THE WILD WEST ATLANTIC

The impact of overfishing in the South-West Atlantic Ocean

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Cover: Wandering albatross
© Greenpeace / Paul Hilton

This page: Bottom trawler
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CONTENTS

Southern Right Whale in Argentina
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EXECUTIVE SUMMARY

IN THE SOUTH-WEST ATLANTIC, ALONG THE PATAGONIAN SHELF, AN AREA OF INTERNATIONAL WATERS KNOWN AS THE BLUE HOLE IS HOME TO UNIQUE ECOSYSTEMS AND ICONIC SPECIES, SUCH AS THE SOUTHERN RIGHT WHALE AND THE ELEPHANT SEAL MANY OF WHICH HAVE A FRAGILE CONSERVATION STATUS. YET DESPITE ITS SPECTACULAR NATURE, THIS WILDLIFE RICH PART OF THE OCEAN HAS OTHER UNIQUE CHARACTERISTICS IN THAT IT IS ONE OF THE ONLY AREAS OF INTERNATIONAL WATERS WHERE THE MAJORITY OF THE FISHERIES HAVE NO REGIONAL FISHERIES MANAGEMENT ORGANIZATION (RFMO) OVERSEEING THEIR ACTIVITY. THE FISHING INDUSTRY OPERATES FAR FROM SIGHT AND SCRUTINY IN THESE WATERS, PUTTING THE FUTURE OF THIS SPECIAL PLACE AT RISK.

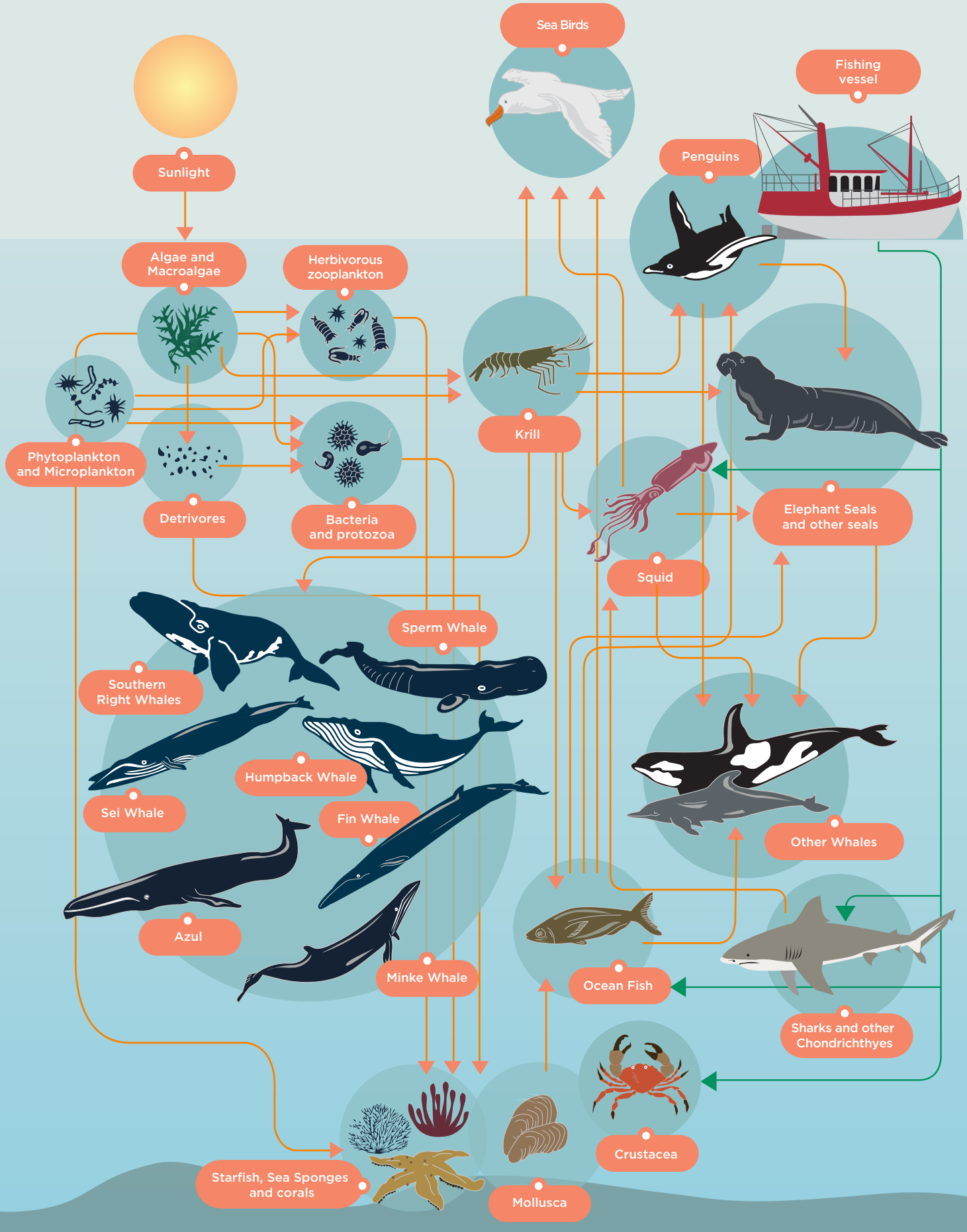
The Blue Hole's oceanographic characteristics make the area both a wildlife hotspot and a highly attractive area for industrial fishing vessels targeting financially valuable catches of squid or Patagonian toothfish. During peak fishing season, from January to July, fishing vessel numbers exceed 400. The lights onboard a spectacular concentration of squid jiggers, mainly from East Asia, render the border of the Argentinean Economic Exclusive Zone clearly visible from space at night. It is also one of the two areas in international waters – together with the Grand Banks, in the Canadian continental shelf – where the majority of high seas bottom trawling takes place.

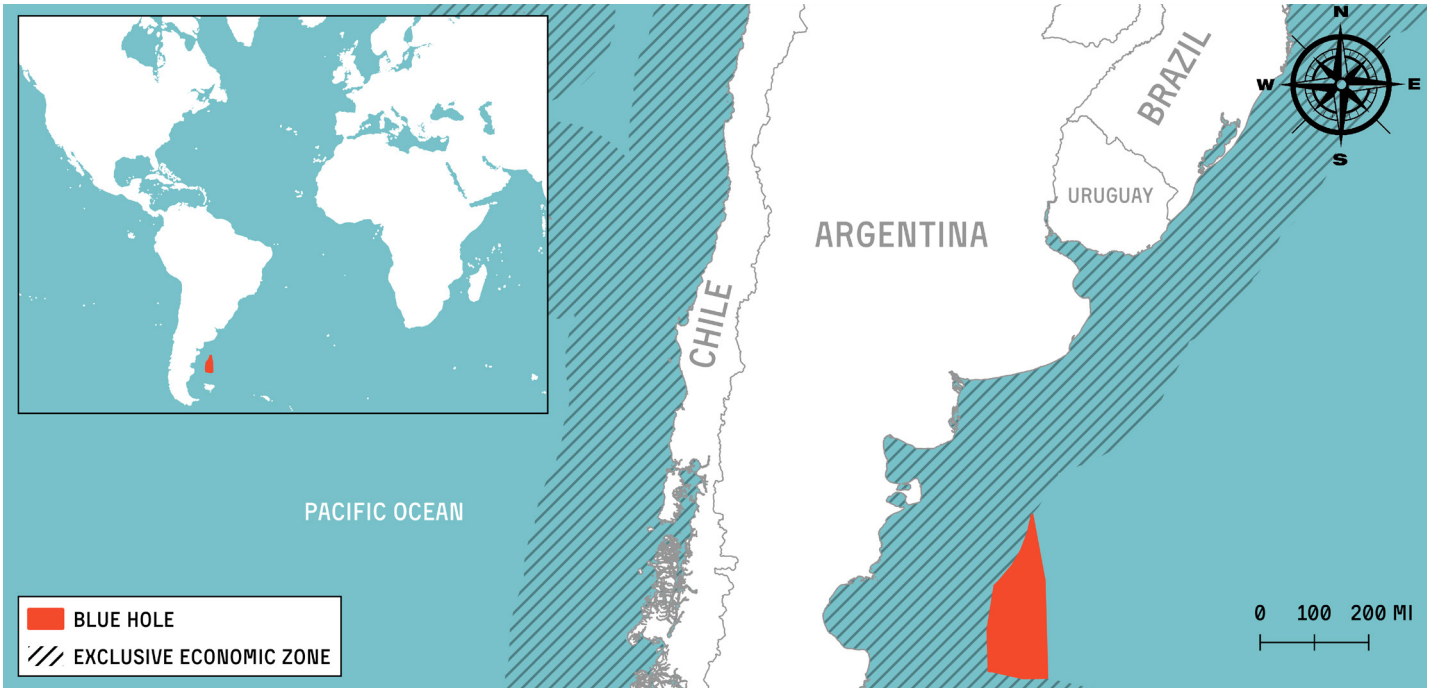
Fishing vessels operating in the Blue Hole are subject to practically no regulation, transforming the Blue Hole into a Wild West exploited mainly by fishing vessels from China Mainland, Korea, Taiwan and Spain. This absence of regulations, ever increasing demand for marine life to eat and competition for dwindling resources is a recipe for disaster. Distant water fishing vessels are known to turn off their satellite positioning systems (AIS) and enter Argentinean waters illegally. There is a strong symbiotic relationship between labour abuses and IUU fishing. Where there is weak regulation and poor enforcement, sustainability and human rights inevitably suffer.

The Blue Hole is in danger from overfishing, destructive fishing practices and the inability of states to cooperate to ensure that marine ecosystems are effectively protected, and fisheries sustainably managed. Governments from around the world are joining scientists and civil society in calling for at least 30% of the world's oceans to be protected by 2030. Greenpeace's recent report, *30x30: A Blueprint for Ocean Protection*, produced in collaboration with leading academic institutions including York, Oxford, Edinburgh and Salford Universities, sought to model what this level of protection could look like were it to cover 30% of representative ecosystems in international water, and areas of the Blue Hole with its amazing biodiversity were clearly identified as needing protection.

Greenpeace is calling for the immediate adoption of regulations to ensure fisheries in this region are sustainably managed, as well as for a Global Ocean Treaty to be adopted at the UN that would pave the way to creating a network of ocean sanctuaries, free from industrial human activity, covering areas such as the Blue Hole that are vital to the health of our global oceans.

ECOSYSTEM INTERACTIONS IN THE SOUTH-WEST ATLANTIC





Blue Hole South-west Atlantic Argentina

THE BLUE HOLE

A unique ecosystem

The Blue Hole is an area of international waters located approximately 500 km east from the Gulf of San Jorge, in Argentinean Patagonia. There, the Argentinean continental shelf goes beyond the Exclusive Economic Zone (EEZ), which extends 200 nautical miles from shore[1], making it a comparatively shallow area in the context of international waters (marked red on the map above).

A relatively unusual example of an area of international waters that are in part in the neritic zone (i.e. shallower waters over the continental shelf), the Blue Hole is considered of very high value from a biological point of view. It is vital for the life cycle of many species, including some threatened species and critical habitats, and it holds high levels of endemism, exclusivity or eccentricity and biological diversity[2]. The area is also abundant in nutrients, which reach the area carried by ascending water currents formed on the edge of the continental shelf. Together with the sunlight that penetrates the relatively shallow water, marine life thrives.

The Blue Hole also plays a key ecological role within the global oceans, providing important spawning and feeding areas for marine mammals and birds which feed in, and migrate through this area. It is also home to important commercial species. The area is a feeding ground for key species, such as the iconic southern right whale, and others whose conservation status is vulnerable, such as the sperm whale[3], the sei whale[4], and albatrosses[5].

THE WILD WEST ATLANTIC CONTEXT

Fishing in a regulatory vacuum

This area of the south Atlantic suffers from a regulatory vacuum. Currently the only relevant regional fisheries management organisation operating in this area is the International Commission for the Conservation of Atlantic Tunas (ICCAT).

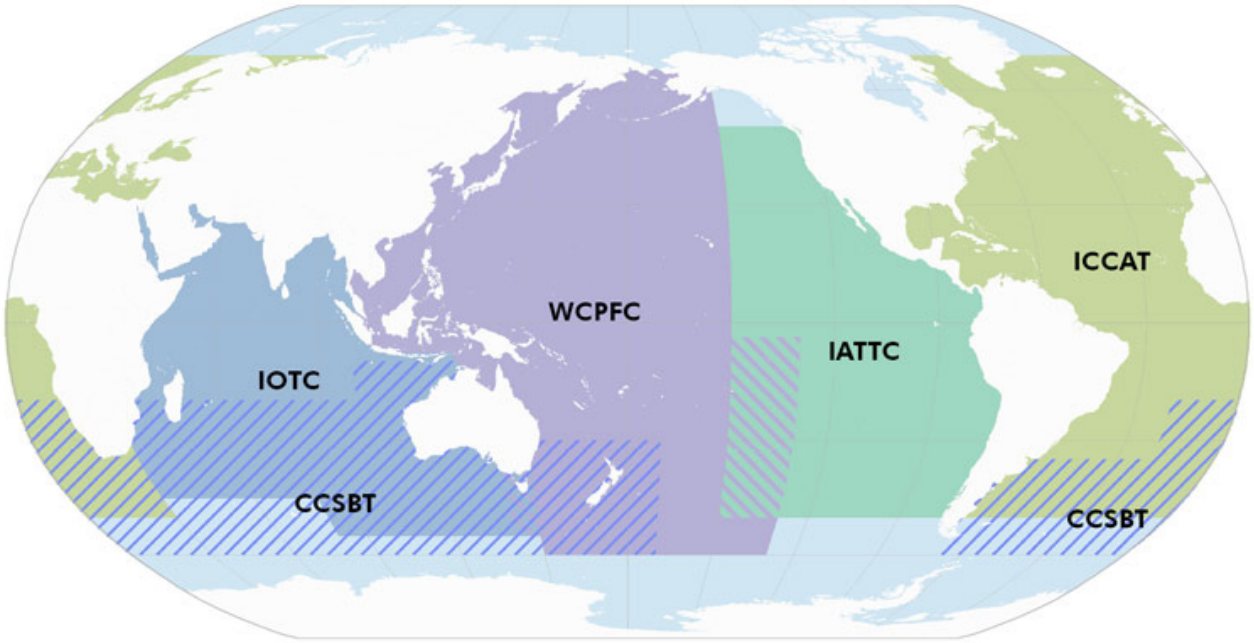
However, ICCAT only manages fisheries targeting tuna and tuna-like species, as well as sharks caught by tuna fleets, so other important fisheries in the area targeting species like squid, hake or Patagonian toothfish, are not covered by an international body. Further, ICCAT has come under sustained criticism for continuing to ignore scientific recommendations with regards to catch limits, and for its continued failure to ensure the conservation of sharks, increasingly targeted by tuna longliners. It currently imposes no catch limits for sharks, despite the fact that many vessels registered with ICCAT are catching far more sharks than they do tuna or tuna-like species[6].

Discarded bycatch from a bottom-trawler in the North Atlantic
© Greenpeace / Kate Davison

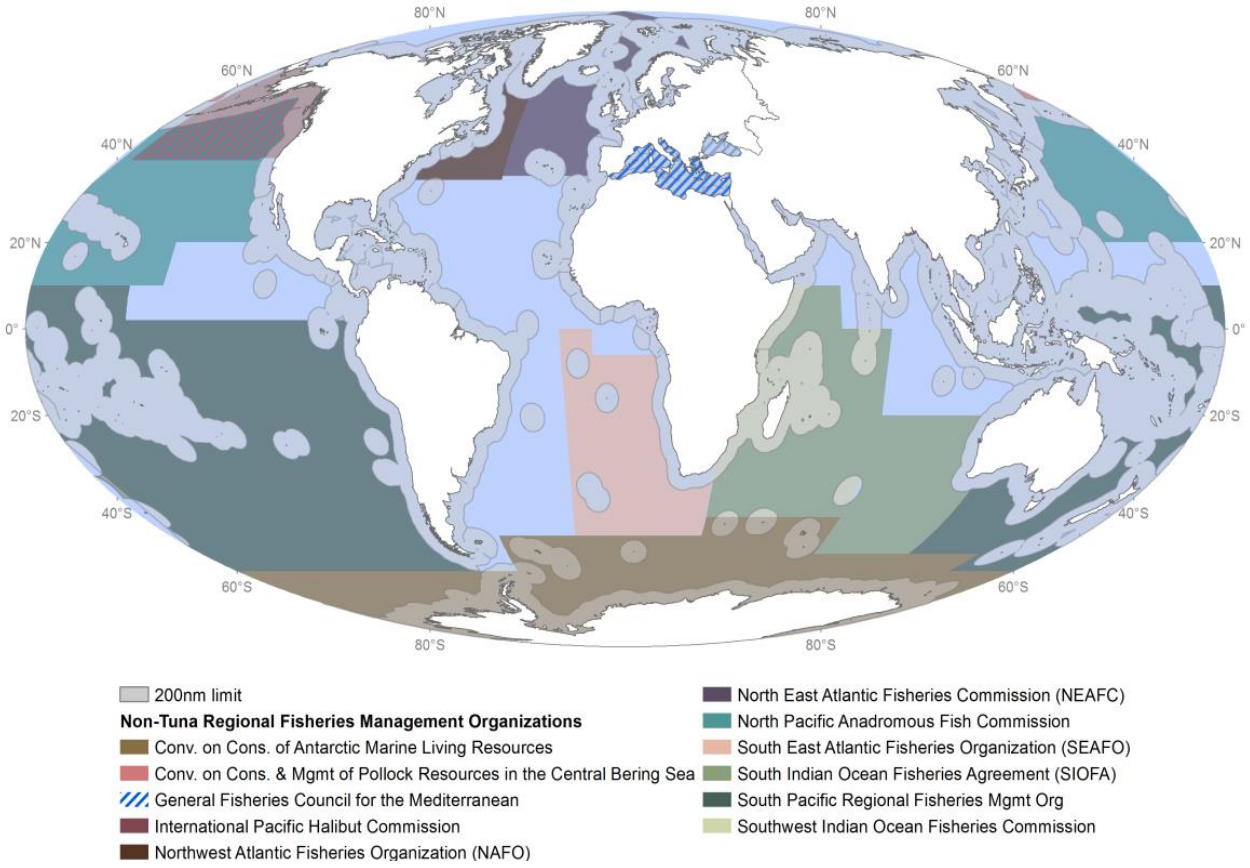
A bottom trawler bringing in their catch
© Greenpeace / Kate Davison

The maps below taken from the Food and Agricultural Organization of the United Nations clearly demonstrate this regulatory vacuum. The Global Ocean Treaty currently being negotiated at the UN will go some way towards plugging this gap in governance, ensuring that human activities anywhere in the high seas are strictly assessed and effectively managed. The Treaty must provide the tools to protect important areas such as those containing vulnerable marine ecosystems, spawning and feeding grounds, or whales migratory routes. Marine ecosystems and threatened populations of marine mammals, sharks and other migratory species or non-regulated commercially caught species, must be afforded comprehensive protection from the cumulative impacts of human activities, climate change and pollution.

Further to the issues surrounding the lack of regulation in the Blue Hole, there are also cases of these vessels entering neighbouring Argentine waters illegally by turning off their position reporting systems to fish in the Argentine Exclusive Economic Zone (EEZ). By turning off the Automatic Identification System (AIS) they avoid Argentina's maritime authority patrol.[7,8] The Argentine Coast Guard has been able to register around 76 vessels that crossed into the Argentine EEZ to illegally fish from the 1960s to the present day, sometimes resulting in the Argentinean Navy firing upon infractors, vessel arrests and fines[9]. There are also anecdotal reports of many more incursions.



This map represents the current geographic coverage of the different tuna regional fisheries bodies



RFMOs that manage bottom fisheries and species other than tunas. Notable gaps exist in parts of the Atlantic, Indian, and Pacific Oceans. The 200 nm data were obtained from the VLIZ maritime boundaries geodatabase (http://www.vliz.be/vmdcdata/marbound/index.php). RFMO boundarieswere provided courtesy of FAO (http://www.fao.org/geonetwork/srv/en/metadata.show?id=31675)[10]

Close-up of a batch of squid
© Greenpeace / Yvan Cohen

A bottom trawler from East Asia pulling in its nets
© Greenpeace / Paul Hilton

WILD WEST ATLANTIC FISHERIES

The high concentration of fishing vessels in this area of international waters is leading to competition with species such as the sperm whale, which feeds on the Argentine shortfin squid targeted by many of the vessels. The practices exerted by the fishing industry in this area are highly destructive, including bottom trawling and longlining. The following are examples of how the regulatory vacuum described in the previous section undermines the sustainability of the main fisheries conducted in the Blue Hole.

Overfishing squid

A 'biological pump' sustaining this ecosystem

The south-west Atlantic is home to one of the biggest squid fisheries in the world. During peak squid fishing season, from January to July, fishing vessel numbers in the Blue Hole exceed 400[1112]. The lights onboard a spectacular concentration of squid jiggers, mainly from East Asia, render the border of the Argentinean Economic Exclusive Zone clearly visible from space at night. Catches of cephalopods – like squid - in the south-west Atlantic followed an increasing trend since 1970 until they reached a peak of 1.2 million tonnes in 1999, after which catches fell by an order of magnitude until 2004.[13] Since then, the fishery has followed a boom and bust cycle, partly reflecting the high natural fluctuations of these populations, but also a result of overfishing and a lack of cooperation between catching nations. Catches of cephalopods in the SW Atlantic for 2017, the last year for which there is official data available, were 435,280 tonnes.[14]

Vessels fishing for squid (squid jiggers) use a fishing instrument which consists of a nylon line with multiple fluorescent lures, which attract squids that get trapped by small hooks on the lure base, the line is secured to an automatic reel raised on board, releasing the squid by gravity on the vessel deck.

Squid stocks straddle EEZs and international waters. During the 1990s, the Argentinean and British governments created the South Atlantic Fisheries Commission (SAFC) to promote conservation and determine allocation quotas of straddling stocks of fish and squid. However the meetings were discontinued. Such a commission would however not have the power to prevent overfishing by other fleets fishing in international waters. There is currently no bilateral or multilateral mechanism preventing overfishing of these valuable species, which is a recipe for disaster.

Squids are known to be nutrient vectors that play a key role as transient 'biological pumps' linking spatially distinct marine ecosystems.[15] Overfishing of squid therefore poses a threat to the entire ecosystem, including vulnerable populations of cetaceans.

Vulnerable marine ecosystems

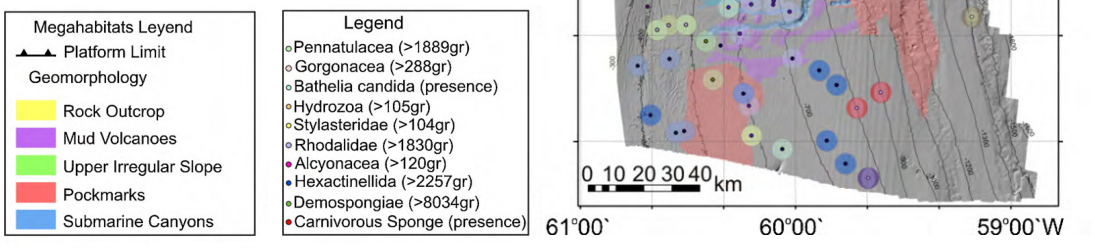
VMEs threatened by bottom trawling

Due to parts of the Blue Hole being relatively shallow, and technically part of the neritic zone, this area is one of the few in international waters targeted at scale by bottom trawlers[16]. Bottom trawling employs a large net with chains at its bottom ploughing the seafloor, indiscriminately destroying all sorts of flora and fauna. It is generally considered the most destructive fishing method and is known to significantly impact fragile marine habitats, known as vulnerable marine ecosystems (VMEs), such as corals and sponges.

As we move further from the 200 miles limit, depth quickly increases to between 700 and 1500 m. Research conducted by Spain in 2008 and 2009 identified substantial presence of vulnerable marine ecosystems in the area, higher as depth increases, and particularly in areas below 800m where density of vulnerable marine ecosystems is the highest. The research also described seven submarine canyons in the middle slope,[17] usually associated with high biodiversity. The researchers conclude that *"All of these [areas] could be recommended as marine protected areas (MPAs)."* Unfortunately, there is no legal mechanism to declare such protected areas and prevent damage to these valuable ecosystems. Even though Spain has closed such areas to its own fishing fleet, nothing prevents other countries conducting bottom trawling in the area to destroy them.

There is very little information about what countries are bottom trawling in the area, with information on numbers of vessels and catches only available for Spain.[18] Since 2006, a number of United Nations General Assembly Resolutions[19] have called on flag States to not authorize bottom fisheries in international waters where no regional management organization exists, unless they can ensure that vulnerable marine ecosystems would not be damaged. However, fishing vessels seem to continue to take advantage of the almost total lack of regulation in the Blue Hole and target it heavily with this destructive gear. The Blue Hole is not alone in this respect, a review of the implementation of these resolutions in 2016 shows that significant shortcomings remain, leaving many areas containing vulnerable marine ecosystems open to trawling and many deep sea species depleted.[20]

In 2018 a significant paper was published which characterised the global high seas fleet in detail and estimated the economic benefit of high seas fishing[21]. Results suggest that high seas fishing at the current scale is enabled by large government subsidies without which as much as 54% of the present high-seas fishing grounds would be unprofitable at current fishing rates. While profitability varies widely between fleets, types of fishing and distance to port, deep-sea bottom trawling emerged as highly dependent on subsidies. Recent estimations show that some of the fleets which fish in the south-west Atlantic are among the most heavily subsidized globally[22].



VME presence in the area of work[23]

Photo from a recent Greenpeace expose of shark fishing in the Atlantic
© Greenpeace / Kajsa Sjölander

Patagonian toothfish caught on a longline
© Greenpeace / Daniel Beltrá

Sharks under attack in the south-west Atlantic

Another example of these harmful practices is longline fishing. Longlines can be over 100 km in length and carry several thousand baited hooks. Precise estimates of shark catches are often difficult to make for international waters owing to the difficulties of collecting data and poor observer coverage, especially in longline operations. Long lines with baited hooks are a dangerous attraction for marine birds which get trapped in multiple hooks. The FAO estimates one million seabirds are captured and discarded annually in global fisheries.[24] A 2014 overview of accidental catches in fisheries identified the south-west Atlantic as a global hotspot of seabird by-catch.[25] Of 61 species of seabirds affected by longline fisheries, 26 are threatened with extinction, including 18 of the 22 species of albatrosses. Sea turtles, marine mammals, elasmobranchs (sharks and rays) and at least 650 species of bony fish also get caught on longline fishing gear[26].

Longline fisheries also prove deadly for many sharks species which are often caught as bycatch, and in many cases targeted directly. A total of 81 shark species worldwide have been listed as threatened on the IUCN Red List of Threatened Species, accounting for 31% of the total number of shark species for which data is available, while there is very little information for nearly half of all shark species. Among these species, 47 are listed as Vulnerable, 21 as Endangered and 13 as Critically Endangered[27]. This is in part due to the fact that catch limits for sharks are rarely, if ever, imposed by any regional fisheries management organisation. In the south-west Atlantic, as elsewhere in international waters, there is serious risk of overexploitation of populations. As an example, in the case of blue sharks, despite the size of the fishery, with annual catches in

the whole Atlantic around 68,000 tonnes, no limits have been imposed. 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. A Global Ocean Treaty could ensure that this oversight in governance leading to the overfishing of sharks by longliners would be rectified. This would include 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.

A transshipment hotspot

At-sea transshipments - the practice of transferring at sea the fish caught by a fishing vessel onto a transport vessel - continue to represent one of the biggest loopholes allowing fish caught illegally to enter the seafood supply chain. Despite some stricter regulations in certain regions at-sea transshipments continue to represent one of the biggest loopholes allowing illegal catches to enter the market place. Cases of illegal transshipments continue to be documented regularly. These come in addition to the role of transshipments in allowing crew members to stay long periods of time without going ashore, at times in vessels which do not meet minimum labour and safety standards.

An illegal transshipment of fish
© Greenpeace / Pierre Gleizes

A recent paper identifying transshipment hotspots estimated that trawlers (53%), longliners (21%) and jiggers (13%) were the most commonly involved in at sea transshipments. All these types of vessels operate in the south-west Atlantic. Although when considering exclusively international waters, longliners and jiggers dominated the incidence of transshipments.[28] Another review by the Global Fishing Watch team has identified fishing vessels turning off their satellite positioning systems (AIS), outside the Argentinean EEZ, as something which may be related both to transshipments, or to incursions into Argentinean waters to fish illegally.[29]

The Blue Hole is a global hotspot for transshipments, which combined with limited information on the fishing activities conducted there, and the absence of regulations, is a sure recipe for catches not being reported, and increased risks of modern slavery occuring in the fishing industry[30].

Misery at sea

Global fishing fleets, some of which operate in this area, have documented cases of serious issues unrelated to their fishing. There are multiple serious reports of labour abuses and human rights violations by fishing fleets operating in the high seas[31,32,33] . For example, crew members with medical issues that could have been easily cured, are neither treated, nor taken to port, and have died as a consequence.

Owing to the issues of monitoring and regulating fisheries in international waters, the fishers themselves are often provided with poor working and living conditions, a lack of access to food and water, and can be subjected to physical violence. Fishers, who mainly come from South East Asian countries, and who are brought under the promise of decent, well-paid jobs, end up bound into modern slavery.

The conditions enabling perpetrators of rights abuses are made possible by the inadequate monitoring of governments granting fishing licenses, and the failure of ports these fleets use to properly inspect and manage the vessels.

Fishers living in cramped conditions on a longliner
© Greenpeace / Paul Hilton

RECOMMENDATIONS

The case for protection

Given the fragile conservation status of so many of the iconic species living in this region, there is an obvious case for steps to be taken to protect this wildlife through the establishment of fully protected marine protected areas in the area, as well as to sustainably manage the fisheries operating there. Both require cooperation between governments and the right legal instruments. Further to this, scientists, civil society and increasingly Governments are calling for the protection of at least 30% of the world's oceans by 2030. In order to keep the ocean healthy and productive in the face of the cumulative threats it is facing scientists argue we need to create a network of ocean sanctuaries across the global oceans.

In April 2019 Greenpeace International released the results of a year long collaboration with leading academic institutions including Oxford, York, Salford and Edinburgh Universities modelling what the protection of 30% of representative ecosystems in international waters could look like. Using Marxan, we sought to identify potential areas of conservation importance by aiming to represent the full spectrum of biogeographic regions, habitats, and species in ABNJ. We therefore chose conservation features to represent specific physical ecosystem characteristics known to be important to high seas marine life, species or habitat distributions, or proxies for ecosystems likely to have distinct biodiversity. In total, we included 458 conservation features representing oceanographic, biogeographic, biological, and biophysical features. Global distributions of oceanographic and biophysical features were subdivided by biogeographic region or ocean area to separate them into groups likely to have distinctive marine life. Ocean areas defined were the North Atlantic, South Atlantic, North Pacific, South Pacific, Indian, Arctic, and Southern. Biological features and biogeographic regions were not subdivided. We also applied a 'cost' to limit selection of areas intensively used by high seas fishing fleets, so reducing possible disruption to fishing activity, which in turn requires significant improvement in its management by RFMOs. Unsurprisingly given its unique ecological characteristics and rich wildlife, a number of areas both inside and surrounding the Blue Hole were identified as in need of protection using these criteria.

Currently there is no effective mechanism for the protection of areas outside of national waters, and the UN is in the final stages of negotiating a Global Ocean Treaty that could rectify this and place conservation at the heart of ocean governance. Greenpeace is calling on governments to agree a strong Global Ocean Treaty that can help deal with both the lack of holistic management of our global oceans as well as provide protection to the incredible wildlife that lives there, in particular many of the migratory species that pass through the Blue Hole for which national ocean protection is not sufficient.

A 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, whales, seabirds and other migratory species, the Treaty would, amongst other things:

- **Create fully protected areas for critical habitats, including nursery, breeding and feeding grounds such as the Blue Hole, 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, especially areas such as the Blue Hole where there is almost a total deficit with regards to regulation**

Female elephant seal in the Antarctic
© Greenpeace / Paul Hilton

Squid mouth with fishing net
© Greenpeace / Roger Grace

What protection looks like

Greenpeace is calling for at least 30% of the world's oceans to be protected by 2030 and for the remainder to be sustainably managed. At present the Blue Hole is failing on both conservation and sustainable use grounds and this needs to be urgently addressed. In order to remedy this, Greenpeace calls on governments to:

- Agree a strong Global Ocean Treaty at the final round of UN negotiations in March 2020
- Agree a target to protect at least 30% of the world's oceans by 2030 at the Convention on Biological Diversity COP15 in Kunming, 2020
- Strictly comply with the provisions of UNGA Resolutions for the protection and conservation of vulnerable marine ecosystems and the management of bottom fisheries on the high seas and to prevent their vessels from participating in these fisheries otherwise.
- Immediately establish multilateral mechanisms to ensure effective cooperation for the sustainable management of all non-tuna straddling stocks in the region, including but not limited to the setting of catch limits, assessment of the impacts of fishing activities on the wider ecosystem, the limiting of fishing efforts and enforcement of technical measures, or refraining from authorising their vessels to fish otherwise.
- Given their role in facilitating illegal, unreported and unregulated fishing, not authorize their vessels to participate in at-sea transshipments.

APPENDIX 1

Species in the south-west Atlantic with fragile conservation status:

1. Grey-headed Albatross - Thalassarche chrysostoma – CS*: Endangered
2. Wandering Albatross - Diomedea exulans – CS: Vulnerable
3. Yellow nosed Albatross - Thalassarche chlororhynchos – CS: Endangered
4. Northern Royal Albatross - Diomedea sanfordi – CS: Endangered
5. Southern Royal Albatross - Diomedea epomophora – CS: Vulnerable
6. Anchovy - Engraulis anchoíta – CS: Near threatened
7. Blue whale - Balaenoptera musculus – CS: Endangered
8. Patagonian sea horse - Hippocampus patagonicus – CS: Vulnerable
9. Sperm whale - Physeter macrocephalus – CS: Vulnerable
10. Dogfish - Galeorhinus galeus – CS: Vulnerable
11. False killer whale - Pseudorca crassidens – CS: Near threatened
12. Smooth-hound - Mustelus canis – CS: Near threatened
13. Minke whale - Balaenoptera bonaerensis – EC: Near threatened
14. Sooty shearwater - Ardenna grisea – CS: Near threatened
15. White Chinned Petrel - Procellaria aequinoctialis – CS: Vulnerable
16. Spectacled Petrel - Procellaria conspicillata – CS: Vulnerable
17. Angel Shark - Squatina Guggenheim – CS: Endangered
18. Argentine Angel Shark - Squatina argentina – CS: Critically endangered
19. Magellanic Penguin - Spheniscus magellanicus – CS: Near threatened
20. Rockhopper Penguin - Eudyptes chrysocome – CS: Vulnerable
21. Macaroni Penguin - Eudyptes chrysolophus – CS: Vulnerable
22. Multispine skate - Bathyraja multispinis – CS: Near threatened
23. Joined-fins skate - Bathyraja cousseauae – CS: Near threatened
24. White-dotted skate - Bathyraja albomaculata – CS: Vulnerable
25. Roughskin skate - Dipturus trachyderma – CS: Vulnerable
26. Patagonian skate - Bathyraja macloviana – CS: Near threatened
27. Skate - Zearaja chilensis – CS: Vulnerable
28. Graytail skate - Bathyraja griseocauda – CS: Endangered
29. Cuphead skate - Bathyraja scaphiops – CS: Near threatened
30. Sei Whale - Balaenoptera borealis – CS: Endangered
31. Fin whale - Balaenoptera physalus – CS: Vulnerable
32. Blue Shark - Prionace glauca – CS: Near threatened
33. Copper shark - Carcharhinus brachyurus – CS: Near threatened
34. Sand tiger shark - Carcharias Taurus – CS: Vulnerable
35. Oceanic Whitetip shark - Carcharhinus longimanus – CS: Vulnerable
36. Basking shark - Cetorhinus maximus – CS: Vulnerable
37. Porbeagle shark - Lamna nasus – CS: Vulnerable
38. Sharpnose sevengill shark - Heptranchias perlo – CS: Near threatened

39. Thresher shark - Alopias vulpinus – CS: Vulnerable

40. Electric ray - Discopyge tschudii – CS: Near threatened

*Conservation Status (CS)

http://www.fao.org/fishery/organization/24543/en

Source: N. C. Ban et al., Systematic conservation planning: a better recipe for managing the high seas for biodiversity conservation and sustainable use, Conservation Letters (2013; Systematic conservation planning: a better recipe for managing the high seas for biodiversity conservation and sustainable use).

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