A CASE STUDY IN THE NORTH ATLANTIC

SHARKS UNDER ATTACK

Overfished and under protected

GREENPEACE

PROTECT THE OCEANS

A blue shark caught on a Japanese longliner
© Paul Hilton / Greenpeace

CONTENTS

Greenpeace's ship the MV Esperanza
© Will Rose / Greenpeace

EXECUTIVE SUMMARY

On the 11th April 2019, the Greenpeace ship Esperanza set sail from the Thames on a pole to pole expedition down the Atlantic Ocean. The expedition is part of a campaign to protect the oceans, calling for an ambitious Global Ocean Treaty that could pave the way to protecting at least 30% of the world's oceans by 2030. Over the course of this eleven month expedition, the Esperanza is exposing the threats currently facing the world's oceans and undertaking scientific research to document and build the case for protection of ecosystems in international waters.

In June, on its route between the UK and the Azores, the Esperanza is passing through the North Atlantic swordfish (*Xiphias gladius*) fishing grounds – a prime example of the ways in which the current management of our global oceans is fundamentally failing to respond adequately to the biodiversity and climate crises the oceans are facing.

Shark fisheries suffer from chronic under reporting and deficient data collection and figures remain contested. A recent paper has estimated 100 million sharks[1] are caught and killed in fishing nets every year, a vast proportion of which are unintended 'accidental' catch, yet serves to further the lucrative trade in shark fins. This figure must be dramatically reduced if we want to see healthy oceans for future generations. However, existing institutions which may have the capability to bring about such a reduction are clearly not being effective despite decades of warnings and calls to action. A governance gap could be filled by a strong Global Ocean Treaty that takes a more holistic approach to addressing threats to marine biodiversity and has conservation at its heart.

Shark catches must be dramatically reduced if we want to see healthy oceans for future generations.

Key findings:

- Despite being known as a swordfish fishery, the North Atlantic swordfish fishery's primary catch is in fact sharks – which are both targeted directly and caught as bycatch – by an estimated ratio of 4:1 (by weight) in 2017[2].
- The Regional Fisheries Management Organisation (RFMO) responsible for the management of this fishery is the International Commission for the Conservation of Atlantic Tunas (ICCAT). Like many of its equivalent organisations, it is consistently failing to put in place effective measures to ensure the future sustainability of its fisheries, and faces widespread criticism for its incompetence.[3] ICCAT does not currently set catch limits on the number of sharks caught in the North Atlantic[4].
- Shortfin mako (*Isurus oxyrinchus*) and longfin mako (*Isurus paucus*) were designated as 'endangered' by the International Union for Conservation of Nature (IUCN) in March 2019. The body which runs this fishery has itself estimated that if shortfin mako populations are to have a 54% chance of recovery then the catch would need to be reduced to 0[5]. But the actual last catch data available is 3,600–4,750 tonnes, an amount expected to further deplete the population[6].
- The fragmented and piecemeal approach to managing international waters is clearly unable to deliver necessary protection against the cumulative threats facing ocean wildlife. There is a clear need for a strong Global Ocean Treaty that will ensure regional and industry bodies take a more holistic approach to the conservation of our global oceans, including through the designation of fully protected marine protected areas in order to help struggling fish populations recover.

A mako shark in a longline tuna fishing boat's cold store
© Greenpeace / Marco Care

FAILING FISHERIES MANAGEMENT

Fishing in international waters is primarily overseen by various Regional Fisheries Management Organisations (RFMOs), each responsible for ensuring that fisheries are conducted in a sustainable manner and according to the terms of the United Nations Fish Stocks Agreement (UNFSA). This includes the application of the precautionary approach and the ecosystem based approach, whereby impacts of fishing on associated and dependent species and the wider ecosystem, are to be taken into account.

Fishing for swordfish in the North Atlantic is managed by ICCAT. Countries that are members of ICCAT collectively agree on conservation and management measures, such as the numbers of tuna and swordfish caught annually in the Atlantic, gear types and a range of other measures, including for monitoring, control and surveillance. Many RFMOs have a track record of ignoring scientific advice, putting the economic short term interests of the fishing industry before conservation and failing to take into account the conservation of marine ecosystems that fishing activities rely on. The depletion of shark populations is a prime example.

The performance of ICCAT regarding conserving stocks and upholding the terms of UNFSA is no exception and has been heavily criticised in recent years by external organisations[7]. For example, the International Pole & Line Foundation (IPNLF), a group that represents a number of tuna fisheries globally, described ICCAT's management of tropical tuna stocks as 'totally incompetent' in 2018[8]. A common theme of the criticism is that ICCAT is not consistently implementing the recommendations set out by its own scientific committee, disregarding the science and allowing declining stocks to further deteriorate[9].

While management measures are tailored to the species considered the main target, in this case swordfish, other species caught in the same fishing operations are essentially unregulated and become depleted. Such is the case with the shortfin mako (*Isurus oxyrinchus*), considered endangered.

Conservation measures adopted by ICCAT parties to protect sharks are extremely limited. Although it has adopted a recommendation prohibiting the retention of shortfin makos, such prohibition contains numerous exceptions and is unable to allow for the recovery of the population. It has also come late, after ICCAT parties failed for years to effectively limit catches of this shark. Despite the existential threat to shortfin mako globally, and the fact that the status of North Atlantic blue sharks, which are the most fished shark species across the world's oceans, is considered highly uncertain[10], catch limits for blue and shortfin mako sharks are not imposed by any RFMOs around the world[11,12].

In the case of blue sharks, despite the size of the fishery, with catches in the whole Atlantic ranging 68,000 tonnes, no limits have been imposed[13]. North Atlantic blue sharks have not been classified as overfished, but their status is considered highly uncertain[14]. ICCAT shark finning policy, on the other hand, continues to be weak and does not require fins to be attached to shark bodies[15]. Further, the absence of well-managed ocean sanctuaries, where shark juveniles can be fully protected, is worrying, as they could greatly benefit the recovery of their populations.

The absence of ocean sanctuaries, where shark juveniles can be fully protected, is worrying, as they could greatly benefit the recovery of their populations.

NORTH ATLANTIC SHARKS IN DECLINE

Along with tuna and swordfish, three shark species are primarily caught in fisheries under ICCAT's purview: blue (*Prionace glauca*), shortfin mako and porbeagle (*Lamna nasus*). Swordfish and sharks are primarily fished in the North Atlantic by the Spanish and Portuguese longline fleets. Longlining is a fishing method that uses very long cables behind vessels, with hundreds or even thousands of baited hooks attached at intervals.

Blue sharks are the most heavily fished shark globally, primarily taken for their fins. Shark fin soup is a delicacy in several countries, and rising demand is claiming as many as 73 million sharks a year globally[16].While The public tends to think of shark fishing as mostly carried out by Asian fleets, Spain is one of the world's leading producers of unprocessed shark fins, and ranks third in reported shark catches globally, only behind Indonesia and India, and before Taiwan.[17] Shortfin mako are in an even more perilous position than blue sharks. They are particularly overfished in the Mediterranean and North Atlantic, and in 2019 the IUCN changed the classification of shortfin mako from vulnerable to endangered.[18] For the species to have a fair chance of rebuilding its population in the North Atlantic, ICCAT's scientific body has recommended that if shortfin mako populations are to have a 54% chance of recovery then the catch would need to be reduced to 0. But the actual last catch data available is 3,600–4,750 tonnes, an amount expected to further deplete the population[19].

Another effort at shortfin mako conservation has been made by proposing to include it on CITES Appendix II, which would place much tighter controls on its trade[20]. This proposal is backed by 29 countries and the European Union, however countries including Spain are under increasing pressure from industry to refrain from supporting this proposal[21]. The dire state of shark populations, so telling of the failures of RFMOs to protect vulnerable species, has already resulted in 20 commercially important shark and ray species being subject to trade measures.[22] [23]

ICCAT – managing overfishing

- ICCAT carries out periodic assessments of the blue, shortfin mako and porbeagle shark stocks in the Atlantic, and makes recommendations on their management. However, it does not set limits on the total allowed catch for these species and the stock assessments are relatively infrequent given the scale of the fishery.
- Reported take of blue shark in the North Atlantic has been rising since 2000[31] and fluctuated around 40,000 tonnes in the period 2013-2017[32]. The results of ICCAT analysis indicate that the species is currently neither overfished nor experiencing overfishing, though the uncertainty in the data is so high that the possibility cannot be ruled out.
- 3,112 tonnes of shortfin mako sharks were taken from the North Atlantic in 2017, and all of ICCAT's analysis indicate that the shortfin mako is seriously overfished. The outlook is not good, with ICCAT estimating that a complete prohibition on catching shortfin mako will provide only a 54% chance of rebuilding the population by 2040[33]. ICCAT has agreed to a prohibition of retaining makos, but its many exemptions result in catches exceeding scientific recommendations.
- The porbeagle has not been assessed since 2009, at which point it was considered to be overfished in the North Atlantic. The estimated catch of porbeagle in 2017 in the north Atlantic was 26 tonnes, down from 426 tonnes in 2009 and 2,726 tonnes in 1994, a 99% decrease[34]. ICCAT recommends that fishing mortality be 'kept at levels in line with scientific advice', but doesn't set a total allowable catch[35].

SHARKS AND THE NEED TO PROTECT THE OCEANS

The overfishing of sharks in the North Atlantic mirrors the situation found in many other parts of the world. A 2014 global review of the status of 1,041 chondrichthyan fishes – sharks, rays and chimaeras – estimated that a quarter of them are threatened according to IUCN Red List criteria due to overfishing (targeted and incidental).[24] Only one third of these species are considered safe, which is the lowest fraction of safe species among all vertebrate groups studied to date. The report found that 46.8% of all examined species are data deficient. The situation has not improved much since. In May 2019, the Shark Specialist Group (SSG) of the IUCN released updated Red List Assessments for 58 species of sharks and rays, 17 of which – one third – were classified as threatened with extinction.[25]

The case in the ICCAT Convention Area is unfortunately representative of what happens under the purview of practically every single RFMO. Complex and ecologically important species like blue shark require coordinated efforts to protect breeding grounds and migration routes across vast areas. A Global Ocean Treaty could ensure that such an oversight in governance would be filled for important species like these that are currently falling through the gaps, including through the designation of fully protected marine protected areas. In one study of nearly 90 marine protected areas with varying degrees of protection, fourteen times more sharks were found inside effectively protected areas than in unprotected areas.[26] Sharks play a vital role in oceanic ecosystems, and have been part of them for an estimated 450 million years. Whilst they display a great diversity of species, the large predator role they play is especially important in maintaining healthy marine life communities. In instances where large sharks have been fished out, often unexpected trophic changes have taken place – leading to further imbalanced ecosystems with lesser predators unchecked. Examples of this include the increase in cow-nosed rays in seas off the East Coast of North America, overpredating scallops, the decline of Great White Sharks leading to growing sea lion populations, and the changing distribution of migrating fish.

Shark in the Pacific Ocean
© Alex Hofford / Greenpeace

Despite the negative press, a world without sharks is a much scarier prospect than a world with sharks, but increasingly our oceans are losing these crucial species. 450 million years of evolution has simply not prepared the world's sharks to withstand humanity's relentless ability to hunt and fish.

FURTHER INFORMATION

Shark finning

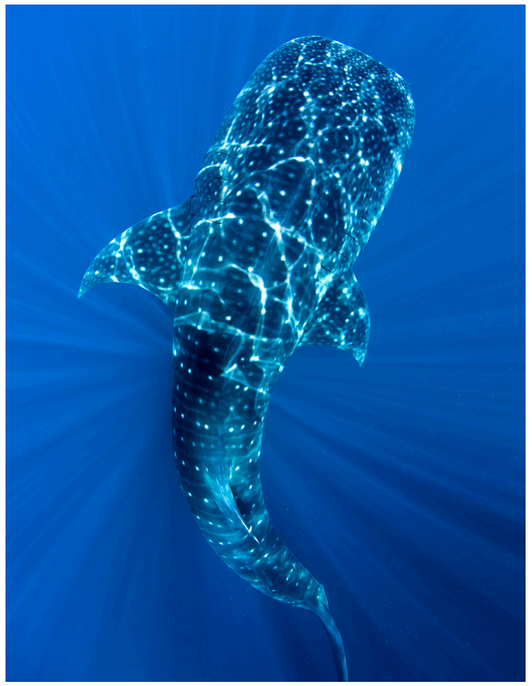
- The EU prohibits shark finning at sea for any EU ships and all ships operating in EU waters. Despite this, concerns persist that shark finning continues to be practiced by EU-related enterprises. The majority of sharks caught by the EU are taken by Spain, but between 2013 and 2014 only 235 inspections were carried out on the 58,476 landings of sharks by Spanish ships – less than 0.5%[36]. Furthermore, the Virxen de Blanca, a Spanish North Atlantic longliner, was intercepted in 2018 off the coast of Ireland and was found to contain 1.3 tonnes of illegally produced shark fins[37].
- ICCAT efforts to introduce a ban on at-sea shark fin removal was blocked in 2017 by China and Japan[38].

Shark fins onboard a Taiwanese vessel in the Pacific Ocean
© Greenpeace / Paul Hilton

Global Ocean Treaty

A strong Global Ocean Treaty must be adopted in 2020 to provide comprehensive protection to marine life in international waters. For sharks and other migratory species, the Treaty would, amongst other things:

- Create fully protected areas for critical habitats, including nursery, breeding and feeding grounds, as well as migratory routes, in coordination with relevant management bodies, including RFMOs.
- Ensure that human activities are strictly assessed and effectively managed so that sharks and other migratory species are afforded comprehensive protection from the cumulative impacts of human activities, climate change and pollution.
- Trigger cooperation across ocean management bodies, including between RFMOs, for the conservation of sharks and other migratory species, as part of the implementation of the new Global Oceans Treaty.
- Trigger the collection of more and better data and data sharing to inform and strengthen conservation of migratory species and all marine life across international waters.



Whale shark
© Paul Hilton / Greenpeace

APPENDIX

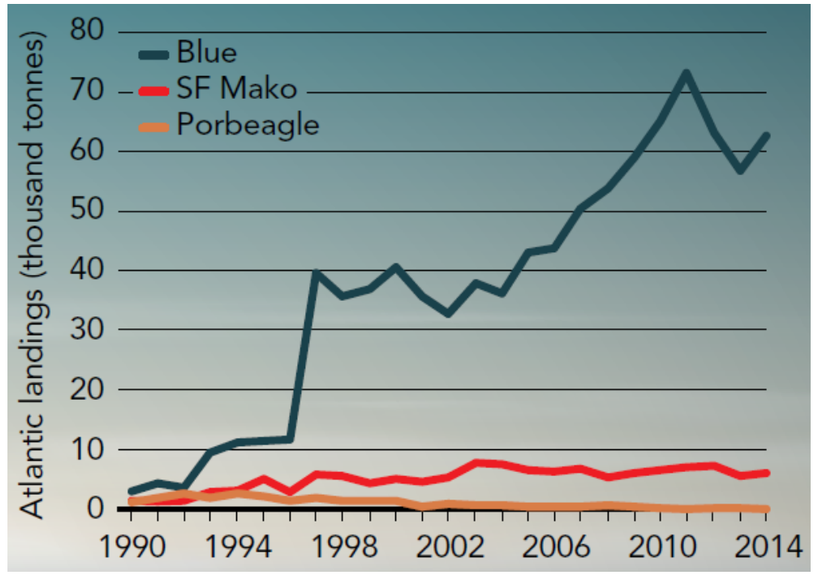


Figure 1

Graph showing blue, shortfin mako and porbeagle landings in the Atlantic, 1990-2014[39]

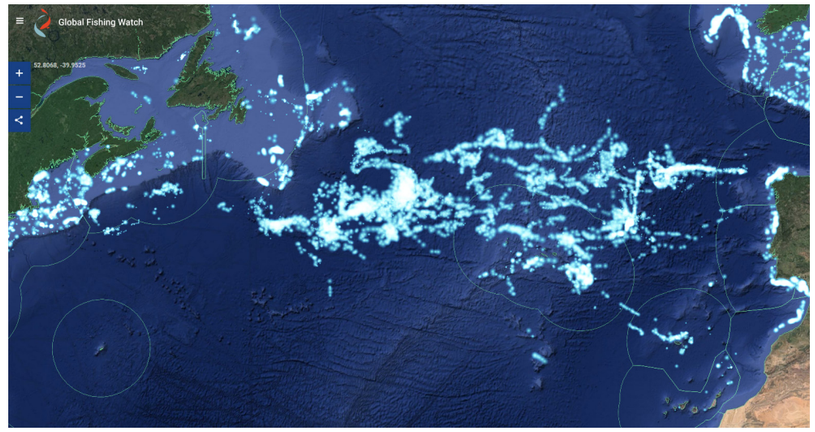


Figure 2

Fishing activity in the North Atlantic, June 2018. Source: Global Fishing Watch[40]

Methodology

The fishing activity in the North Atlantic has been followed using Global Fishing Watch[41], a freely available tool for tracking more than 65,000 commercial fishing vessels throughout the world. The data that were used to compile this report are all directly available from the various sources listed. The largest set of data comes from the International Commission to Conserve Atlantic Tunas (ICCAT), the Regional Fisheries Management Organisation (RFMO) responsible for tuna and tuna-like species in the Atlantic.

A shortfin mako shark
© Richard Herrmann / BluePlanetArchive.com

REFERENCES

1. Boris Worm, Brendal Davis, Lisa Kettemer, Christine A. Ward-Paige, Demian Chapman, Michael R. Heithaus, Steven T. Kessel, Samuel H. Gruber. 'Global catches, exploitation rates, and rebuilding options for sharks', Elsevier, 21 December 2012 http://wormlab.biology.dal.ca/publication/view/worm-etal-2013-global-catches-exploitation-rates-and-rebuilding-options-for-sharks/
2. ICCAT, Report of the Standing Committee on Research and Statistics (SCRS), 5 October 2018 https://www.iccat.int/Documents/Meetings/Docs/2018/REPORTS/2018_SCRS_REP_ENG.pdf
3. PEW, International Fisheries Managers' Response to Performance Reviews Insufficient, 1 May 2018 https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2019/05/international-fisheries-managers-response-to-performance-reviews-insufficient
4. ICCAT, Recommendation by ICCAT on Management Measures for the Conservation of Atlantic Blue Shark Caught in Association with ICCAT Fisheries https://www.iccat.int/Documents/Recs/compendiopdf-e/2016-12-e.pdf
5. ICCAT, Atlantic Sharks Executive Summary https://www.iccat.int/Documents/SCRS/ExecSum/SHK_ENG.pdf
6. ICCAT, Report of the 2017 Shortfin Mako Assessment Meeting https://www.iccat.int/Documents/SCRS/DetRep/SMA_SA_ENG.pdf
7. Undercurrent News, Industry joins NGOs in lamenting ICCAT's failings, 21 November 2018 https://www.undercurrentnews.com/2018/11/21/industry-joins-ngos-in-lamenting-iccats-failings
8. Undercurrent News, Pole and line group: ICCAT 'completely incompetent' on handling of tropical tuna, 20 November 2018 https://www.undercurrentnews.com/2018/11/20/pole-and-line-group-iccat-completely-incompetent-on-handling-of-tropical-tuna/
9. Pew report: International Fisheries Managers' Response to Performance Reviews Insufficient
10. The last stock assessment was made in 2015 and there won't be a review of their status until 2021, showing little attention paid by ICCAT to the conservation of vulnerable species.
11. Defender of Wildlife, 12th Meeting of the Conference of the Parties (CoP12) to the Convention on Migratory Species (CMS), Blue Shark fact sheet https://defenders.org/sites/default/files/publications/Blue-Shark-Fact-Sheet.pdf
12. Project Aware, World's Fastest Shark is Racing Towards Extinction, 21 March 2019 https://www.projectaware.org/news/worlds-fastest-shark-racing-towards-extinction
13. ICCAT, Atlantic Sharks Executive Summary https://www.iccat.int/Documents/SCRS/ExecSum/SHK_ENG.pdf
14. ICCAT, Atlantic Sharks Executive Summary https://www.iccat.int/Documents/SCRS/ExecSum/SHK_ENG.pdf
15. Shark Trust, Baby step for blue sharks, 21 November 2017 https://nolimitsnofuture.org/2017/11/21/baby-step-for-blue-sharks/
16. Saeed Kamali Dehghan, Marine 'gold rush': demand for shark fin soup drives decimation of fish, The Guardian, 4 June 2019 https://www.theguardian.com/environment/2019/jun/04/marine-gold-rush-demand-shark-fin-soup
17. Spain reported catches of 89,212 tonnes of all condrichtyan species in 2011, and exported an average of 3,490t of shark fins annually between 2000-2011, Food and Agriculture Organization of the United Nations, State of the Global Market for Shark Products, 2015 http://www.fao.org/3/a-i4795e.pdf
18. Shark League, IUCN Classifies Makos as Endangered on Red List, Underscores Urgent Need to Ban Fishing, 21 March 2019 www.sharkleague.org/2019/03/21/iucn-classifies-makos-as-endangered-on-red-list-underscores-urgent-need-to-ban-fishing/
19. ICCAT, Atlantic Sharks Executive Summary https://www.iccat.int/Documents/SCRS/ExecSum/SHK_ENG.pdf
20. CITES Consideration of Proposals for Amendment of Appendices I and II https://cites.org/sites/default/files/eng/cop/18/prop/060319/E-CoP18-Prop-42.pdf
21. Fish Information & Services, Fisheries sector urges EU Council not to endorse inclusion of shortfin mako shark, 26 April 2019 https://bit.ly/2ImwCRU
22. Shark overfishing reflected in the updated 2019 IUCN Red List. Experts call for conservation action as more species qualify as endangered https://www.iucnssg.org/press.html
23. Food and Agriculture Organisation of the United Nations, Report of the sixth FAO expert advisory panel, 21–25 January 2019 http://www.fao.org/3/ca3576en/CA3576EN.pdf
24. Dulvy NK, Fowler SL, Musick JA, Cavanagh RD, Kyne M, Harrison LR, et al. Extinction risk and conservation of the world's sharks and rays, eLife, 21 January 2014 https://elifesciences.org/articles/00590
25. Shark League, IUCN Classifies Makos as Endangered on Red List, Underscores Urgent Need to Ban Fishing, 21 March 2019 www.sharkleague.org/2019/03/21/iucn-classifies-makos-as-endangered-on-red-list-underscores-urgent-need-to-ban-fishing/
26. An effective MPA has twice as many large fish, five times more large fish biomass, and fourteen times more shark biomass than in unprotected areas. Edgar, Graham J., et al. (2014), Global Conservation Outcomes Depend on Marine Protected Areas with Five Key Features, Nature, vol. 506, no. 7487, pp. 216–220., doi:10.1038/nature13022.
27. Marine Stewardship Council, North and South Atlantic swordfish Spanish longline fishery – about https://fisheries.msc.org/en/fisheries/north-and-south-atlantic-swordfish-spanish-longline-fishery/about
28. Marine Stewardship Council, North and South Atlantic swordfish Spanish longline fishery – overview https://fisheries.msc.org/en/fisheries/north-and-south-atlantic-swordfish-spanish-longline-fishery/@@view
29. Oceana, Hunted for Fins https://oceana.org/sites/default/files/reports/hunted_for_fins1.pdf
30. Oceana, Shark bycatch https://usa.oceana.org/shark-bycatch
31. Report of the 2015 ICCAT Blue Shark Stock Assessment Session https://www.iccat.int/Documents/SCRS/DetRep/BSH_SA_ENG.PDF
32. ICCAT Atlantic Sharks Executive Summary https://www.iccat.int/Documents/SCRS/ExecSum/SHK_ENG.pdf
33. ICCAT Atlantic Sharks Executive Summary https://www.iccat.int/Documents/SCRS/ExecSum/SHK_ENG.pdf
34. ICCAT Atlantic Sharks Executive Summary https://www.iccat.int/Documents/SCRS/ExecSum/SHK_ENG.pdf
35. ICCAT Atlantic Sharks Executive Summary https://www.iccat.int/Documents/SCRS/ExecSum/SHK_ENG.pdf
36. European Commission Report to the European Parliament and to the Council on the operation of Council Regulation (EC) No 1185/2003 on the removal of fins https://eur-lex.europa.eu/resource.html?uri=cellar:be6ff5ef-02ea-11e6-b713-01aa75ed71a1.0022.02/DOC_2&format=PDF
37. The Marine Executive, Captain of Spanish Longliner Charged with Shark Finning, 9 May 2018 https://www.maritime-executive.com/article/captain-of-spanish-longliner-charged-with-shark-finning
38. Shark Trust, Baby Step for Blue Sharks https://nolimitsnofuture.org/2017/11/21/baby-step-for-blue-sharks/
39. Project Aware, NGOs Urge ICCAT to Protect Sharks at Risk, 3 November 2015 https://www.projectaware.org/update/ngos-urge-iccat-protect-sharks-risk
40. Global Fishing Watch https://globalfishingwatch.org/map/
41. Global Fishing Watch https://globalfishingwatch.org/

GREENPEACE

PROTECT THE OCEANS

Published by Greenpeace International
June 2019

Blue shark near the Azores