125 cm in the North Atlantic. It occurs mostly in shelf seas, from coastal habitats to the shelf edge, but can occur to depths of 900 m. They aggregate by size and sex, and are migratory in regional seas, although very occasional transatlantic movements have been reported. Spiny Dogfish are long lived (ca. 50–60 years) and have slow growth rates. Females mature at a length of 75–85 cm, produce up to 21 pups and gestation lasts two years (ICES 2017). Published studies on *S. acanthias* from the North Pacific relate to *Squalus suckleyi* (see Ebert et al. 2010).

2. Distribution

Spiny Dogfish is distributed in both northern and southern temperate and boreal waters, but the species is listed on the MOU for the northern hemisphere populations only. Northern hemisphere subpopulations occur in the Northeastern and Northwestern Atlantic, Mediterranean Sea and Black Sea.



Figure 1: Distribution of Spiny Dogfish (*Squalus acanthias*)ⁱ.

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 there is extensive monitoring effort in the Northeast and Northwest Atlantic, critical sites for this species supporting different life-history stages, such as pupping and nursery grounds, are largely undefined (McMillan and Morse 1999; Sulikowski et al. 2013; ICES 2017).

ⁱ Map obtained from the International Union for Conservation of Nature (IUCN) on 20 November 2017.

4. Population Status and Trends

Stock assessments for Spiny Dogfish are undertaken by the Northeast Fisheries Science Centre for the Northwest Atlantic (NEFSC 2006) and by ICESⁱⁱ for the Northeast Atlantic stocks (De Oliveira et al. 2013; ICES 2017). There is more limited information on Mediterranean Sea and Black Sea, with exploratory assessments undertaken under the auspices of the General Fisheries Commission for the Mediterranean Sea. The current IUCN Red List status for the global population is 'Vulnerable' (Fordham et al. 2016). More details of the population status and trends can be found in the IUCN assessmentⁱⁱⁱ.

5. Threats

- **Fisheries:** Spiny Dogfish is taken in trawl, gillnet and longline fisheries. It is, or has been, subject to target fisheries, as well as being a frequent bycatch in mixed demersal fisheries.

6. Key Knowledge Gaps

- Habitat utilization and critical sites for relevant life-history stages.
- Estimates of discards and post-release survivorship.
- Life-history data are available for the Atlantic stocks, but improved estimates for age and growth, and natural mortality are required.
- Improved knowledge of both the Mediterranean Sea and Black Sea stocks are of high priority, including confirmation of their taxonomic status, population status and demographic structure.

7. Key Management and Conservation Gaps

- Full stock assessments have only been conducted for the two North Atlantic stocks. Improved knowledge of the Mediterranean and Black Sea stocks is required, in order to ascertain the current status of these stocks.
- Identification of the most effective management measures (e.g. size limits, quotas, spatial management) and options for technical measures. Quotas and possession limits contributed to stock rebuilding in the north-west Atlantic (Rago and Sosebee 2010).

ⁱⁱ International Council for the Exploration of the Sea (ICES).

ⁱⁱⁱ 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/>.

8. Suggestions for Conservation and Management Action

a) Improve the understanding of Spiny Dogfish through strategic research, monitoring and information exchange, including distributional data and population status

- Identify critical sites for Spiny Dogfish.
- Improved estimation of discards, including post-release survivorship.
- Address data gaps in biological knowledge (life-history parameters), including updated studies of age and growth, and natural mortality.
- Continue the longer-term monitoring of Spiny Dogfish populations, including updated analyses of trawl survey data.
- Further refine stock assessment methods in cooperation with relevant fisheries bodies
- Further investigate post-release survivorship of Spiny Dogfish to inform improved handling and release protocols, and options for technical measures.
- Improve capacity in species identification through training and the dissemination of available ID guidelines for those areas where other members of the genus occur.

b) Improve multilateral cooperation among regions and RFBs^{iv}

- Support development and implementation of appropriate management plans for Spiny Dogfish stocks.
- Identify synergies with other Range States/stakeholders to support coordinated and resource-effective research programs, with special reference to the Mediterranean Sea and Black Sea.

^{iv} Regional Fishery Bodies (RFBs).

9. Legal Instruments

| Instrument: | Description: |
|--|---|
| Barcelona Convention Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean | Annex III: Species whose exploitation is regulated; Parties shall ensure the favourable state of conservation of these species by taking all appropriate measures, in cooperation with competent international organizations. |
| CMS Convention on the Conservation of Migratory Species of Wild Animals | Appendix II: Migratory species that have an unfavorable conservation status and need or would significantly benefit from international cooperation; CMS Parties shall endeavor to conclude global or regional agreements to benefit these species. |
| EU European Union | Council Regulation (EC) No 1185/2003: Establishes a general prohibition of the practice of 'shark finning', whereby a shark's fins are removed, and the remainder of the shark is discarded at sea. Council Regulation (EU) 2018/120: Prohibits for Union vessels to fish for, to retain on board, to transship or to land Spiny (Picked) Dogfish by in all waters, with the exception of avoidance programmes (e.g. limited quota is available for vessels engaged in bycatch avoidance programmes). The regulation also prohibits third-country vessels to fish for, to retain on board, and to transship Spiny Dogfish in Union waters. |
| FAO Food and Agriculture Organization | IPOA Sharks: 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. |
| GFCM General Fisheries Commission for the Mediterranean | Rec. GFCM/36/2012/3: 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. |

| Instrument: | Description: |
|--|--|
| NAFO Northwest Atlantic Fisheries Organization | 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. |
| NEAFC North East Atlantic Fisheries Commission | NEAFC considers and designs recommendations and measures to ensure the protection and conservation of shark species related to fisheries in its region. |
| OSPAR Convention for the Protection of the Marine Environment of the North- East Atlantic | <u>OSPAR Recommendation 2014/2:</u> Contracting Parties and management authorities responsible for human activities in the region are urged to take the need for protection of these species into account, OSPAR List of Threatened and/or Declining Species and Habitats: Species listed are a priority for protection and conservation. |
| Sharks MOU Memorandum of Understanding on the Conservation of Migratory Sharks | <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. |

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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.

Date of Publication: November 2019

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