The Environmental Committee

Preventing overfishing in marine habitats

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Introduction

Throughout human history, fishing has been an integral part of many civilisations' cultures, economies, and food supplies; and for most of its existence, there were too few humans, and fishing technology was simply not advanced enough, for overfishing to pose a significant threat to marine habitats. The tables turned with the advent of the modern age. The greater seaworthiness of modern ships, the use of explosive harpoons in whaling, and trawling, to name but a few, have transformed humans from formidable hunters to apex predators that pose a threat to the very existence of their prey species.

By driving marine species to extinction, however, it is not only they we injure; we risk making life on this planet difficult for humans as well. Apart from the obvious consequences of the disappearance of vital food sources potentially leading to food insecurity, and of driving the fishing industry into bankruptcy by eliminating its source of income, there are also other dangers to meddling in complex ecosystems we do not even fully understand yet. For example, it is incredibly difficult to predict what effect the disappearance of a species from a food web might have on the other species it was connected to, and how the destabilisation of a marine ecosystem could affect humans.

It is due to this combination of dual threats, against ecological diversity and ourselves, that protecting marine habitats must remain a priority of the first order to the United Nations (UN), as enshrined in Sustainable Development Goal 14 (SDG 14), "Conserve and sustainably use the oceans, seas and marine resources for sustainable development". As not only food webs and ecosystems, but also fishing companies, extend far beyond national borders and most of the world's oceans are international waters, this objective can only be achieved by global, multilateral cooperation in a combined effort to harmonise legislation, protect marine habitats, and combat overfishing.

Definition of Key Terms

(Capture) fishing

Fishing, or alternatively capture fishing, is the practice of catching marine animals in the wild and covers a wide array of different techniques, target species, and technological equipment.

The fishing industry

In this report, 'the fishing industry' will reference the combination of all those engaged in fishing internationally, from angling to commercial fishing, although the focus shall primarily lie on the latter and its greater economic impact.

Overfishing

Overfishing is fishing being practiced to a degree that exceeds an ecosystem's natural ability to reproduce and to maintain a stable population level, thus causing population decline or potentially even extinction.

Marine habitats

A marine habitat consists of the intertwined ecological systems forming the living environment for different species of marine life.

Biodiversity

Biodiversity describes the number of different species present in an ecosystem. High biodiversity is vital to the continued existence of a stable and healthy ecosystem and is reduced by the extinction of species.

The High Seas

Also known as international waters, the High Seas are those areas of the oceans not under the jurisdiction of any nation state or other power.

Illegal, Unreported, and Unregulated (IUU) fishing

Illegal fishing is fishing that is in breach of national and/or international law. Unreported fishing is fishing that is not reported (in its entirety) to the relevant authorities and often coincides with illegal fishing. Unregulated fishing is fishing that is, due to, among others, location, techniques used or flag flown by the fishing vessel, not governed by environmental law or escapes the jurisdiction of regulating authorities and poses a threat to the conservation of marine life.

Trawling

Trawling is a fishery technique that consists in dragging a large net through the ocean behind one or more boats for the purpose of catching marine life. There are two distinct types of trawling, namely midwater trawling, in which a net is dragged through the water, and bottom trawling, in which the net moves directly over the seabed.

Aquaculture

Aquaculture forms an alternative to fishing for aquatic animal production. Like traditional, land-based agriculture, it does not capture animals in the wild, but breeds and rears them in a controlled environment for the purpose of producing food for human or animal consumption.

Target species

Target species are those species of marine animal a fisher intends to catch when engaging in fishing.

Bycatch

Bycatch occurs when fishing leads to the capture or killing of species other than the target species.

Turtle Excluder Devices (TEDs)

TEDs are a way to reduce bycatch in industrial fishing by including an angled grid of metal bars in the net, directly next to an opening, in a way that any animal not able to pass the grid due to its size is ejected through the opening and out of the net.

Blast fishing

Blast fishing is the use of explosives in fishing to stun or kill fish.

Subsistence fishing

Also known as artisanal or traditional fishing, subsistence fishing consists in small-scale fishing practices, oftentimes used by single fishers, in contrast with capital intensive fishing aimed at commercial gain.

General Overview

Overfishing must be protected against to maintain marine ecosystems and biodiversity in the world's oceans, but it is a sensitive topic to many parties involved. Below, the reader will find an introduction to the issue of overfishing, focussing on some common practices that can lead to overfishing; the scale of overfishing and the dangers it poses to marine life, global ecosystems, and humans; and the hurdles on the way to international regulation of the fishing industry.

Fishery practices threatening biodiversity

One common strategy used in industrial fishing that can easily lead to overfishing and threaten target, along with bycatch, species is trawling. Due to the large nets used, which are nearly undetectable by sight underwater, it becomes effectively impossible for the fishers to maintain control over what species of animal end up being caught. The scale and severity of bycatch is inversely proportionate to the size of fish the fisher aims to catch, as a net with a finer mesh and less space between strands logically catches more animals as well. Bycatch is often smothered or crushed in the net, resulting in serious injury, if not death. This, combined with the extreme stress being captured in a net is likely to cause, drastically reduces bycatch's chances of survival, even if it is returned to the water after being caught. Marine mammals

and turtles fare worse yet, as, their lungs requiring them to surface to breathe, they can drown when caught underwater.

Technological advancements, especially TEDs, have made steps towards reducing bycatch, but their as of now limited application, the risk of bycatch being entangled in the net before reaching the TED, and the fact that they only work on bycatch significantly larger than the target species limits their effect.

Further dangers are posed by bottom trawling specifically, which, whilst sharing all the ecological downsides of midwater trawling, contributes one quarter of global fishery production by annually trawling around 4.9 million square kilometres, amounting to 1.3% of global ocean floor. Put into perspective, the area of 29 American football fields is trawled every second. Dragging a heavy net over the ocean floor indiscriminately captures all animals living there, be they the fish that are usually targeted by bottom trawling, or bycatch like rays, turtles, and crabs. The most severe impact of bottom trawling on marine life, however, is the destruction of their habitat. The seafloor is scraped bare, destroying coral reefs, kelp forests, and other submarine ecosystems, thereby depriving many animals of shelter and their primary source of food. In New Zealand alone, bottom trawling was observed capturing 211.58 metric tonnes of corals between the fishing years of 2007-08 and 2019-20, although this is likely only the tip of the iceberg, as most destroyed coral remains on the ocean floor, and even of the coral that reaches the surface, a large part is likely returned to the water unreported.

Additionally, bottom trawling releases enormous amounts of carbon dioxide by stirring up the top layer of the ocean bed. Every year, the industry is responsible for the release of an estimated 370 metric tonnes, 55 to 60 percent of which finds its way into the atmosphere within nine years and contribute to the greenhouse effect and climate change. The 40 to 45 percent remaining trapped in the water advance ocean acidification, further degrading the habitat bottom trawling leaves behind. Considering the above, it is surprising that even in marine protected areas, the nature reserves of our oceans, bottom trawling is oftentimes not prohibited.

One more fishing practice highly destructive to biodiversity is blast fishing, also known as fish bombing, dynamite fishing or grenade fishing. In contrast to trawling, blast fishing is mostly practiced at a small scale in coastal regions, usually by locals. A single bomb can lead to a catch of up to 400 fish, explaining its popularity in defiance of the danger of handling explosives. Whilst it is limited to certain countries where it has great popularity, among others Indonesia, Lebanon, Malaysia, Myanmar, the Philippines, and Tanzania, there, its effects are devastating. Every living organism within a 20-metre radius is dead instantly, causing significant bycatch, and the explosion can be felt at a distance of several kilometres, disturbing marine life. Even of those fish killed that belong to the target species, the majority sinks to the bottom, going unused, and only those fish still intact enough to float can be collected by the fishers. A study in the sea before the Tanzania-Kenya border found that at least ten blasts occurred every day within the detection range of the equipment, which excluded the shallow waters where most blast fishing takes place.

Apart from its inefficiencies, blast fishing greatly damages the coral reefs common to the coastal regions and tropical climates where it is significantly used. The destruction of corals deprives animals of shelter, food, and habitat, destroying a vital ecosystem. The effects of this

are to be seen in the fact that twelve times more fish can be found on reefs exposed to few to no explosions than on those having sustained heavy damage from blast fishing. The corals generally take decades to regenerate to the levels from before blast fishing took place, if they do so at all, time these ecosystems are only rarely granted.

Scale and effects of overfishing

As mentioned in the introduction, overfishing endangers all connected to it, nature and humans alike, but the most obvious and direct impacts are felt by the former. Between 2007 and 2016, an estimated 2.7 trillion fish were captured in the wild annually, surpassing our ocean's ability to replenish fish stocks and having led to 4,085 species of fish, more than 10% of described fish species, being marked as Vulnerable (VU), Endangered (EN) or Critically Endangered (CR) by the International Union for Conservation of Nature (IUCN) Red List. It must be borne in mind that fish are more difficult to monitor and study than, for example, mammals, and that this is thus likely an incomplete list. Furthermore, between 1970 and 2020, 284 monitored species of migratory fish experienced an average population decline of 81%, being reduced to less than a fifth. The decline is especially pronounced in Latin America and the Caribbean, where the populations of migratory fish stocks have decreased by 91% in the same time span.

The combination of drastic reductions in the population stock with the sometimes irreparable damage to the habitat and entire ecosystem, depriving fish of shelter and food, is a strong driver towards the extinction of marine species and biodiversity loss in marine habitats as a whole.

A continuation of the uncontrolled decline of fish populations will have harrowing consequences for global ecosystems. Migratory fish travel long distances and therefore form part of a global food web that, for all we know, could collapse if we continue to diminish fish populations by overfishing. In a butterfly effect, the extinction of one key species could destabilise the entire ecosystem, perhaps starving a predator by removing its prey, or removing a vital check on the growth of a prey species, which can then in turn grow numerous enough to drive its own prey to extinction, before going extinct itself for lack of food. Both of these effects could then propagate up and down the food chain respectively, radically altering the structure of the entire ecosystem.

Humans, too, suffer from overfishing. First and foremost, in 2022, capture fisheries accounted for 87.99 million metric tonnes of aquatic animal production, just shy of 41% of the international total, the other 59% originating from aquaculture. If marine ecosystems were to collapse, a large part of this production would too. Such an event would be especially felt by economically vulnerable coastal communities practicing subsistence fishing that are reliant on stable fish stocks. These effects can already be observed in areas with intensive commercial fishing, and in those suffering from intensive blast fishing, where fishers have reported that the strain on the ecosystem caused by blast fishing significantly reduces their catch.

Then there is the economic impact to consider. In 2025, the global fishing market is estimated at $602.03 billion, so a collapse of global fish stocks would have catastrophic consequences. It must also be considered that commercial fishing is a highly capital-intensive industry, requiring large investments into boats, nets, and fast supply chains to prevent catch from spoiling. Should it no longer be feasible to practice fishing, it would be difficult to apply

this predominantly highly specialised equipment to other purposes, driving a large part of the commercial fishing industry into bankruptcy.

Regulatory difficulties

Regulating the international fishing industry is difficult for a multitude of reasons. As explained in the introduction, overfishing is a global problem requiring global solutions, but it is not easy to reach consensus on so important a topic. This is in part due to the powerful capture fisheries lobby but also supported by countries' own diverging interests. China alone produced an annual average of 15 million tonnes of aquatic animals by fishing in the timeframe from 2010 to 2018, giving the country a strong incentive to continue to develop this part of its economy.

Further difficulties are to be found in the challenge of globally enforcing conservation laws. For one thing, there exists no internationally recognised authority with the mandate and means to effectively regulate the fishing industry. This delegates any cooperation to the voluntary level, for example in the International Coalition of Fisheries Associations (ICFA), by following the United Nations Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries, which is not binding, or by signing international treaties. Additionally, most fishing takes place in international waters, avoiding national regulations.

One further obstacle in regulating the fishing industry is IUU fishing. IUU fishing accounts for a significant share of the global fisheries market; it is estimated that it is responsible for 1 in 5 fish caught by the international fishing industry. By its very nature, IUU fishing evades regulation, so it is highly difficult to restrict, especially unregulated fishing, which implicitly lies beyond the control of fisheries management organisations or oversight agencies due to its nature and manner, as well as location, of fishing. IUU fishing also oftentimes occurs on such a small scale by many perpetrators in the form of subsistence fishing, motivated by poverty and lack of legitimate employment opportunities, that it becomes extremely administratively challenging effectively to enforce regulations, reducing the efficacy of harsh penalties as deterrents.

Major Parties Involved

The People's Republic of China

As the world's leading fishing nation, with a fishing fleet of half a million boats and 16 million employed in the fishing industry, China is very powerful with regard to this issue. Whilst the People's Republic claims to be taking far-reaching steps to curb the environmental impact of fishing on a national level by strengthening regulatory frameworks and by transitioning to aquaculture production, it has repeatedly been accused of illegal fishing practices being employed by its distant-water fishing fleet, such as breaching marine conservation laws and illegally fishing in the waters of other nations, e. g. North Korea.

The United States of America (USA)

The USA's National Oceanic and Atmospheric Administration (NOAA) is engaged in efforts to limit overfishing in its waters, leading to a record high of 94% of fish stocks not being subject to overfishing in 2023, although about half of US fishing stocks are still understudied. This has prompted critique that NOAA is devoting insufficient effort to monitoring fish stocks and fulfilling its duties.

The European Union (EU)

The EU is strongly committed to sustainably practicing fishing, as exemplified by the Common Fisheries Policy (CFP), which enforces the maximum sustainable yield doctrine, *id est* fishing the greatest number of fish possible without overfishing and threatening marine ecosystems. On the other hand, the EU struggles with preserving migratory fish populations more generally due to the high number of obstacles and dense boat traffic faced by fish traveling up rivers.

The United Nations Food and Agriculture Organization (FAO)

The FAO is a UN organisation with the primary goal of combatting world hunger and ensuring food security for all. Under its mandate, the organisation has taken steps against unsustainable fishing practices, such as the Code of Conduct for Responsible Fisheries and the Agreement on Port State Measures (PSMA).

Regional Fisheries Management Organisations (RFMOs)

In the vacuum of international regulation on the fishing industries, the most important regulating bodies keeping unsustainable fishing industries in check operate on a local level. Overall, they tend to conscientiously fulfil their duties and protect marine life, but there have also been notable instances of corruption, and their jurisdiction does not extend to the High Seas.

International Coalition of Fisheries Associations (ICFA)

The ICFA was established as a cooperation of RFMOs, now consisting of 24 members across 6 continents and having been granted the status of international organisation under the UN framework. It has consistently advocated for stricter regulation of the fishing industry, methods to combat IUU fishing, and international cooperation on protecting marine habitats from overfishing.

Commercial fishing companies

Commercial fishing companies have not only a financial interest in the continued practice of fishing with as little regulations as possible, but also the means to advance their agenda by exploiting corruption where possible and, if it is not, applying their considerable resources to lobbying. Whilst there have been voluntary efforts to reduce biodiversity impacts from within the industry, these remain exceptions to the rule.

Timeline of Events

16 October 1945 — **United Nations Food and Agriculture Organization (FAO) created**

The FAO is founded by the UN as a UN international organisation to combat world hunger. The FAO's mandate of maintaining food security makes fishing relevant to it.

10 December 1982 — **United Nations Convention on the Law of the Sea (UNCLOS) signed**

UNCLOS is signed and would later enter into force on 16 November 1994. It was the first significant effort towards creating an international legal framework for the High Seas, covering fields as diverse as technology transfer, fishing, and science.

1983 — **Common Fisheries Policy (CFP) adopted**

The EU launches the CFP, split off from the Common Agricultural Policy (CAP) of 1958. Internationally unique, it harmonises legislation governing fishing across EU countries.

1988 — **International Coalition of Fisheries Associations (ICFA) established**

The ICFA is founded as a global cooperation to present a trustworthy authority on fishing to policy makers and to advance international regulation of the fishing industry for the purpose of protecting marine life and biodiversity in marine habitats from the effects of overfishing.

1995 — **FAO Code of Conduct for Responsible Fisheries published**

The FAO publishes its voluntary Code of Conduct, providing fishers and RFMOs with guidelines for sustainable fishing practices.

8 September 1995 — **United Nations Fish Stocks Agreement (UNFSA) signed**

The UNFSA is signed in an effort by the UN to "ensure the long-term conservation and sustainable use of straddling fish stocks and sustainable fish stocks" [UNFSA]. It encourages states party to adopt science-based policies to protect marine habitats and species.

2013 — **Aquaculture production surpasses capture fisheries**

For the first time, more aquatic organisms are produced in aquaculture farms than by fishing, with aquaculture producing 94.95 million metric tonnes, just ahead of fishing's 90.50 million tonnes

2015 — **Sustainable Development Goals (SDGs) adopted**

A list of 17 goals for sustainable development are adopted by the UN to be achieved in 2030, covering social, environmental, and

	economic problems. SDG 14, referenced in the introduction, is especially relevant to preventing overfishing in marine habitats.
2016	**Agreement on Port State Measures (PSMA) enters into force** The PSMA, a binding agreement adopted by FAO member states, signed in 2009, enters into force. It contains strategies to combat IUU fishing, specifically by denying IUU fishers the use of ports.
19 December 2022	**Kunming-Montreal Global Biodiversity Framework adopted** The Convention on Biological Diversity adopts the Kunming-Montreal Framework, a guideline for states on how "with the involvement of all of society, to halt and reverse biodiversity loss" [Kunming-Montreal Global Biodiversity Framework]. It encourages ambitious targets, such as protecting 30% of all land and sea areas until 2030.
19 September 2025	**United Nations High Seas Treaty (BBNJ Agreement) ratified** The 60th and 61st member states ratified the Treaty, which thereby cleared the 60-party ratification threshold and will come into force on 17 January 2026. It serves as a commitment to the implementation of the measures proposed by the Kunming-Montreal Framework.

Previous attempts to solve the issue

Overfishing in marine habitats is an issue that, due to its pervasive and persistent nature, has in the past prompted, and continues to prompt, international efforts aimed at resolving it. Here, there are listed the three most notable past attempts at solving the issue, as well as one present effort by the UN, demonstrating overfishing's ongoing significance.

The United Nations Convention on the Law of the Sea (UNCLOS)

UNCLOS came into existence as the result of the year-long negotiations of the Third United Nations Conference on the Law of the Sea (UNCLOS III), held between 1973 and 1982. It has 182 signatories, notably excluding the USA, of which 168 have ratified the Convention, these being 167 states and the EU. With UNCLOS, first efforts were made to internationally agree upon a comprehensive and coherent framework of rules for the use of, and rights of states, private individuals, and companies in, the High Seas, as well as defining the actual demarcation of what is considered to be High Seas. Furthermore, it established the International Tribunal for the Law of the Sea (ITLOS), responsible for resolving disputes arising from diverging interpretations of UNCLOS, and the International Seabed Authority (ISA), mandated to protect the ocean bed, especially in the context of deep sea mining, and responsibly to conduct commercial deep sea mining, financing the UN.

UNCLOS was highly successful in what it set out to achieve; it formalised and unified international maritime law. Beyond that, however, it is far from perfect. The ISA has repeatedly

been critiqued for its joint role as an oversight organ and a commercial mining company, which is argued to cause conflicts of interest. Additionally, the absence of as major and powerful a country as the USA from the list of signatories weakens the Convention and has already led to conflicts with the Russian Federation regarding arctic regions. On the other hand, its remaining in effect more than 30 years after ratification, and the continued existence and use of ITLOS, as well as the fact that two of the later proposed solutions to the problem of overfishing, UNFSA and the United Nations High Seas Treaty, are based on UNCLOS, show its enduring relevance in international law.

The United Nations Fish Stocks Agreement (UNFSA)

UNFSA, signed on 8 September 1995, is named in full: "The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks". As this rather lengthy name suggests, its goal is to advance towards achieving the objectives of UNCLOS, specifically as pertaining to the protection of fish stocks that migrate between the territories of different nations and into the High Seas, these necessitating global cooperation in their management, and as such provides ratifying states with a binding guideline on how to do so, for example by ensuring national laws regarding migratory fish species be based on reliable science, by cooperating internationally to harmonise legislation, and by jointly monitoring migratory fish stocks, as well as IUU fishing practices.

So far, UNFSA has been developing reasonably well. The 2023 Resumed Review Conference expressed its overall satisfaction with the progression of the Agreement's implementation, but also had some concerns, especially in relation to the continuing decline in the population of migratory fish species, and published a significant list of further recommendations. In part, UNFSA inherited the failings of UNCLOS, the USA, as a non–UNCLOS member state, not signing an agreement made under the Convention.

The Agreement on Port State Measures (PSMA)

The PSMA is a binding agreement between 85 parties under the FAO aimed at combatting IUU fishing by making it economically unfeasible, fully designated as: "2009 Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing". Specifically, this is done by obligating states party to evaluate fishing vessels entering their harbours, even those flying flags of other nationalities, as to the risk of their conducting IUU fishing and to turn away those suspected of being IUU fishers. To aid this goal, the parties to the PSMA requested the FAO to establish the Global Information Exchange System (GIES), an information-sharing platform between signatories. On GIES, information such as reports of boat inspections and denials of entry to suspected IUU fishers is shared between the governments of the PSMA parties. The PSMA also entails a Global Capacity Development Programme, covering physical support to states party in form of technology, as well as training initiatives for relevant authorities and government officials.

According to statistics on GIES, the PSMA covers 653 ports internationally and has led to the inspection of 3,560 vessels, the reporting of 1,121, and 13 being denied entry into a port. Notably, the African parties to the PSMA account for 63.6% of reports, Asia following with 30.8%. In spite of its success in member states, the PSMA's limited list of only 85 parties

reduces its global impact, and, as can be seen from the continuing problem of IUU fishing, the PSMA apparently is not sufficiently effective to achieve its goal of eliminating the same.

The United Nations High Seas Treaty (BBNJ Agreement)

The Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction, in short Biodiversity Beyond National Jurisdiction (BBNJ) Agreement, adopted by the Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction on 19 June 2023, was ratified on 19 September 2025 and is now set for entry into force on 17 January 2026. It is based on the four cornerstones of controlling marine genetic resources and their use by, as well as distribution among, states party; advancing the effective management of areas beyond national jurisdiction; conducting environmental impact assessments; and engaging in capacity building, primarily in the form of the transfer of marine technology between the parties. Due to its not having entered into force at time of writing, nothing can be said about the Agreement's efficacy.

Possible Solutions

Implementing technological advancements

Apply technology to make fishing more sustainable. This would range from commercial fishers being required to make use of instruments reducing bycatch and damage to the environment, like, instead of bottom trawling, trawling just above the seabed and the universal implementation of TEDs; to better equipping monitoring authorities with the likes of GIES or with systems monitoring blast fishing by underwater microphones.

Transitioning to aquaculture

Continue the ongoing transition to aquaculture to eliminate commercial fishing. Aquaculture now holding a larger share of the seafood market than capture fishing demonstrates the feasibility of its large-scale and long-term use, which would simply constitute the Neolithic Revolution that started on land 12,000 years ago continuing its propagation into the ocean by replacing hunting with farming. By breeding fish instead of capturing them in the wild, fish stocks would be relieved of the strain they are experiencing now, and destructive practices like bottom trawling would no longer offer a financial incentive to fishers.

Creating a strong, international regulatory organisation

Establish an international organisation similar to the ISA, with the mandate of preserving marine biodiversity. Such an authority would greatly simplify the regulation of fishing in the High Seas and fishing activities transcending national borders by creating a central organ for monitoring, coordination, and enforcement. This organisation could be responsible for advancing the agendas put forward by previous treaties pertaining to marine biodiversity, such as UNCLOS, UNFSA, PMSA, and the BBNJ Agreement, expediting the treaties' implementation and the attainment of the goals and targets suggested therein.

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