



# SHARK FACTS

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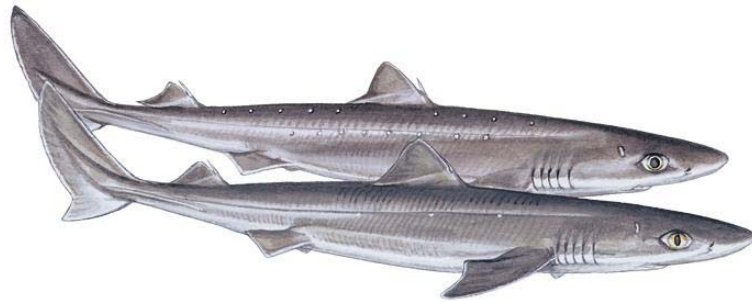
*The Shark Trust supports the  
European Elasmobranch Association*

## Spiny Dogfish (*Squalus acanthias*)

The Spiny Dogfish, also known as the Spurdog or the Piked Dogfish (often marketed as Rock, Rock Salmon or Huss in fish and chip shops), is one of the best-known species of shark. Found in temperate waters worldwide, most Spiny Dogfish populations are at serious risk from unsustainable fishing.

### Description

The Spiny Dogfish is a small, slender shark characterised by a grey to bluish-grey dorsal body surface and a lighter to white lower surface, often with white spots down the sides of the body. The dorsal fins are dusky or plain in adults and the first dorsal fin is low with a short slender spine while the second dorsal fin is much smaller than the first with a larger, stouter spine. The head is narrow and relatively long with a pointed snout lacking barbels on the nasal flaps. They have a short transverse mouth and low, bladelike cutting teeth. There are 28 upper teeth and 22-24 teeth on the lower jaw.

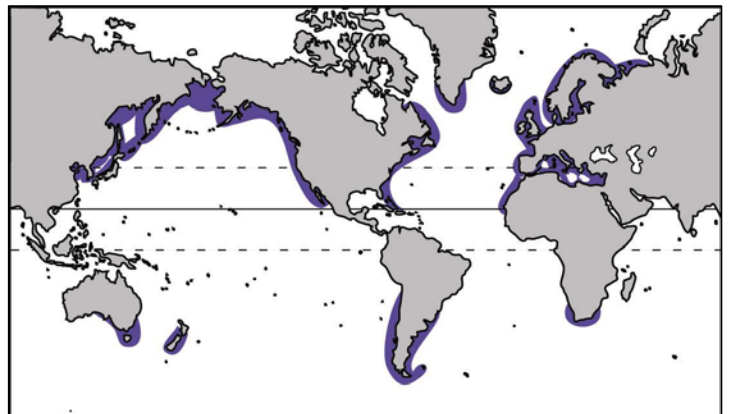


Spiny Dogfish illustration © Marc Dando

### Distribution and Habitat

The Spiny Dogfish occurs in temperate waters of 7-8°C to 12-15°C in both the Northern and Southern hemispheres. Although highly migratory, there are distinct populations. They are most common on continental shelves and spend most of their time swimming just above the seabed. However, they can also be seen moving up the water column to the surface. The maximum depth recorded for the species is 900m although they are more often located at a depth between 10-200m<sup>1</sup>. Spiny Dogfish are opportunistic feeders, preying primarily on a variety of bony fishes, such as Herring and Mackerel, and invertebrates such as comb jellies.

Spiny Dogfish exhibit schooling behaviour and live in close aggregations of similar sized individuals, often segregate by sex<sup>1</sup>. Juvenile individuals tend to school offshore while pregnant females tend to congregate close to shore<sup>2</sup>.



Global distribution of Spiny Dogfish

### Reproduction

The Spiny Dogfish exhibits slow growth rate, late maturation and limited reproductive capacity. This species has one of the lowest population growth rates calculated for any shark. The maximum length of individuals is between 160-200 cm with maturity occurring at 52-100 cm (6-14 years) for males and 66-120 cm (12-35 years) for females<sup>1,3</sup>. Life history characteristics vary among populations but individuals in the Northeast Pacific are thought to live for 100 years.

The Spiny Dogfish has a gestation period of 18-24 months (the longest gestation period of any vertebrate<sup>2</sup>) resulting in a litter of 1-32 pups, with a sex ratio of 1:1. The fertilised eggs are incubated within the female's body and young are born live as fully formed individuals at a length of 18-33 cm. The number of pups can vary regionally with larger females generally producing larger pups in greater numbers. Mating is thought to occur in the winter months with pups being born in winter, spring or summer depending on the length of pregnancy.

## Threats

The greatest threat to Spiny Dogfish populations world-wide is overfishing. Although this species is abundant in its natural state, Spiny Dogfish is also one of the more vulnerable shark species to over-exploitation due to exceptionally slow growth coupled with the tendency for fisheries to target schools of pregnant females in search of larger individuals.

One of the world's most commercially important species, the Spiny Dogfish is extensively fished for its meat. Although not preferred in the Asian fin market, Spiny Dogfish fins do enter international trade for use in shark fin soup and constitute a large percentage of fins coming from Europe<sup>5</sup>. Spiny Dogfish meat is fried and sold in UK fish and chip shops while fried belly flaps are eaten in German beer gardens. Fillets are also consumed in countries such as France, Italy and Belgium. Spiny Dogfish liver oil, cartilage and skin are used far less frequently than the meat and fins<sup>1</sup>. European demand for meat drives unsustainable fisheries around the world<sup>1</sup>. Targeting of pregnant females damages the population structure and sex ratio, thus further hampering population resilience and recovery<sup>4</sup>.



Spiny Dogfish, *Squalus acanthias* ©

## Conservation and Management

Subpopulation	Current Status
Northeast Atlantic	Critically Endangered
Northwest Atlantic	Endangered
Northwest Pacific	Endangered
Mediterranean	Endangered
Northeast Pacific	Vulnerable
Black Sea	Vulnerable

Table: Current IUCN listing for six *Squalus acanthias* subpopulations under assessment

The IUCN World Conservation Union lists Spiny Dogfish on their Red list of Threatened Species as **Vulnerable** globally and **Critically Endangered** off Europe. The table illustrates the subpopulations currently assessed<sup>5</sup>. In the Northeast Atlantic, total population biomass has fallen by 95% since targeted fisheries began over 100 years ago<sup>6</sup>. In the Northwest Atlantic, overfishing in the 1990s led to a 75% reduction in the mature female population<sup>6</sup>. Data taken from the Food and Agriculture Organisation (FAO) shows that 89% of the world's Spiny Dogfish

landings reported to the FAO between 1950 and 2001 were taken from the Northeast Atlantic<sup>6</sup>. Given this depletion, there is an urgent need for more stringent fishing restrictions, especially in the North Atlantic where catch limits are routinely set above scientific recommendations and often do not apply to the full range of the species. Although the Spiny Dogfish is one of just a few shark species to be limited by the European Union, restrictions have been insufficient to rebuild the population and scientists warn of population collapse should fishing be allowed to continue. The EU Council of Fisheries Ministers sets fishing limits each December and public support is vital to balance fishing industry opposition against science-based limits.

Germany has proposed that Spiny Dogfish should be included on Appendix II of the Convention on International Trade in Endangered Species (CITES). At the last CITES Conference, in June 2007, the proposal fell short of the two-thirds majority required for adoption. Germany pledged to repropose the action at the next CITES Conference in 2009. In the meantime, the Shark Trust is currently conducting an extensive project to document the consumption of Spiny Dogfish in the UK, especially in Fish and Chip shops. So far, we have found that London and the South East of England serve as the core of such demand.

## What can you do?

- Contact the European Minister of Fisheries and call for an end to European Spiny Dogfish fisheries
- If you see any "Rock Salmon" or "Huss" (Spiny Dogfish) in a Fish Shop, report the experience to the Shark Trust to help with our current project ([www.sharktrust.org](http://www.sharktrust.org) >>> Get Involved)
- Sign our online petition to save our sharks ([www.sharktrust.org/petitions](http://www.sharktrust.org/petitions))
- Become a Shark Trust member ([www.sharktrust.org](http://www.sharktrust.org) >>> Join us)
- Visit the Shark Alliance (a coalition of non-profit organisations aimed at improving European shark policies) website ([www.sharkalliance.org](http://www.sharkalliance.org)) for further publications on Spiny Dogfish

## References

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6. Fordham, S, 2004. *Conservation and Management Status of Spiny Dogfish Sharks (Squalus acanthias)* [cited 25/10/2007]. Available from: <http://www.flmnh.ufl.edu/fish/organizations/ssg/E20i-22.pdf>