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Protecting The World's Oceans.

Hunted for Fins

How EU fleets target threatened sharks - without management - in the world's oceans

Blue sharks at auction, Vigo 2006

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Executive Summary

- Traditionally, sharks were considered as bycatch in fisheries for highly migratory species like tuna and swordfish. That has changed. Pelagic sharks are now the targeted species of the European Union surface longline fleets.

- Spain possesses, by far, the biggest European longline fleet. The Spanish longliners' catch in the Atlantic Ocean consists of more than 67 per cent sharks. Swordfish makes up around 27 per cent and tuna is only a small portion of the catch in these Spanish Atlantic longline fisheries.

- In 2005, European Union countries reported nearly 100,000 metric tons of shark catches in the world's oceans. The main European shark fishing nation is Spain. In 2005, Spanish vessels had the highest shark catches in the European Union with 37,400 metric tons, followed by France and Portugal.

- Even though European Union fleets land shark fins and carcasses, the hunt is economically driven by the growing demand for fins in China.

- Nearly all Spanish and Portuguese reported shark catches come from directed shark longlining. Shark bycatch in other fisheries such as purse seining are not officially reported but still exists.

- The main species taken by shark longliners in the Atlantic are blue shark, mako shark, thresher shark and hammerhead shark. Thresher and mako sharks are considered globally "vulnerable" by IUCN (World Conservation Union) Red List criteria, and the hammerhead shark is considered "endangered". The blue shark, the world's most abundant and heavily fished pelagic shark, is considered "near threatened". Scientists have noted declines of 50-70 per cent of this species in the North Atlantic.

1 Introduction

Sharks are vulnerable species. In general, they grow slowly, mature late and produce few young over a long lifetime. Their populations typically increase at extremely low rates, leaving them exceptionally vulnerable to overexploitation and slow to recover from depletion. According to the IUCN Red List of Threatened Species, about one-third of European shark and ray populations assessed are considered "threatened."

The European Union includes some of the most important shark fishing nations in the world. In 2005, EU countries caught nearly 100,000 metric tons of elasmobranches (including sharks, rays and sawfish). Spain took the largest share at around 39 per cent of the EU total, followed by France (22 per cent), Portugal (16 per cent) the UK (11 per cent).[1]

Sharks were usually considered as bycatch in fisheries for highly migratory species like tuna, bonito and swordfish. This is no longer the case. This report shows that sharks are the main targeted species of more than 200 efficient European surface longliners operating all over the world's oceans - and that therefore the European Union has a responsibility to manage sharks, control catches and stop overfishing of the ocean's top predators.

The reason for the directed hunt, and for increasing pelagic shark catches in general, is the rising demand for shark fins, driven by an exponentially growing wealthier middleclass in China.[2] Spain is one of the most important players in the world market for shark fins. Even if "shark finning" -the practice of slicing off a shark's fins and discarding the body at sea- is not common practice on European Union vessels,[3] the directed hunt for these vulnerable species still leads to overfishing and the depletion of pelagic sharks in the world's oceans. All of this without control, without a quota system and without any fisheries management measures to limit catches.

Shark fin soup is a luxury product in China. Once known only to a handful of small regions around Canton, this gelatinous delicacy of dried and mostly tasteless cartilage flavoured with chicken or pork broth has become a famous meal throughout China's growing middleclass. Demand for shark fins has escalated - in 2005, 5,776 metric tons of dried shark fins and 4,572 metric tons of frozen shark fins were imported to Hong Kong, the world's largest market for the product. In 2005, nearly half of the frozen shark fins on the Hong Kong market came from Spain. France and the Netherlands also exported shark fins to Hong Kong.[4]

Shelley Clarke, a Hong Kong-based scientist who has observed the market for years, estimated that 50 per cent of the global fin trade passes through Hong Kong, and that the lucrative, global market for shark fins is increasing by five per cent per year.[5] Through studies and investigations in the Hong Kong market, she estimates that actual worldwide shark catches are three to four times higher than the shark catches reported in the existing global data base! The shark biomass represented by the global fin trade is estimated between 1.21 and 2.29 million metric tons per year.[6]

Prepared shark fins ready for soup, Bangkok 2006

2 Directed Shark Fisheries

Spanish and Portuguese shark longliners, Cape Verde 2007

Spain is the second largest fishing nation in the European Union, with nearly 850,000 metric tons of total catches in 2005. Together with hake, cod, pilchard and horse mackerel, blue shark is one of the top ten species taken by Spanish fishermen in the world's oceans.[7] In contrast to other economically valuable fishes like cod, swordfish or tuna, which in general have some management measures via fishing quotas, catches of sharks that are caught for their valuable fins (blue, hammerhead, thresher and mako) are not limited at all - neither in domestic waters nor on the high seas. Each vessel is free to catch as many sharks as it can.

European Union Member State fleets take advantage of this opportunity in European waters and in waters around the globe - fishing for economically valuable species in high demand and without the requirement to respect any kind of management measures that limit the catches.

Originally, swordfish was the targeted species of surface longliner vessels. But swordfish has some management measures with fishing quotas. While scientific papers and political bodies still widely refer to shark catches only as "bycatch" in swordfish or tuna fisheries, the reality for Spanish and Portuguese longline vessels changed years ago.[8]

Sharks are now the main target fish species of the European Union surface longline fleet (mostly Spanish and Portuguese), with more than 200 efficient vessels over 24 metres long. The Spanish and Portuguese longliner fleets are fishing for sharks in all of the world's oceans: on the high seas, outside domestic Exclusive Economic Zones (EEZs) and even in the EEZs of some of the poorest countries in the world, under so-called bilateral fisheries agreements with third countries. Such agreements have been signed with countries including Cape Verde, Comoros, Ivory Coast, Gabon, Guinea, Guinea-Bissau, Kiribati, Madagascar, Mauritius, Mauritania, Morocco, Mozambique, São Tomé, Senegal, Seychelles and the Solomon Islands.[9]

However, EU shark longlining is not limited to the countries where bilateral agreements exist. Spanish companies have established additional private "Joint Ventures" in other third-countries like Namibia, which allow vessels of Spanish origin or ownership to fish in the waters of these countries without fishing agreements with the European Union. Ecuador and Peru are other countries where Spanish-owned and flagged longliners land their shark catches. In particular, Namibia, with its famous Cape Seal colonies, and Ecuador, with its Galapagos Islands, have especially vulnerable ecosystems and the fishing industry operating in these countries has been blamed for massive overfishing (Namibia) and illegal shark fin trade (Ecuador).

European Union countries are also engaged in "chartering" of fishing vessels with foreign flags and changing vessel ownership over to foreign Joint Venture companies.

3 Surface longlines - attracting sharks

Sharks are caught with longlines. So-called surface longliners carry a line measuring up to more than 100 kilometres, targeting only sharks or both sharks and swordfish. Tuna is usually a minor portion of the catches of European Union surface longline fisheries.

All together, 207 European surface longliners over 24 metres are registered in the European Union fleet register. Of these, 83 per cent are Spanish-flagged and 16 per cent are Portuguese-flagged. Fisheries for highly migratory species like tuna and swordfish are managed outside domestic EEZs by Regional Fisheries Management Organizations (RFMOs).[10] Vessels longer than 24 metres that want to fish for tuna or swordfish in the Atlantic, Pacific or Indian Oceans must register with these RFMOs.

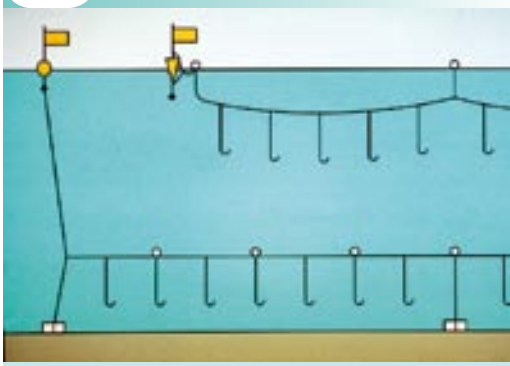
Table 1: EU longliners in various registers

	EU fleet register	Atlantic Ocean[11]	Indian Ocean[12]	Pacific Ocean[13]
Flag country	Number of Surface longliners	Number of registered EU longliners	Number of registered EU longliners	Number of registered EU longliners
Spain	172	151	125 (24 active)	111 (24 active)
Portugal	24	33	14	0
France	7	0	13	14
Malta	4	0	0	0
Italy	0	5	0	0
UK	0	0	1	0

Table 1, above, shows some inconsistencies concerning surface longlining: France is operating longliners in French oversees territories that are not registered in the EU vessel register. Italy has longliners operating in the Atlantic that are registered with different gear than in the EU vessel register.

Sharks are caught, beheaded, gutted and their fins are removed on board the vessel. This is permitted only when the vessel, like certain Spanish and Portuguese longliners, have a special license to do so.[14] Most of the surface longliners have freezer storage on board; shark fins and carcasses (i.e., trunks) are deep-frozen and stored beside deep-frozen swordfish and tuna catches in the holds. The amount of shark parts discarded as offal after the beheading and gutting process is different for each shark species.[15]

Sometimes the shark catches from the final fishing days are stored chilled on board, usually with fins attached, and then unloaded and sold fresh in Spanish harbour auctions, especially in Vigo, Spain.



Schematic of a longline

A drifting longline consists of a mainline kept near the surface (surface longline) specially targeting large pelagic fish like swordfish or sharks by means of regularly spaced floats and with relatively long snoods with baited hooks, evenly spaced on the mainline. Surface longlines may be of considerable length, from 20 km up to more than 100 km long.

Surface longlines are usually set from the deck of a vessel. More than 1,000 hooks are baited with squid or mackerel connected to branch lines which are fixed on the main line. When the whole line has been set the gear is left drifting for some time, for sharks preferably during the night.

During the last few years, longline gear has changed, from traditional multifilament gear to the new "American style" monofilament gear. Typical fish detection equipment of longliners includes echo-sounders. On larger vessels, sonar is usually also present on board.

French longliner, La Reunion 2007

4

Sharks targeted in the Atlantic Ocean

Shark jaw ornament, the Azores 2006

Interview with the captain of a Spanish longliner, unloading in Horta, the Azores.

Where have you been and what is the catch?
We've been fishing in the Atlantic, between Canada and the U.S. for the last two months.
We have a capacity of 55 metric tons, but only caught 25 metric tons this trip. 30 per cent of the catch is swordfish, 20 per cent is mako shark and the other 50 per cent is blue shark.

Interview with the son of a Portuguese longliner captain, Cape Verde.

What do you catch?
90 per cent shark, 10 per cent swordfish. We prefer to catch swordfish because it gets a better price than sharkmeat and sharkfins together.

What do you keep on board?
Five years ago we -the Spanish and Portuguese- used to catch and keep only swordfish and finned the sharks. The fins of the sharks caught were removed and the rest of shark was thrown overboard. Now the numbers of swordfish have declined. So, in order to use the maximum capacity of the ship in the time allowed to fish at sea, we now catch sharks and store fins as well as the meat. The shark and swordfish head and guts are thrown overboard. From the swordfish, only the meat is stored, from the sharks, the fins and the meat.

What techniques do you use to catch what you want to catch?
We use a drifting longline with 1,500 hooks. The 120 km line is made of nylon and attached to a buoy with a transmitter to find it. The steel hooks are attached to two-meter steel lines, which are in turn attached to the main longline.

What is the bait?
Each hook is illuminated by a light attached to it and run on 2 penlites, used to attract swordfish, tuna and shark. 50 per cent blue lights, 50 per cent green lights are evenly distributed; blue lights attract swordfish and tuna, green lights attract shark. I know of some fishermen who use lights that emit both green and blue light intermittently.

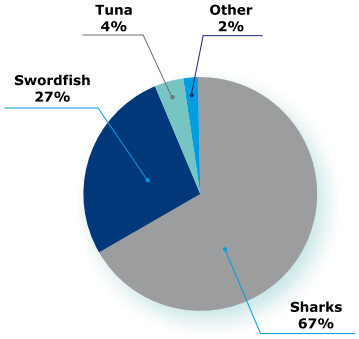
A total of 189 European Union surface longliners over 24 metres are registered with the International Commission for the Conservation of Atlantic Tunas (ICCAT). On the list of vessels that are allowed to fish for tuna, tuna-like species and billfishes in the Atlantic, 151 vessels are Spanish-flagged, 33 Portuguese-flagged and five Italian-flagged.

For 2004, Spain reported a total catch of 123,763 metric tons for tuna, tuna-like species (e.g., bonito), billfishes (e.g., swordfish and blue marlin) and sharks to ICCAT. Thirty five percent of those catches were carried out by Spanish longline vessels, which caught mostly sharks. In fact, between the years 2000 and 2004, 70.3 per cent of the catches of the Spanish longline fleet was composed of sharks.[16]

Total Catches of Spanish Longliners in the Atlantic, 2004:

In 2004, 67 per cent of the total Spanish longline catch from the entire Atlantic Ocean was shark.[17]

During that year, Spain reported a total shark catch of 42,364 metric tons in the Atlantic. Of that, 29,908 metric tons were taken in a directed fishery by the Spanish longline fleet targeting sharks.



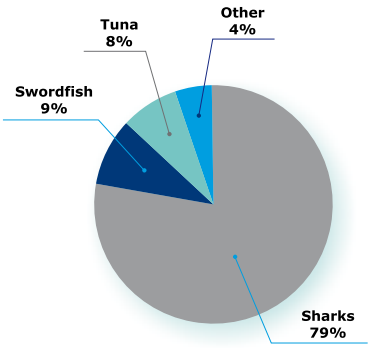
Most of the Spanish shark catches are blue shark (82 per cent of shark catches) and mako shark (14 per cent of shark catches).

Total Catches of Portuguese Longliners in the Atlantic, 2005:

The Portuguese longline fleet in the Atlantic is even more directed towards shark fishing than the Spanish fleet.

In 2005, 79 per cent of the Portuguese longline catches from the Atlantic Ocean was shark.

During that year, Portugal reported a total catch in the Atlantic of 25,795 metric tons of tuna, tuna-like species, billfishes and sharks to ICCAT. 14,806 metric tons of that catch was taken with longliners and of that, 11,767 metric tons were shark.



Portuguese longline fleets in the Atlantic catch 14,806 metric tons of fish, of which 11,767 metric tons was shark and 3,039 metric tons were other species. Sharks make up 79.47 per cent of the Portuguese longline catches in the Atlantic.

Like the Spanish fleet, Portuguese longliners take mainly blue shark (57 per cent of shark catches) and mako shark (21 per cent of shark catches).[18]

At least 43,000 metric tons of the pelagic sharks catches reported by Spain and Portugal in the Atlantic Ocean are taken in a directed longline fishery which targets these species. This longline fishery takes approximately 30 per cent of all reported shark catches in the Atlantic.

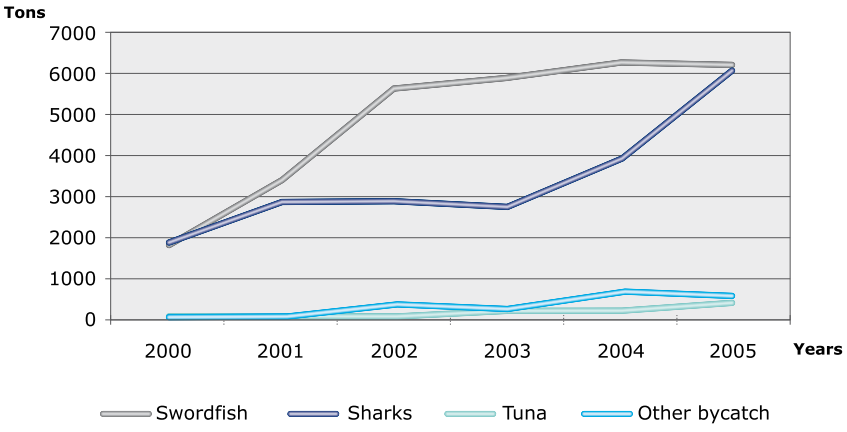
Sharks targeted in the Pacific and Indian Oceans

Spanish longline fisheries in the Pacific Ocean began in 1990, aiming to explore new areas for swordfish fisheries. In 1992, a total of 11 vessels were catching sharks and in 2000 only four were left. Then, in 2005, the number of Spanish longliners in the Pacific Ocean totalled 25, the most seen up to that point.

Like in the Atlantic and the Indian Oceans, the targeted species for the Spanish longline fleet in the Pacific since 1990 have been swordfish and shark. In 2004, Spanish longliners in the Pacific reported a total catch of 6,211 metric tons of swordfish, 6,049 metric tons of shark, 403 metric tons of tuna and 530 metric tons of other bycatch. In the last four years, shark catches increased faster than swordfish catches.

Spanish scientists recently published a scientific paper on fisheries and catches of Spanish longliners in the Indian Ocean. According to their results, there are a total of 24 Spanish longliners actively fishing in the Indian Ocean. Shark catches of these vessels are considered a "bycatch" but make up about half of all catches. In the last few years, approximately 4,000 to 5,000 metric tons of shark was caught annually. According to the report, "*the group of species considered as bycatch of the swordfish (Xiphias gladius) surface longline fishery in the Indian Ocean between 2001 and 2004 accounted for 49 per cent of the total catch landed in weight*". Driven by the wish to explore new fishing grounds, and fleeing areas with increased fishing pressure in the eastern Indian Ocean, Spanish vessels travel further and further in the hunt for swordfish and sharks.[19]

Spanish Longline Catches Pacific 2000-2004



The main shark species taken in the Spanish Pacific longlining fleet are blue sharks (68 per cent) and mako sharks (27 per cent).[20]

In the Indian and Pacific Oceans, 100 per cent of the reported shark catches by EU vessels are taken in targeted longline fisheries.

5

Landed shark fins, the Azores 2006

Interview with the captain of a longliner, the Azores.

What gear technique do you use and what fish do you target?

We use surface longlines -about 35 km long- with about a thousand hooks evenly distributed along the line. We aim to catch shark, but we also catch swordfish. Today we unloaded 27 metric tons. Around 70 per cent is shark and 30 per cent is swordfish.

What is the capacity of your vessel and how long does it take to fill it up?

We have a freezing capacity of between 25 and 30 metric tons. The temperature in the freezing hold reaches minus 25 degrees Celsius. We stay out on the open sea for around four to eight weeks, depending on the success of the catches. And the catches of the last 15 days, this time 5 metric tons, are not frozen but stored on ice and unloaded at the Vigo fresh market in Spain.

Why do you go to Vigo, being Portuguese?

Vigo is the biggest port in Spain. Prices there are a lot better than anywhere else.

Why are you targeting sharks instead of swordfish?

Shark gets better prices because of the fins. For fresh shark meat, I get around 1.5 euros per kilo, for frozen shark meat I get 1 euro. The price for fins is around 12 euros per kilo, and sometimes up to 15 euros per kilo. But it gets harder and harder, because there is less and less fish. Five years ago, both shark and swordfish were more plentiful. Now it takes much longer to find the fish.

How can you ensure that you catch what you want to catch?

We use special fishing techniques in order to catch shark instead of swordfish: 1. by using steel lines to attach to the hook instead of nylon, preventing the sharks from biting through and freeing themselves. 2. by having the hooks further apart. And, 3. by using lights, either run on batteries or by using fluorescent sticks next to the hooks with bait. Swordfish don't like it when light is near the bait; sharks are attracted by it.

6 Threatened species at the end of the line

Mako sharks at auction, Vigo 2006

The IUCN Red List of Threatened Species is the conservation inventory of the world's plant and animal species. IUCN specialist groups assess species' population health and classify them under categories ranging from Extinct to Least Concern. Species deemed Vulnerable, Endangered, and/or Critically Endangered are considered to be Threatened under Red List criteria. The IUCN Shark Specialist Group was formed in 1991. Its membership includes leading shark scientists from all parts of the world.

Hammerhead shark at auction, the Azores 2006

Sharks are the top predators of the sea and therefore play a vital role in marine ecosystems around the globe. They are cartilaginous fish, although their biological characteristics are more similar to those of sea turtles and large land and marine mammals than to those of bony fish.

In general, sharks grow slowly, mature late and produce few young over long lifetimes. Their populations typically increase at extremely low rates, leaving them exceptionally vulnerable to overexploitation and slow to recover from depletion.[21]

In February 2007, an international expert workshop, convened by the IUCN Species Survival Commission (SSC), examined the conservation status of these highly migratory sharks against Red List Criteria.

Sarah Fowler, chair of the IUCN shark specialist group explained: "*The qualities of pelagic sharks -fast, powerful, wide ranging- too often lead to a misperception that they are resilient to fishing pressure. This week, leading shark scientists from around the world highlighted the vulnerability of these species to overfishing and concluded that several species are now Threatened with extinction on a global scale*".[22]

As shown above, blue sharks and mako sharks are the most targeted species for the Spanish and Portuguese longliner fleet. Thresher sharks and hammerhead sharks, especially their fins, are also commonly traded in the Vigo fish auction. According to the IUCN Red List of Threatened Species, three of these four species are threatened:

- Blue shark remains in the category of "Near Threatened". Scientists noted declines of 50-70 per cent in the North Atlantic and concern over a lack of conservation measures.
- All three species of thresher sharks, known for their scythe -like tails that can be as long as their bodies- were listed as Vulnerable globally.
- The global threat status was raised for shortfin mako from "Near Threatened" in 2000 to "Vulnerable" today.
- The status of scalloped hammerhead shark was raised from "Near Threatened" to "Endangered".

The economics of shark fishing

The Spanish city of Vigo is home to the biggest fishing port in Europe. In 2004, more than 1.4 million metric tons of fish were traded in Vigo's harbour.[23]

Vigo is also the centre of the European shark meat and shark fin trade. No matter where Spanish longliners and other big vessels land their catches around the world, fish is usually transported back to Vigo and distributed worldwide from there, thanks to an efficient and cheap global container trade.

Fresh sharks are unloaded from EU longliners directly at the Vigo auction, usually with fins attached. The fins are removed later, when the fish is cut into pieces. The longliners have freezer capacity on board but the catch of the last few days is stored fresh, as prices for fresh shark meat in Vigo are better than for frozen meat.

Frozen shark trunks and frozen shark fins are unloaded from EU longliners at private quays belonging to the major fishing companies based in Vigo. The vessels arrive there after fishing all over the world. Frozen sharks also arrive in Vigo in container or cargo vessels from foreign ports, and frozen shark fins are also sometimes transported by plane.[24]

Around ten companies in Vigo trade shark fins. Fins can be fresh, removed from the catches brought in fresh for the daily auction, or frozen, arriving via ship or plane from all over the world. The clients for Spanish-caught shark fins are based in Southeast Asia and China. Besides those from China and Hong Kong, Vigo-based companies also sell shark fins to buyers from Japan and Taiwan. While the demand for shark fins around the world is high, the markets for frozen shark *meat* are much more limited. According to trade statistics, most of the frozen shark meat is exported to Italy.[25]

The shark fins traded in Vigo usually consists of:

- the pectoral fin, the dorsal fin and the whole tail, or
- the pectoral fin, the dorsal fin and the lower part of the tail (or, the "lower lobe"),
- sometimes, mixed anal fins are also sold.

Frozen blue shark fin sale prices range between 10 and 17 USD per kilo; mako shark fins sell between 11 and 22 USD per kilo and hammerhead fins around 30 USD. The price for frozen blue shark meat is between 1 and 2 USD.

The total price for shark fins plus bodies gives the same or a lower price than that for swordfish.[26] However, an important reason that the targeted species of the Spanish longliners changed from swordfish to sharks is the far lesser cost of shark fishing. Sharks are more abundant than swordfish, meaning that storage capacity is filled up faster, leading to less days at sea, lower fuel and labour costs, and cheaper bait.[27] But the principal reason for why fishing pressure changed from one widely overfished species -swordfish- to other vulnerable and threatened species -sharks- is that swordfish fishing around the world is usually restricted via quotas. Sharks, on the other hand, can mostly be hunted in targeted fisheries without any management measures at all.

Shark fins from a Spanish longliner, Ocean Pacific 2007

Interview with a fisheries manager

What species do you catch?
We catch tuna, swordfish and sharks.

Can every longliner catch sharks?
You need a tuna or swordfish license and an ICCAT quota of course. But then you can also catch sharks. There are too many longliners who use their tuna and swordfish license to catch sharks.

How can that be?
Targeted species like swordfish are very costly to catch. They can only be caught seasonally. It's hard to find the fish. This means that it takes lots of days and lots of fuel to find them and catch them. And when you do you are only allowed to catch a certain amount. This all leads to high costs per fish. Sharks on the other hand, you can catch year round, you can catch as many of them as you like, because there is no quota. You can catch them everywhere so you don't have to go out far and you don't have to go looking for them. This means that costs per trip are really low and you can make as many trips as you want. So even with a very small margin you can profit big time, just by catching huge quantities. That's the economics of shark fishing.

8 Conclusions

Blue sharks at auction, Vigo 2006

Sharks must be landed with their fins attached.

The application of the current European Union Regulation (1185/2003) which prohibits shark finning is over-complicated, unenforceable and unworkable. The current Regulation, using a fin-to-carcass weight ratio to guarantee that quantities of landed fins correspond to landed bodies, leaves significant room for illegal finning practices to occur. In order to have a truly effective prohibition against shark finning -the practice of slicing off a shark's fins and discarding the body at sea- fins should not be removed on board vessels for processing, or any other purposes. Oceana recommends that sharks should be landed at port with their fins attached.

The capture of commercially exploited shark species by EU vessels must be regulated under the Common Fisheries Policy with fishing limits and quotas.

In Council Regulation (EC) No 2371/2002 of 20 December, 2002, the European Union agreed a revised "Common Fisheries Policy" which states that catch and/or effort limits should be established for commercial fish stocks. Despite the fact that sharks have been commercialized for decades, this policy has not been applied to shark fisheries. Oceana recommends that all sharks targeted in directed fisheries (for example, blue and mako sharks in the Atlantic longline fishery) be recognized as commercially exploited species. Pursuant to the Common Fisheries Policy, catches must thus be controlled and regulated with management or recovery plans that: establish targets and measures for the sustainable exploitation of stocks; set catch limits and quotas; fix the number and type of fishing vessels authorized to fish for sharks; and, limit fishing effort. For stocks that are already overexploited, recovery plans must be established.

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· Inter-American Tropical Tuna Commission (IATTC)
· International Commission for the Conservation of Atlantic Tunas (ICCAT)
· Indian Ocean Tuna Commission (IOTC)
· Western and Central Pacific Fisheries Commission (WCPFC)

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Oceana's Recommendations for Effective Shark Management in the European Union

1. Sharks must be landed with their fins attached.
2. The capture of commercially exploited shark species by EU vessels must be regulated under the Common Fisheries Policy, with fishing limits and quotas.
3. Shark fisheries must be controlled wherever the EU fleet operates – in European waters and worldwide.
4. Migratory shark species exploited on the high seas must be regulated with catch limits and quotas by the relevant Regional Fisheries Management Organisations.
5. Effective management measures for bycatch reduction must be introduced.
6. Shark discards must be eliminated.
7. Vessels taking sharks must have independent observer coverage on board.
8. Distinct trade statistics for shark species (meat, fins and shark liver oil), differentiated by species.
9. Endangered shark species must be added to international conventions and national legislation that limit or prevent catches and trade.
10. A European Plan of Action for Sharks must be implemented.