



Guide to
European
Elasmobranchs

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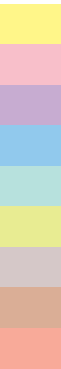


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Introduction to European elasmobranches

Elasmobranches, the group of fishes that include sharks and batoids (rays and other flat sharks), are found in all European waters, from the cold and deep waters of Greenland to the warm subtropical waters of the Canary Islands. Elasmobranches are cartilaginous fishes, meaning they have skeletons made of cartilage instead of bone; they present a wide diversity in shape, size, habitat, and reproduction methods. These species are highly adapted to the marine environment, with five to seven paired gill openings on both sides of the head for respiration and tiny tooth-like scales that improve hydrodynamics. Sharks typically present a cylindrical body shape and have thousands of teeth that are continually produced and shed over a lifetime. Batoids are much like flattened sharks, characterised by short bodies and two expanded pectoral fins that have an appearance similar to wings.

There are 136 species of elasmobranches that live in European waters (compared to 1,125 around the entire world); 56 of these species are rays, skates and other flat sharks. The elasmobranches in Europe are grouped into seven taxonomic orders: Lamniformes (mackerel sharks), Carcharhiniformes (ground sharks), Orectolobiformes (carpet sharks), Hexanchiformes (cow and frilled sharks), Squaliformes (dogfish sharks), Squatiniformes (angelsharks) and Rajiformes (rays and flat sharks). There are two additional extant order of elasmobranches not found in European waters: the Heterodontiformes (bullhead sharks) and Pristiophoriformes (sawsharks), which are mainly present in the Indian and Pacific oceans.

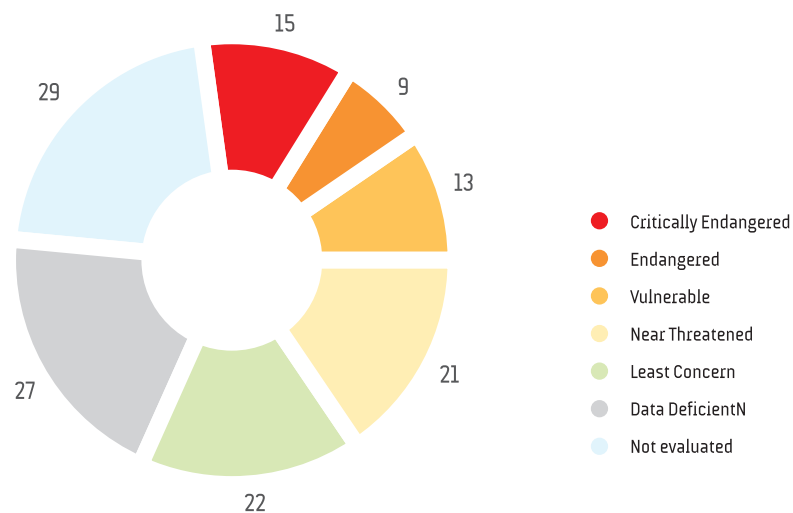
For the European elasmobranch populations assessed to date by the International Union for the Conservation of Nature (IUCN), the world's most authoritative inventory on conservation statuses, one-third is threatened with extinction¹. The most endangered sharks in Europe are those targeted for industrial food production. For example, the porbeagle (*Lamna nasus*) and spurdog (*Squalus acanthias*), both highly valued in Europe for their meat and fins, are *Critically Endangered* in the Northeast Atlantic Ocean according to the IUCN Red List. Other species caught as by-catch are also suffering severe declines. The International Council for the Exploration for the Sea (ICES), the organisation responsible for providing scientific information on marine ecosystems to the European Union, has determined that the *Critically Endangered* angel shark (*Squatina squatina*) is now locally extinct in the North Sea and that the *Endangered* bottlenose skate (*Rastroraja alba*) is possibly extinct in the Celtic Seas².

In the Mediterranean, a sea with a long history of fishing, the proportion of threatened sharks and rays goes up to 42%, making this sea the most dangerous place on Earth for these animals according to the IUCN³. In fact, several species of large predatory sharks in the Mediterranean, including the hammerhead (*Sphyrna* spp.) and thresher (*Alopias vulpinus*), have decreased over 97% relative to their abundances 200 years ago⁴.

Sharks have been evolving and roaming the oceans for over 400 million years, but in an era marked by increased fisheries effort, improved technologies and rising market demand, their presence in Europe is being challenged by overfishing as targeted and accidental catch. Since sharks are extremely slow growing and produce few young, their populations are highly vulnerable to fisheries exploitation and can take decades to recover. Many sharks are top predators in the oceanic food web and declines in their populations threaten the structure and function of the marine environment with unpredictable consequences for other species.

Oceana is working to achieved improved fisheries management and conservation measures to safeguard the future of sharks in Europe. This guide gives an overview of the elasmobranch species that can be found in European waters, dividing them into the seven taxonomic orders present in this region. The habitat, European range, conservation status and management instruments in place for each species is detailed⁵.

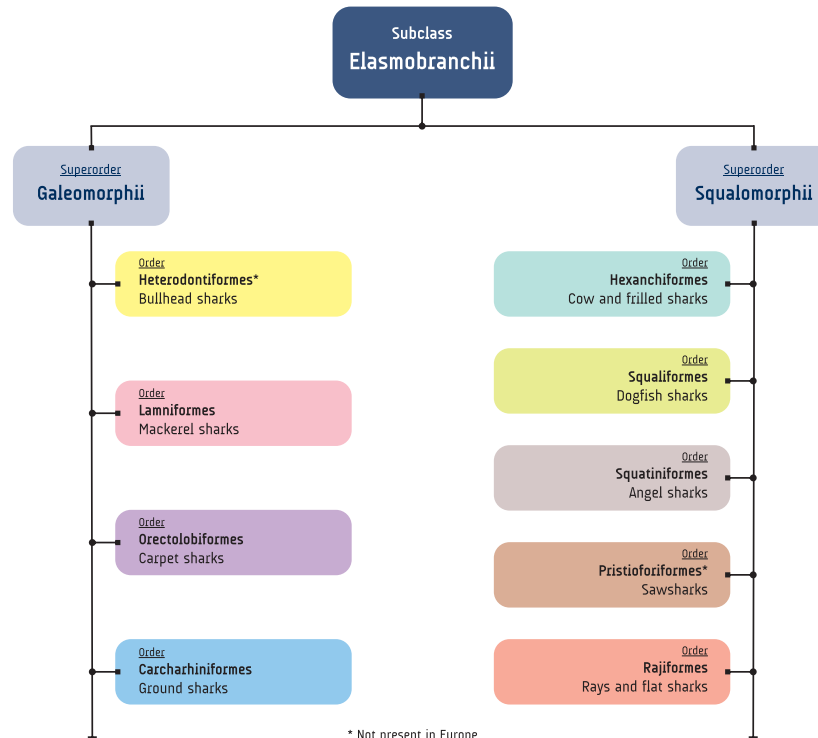
Number of European Elasmobranch Species per IUCN Regional Red List Status*



* The IUCN Red List is the world's most comprehensive and authoritative inventory of the global conservation status of plant and animal species. Species are assessed on a formal set of criteria and placed in one of the following categories: Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, Near Threatened, Least Concern, Data Deficient and Not Evaluated. Species qualifying as *Vulnerable*, *Endangered* or *Critically Endangered* are considered *Threatened* with extinction. Individual geographic populations of certain species may be listed in distinct categories. For this evaluation, if no specific European regional population status has been declared, *Global* status is understood to be the *European* status.

Taxonomic cladogram of European elasmobranch species_

The subclass Elasmobranchii is divided into two superorders: Galeomorphii (many of the species commonly thought of as typical sharks) and Squalomorphii. These are further divided into the nine extant orders of elasmobranches⁶, seven of which can be found in European waters.



Lamniformes

Cetorhinus maximus _
Alopias vulpinus _
Lamna nasus _

The order Lamniformes is comprised of the “mackerel sharks”. These are large, active pelagic sharks with cylindrical bodies, conical heads and large mouths. This group includes the sand tiger sharks, crocodile sharks, goblin shark, megamouth shark, thresher sharks, basking sharks and mackerel sharks. Lamniformes are worldwide in distribution and live mostly in warm waters; some species are migratory. Their diets are highly varied; while some species are top predators that hunt marine mammals and birds, others are planktonic filter feeders. Reproduction is ovoviviparous, and eggs hatch inside the body of the mother who gives birth to live young. Several species are important in coastal and pelagic commercial fisheries and are highly valued for their meat and fins, but general overfishing is threatening nearly all species of mackerel sharks with extinction. Some Lamniformes are also important in sport fisheries and dive ecotourism. Eleven species of Lamniformes can be found in European waters.

Cetorhinus maximus _

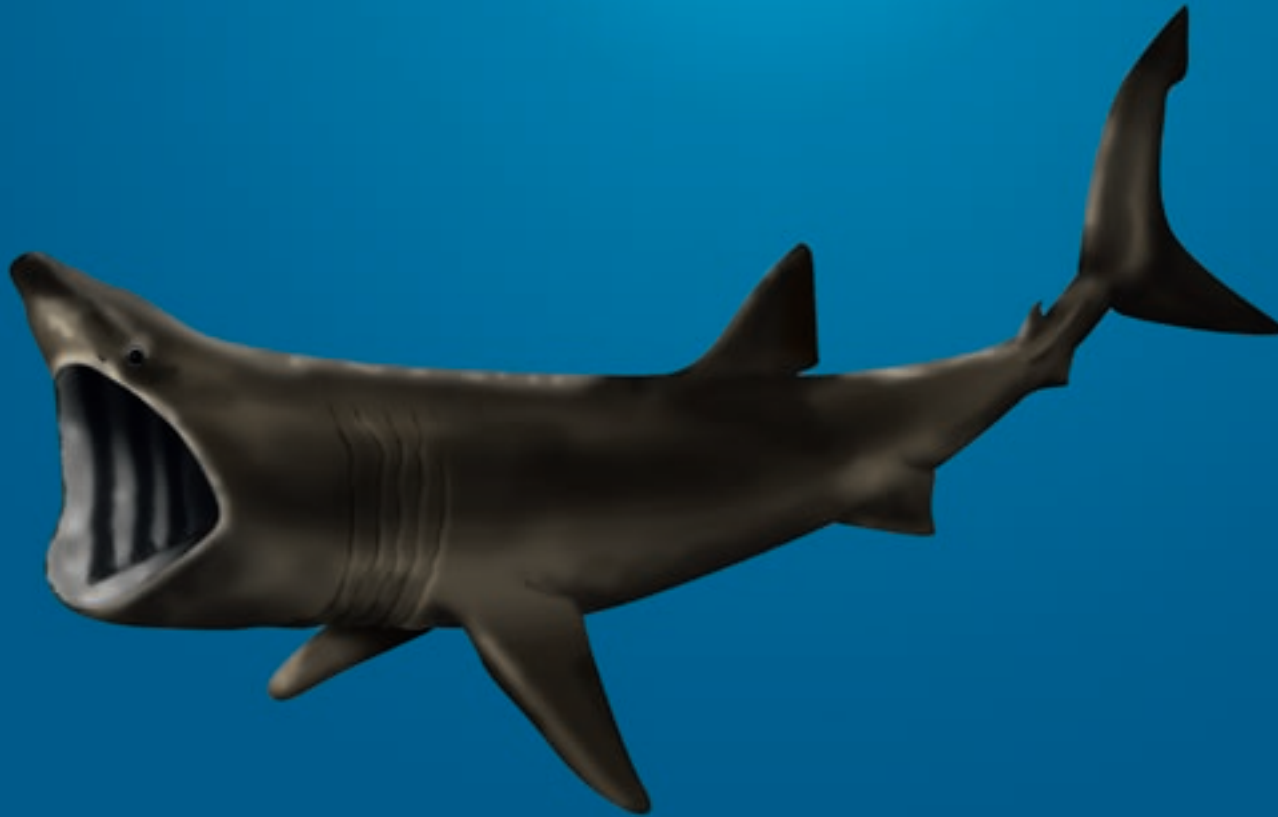
Common name: Basking shark

Habitat: Coastal and pelagic temperate waters. Migratory.

European distribution: From Iceland to the western Barents Sea and down to the Iberian Peninsula. Also in the Mediterranean.

Description: Second largest living shark, easily distinguished by its huge mouth. Tiny teeth and extremely large gill slits. Huge liver provides sufficient buoyancy. Often swims with mouth open to passively filter-feed on surface aggregations of plankton, including small copepods, barnacle and decapod larvae and fish eggs. Slow-moving harmless shark.

Conservation status: Highly caught in target fisheries around the world for its oil, meat and fins and caught as by-catch in other fisheries. One of the few sharks still seen in the Mediterranean today. IUCN Red list status in the Northeast Atlantic is *Endangered* and in the Mediterranean *Vulnerable*. Presently one of the most widely protected species worldwide and listed on many conventions: Barcelona Annex II, Bern Appendix II, CMS Appendix I & II, CITES Appendix II, UNCLOS Annex I and all OSPAR regions. Fishing by all EU vessels is prohibited. Also protected in Norway, the Faroe Islands, Malta, Croatia and British waters.



Alopias vulpinus

Common name: Common thresher shark

Habitat: Pelagic and oceanic temperate to subtropical waters down to 350–400 metres depth. Coastal waters used for nurseries. Seasonally migratory.

European distribution: From Norway to the Iberian Peninsula and in the Mediterranean.

Description: Blue, grey or silver colouring above, white below. Short head and pointed pectoral fins. Herds and stuns prey with extremely long upper lobe of caudal tail. Feeds on small schooling fishes, including mackerels, bluefishes, needlefishes, and lanternfishes. Strong swimmer that sometimes jumps out of the water. Litters of usually four pups that are oophagous, feeding on unfertilised eggs for nourishment during development.

Conservation status: Highly vulnerable to overfishing worldwide. Important economic species that is valued for its meat, which is eaten fresh, smoked and dried/salted, and its fins. Listed on UNCLOS Appendix I and IUCN Red List status is *Vulnerable* in the Mediterranean and globally. Studies show decline of over 99% in abundance and biomass in the Mediterranean in just over 100 years⁴.



Lamna nasus

Common name: Porbeagle shark

Habitat: Pelagic temperate waters. Seasonally migratory, moving inshore and up to surface in summer and offshore and to deeper waters in winter.

European distribution: From Iceland to the western Barents Sea and down to the Iberian Peninsula and the Mediterranean.

Description: Stocky body, dark grey dorsal surface. Short snout and long gill slits. Populations segregate by size and sex. Prey includes small fishes, other sharks, and squid. Average of four pups per litter which are oophagous. Efficient predator that is endothermic and can maintain body temperature above that of surrounding seawater.

Conservation status: Caught as target and by-catch species in commercial fisheries for its high-value meat. Northeast Atlantic population has been seriously depleted by directed longline fisheries and the Mediterranean population has declined over 99% in abundance and biomass in just over 100 years⁴. Also caught with gillnets, driftnets and pelagic and bottom trawls. Status in the IUCN Red List is *Critically Endangered* in the Northeast Atlantic and Mediterranean Sea, despite listing on many conservation instruments: Barcelona Annex III, Bern Appendix III, UNCLOS Annex I and all OSPAR regions. EU fishing quotas agreed are well over scientific recommendations. Norway and Faroe Islands also have fishing quotas.



Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Bigeye thresher	<i>Alopias superciliosus</i>	Pelagic subtropical	Iberian Peninsula to Canary Islands and Madeira. Mediterranean.	VU; DD in Mediterranean	UNCLOS Annex I	
Common thresher shark	<i>Alopias vulpinus</i>	Pelagic subtropical	Norway to Iberian Peninsula and Mediterranean.	VU; VU in Mediterranean	UNCLOS Annex I	
Sand tiger shark	<i>Carcharias taurus</i>	Demersal subtropical	Mediterranean and Black Sea. Scarcer in North-east Atlantic, Canary Islands. More frequent in south.	VU; CR in Mediterranean		
Great white shark	<i>Carcharodon carcharias</i>	Pelagic subtropical	South European Atlantic (From France south) and Mediterranean. Canary Islands and Madeira.	VU; EN in Mediterranean	Barcelona Annex II Bern Appendix II ^B CMS Appendix I & II UNCLOS Annex I	CITES II ^C ; totally protected in EU; Malta national legislation; Croatia national legislation
Basking shark	<i>Cetorhinus maximus</i>	Pelagic temperate	Iceland to western Barents Sea to Iberian Peninsula and Mediterranean.	VU; EN in Northeast Atlantic; VU in Mediterranean	Barcelona Annex II Bern Appendix II ^B CMS Appendix I & II ^B UNCLOS Annex I All OSPAR regions	CITES II ^C ; totally protected in EU; Norway and Faroe Islands TAC (Total Allowable Catch); Malta national legislation; Croatia national legislation; protected in British waters and area three-miles offshore in Irish Sea, Isle of Man and Guernsey.

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Shortfin mako	<i>Isurus oxyrinchus</i>	Pelagic subtropical	Norway to Canary Islands and Mediterranean.	VU; CR in Mediterranean	Barcelona Annex III Bern Appendix III ^B UNCLOS Annex I	
Longfin mako	<i>Isurus paucus</i>	Pelagic subtropical	Canary Islands.	VU	UNCLOS Annex I	
Porbeagle	<i>Lamna nasus</i>	Pelagic temperate	Iceland to Western Barents Sea to Iberian Peninsula and Mediterranean.	VU; CR in Northeast Atlantic and Mediterranean	Barcelona Annex III Bern Appendix III ^B UNCLOS Annex I All OSPAR regions	North Sea TAC; Norway and Faroe Islands TAC
Goblin shark	<i>Mitsukurina owstoni</i>	Bathymersal deep-waters	Bay of Biscay to Madeira, through Iberia	LC		
Smalltooth sand tiger	<i>Odontaspis ferox</i>	Bathymersal deep-waters	From Gulf of Gascony to Madeira and Canary Island. Mediterranean.	DD; EN in Mediterranean		
Bigeye sandtiger	<i>Odontaspis noronhai</i>	Bathymersal deep-waters	Madeira to west.	DD		

A: CR: Critically Endangered / EN: Endangered / VU: Vulnerable/ LR: Lower Risk / NT: Near Threatened / LC: Least Concern / DD: Data Deficient
- Those species not evaluated are left blank.

B: Only in the Mediterranean.

C: Listing does not apply to Iceland and Norway.

D: Listing does not apply to Faroe Islands.

Orectolobiformes

Ginglymostoma cirratum _

The Orectolobiformes are also known as the “carpet sharks”. This order includes the collared carpetsharks, blind sharks, wobbegongs, longtailed carpetsharks, nurse sharks, zebra sharks and whale sharks. The Orectolobiformes have barbels, used for detecting prey in the seabed, and short snouts. These sharks are found worldwide in warm and tropical seas, with the Indo-Pacific presenting the greatest diversity. Smaller species are mostly slow-moving and bottom-dwelling, but larger species are more active. This order presents varied reproductive strategies, including oophagy, in which growing young feed on unfertilised eggs in the womb. In Europe, two species can occasionally be found.

Ginglymostoma cirratum _

Common name: Nurse shark

Habitat: Tropical and subtropical continental shelves, including coral and rocky reefs, mangroves and sand flats.

European distribution: Occasionally found up to France.

Description: Yellow to greyish-brown nocturnal and social species, often seen resting in shallow waters and caves during the day. Strong swimmer that uses long barbells and snout to root out benthic prey, including invertebrates, bony fishes and stingrays. Courtship behaviour includes synchronised parallel swimming. Reproduction occurs every two years and litters made up of 20-30 pups born in late spring/summer.

Conservation status: Small home ranges and aggregating behaviour make it highly vulnerable to local extinction. Caught directly and as by-catch with gillnets and longlines in coastal fisheries, although meat not widely commercialised. Vulnerable to other coastal impacts including tourism, development and contamination, particularly in reef areas. IUCN Red List status is *Data Deficient*. Docile manner often makes it a favourite of divers and spear fishermen.

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Nurse shark	<i>Ginglymostoma cirratum</i>	Subtropical Reefs	West African. Occasional up to France.	DD		
Whale shark	<i>Rhincodon typus</i>	Pelagic	Canary Islands	VU	CMS Appendix II UNCLOS Annex I	CITES II ^C

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C: Listing does not apply to Iceland and Norway.



Carcharhiniformes

Prionace glauca _
Sphyrna lewini _
Carcharhinus longimanus _
Scyliorhinus canicula _

Carcharhiniformes is the order of sharks made up of the “ground sharks”. This is the largest, most diverse and widespread group of sharks, and includes catsharks, finback catsharks, false catsharks, barbeled houndsharks, houndsharks, weasel sharks, requiem sharks and hammerhead sharks. While the vast majority is harmless to man, this order does include some of the largest and most potentially dangerous sharks. Carcharhiniformes present a wide range of appearances but they typically have a long snout and nictating membranes, or “third eyelids”, which offer protection to the eye. These sharks cover the whole globe, from cold to warm and coastal to deep waters. Some ground sharks have limited benthic distributions but others are highly migratory. These species present varied reproductive strategies, varying from egg-laying oviparity to the highly advanced placental viviparity. Europe is home to 32 Carcharhiniformes species.

Prionace glauca

Common name: Blue shark

Habitat: Pelagic subtropical and temperate waters off the continental shelf. Highly migratory, following major oceanic currents. Seasonal movements related to availability of prey and reproductive cycles.

European Distribution: From Norway to the Canary Islands and the Mediterranean.

Description: Slender, agile and fast-growing shark with a long conical snout and clear delineation between blue dorsal surface and white underside. Often cruises at surface of the water and most active at night. Populations segregate by age, sex and reproductive phase. Reproduction is via placental viviparity with average of 15-30 pups born in spring/summer after 9-12 months gestation. Nursery areas offshore. Mature females can often be seen with mating bite scars. When populations sufficient, also form large feeding aggregations. Feeds heavily on relatively small prey, including squids, pelagic and demersal fish, small sharks and invertebrates.

Conservation status: One of the most wide-ranging and previously abundant sharks. Now the most heavily fished in the world and by European fleets, overwhelmingly with pelagic longlines. Major commercialised by-catch and target species in tuna and swordfish fisheries. Meat is eaten fresh, smoked and salted/dried. In Mediterranean countries like Spain, Italy and Malta, it is replacing swordfish meat. Fins commonly used in shark fin soup. Also commercialised for production of fishmeal, leather and liver oil. Up to 20 million caught per year. Mediterranean population has declined 97% in abundance since the mid-20th Century⁴. IUCN Red List status is *Vulnerable* in the Mediterranean and *Near Threatened* globally. Listed on Barcelona Annex III, Bern Appendix III and UNCLOS Annex I. Popular in dive tourism and game fishing.



Sphyrna lewini _

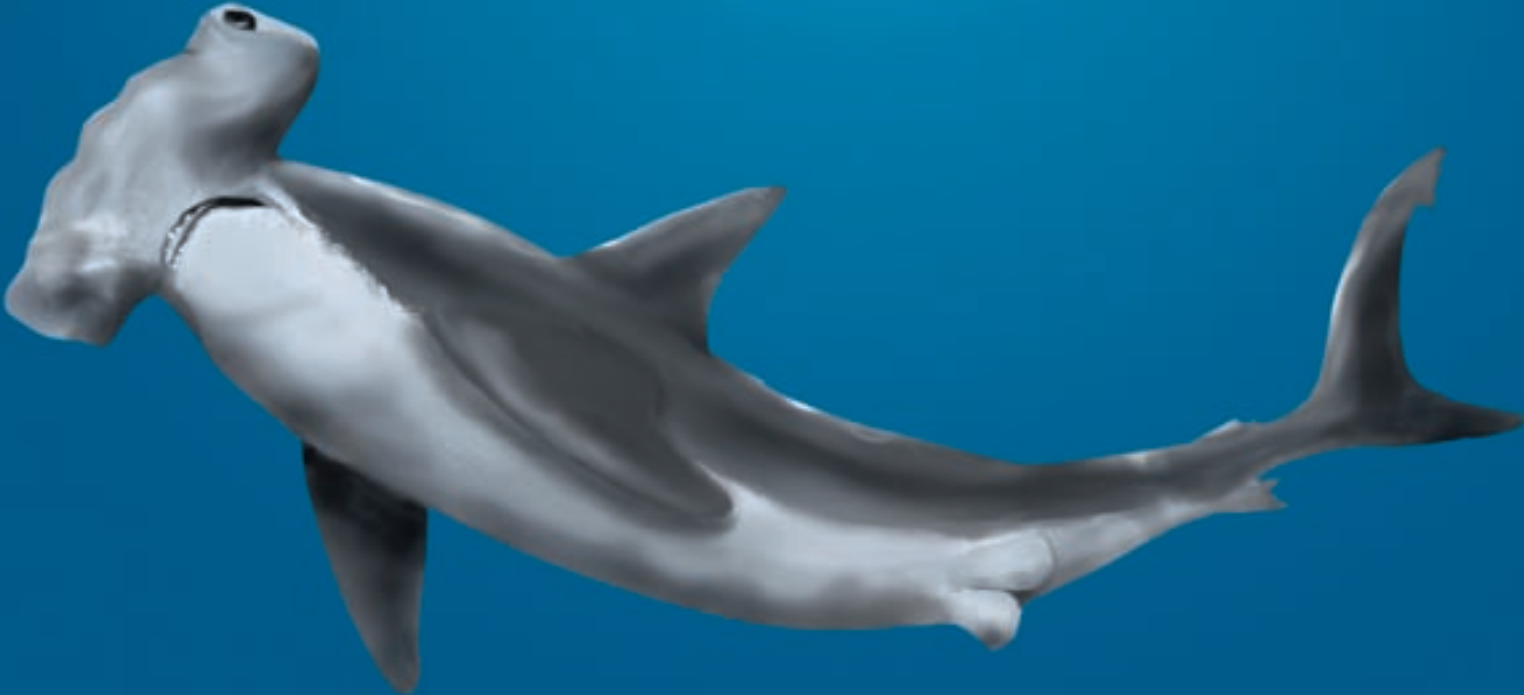
Common name: Scalloped hammerhead shark

Habitat: Pelagic subtropical and tropical waters of continental shelf, often close inshore. Seasonally migratory.

European distribution: From the Mediterranean to Gibraltar. Also in the Azores, Madeira and Canary Islands.

Description: Large schooling shark with recognisable hammer shaped head that provides improved manoeuvrability and increased sensory capacity. Light grey dorsal surface and white underside. Reproduction is viviparous and can have up to 30 pups per litter. Takes a wide variety of fish as primary prey.

Conservation status: Fins are extremely valuable for use in shark fin soup and the species is taken both as target and commercialised by-catch. Meat, skin, and oil also utilised. Caught with pelagic longlines, fixed bottom longlines and nets, and pelagic trawls. IUCN global Red List status is *Endangered* and listed on UNCLOS Annex I.



Carcharhinus longimanus _

Common name: Oceanic whitetip shark

Habitat: Pelagic subtropical and tropical waters, far from shore in the open ocean.

European distribution: From Portugal to the Canary Islands and possibly in the Mediterranean.

Description: Large grey or brownish shark with small eyes. Large rounded first dorsal fin and long paddle-shaped pectoral fins with prominent white tips. Active, aggressive and inquisitive shark that slowly cruises near the surface in search of prey. Primarily feeds on oceanic bony fishes and cephalopods, but also found eating seabirds, turtles, marine mammal carrion and garbage. Reproduces via placental viviparity with approximately one-year gestation period; litter size increases with size of female.

Conservation status: Previously one of the most widespread and abundant sharks but now rarely seen over its entire range. Has been taken in huge numbers in targeted and by-catch pelagic fisheries around the world, including longlines and gillnets. Large fins have high trade value. IUCN global Red List status is *Vulnerable* and listed on UNCLOS Annex I.



Scyliorhinus canicula _

Common name: Small spotted catshark

Habitat: Demersal subtropical waters of the continental shelf and upper slope.

European distribution: From the North Sea to the Iberian Peninsula and the Mediterranean.

Description: Small shark with long, slim, light coloured body covered with black spots; tan bands around body sometimes visible. Adults often school by sex. Oviparous reproduction with egg pairs deposited on seaweed throughout the year, hatching after usually 8 or 9 months. Egg size increases with size of female. Prey is small demersal invertebrates and fishes.

Conservation status: Caught primarily as by-catch or secondary targeted catch in various artisanal and industrial fisheries, especially in the Mediterranean. High discard survival rates, but often kept by local fishermen for consumption. No catch limits or protection. IUCN Red List status is *Least Concern* in the Mediterranean.



Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
White ghost catshark	<i>Apristurus aphyodes</i>	Bathypelagic deep-waters	North-east Atlantic.	DD		
Atlantic ghost catshark	<i>Apristurus atlanticus</i>	Bathydemersal deep-waters	Canary Islands.	DD		
Iceland catshark	<i>Apristurus laurussonii</i>	Bathydemersal deep-waters	Iceland to Ireland to Canary Islands and Madeira.	DD		EU TAC
Ghost catshark	<i>Apristurus manis</i>	Bathydemersal deep-waters	Ireland.	LC		
Smalleye catchark	<i>Apristurus microps</i>	Bathydemersal deep-waters	Iceland to Scotland.	LC		
Bignose shark	<i>Carcharhinus altimus</i>	Demersal subtropical	Spain to Mediterranean.	DD in Mediterranean	UNCLOS Annex I	
Copper shark	<i>Carcharhinus brachyurus</i>	Pelagic subtropical	From the French Atlantic to the Mediterranean. Canary Islands.	NT; DD in Mediterranean	UNCLOS Annex I	
Spinner shark	<i>Carcharhinus brevipinna</i>	Pelagic subtropical	French and Spanish Atlantic and Mediterranean.	NT; DD in Mediterranean	UNCLOS Annex I	
Silky shark	<i>Carcharhinus falciformis</i>	Pelagic subtropical	Canary Islands and Madeira.	NT	UNCLOS Annex I	
Galapagos shark	<i>Carcharhinus galapagensis</i>	Benthopelagic tropical	Canary Islands.	NT	UNCLOS Annex I	
Blacktip shark	<i>Carcharhinus limbatus</i>	Pelagic subtropical	Canary Islands to Madeira and Mediterranean.	NT; DD in Mediterranean	UNCLOS Annex I	

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Oceanic whitetip shark	<i>Carcharhinus longimanus</i>	Pelagic subtropical	Portugal to Canary Islands, possibly Mediterranean.	VU	UNCLOS Annex I	
Blacktip reef shark	<i>Carcharhinus melanopterus</i>	Subtropical	Eastern Mediterranean (through Suez canal).	NT	UNCLOS Annex I	
Dusky shark	<i>Carcharhinus obscurus</i>	Pelagic subtropical	ICanary Islands. Possibly Madeira and Mediterranean.	NT; DD in Mediterranean	UNCLOS Annex I	
Sandbar shark	<i>Carcharhinus plumbeus</i>	Pelagic subtropical	Iberian Peninsula, Mediterranean and Canary Islands.	NT; EN in Mediterranean	UNCLOS Annex I	
Tiger shark	<i>Galeocerdo cuvier</i>	Pelagic subtropical	Iceland and Canary Islands.	NT	UNCLOS Annex I	
Tope shark	<i>Galeorhinus galeus</i>	Benthopelagic subtropical	Iceland to Canary Islands and Mediterranean.	VU; VU in Mediterranean		Protected in England and Wales
Blackmouth catshark	<i>Galeus melastomus</i>	Bathydemersal deep-waters	From Faroe Islands to Iberian Peninsula and Mediterranean.	LC in Mediterranean		EU TAC
Atlantic catshark	<i>Galeus atlanticus</i>	Bathydemersal deep-waters	Northeast Atlantic and Mediterranean. Straights of Gibraltar to Italy.	NT; NT in Mediterranean		
Mouse catshark	<i>Galeus murinus</i>	Bathydemersal deep-waters	Iceland to Faroe Islands.			EU TAC

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Starry smooth-hound	<i>Mustelus asterias</i>	Demersal temperate	From North Sea to Canary Islands. Mediterranean.	LC; VU in Mediterranean		
Smooth-hound	<i>Mustelus mustelus</i>	Demersal subtropical	British Isles to France and Madeira-Canary Islands. Mediterranean.	LC; VU in Mediterranean		
Blackspotted smooth-hound	<i>Mustelus punctulatus</i>	Demersal subtropical	Mediterranean to Gibraltar.	DD in Mediterranean		
Blue shark	<i>Prionace glauca</i>	Pelagic subtropical	Norway to Canary Islands and Mediterranean.	NT; VU in Mediterranean	Barcelona Annex III Bern Appendix III ^B UNCLOS Annex I	
False catshark	<i>Pseudotriakis microdon</i>	Bathodemersal deep-waters	From Iceland to Canary Islands and Azores.	DD		
Milk shark	<i>Rhizoprionodon acutus</i>	Benthopelagic tropical	Mediterranean and Madeira.	LC	UNCLOS Annex I	
Small spotted catshark	<i>Scyliorhinus canicula</i>	Demersal subtropical	North Sea to Iberian Peninsula and Mediterranean.	LC in Mediterranean		
Nursehound	<i>Scyliorhinus stellaris</i>	Reef subtropical	South Scandinavia to Canary Islands and Mediterranean.	NT in Mediterranean		
Scalloped hammerhead	<i>Sphyrna lewini</i>	Pelagic subtropical	Mediterranean to Gibraltar. Azores, Madeira and Canary Islands.	EN	UNCLOS Annex I	

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Great hammerhead	<i>Sphyrna mokarran</i>	Pelagic subtropical	Mediterranean to Gibraltar.	EN	UNCLOS Annex I	
Smalleye hammerhead	<i>Sphyrna tudes</i>	Benthopelagic subtropical	Mediterranean.	VU	UNCLOS Annex I	
Smooth hammerhead	<i>Sphyrna zygaena</i>	Benthopelagic subtropical	British Isles to Canary Islands and Mediterranean.	NT; VU in Mediterranean	UNCLOS Annex I	

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 - Those species not evaluated are left blank.

B: Only in the Mediterranean.

Hexanchiformes

*Hexanchus griseus*_

Hexanchiformes are commonly referred to as “cow” or “frilled sharks”. This small order is composed of the frilled shark, sixgill sharks and sevendill shark. As their names imply, these sharks are characterized by having six or seven gill slits instead of the more common five. They also have only one dorsal fin and a large mouth. These sharks are found worldwide, mostly in deeper waters. Four species of Hexanchiformes can be found in European waters.

Hexanchus griseus _

Common name: Bluntnose sixgill shark

Habitat: Benthopelagic subtropical and temperate deeper waters of the continental shelf and slope. Also near islands, seamounts and midocean ridges.

European distribution: From Iceland to the Canary-Madeira Islands and the Mediterranean.

Description: Dark grey shark with a large heavy body. Slow but strong swimmer that can be easily observed by divers and submersibles. Light-coloured lateral line and small eyes. Can occur alone or in groups. Very large litters, up to 100 pups. Prey is squid, bony fishes, seals, small sharks and rays. Has six gills.

Conservation status: Vulnerable to overfishing and caught in by-catch and target fisheries to produce food, fishmeal and liver oil. IUCN Red List status is *Near Threatened* in the Mediterranean and globally. Listed on UNCLOS Annex I.

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Frilled shark	<i>Chlamydoselachus anguineus</i>	Bathydemersal deep-waters	From Norway to Iberia and Madeira through France-UK.	NT		
Sharpnose sevengill shark	<i>Heptranchias perlo</i>	Bathydemersal deep-waters	Mediterranean and Canary Islands.	NT; VU in Mediterranean		
Bigeye sixgill shark	<i>Hexanchus nakamurai</i>	Bathydemersal deep-waters	France to Gibraltar and Mediterranean.	DD in Mediterranean		
Bluntnose sixgill shark	<i>Hexanchus griseus</i>	Benthopelagic subtropical	Iceland to Canary-Madeira and Mediterranean.	NT: NT in Mediterranean	UNCLOS Annex I	

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 - Those species not evaluated are left blank.



Squaliformes

Squalus acanthias _
Centrophorus squamosus _
Oxynotus centrina _

The Squaliformes are the “dogfish sharks”. This large order includes the bramble sharks, dogfish sharks, gulper sharks, lantern sharks, sleeper sharks, roughsharks and kitefin sharks. Squaliformes lack anal fins and their sizes range from dwarf to very large. It is likely that all species within this order are ovoviviparous, with eggs hatching inside the mother, and some dogfish have the latest known age at maturity, lowest fecundity, and longest gestation periods of all sharks. While some species are solitary, others form large migratory schools. A few species are parasitic. Squaliformes can be found in a wide range of marine and estuarine habitats all around the world. This order includes the only sharks found close to the poles and many species are found only in deep waters. Dogfish are commercially targeted for their meat and liver oil, severely threatening these vulnerable, slow growing and little productive species. European waters are home to 28 dogfish species.

Squalus acanthias _

Common name: Spurdog (also known as spiny dogfish)

Habitat: Benthic-pelagic zone of temperate and boreal continental shelves. Sometimes migratory.

European distribution: From Murmansk to the Canary Islands. Also in the Mediterranean and Black Sea.

Description: Slender dogfish with narrow head, pointed snout and spines at the front of both dorsal fins. Often forms dense feeding aggregations when feeding grounds are rich. Populations segregate by sex and maturity. Extremely long-lived (70-100 years), slow-growing and late-maturing (at 10-25 years). Most females do not reproduce until teen years and have long gestation periods lasting up to two years, one of the longest known for any vertebrate. Litter sizes are variable.

Conservation status: Highly valued species in Europe for its meat, especially in the UK, Germany, Belgium, France and Italy. Targeted in many trawl and line fisheries. Liver oil and fins also highly commercialised. Rapid population declines have been observed. Biological characteristics make it highly vulnerable to overexploitation, especially when aggregations of large pregnant females are targeted. IUCN Red List status is *Critically Endangered* in the Northeast Atlantic, *Endangered* in the Mediterranean and *Vulnerable* in the Black Sea. Listed on all OSPAR regions. ICES has warned that the Northeast Atlantic population is depleted and in danger of collapse. However, the European Fisheries Council has repeatedly agreed by-catch TACs well above scientific recommendations. Species was proposed by the European Union for inclusion on CITES Appendix II in 2006, but did not achieve required majority.



Centrophorus squamosus _

Common name: Leafscale gulper shark

Habitat: Benthopelagic deep waters of the continental slope. Demersal or pelagic.

European distribution: From Iceland to the Iberian Peninsula and out to the Canary Islands, Madeira and the Azores.

Description: Grey-brown shark with short pectoral fins, rough skin and a short snout. Both dorsal fins have spines. Long lived and mature late in life, with litters of 5-8 pups. Very large livers which can weigh up to 1/3 the weight of entire animal.

Conservation status: Important species in deep-water longline and trawl fisheries for its liver oil, marketed as “squalene” and used in cosmetic products. Has been caught in very high numbers in the eastern Atlantic to supply the liver oil market but catches rapidly declined after 2003. Extremely vulnerable to overfishing and populations likely take a long time to recover. While no direct European fisheries for this species is permitted, an EU by-catch quota exists in excess of scientific recommendations. IUCN Red List global status is *Vulnerable* and according to ICES, the Northeast Atlantic populations are severely depleted. Listed on OSPAR regions IV and V.



*Oxynotus centrina*_

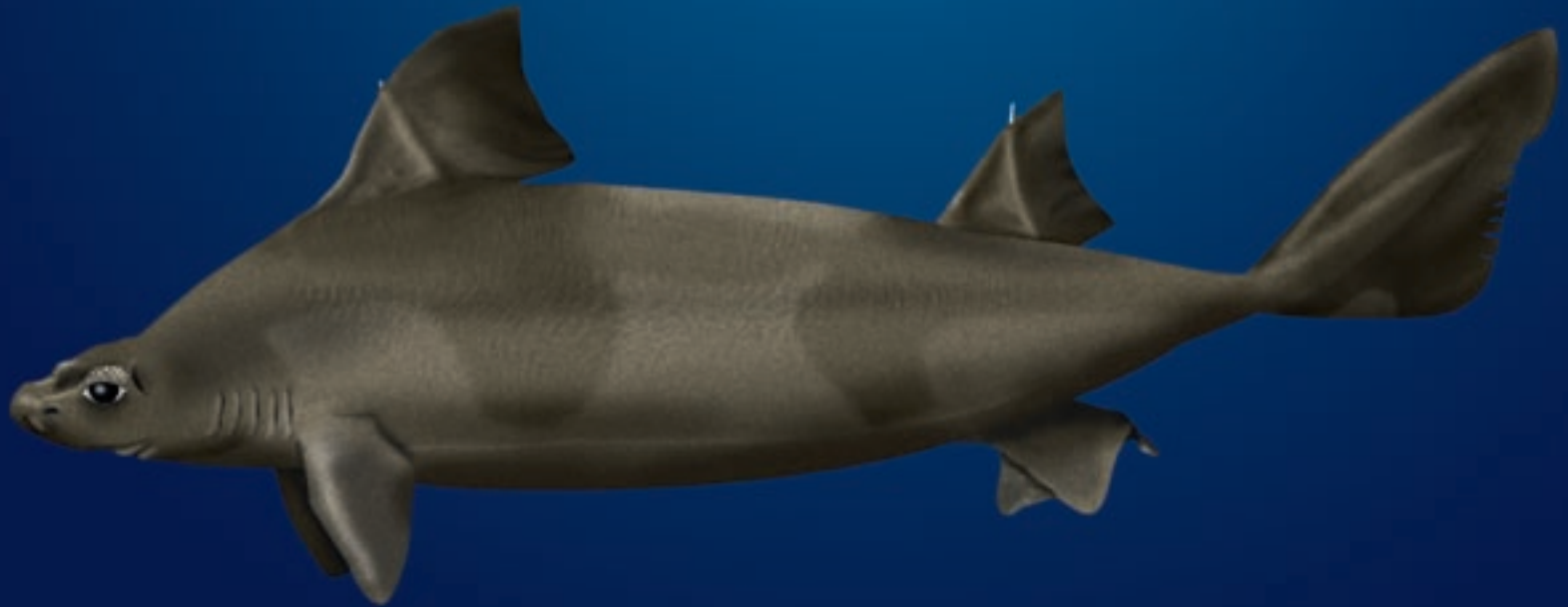
Common name: Angular roughshark

Habitat: Bathydemersal waters of the continental shelf. Deep waters below 100 metres.

European distribution: From Cornwall to the Bay of Biscay and the Mediterranean.

Description: Rare grey-coloured medium-sized shark. Presents ridges over the eyes made up of enlarged dermal denticles. Vertically elongated and large spiracles. Both dorsal fins have spines. Commonly eats polychaetes, molluscs and crustaceans.

Conservation status: Life history characteristics make it extremely vulnerable to overfishing. Due to body size and depth range, easily caught as by-catch in industrial bottom and pelagic trawl fisheries in the Northeast Atlantic and Mediterranean. High discard mortality rate and likely high exploitation of juveniles. Now rare in many parts of the Mediterranean. IUCN Red List status is *Critically Endangered* in the Mediterranean and *Vulnerable* globally.



Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Gulper shark	<i>Centrophorus granulosus</i>	Bathydemersal deep-waters	From France to Canary Islands and Madeira. Mediterranean.	VU; VU in Mediterranean	OSPAR regions IV, V	EU TAC
Lowfin gulper shark	<i>Centrophorus lusitanicus</i>	Bathydemersal deep-waters	Portugal to Canary Islands.			
Leafscale gulper shark	<i>Centrophorus squamosus</i>	Benthopelagic deep-waters	Iceland to Iberian Peninsula and to Canary Island, Madeira and Azores.	VU	OSPAR regions IV, V	EU TAC
Little gulper shark	<i>Centrophorus uyato</i>	Bathydemersal deep-waters	Western Mediterranean and Gibraltar.	DD		
Black dogfish	<i>Centroscyllium fabricii</i>	Bathydemersal deep-waters	Greenland to Iceland to France-Iberia and West Sahara.			EU TAC
Portuguese dogfish	<i>Centroscymnus coelolepis</i>	Bathydemersal deep-waters	Iceland to Canary Islands. Mediterranean.	NT; LC in Mediterranean	All OSPAR regions	EU TAC
Shortnose velvet dogfish	<i>Centroscymnus cryptacanthus</i>	Bathydemersal deep-waters	Madeira.			
Longnose velvet dogfish	<i>Centroselachus crepidater</i>	Bathydemersal deep-waters	Iceland to Portugal and Madeira.	LC		

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Kitefin shark	<i>Dalatias licha</i>	Bathydemersal deep-waters	Iceland to Ireland and to Morocco. Western Mediterranean.	DD; NT in Northeast Atlantic; DD in Mediterranean		EU TAC
Birdbeak dogfish	<i>Deania calcea</i>	Bathydemersal deep-waters	Iceland to Canary Islands.	LC		EU TAC
Rough longnose dogfish	<i>Deania hystricosum</i>	Bathydemersal deep-waters	Madeira.			
Arrowhead dogfish	<i>Deania profundorum</i>	Benthopelagic deep-waters	Canary Islands.			EU TAC
Bramble shark	<i>Echinorhinus brucus</i>	Bathydemersal deep-waters	North Sea to Mediterranean.	DD; DD in Mediterranean		
Smooth lanternshark	<i>Etmopterus pusillus</i>	Bathydemersal deep-waters	Iberia to Azores and Canary Islands.			
Great lanternshark	<i>Etmopterus princeps</i>	Bathydemersal deep-waters	Iceland to Bay of Biscay and Gibraltar. Possibly to Canary Islands.	DD		EU TAC
Velvet belly lantern shark	<i>Etmopterus spinax</i>	Bathydemersal deep-waters	Iceland-Norway and western Mediterranean.	LC in Mediterranean		EU TAC

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Angular roughshark	<i>Oxynotus centrina</i>	Bathydemersal deep-waters	Cornwall to Bay of Biscay and Mediterranean.	VU; CR in Mediterranean		
Sailfin roghshark	<i>Oxynotus paradoxus</i>	Bathydemersal deep-waters	From Scotland to Iberian Peninsula and Sahara.			
Azores dogfish	<i>Scymnodalantias garricki</i>	Bathypelagic deep-waters	Azores.			
Smallmouth velvet dogfish	<i>Scymnodon obscurus</i>	Benthopelagic tropical	Iceland to Madeira.			
Knifetooth dogfish	<i>Scymnodon ringens</i>	Bathypelagic deep-waters	From Scotland to Iberian Peninsula and Gibraltar.			
Velvet dogfish	<i>Scymnodon squamulosus</i>	Benthopelagic deep-waters	Iceland to Canary Islands.			
Greenland shark	<i>Somniosus microcephalus</i>	Benthopelagic deep-waters	From White Sea to Greenland and France.	NT		
Little sleeper shark	<i>Somniosus rostratus</i>	Bathydemersal deep-waters	From France to Madeira and Mediterranean (mainly western).	LC in Mediterranean		

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Spined pigmy shark	<i>Squaliolus laticaudus</i>	Bathypelagic deep-waters	From France to Madeira.	LC		
Spiny dogfish	<i>Squalus acanthias</i>	Benthopelagic temperate	From Murmansk to Canary Islands. Mediterranean and Black Sea.	VU; VU in the Black Sea; EN in the Mediterranean; CR in the Northeast Atlantic	All OSPAR regions	North Sea TAC; Norway minimum landing size
Longnose spurdog	<i>Squalus blainville</i>	Demersal subtropical	Bay of Biscay and Mediterranean. Possibly Canary Islands.			
Smallmouth velvet dogfish	<i>Zameus squamulosus</i>	Bathydemersal deep-waters	From Iceland down to Africa.	DD		

A: CR: Critically Endangered / EN: Endangered / VU: Vulnerable/ LR: Lower Risk / NT: Near Threatened / LC: Least Concern / DD: Data Deficient
 - Those species not evaluated are left blank.

Squatiniiformes

Squatina squatina _

The Squatiniformes are the “angelsharks.” These medium-sized, oddly shaped and vertically flattened sharks are among the most threatened sharks in European waters. Angelsharks are often elaborately patterned on the dorsal surface and commonly found buried during the day in muddy or sandy seabeds of the continental shelf, using large spiracles on the top of the head to aid in respiration. Reproduction is ovoviviparous with litters of up to 25 pups. Angelsharks are harmless to humans but efficient ambush predators that quickly raise the head to snap up small fishes, crustaceans, squids and molluscs as they pass by. Angelsharks are highly vulnerable as target and by-catch species that are caught with bottom trawl, fixed bottom nets and line gear. Their meat and oil is commercialised and they are also used for fishmeal and leather. Drastic population reductions have been noted and many species are extremely slow to recover from depletion. Three angelshark species are found in European waters.

Squatina squatina _

Common name: Angelshark

Habitat: Demersal temperate waters of the continental shelf. Seasonally migratory in colder waters. Found on muddy or sandy bottoms of estuaries and coast lines.

European distribution: From Norway to the Canary Islands and the Mediterranean.

Description: Large and stocky shark with wide pectoral fins. Colouring varies from gray to red, green, brown or black with white and black markings along dorsal surface. Nasal barbs present; skin very rough. Lays buried in seabed during the day and swims strongly off the bottom at night. Reproduction is ovoviparous and litter size increases with size of female. Feeds on bony fishes, skates, crustaceans and molluscs.

Conservation status: Only angelshark present in northern European waters. Highly vulnerable to by-catch in growing benthic trawl and bottom longline fisheries. Habitat degradation and tourism also threaten survival. Abundance has declined dramatically during the past 50 years and ICES has determined it extinct in the North Sea. Also no longer encountered in northern Mediterranean waters and extremely uncommon in most other parts of its range. IUCN Red List status is *Critically Endangered* in the Mediterranean and globally. Listed on Barcelona Annex III, Bern Appendix III and OSPAR regions II, III, IV. Fishing is prohibited within three Balearic Island marine reserves.

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Sawback angelshark	<i>Squatina aculeata</i>	Demersal subtropical	Mediterranean to Canary Islands.	CR; CR in Mediterranean		Protected in three Balearic Island Marine reserves
Smoothback angelshark	<i>Squatina oculata</i>	Demersal subtropical	Mediterranean to Morocco.	CR; CR in Mediterranean		Protected in three Balearic Island Marine reserves
Angelshark	<i>Squatina squatina</i>	Demersal temperate	Norway to Canary Islands and Mediterranean.	CR; CR in Mediterranean	Barcelona Annex III Bern Appendix III ^B OSPAR regions II, III, IV	Protected in three Balearic Island Marine reserves

A: CR: Critically Endangered / EN: Endangered / VU: Vulnerable/ LR: Lower Risk / NT: Near Threatened / LC: Least Concern / DD: Data Deficient

- Those species not evaluated are left blank.

B: Only in the Mediterranean.



Rajiformes

Dipturus batis _
Mobula mobular _
Pristis pristis _
Rhinobatos cemiculus _
Torpedo torpedo _

The Rajiformes consistute a remarkably diverse and large order of elasmobranches. These “batoids” comprise nearly half of all elasmobranch species found in European waters, and include sawfish, sharkrays, wedge fish, guitarfish, thornbacks, panrays, electric rays, skates, and stingrays. Batoids can be found in all oceans and down to nearly 1,000 feet deep, presenting great diversity in their habitats. Most batoids are marine, but some can enter estuarine or even fresh waters. Although varying widely from the body shape of typical sharks, Rajiformes share their general skeletal structure and fin sets. Batoids generally have greatly enlarged pectoral fins, often fused with the side of the head to form a disk or diamond shape, which they flap to glide through the water. They are also vertically flattened in general and the mouth and gill openings are located on the ventral side of the body. Most batoids are benthic, laying on or buried in the seabed for long periods of time; these species principally take in water through large and well-developed spiracles on the top of the head instead of through the mouth. Batoids present diverse modes of oviparous and ovoviviparous reproduction, and some species produce rectangular horny egg cases that can be found washed up on the beach. Batoids are caught both as targeted catch for their meat and fins and accidental catch in fisheries targeting other species. In general, the Rajiformes have received less scientific attention than other shark orders and they are poorly known in comparison. Fifty six species of batoids are found in Europe.

Dipturus batis _

Common name: Blue skate (also known as common skate)

Habitat: Demersal subtropical waters of the continental shelf. Usually found down to 200 metres depth.

European distribution: From Norway to west Baltic and down to the Canary Islands. Also in the western Mediterranean.

Description: Largest European skate, growing to more than 250 cm long. Long and pointed snout, broad triangular pectoral fins and a row of 12-18 thorns along the tail. Upper surface olive or brown coloured with lighter spots. Reproduction is oviparous and approximately 40 relatively large eggs are deposited on sandy or muddy flats in spring and summer. Active hunter that envelopes prey prior to capture and ingestion. Feeds on all types of benthic organisms, especially crustaceans and bony fish.

Conservation status: Also known as the “common skate” because historically one of the most abundant skates, although now heavily depleted. Large body size, slow growth and low fecundity make it especially vulnerable to fisheries exploitation. Large juveniles and eggs are also often taken. Caught in target and by-catch trawl and gillnet fisheries in the Northeast Atlantic and Mediterranean. ICES has declared it depleted in the Celtic and North Seas. IUCN Red List status is *Critically Endangered* in the Mediterranean and the rest of the world. Listed on all OSPAR regions. North Sea TAC.



Mobula mobular _

Common name: Devil fish

Habitat: Pelagic subtropical deep waters of the continental shelf and near islands.

European distribution: From Ireland to the Azores and Canary Islands. Also in the Mediterranean.

Description: Huge ray with spine at base of tail. Strong pelagic swimmer that rarely rests on the seabed. Remoras sometimes seen attached to the underside of the fish, benefiting from transportation and food scraps. Feeds on planktonic crustaceans and small fishes which get trapped in its specialized branchial filter plates. Large gill openings. Small, sharp teeth. Gives birth to one large pup at a time.

Conservation status: Extremely vulnerable ray with low reproductive capacity. Although there are no target fisheries, it is taken at unsustainable levels as by-catch in longline, pelagic driftnet, purse seine, trawl and tuna trap fisheries. High by-catch mortality. Status is *Critically Endangered* in the Mediterranean and *Endangered* globally in the IUCN Red List. Listed on Barcelona Annex II and Bern Appendix II. Protected in Malta and Croatia by national legislation.



Pristis pristis

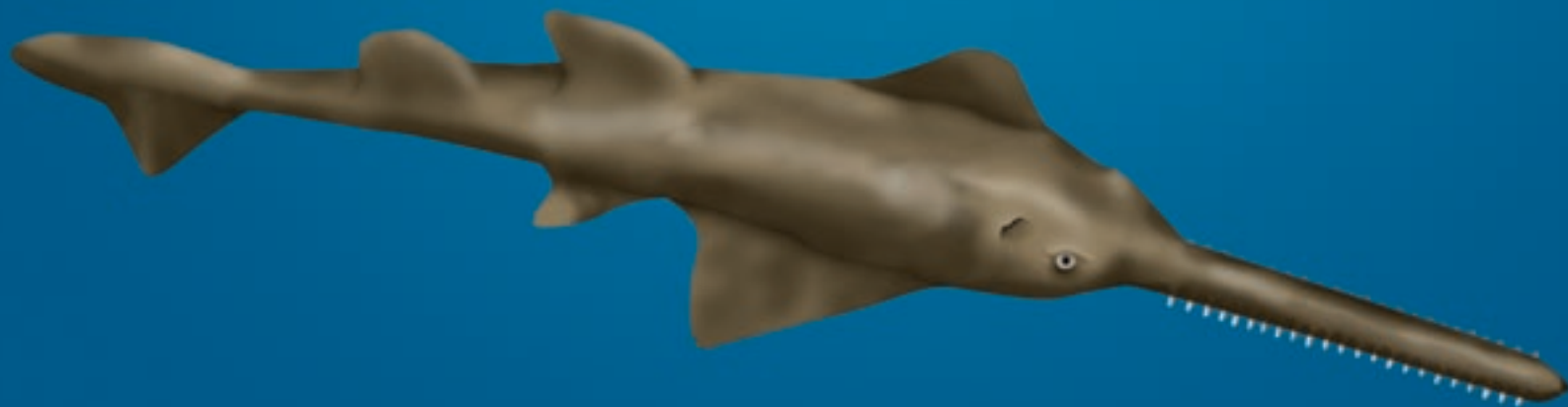
Common name: Common sawfish

Habitat: Demersal subtropical inshore waters.

European distribution: From Portugal to the Canary Islands and the western Mediterranean.

Description: Large euryhaline sawfish that inhabits salt and fresh waters, including estuaries, lagoons and river mouths. Dark grey or brown dorsal surface, lighter below. Characterised by flat, saw-like snout with uniform teeth on both sides. Snout can be 1/3 length of entire fish. Two dorsal fins and no barbells. Large triangular pectoral fins. Lives on sandy or muddy seabeds and uses long snout to excavate prey. Feeds on fishes and other demersal organisms. Reproduction is ovoviviparous.

Conservation status: Once common in the Mediterranean and eastern Atlantic but now largely extirpated from Europe. Extremely vulnerable and often caught as by-catch. Sometimes caught for consumption. Popular as game fish, as its long snout is regarded as a trophy prize. Listed on CITES I which prohibits all international commercial trade. IUCN Red List status is *Critically Endangered* in the Mediterranean and globally.



Rhinobatos cemiculus _

Common name: Blackchin guitarfish

Habitat: Demersal subtropical bottom waters. Salty and brackish waters down to 100 metres depth.

European distribution: Portugal to the Canary Islands and Mediterranean

Description: Brown dorsal surface, white below. Thorns present along back. Slow swimmer that lives on the sandy or muddy seabed. Spawning individuals often aggregate along coasts. Reproduction is ovoviviparous with one or two litters born per year. Gestation period of four to six months and females mate again immediately after giving birth. Diet principally made up of prawns, crabs and fish.

Conservation status: Previously common in the Mediterranean. Low fecundity and aggregation patterns make it especially vulnerable to fisheries exploitation. Targeted by artisanal fisheries for its valuable fins. Also taken as by-catch in commercial trawl fisheries and artisanal gillnet fisheries. IUCN Red List status is *Endangered* in the Mediterranean and globally. No protection measures.



Torpedo torpedo _

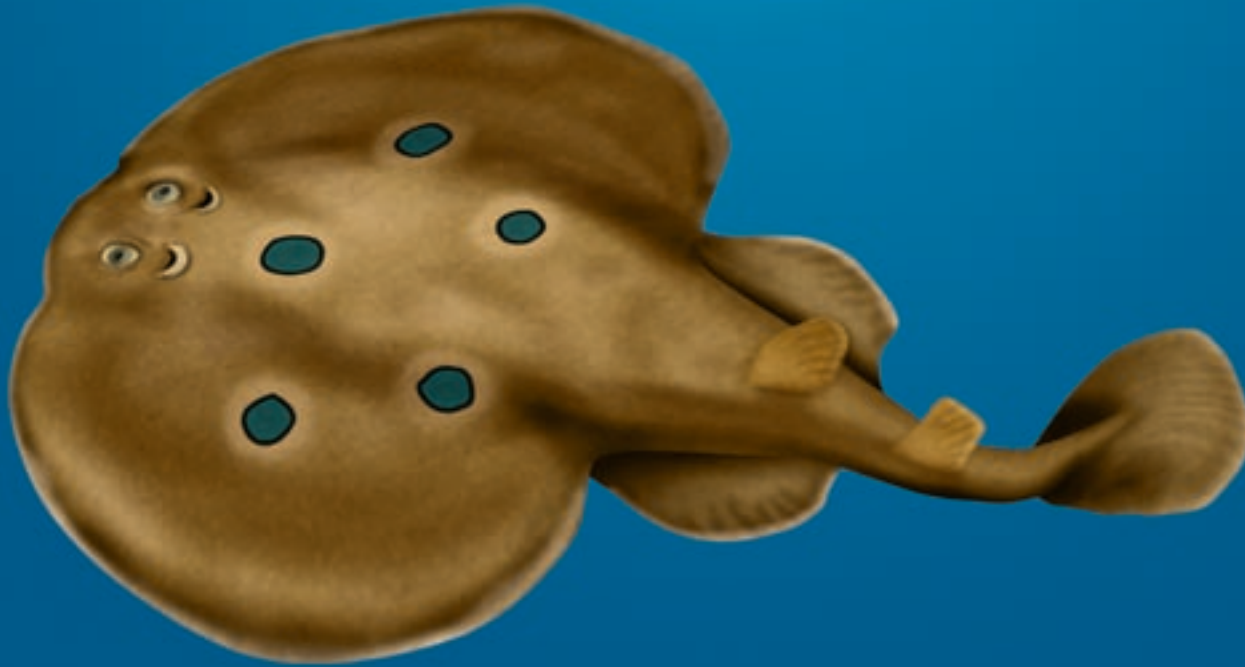
Common name: Common torpedo

Habitat: Demersal inshore waters. Generally down to 30 metres depth.

European distribution: From the southern Bay of Biscay to the Canary Islands and in the Mediterranean.

Description: Disk-shaped electric ray that lives on or buried in sandy and muddy seabeds. Small eyes. Generally brown-grey colouring with white spots on dorsal surface. Five to seven blue photoreceptive ocelli surrounded by black and white colouring, functioning as miniature eyes capable of sensing light but not direction. Two electric organs capable of producing external shock for defense or predation. Can inflict electric discharge of up to 200 volts. Reproduction is ovoviviparous. Typically feeds on benthic invertebrates and small fish.

Conservation status: Very vulnerable to fisheries exploitation. Caught as by-catch with trawl nets and fishing lines. Popular for display in aquaria. IUCN Red List status is *Least Concern* in the Mediterranean.



Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Arctic skate	<i>Amblyraja hyperborea</i>	Bathymersal deep-waters	Svalbard to Greenland to Shetland.	LC		
Jensen's skate	<i>Amblyraja jenseni</i>	Bathymersal deep-waters	Iceland.			
Thorny skate	<i>Amblyraja radiata</i>	Demersal temperate	Greenland to western Baltic and English Channel (except south north Sea).			NAFO quota; North Sea TAC
Pale ray	<i>Bathyraja pallida</i>	Bathymersal deep-waters	Bay of Biscay.	LC		
Richardson's ray	<i>Bathyraja richardsoni</i>	Bathymersal deep-waters	Western Bay of Biscay.	LC		
Spinetail ray	<i>Bathyraja spinicauda</i>	Bathymersal deep-waters	Barents Sea to Greenland.			
Roughtail stingray	<i>Dasyatis centroura</i>	Demersal subtropical	Bay of Biscay to Canary Islands and Madeira. Mediterranean.	LC; NT in Mediterranean		
Marbled stingray	<i>Dasyatis chrysonota marmorata</i>	Demersal tropical	Mediterranean to Gibraltar.	DD in Mediterranean		
Daisy stingray	<i>Dasyatis margarita</i>	Demersal tropical	Possibly in Canary Islands.			
Common stingray	<i>Dasyatis pastinaca</i>	Demersal subtropical	Norway to Canary Islands and Azores. Mediterranean.	NT in Mediterranean		

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Tortonese's stingray	<i>Dasyatis tortonesi</i>	Demersal temperate	Mediterranean.			
Blue or common skate	<i>Dipturus batis</i>	Demersal subtropical	Norway to Canary Islands to west Baltic. Western Mediterranean.	CR; CR in Mediterranean	All OSPAR regions	North Sea TAC
Sailray	<i>Dipturus linteus</i>	Bathodemersal deep-waters	Skagerrak to Greenland.			
Norwegian skate	<i>Dipturus nidarosiensis</i>	Bathodemersal deep-waters	From Norway to Ireland and Mauritania.			
Longnosed skate	<i>Dipturus oxyrinchus</i>	Bathodemersal deep-waters	Norway to Skagerrak to Canary Islands and Madeira. Mediterranean.	NT; NT in Mediterranean		
Spiny butterfly ray	<i>Gymnura altavela</i>	Demersal subtropical	Portugal to Madeira and Canary Islands. Mediterranean and Black Sea.	VU; CR in Mediterranean		
Madeira butterfly ray	<i>Gymnura hirundo</i>	Demersal subtropical	Madeira.			
Honeycomb stingray	<i>Himantura uarnak</i>	Demersal subtropical	Mediterranean (through Suez canal).	DD in Mediterranean		
Sandy ray	<i>Leucoraja circularis</i>	Bathodemersal deep-waters	Iceland to Skagerrak to Morocco. Mediterranean.	EN in Mediterranean		
Shagreen ray	<i>Leucoraja fullonica</i>	Bathodemersal deep-waters	Murmansk to Faroe Islands and Skagerrak to Mediterranean. Western Mediterranean.	DD in Mediterranean		

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Maltese ray	<i>Leucoraja melitensis</i>	Bathydemersal deep-waters	Western Mediterranean.	CR; CR in Mediterranean		
Cuckoo ray	<i>Leucoraja naevus</i>	Demersal subtropical	Kattegat to British Isles to Gibraltar and Mediterranean.	NT in Mediterranean		North Sea TAC
Krefft's rayt	<i>Malacoraja krefftii</i>	Demersal temperate	Faroe Islands to Iceland.	LC		
Roughskin skate	<i>Malacoraja spinacidermis</i>	Bathydemersal deep-waters	Iceland to Faroe Islands to Sahara.	LC		
Giant manta	<i>Manta birostris</i>	Pelagic subtropical	Madeira and Canary Islands.	NT		
Devil fish	<i>Mobula mobular</i>	Pelagic subtropical	Ireland to Azores and Canary Islands. Mediterranean.	EN; CR in Mediterranean	Barcelona Annex II Bern Appendix II ^B	Malta national legislation; Croatia national legislation
Common eagle ray	<i>Myliobatis aquila</i>	Benthopelagic subtropical	British Isles and southwest North Sea to Canary Islands. Mediterranean.	NT in Mediterranean		
Blue rayl	<i>Neoraja caerulea</i>	Bathydemersal deep-waters	Between Iceland and Ireland.			
Smalltooth sawfish	<i>Pristis pectinata</i>	Demersal subtropical	Gibraltar to Canary Islands. Possibly Mediterranean.	CR; CR in Mediterranean		CITES I

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Common sawfish	<i>Pristis pristis</i>	Demersal subtropical	Portugal to Canary Islands and western Mediterranean.	CR; CR in Mediterranean		CITES I
Bull ray	<i>Pteromylaeus bovinus</i>	Benthopelagic subtropical	Portugal to Madeira and Canary Islands. Mediterranean.	DD		
Pelagic stingray	<i>Pteroplatytrygon violacea</i>	Pelagic subtropical	Western Mediterranean.	LC; NT in Mediterranean		
African ray	<i>Raja africana</i>	Demersal subtropical	South Mediterranean to Mauritania.			
Starry ray	<i>Raja asterias</i>	Demersal subtropical	Mediterranean and Gibraltar	LC; LC in Mediterranean		
Blonde ray	<i>Raja brachyura</i>	Demersal temperate	British Isles to Canary Islands and Madeira. Western Mediterranean.	DD in Mediterranean		North Sea TAC
Thornback ray	<i>Raja clavata</i>	Demersal subtropical	Iceland to Canary Islands. Mediterranean.	NT; NT in Mediterranean		North Sea TAC
Madeiran ray	<i>Raja maderensis</i>	Bathymersal deep-waters	Madeira to Canary and possibly Azores.			
Small-eyed ray	<i>Raja microocellata</i>	Demersal temperate	West British Isles to Morocco.	NT		
Brown ray	<i>Raja miraletus</i>	Demersal subtropical	Portugal to Madeira and Mediterranean. Possibly Canary Islands.	LC in Mediterranean		

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Spotted ray	<i>Raja montagui</i>	Demersal temperate	Shetland to western Baltic to Canary Islands. Mediterranean.	LC; LC in Mediterranean	OSPAR regions II, III, IV, V	North Sea TAC
Speckled ray	<i>Raja polystigma</i>	Demersal subtropical	Mediterranean to Gibraltar.	NT in Mediterranean		
Rough ray	<i>Raja radula</i>	Demersal subtropical	Mediterranean to Gibraltar.	DD in Mediterranean		
Rondelet's ray	<i>Raja rondeleti</i>	Demersal subtropical	Western Mediterranean (excluding Spain).			
Undulate ray	<i>Raja undulata</i>	Demersal subtropical	British Isles to Canary Islands. Mediterranean.	DD in Mediterranean		
Deepwater ray	<i>Rajella bathyphila</i>	Bathydemersal deep-waters	Greenland to Denmark to Bay of Biscay to Sahara.			
Bigelow's ray	<i>Rajella bigelowi</i>	Bathydemersal deep-waters	British Isles to Bay of Biscay and Azores and Sahara.			
Round ray	<i>Rajella fyllae</i>	Bathydemersal deep-waters	Svalbarg to Greenland to Bay of Biscay.			
Mid-Atlantic skate	<i>Rajella kukujevi</i>	Bathydemersal deep-waters	49°50'N, 29°33'W.			
Blackchin guitarfish	<i>Rhinobatos cemiculus</i>	Demersal subtropical	Portugal to Canary Islands and Mediterranean.	EN; EN in Mediterranean		

Common Name	Scientific Name	Habitat	European Distribution	IUCN Global and Regional Red List Status ^A	Conservation Instruments	Management Measures
Common guitarfish	<i>Rhinobatos rhinobatos</i>	Demersal subtropical	Bay of Biscay to Canary Islands and Mediterranean.	EN; EN in Mediterranean		
Lusitanian cownose ray	<i>Rhinoptera marginata</i>	Benthopelagic subtropical	Spain to Canary Islands. Mediterranean.	NT in Mediterranean		
Bottlenosed or white skate	<i>Rostroraja alba</i>	Demersal subtropical	British Isles to Canary Islands and Madeira. Mediterranean.	EN; CR in Mediterranean	Barcelona Annex III Bern Appendix III ^B	
Round stingray	<i>Taeniura grabata</i>	Demersal subtropical	Canary Islands to the Mediterranean.	DD in Mediterranean		
Common torpedo	<i>Torpedo torpedo</i>	Demersal deep-waters	Southern Bay of Biscay to Canary Islands and Mediterranean.	LC in Mediterranean		
Spotted torpedo	<i>Torpedo marmorata</i>	Demersal subtropical	From British Isle to Canary Island. Mediterranean.	LC in Mediterranean		
Atlantic torpedo	<i>Torpedo nobiliana</i>	Pelagic subtropical	Scotland to Canary Islands (rare in North Sea). Mediterranean.	DD in Mediterranean		

A: CR: Critically Endangered / EN: Endangered / VU: Vulnerable/ LR: Lower Risk / NT: Near Threatened / LC: Least Concern / DD: Data Deficient
 - Those species not evaluated are left blank.

B: Only in the Mediterranean.

Appendix I: Descriptions and Recommendations for Conservation Instruments_

- **Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean:** led to the 1995 Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean which establishes conservation measures for the Mediterranean environment. Contracting parties include all countries with a Mediterranean shoreline as well as the European Union. All threatened elasmobranches in the Mediterranean should be added to Annex II, listing endangered or threatened species, or Annex III, listing species whose exploitation is regulated.
- **Convention on the Conservation of European Wildlife and Natural Habitats, or Bern Convention:** aims to conserve wild flora and fauna and their natural habitats, with particular emphasis on vulnerable and endangered species. Contracting parties include the European Union and other member states of the Council of Europe. All threatened European elasmobranches should be listed under Appendix II for strictly protected fauna species or Appendix III for protected fauna species.
- **Convention on the Conservation of Migratory Species of Wild Animals (CMS), or Bonn convention:** provides a global platform for the conservation and sustainable use of migratory animals and the places they live. The convention brings together the states through which migratory animals pass; the EU and all of its Member states are contracting parties. Many pelagic sharks caught by European fleets are migratory and should be added to Appendix I, listing migratory species threatened with extinction or Appendix II, listing migratory species that need or would benefit from international cooperation.

- **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):** serves to protect wildlife against over-exploitation and prevents international trade from threatening species' survival. Although the European Union is not yet a party to the convention, all of its Member states are, and the EU itself has been fully implementing CITES since 1984. EU Member states should propose to add all *Endangered* and *Critically Endangered* European elasmobranch species to Appendix I to prohibit international trade, and all other threatened elasmobranch species to Appendix II to regulate trade and ensure its continued sustainability.
- **Oslo-Paris Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR):** regulates international cooperation on environmental protection in the Northeast Atlantic. This convention notes regions where species are threatened or in decline on their List of Threatened and/or Declining Species and Habitats. Contracting Parties, including representatives from European Union governments and the European Commission, are urged to take the need for protection of listed species into account in their management decisions and actions. All threatened European shark and ray species that live or migrate through the Northeast Atlantic should be added to this list which sets a high priority for future work on these species.
- **United Nations Convention on the Law of the Sea (UNCLOS):** defines the rights and responsibilities of nations using the world's oceans and establishes guidelines for businesses, the environment and managing marine resources. Annex I of the convention lists highly migratory species, including sharks. The European Union is a party to the convention and as such should cooperate with international organisations to ensure the conservation and optimum utilisation of listed species. All shark species that migrate through European waters should be added to this convention.

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Project Directors | Xavier Pastor, Ricardo Aguilar

Author | Rebecca Greenberg

Editor | Marta Madina

Publication Assistants | Aitor Lascurain, Maribel López, María Pérez, Ángeles Sáez

Cover | Skate egg case near the *Oceana Ranger* catamaran. Port of Roses, Gerona, Spain. *Oceana Ranger* Mediterranean Expedition, July 2006. © OCEANA/ Juan Cuetos

Illustrations | Nicolás Sánchez Viezma

Design and layout | NEO Estudio Gráfico, S.L.

Printer | Imprenta Roal

Photo montage | Pentados, S.A.

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October 2008



Plaza de España - Leganitos, 47
28013 Madrid (Spain)
Tel.: + 34 911 440 880
Fax: + 34 911 440 890
europeocean.org
www.oceana.org

Rue Montoyer, 39
1000 Brussels (Belgium)
Tel.: + 32 (0) 2 513 22 42
Fax: + 32 (0) 2 513 22 46
europeocean.org

1350 Connecticut Ave., NW, 5th Floor
Washington D.C., 20036 USA
Tel.: + 1 (202) 833 3900
Fax: + 1 (202) 833 2070
info@oceana.org

175 South Franklin Street - Suite 418
Juneau, Alaska 99801 (USA)
Tel.: + 1 (907) 586 40 50
Fax: + 1(907) 586 49 44
northpacificocean.org

Avenida General Bustamante, 24, Departamento 2C
750-0776 Providencia, Santiago (Chile)
Tel.: + 56 2 795 7140
Fax: + 56 2 795 7146
americadelsurocean.org

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