

Forum: Special Conference on Environmental Protection

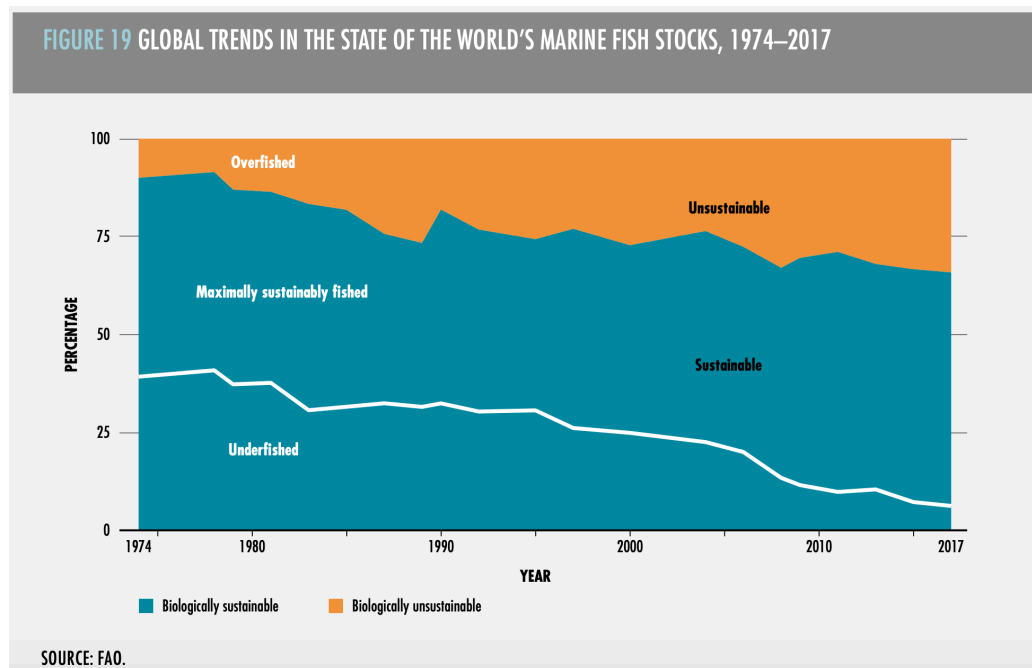
Issue: Mitigating the Effects of Overfishing in International Waters

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Introduction

The demand for seafood from around the world is rising, which is putting additional strain on fisheries and seas. For more than 950 million people, fish is a primary source of protein. Fish trade is expanding quickly as well, contributing significantly to the imports and exports of several countries. More than 75% of the world's fisheries have either reached their maximum potential or have been overfished. Overfishing, which happens when the amount of fish taken exceeds the rate at which fish naturally reproduce, is one of the main issues facing marine ecosystems today. The unintended capture of non-targeted marine life when fishing for a different species is known as bycatch, and it can happen directly or indirectly. Bycatching is one of the factors that play into overfishing, causing it to become an extensive issue in need of urgent attention.



Food and Agricultural Organization (FAO), “Global trends in the state of the world’s marine fish stocks, 1974-2017”, fao.org, <https://www.fao.org/3/I9540EN/i9540en.pdf>

The graph above shows the data related to overfishing in international fish stocks. As can be seen, overfishing is a biologically unsustainable practice that leads to many negative outcomes ranging from environmental to social. This report aims to address the issue of overfishing from all of its aspects, while giving historical context in order to determine the most appropriate ways to resolve it.

Definition of Key Terms

Fishery: An establishment that raises fish for commercial purposes. Fisheries offer both potential and challenges in terms of overfishing. These operations highlight the need to address overfishing in order to preserve the sustainability of both wild and farmed fish stocks, even though they can lessen the strain on wild fish populations by offering an alternative source of seafood.

Overfishing: Overfishing causes fish populations to gradually decline as too many fish are taken before they can spawn. Overharvesting can apply to any kind of resource, however overfishing is more commonly associated with overharvesting.

International waters: Waterbodies that span international borders, along with their drainage basins, are referred to as "international waters" or "transboundary waters." These water bodies include seas, large marine ecosystems, regional seas and estuaries that are contained or partially enclosed, rivers, lakes, and groundwater systems.

Bottom Trawling: Bottom trawling, also known as dragging, involves towing a net along the seafloor. Overfishing frequently results from bottom trawling due to its non-selective nature, leading to the discard of numerous deceased fish. This poses a direct threat to both local fishing communities and tourism associated with sport fishing.

Illegal, Unreported, Unregulated (IUU) Fishing: Illegal, unreported, and unregulated fishing refers to fishing activities that breach both national and international regulations, constituting a worldwide issue that jeopardizes ocean ecosystems and sustainable fisheries.

General Overview

Environmental Impacts

Scientists have been alerting the public for years to the growing problem of ocean overfishing, which puts the ability of marine species to repopulate at risk due to unsustainable rates of harvesting. Nonetheless, global leaders have found it difficult to undo the harm caused during the previous 20 years. The beginning of widespread overfishing has been identified by marine scientists, and they are well aware of the catastrophic implications that await failure to address this issue. Here, we examine the main problems with overfishing, such as its effects on biodiversity and the patchy success of mitigating measures.

Commercial fleets have turned to diving deeper into the ocean to find viable catches of species lower on the food chain, in response to the loss of large-fish populations. The complex and long-standing equilibrium of the biological ecosystem of the sea has been upset by a sequence of events triggered by this activity. By eating algae, herbivorous fish help to maintain the balance of these ecosystems, which in turn keeps the coral healthy and growing. Whether done on purpose or accidentally, reducing the number of herbivores can weaken reefs and make them more susceptible to harm from extreme weather and the consequences of climate change. Furthermore, the fragile coral structures that serve as reef foundations are physically threatened by fishing gear and detritus.

According to a recent assessment by sixteen international conservation organizations, about one-third of freshwater fish species are in danger of going extinct, which is a concerning condition for freshwater fish. Furthermore, migratory freshwater fish populations have declined by a noteworthy 76% since 1970. In addition to the apparent risk of extinction, overfishing has a significant negative influence on marine ecosystems and fuels global warming. Damaging fishing methods and overfishing ruin fish populations and wildlife while upsetting the food chain and destroying habitats, which undermines the ocean's ability to carry out essential ecosystem services like storing carbon, which is essential for reducing global warming. Furthermore, although it is sometimes disregarded, overfishing plays an equally important part in climate change. The ocean absorbs more than 25% of all CO₂ emissions and more than 90% of the excess heat produced by human activity, making it the planet's largest carbon sink along with its people. Because they are essential to the ocean's carbon cycle, marine organisms help sequester carbon, which is a key factor in reducing the effects of climate change. According to scientific estimates, fish makeup around 16% of the total carbon flux in the ocean. It has also been shown by recent scientific investigations that fishing removes a sizable amount of blue carbon from the ocean and releases it into the atmosphere. Furthermore, the burning of fuel by fishing fleets releases millions of tons of CO₂ annually; the EU alone releases 7.3 million tons annually. Destructive fishing techniques, such as bottom trawling, worsen this effect by upsetting seafloor sediment and releasing carbon that may have been stored for millennia. This study's researchers will present their results on June 26 in advance of the UN Ocean Conference in Lisbon.

New Technology Combating Overfishing

SafetyNet Technologies, headquartered in the UK, has devised LED lighting that attaches to fishing gear, capable of changing colors and intensities. By leveraging the behavioral response to light, it targets specific species, saving time for fishermen and reducing bycatch—accidental capture of non-targeted marine life such as turtles, dolphins, and juvenile fish. This innovation also contributes to addressing the global issue of 35% of annual harvest loss or waste.

The SmartFish H2020 initiative, led by the European Union, focuses on employing smart technology, including machine vision, and acoustics, to empower fishermen with informed decision-making, addressing the challenges posed by operating large underwater structures like enormous nets.

CatchScanner utilizes machine vision to generate 3D fish images during the hauling process, enabling fishing crews to precisely identify species and weight. This information aids in deciding whether to move to waters with a more abundant supply. A portable variant, CatchSnap, designed for mobile phones, extends this technology to smaller vessels. The data gathered by CatchScanner is instrumental in preventing vessels from exceeding the EU quota. In 2019, Sweden, the UK, and Ireland all exceeded the recommended total allowable catch advised by scientists.

The Reasons for Overfishing Occurring

In the middle of the 20th century, countries all over the world worked to improve their fishing capabilities in order to guarantee the accessibility and cost-effectiveness of meals high in protein. Large-scale industrial fishing operations expanded quickly thanks to loans, subsidies, and advantageous legislation, quickly replacing village fishermen as the world's main supply of seafood. These vast commercial fleets were motivated by greed and were ruthless in their search, searching the world's oceans and developing new techniques and technology to find, capture, and process the species they wanted. As a result, customers were accustomed to having access to a wide variety of fish at fair costs. Nevertheless, the industry had peaked by 1989, when almost 90 million metric tons of fish were taken from the ocean, and yields have since either decreased or plateaued. Fish stocks that are too low have caused the collapse of highly valued fisheries that targeted species like orange roughy, Chilean sea bass, and bluefin tuna. According to a 2003 scientific research, the number of large ocean fish had decreased to only 10% of what it was before industrial fishing began.

Major Parties Involved and Their Views

African Union

The World Wide Fund for Nature (WWF) and the African Union Commission (AUC) have collaborated to hold a workshop aimed at verifying Regional Policy Guidelines that tackle the problem of Illegal, Unreported, and Unregulated (IUU) fishing in Africa. The workshop promoted insightful conversations to improve Africa's response to IUU fishing, identify needs, and create a strategy for carrying out the Policy Guidelines. These recommendations are expected to serve as a foundation for preventing IUU fishing and promoting transparency in the African fisheries industry. They were developed following a comprehensive gap study on IUU fishing in Africa by the AUC and WWF. IUUF is still a major problem and obstacle to Africa's hopes for a sustainable economy, which has a lot of potential. Africa currently loses an estimated \$11.2 billion in income annually as a result of IUUF. The capacity of African countries to tackle this issue has been limited, notwithstanding the several regional agreements that have been established. Food instability and the risk to already fragile marine ecosystems result from the inability of many nations to control overfishing and sustain healthy fish supplies. A robust structure must be put in place for Africa to successfully combat the IUUF's growth, reducing this threat and encouraging the development of sustainable fisheries.

Sudan

While studies from the United Nations indicate that Sudan's fisheries contribute a relatively small portion to the East African nation's GDP, the industry plays a crucial role in job creation and serves as a vital source of food and nutrition for the approximately 46 million population. Sudanese fishermen along with scholars, express concerns not only about the declining numbers of fish but also the complete disappearance of certain species from the Nile. This is alarming in the face of global threats to food security from farming and fishing. According to studies, overfishing, a lack of governmental control, and rising temperatures brought on by climate change are all contributing causes to the river's declining fish numbers in Sudan.

China

Many players and NGOs in the marine industry have long decried Chinese offshore fishing as a hazard due to overfishing, overexploitation of resources, claims of forced labor, and exploitation of crews. The initial goal of the study on the effects of Chinese fishing operations on EU fisheries, which was accepted by the Parliamentary Committee on Fisheries (PECH) at Renew Europe's request, is to have accurate and specific information about the captures produced by the Chinese fishing sector. The insufficient availability of information poses a significant challenge to the effective administration of fisheries resources and impedes endeavors to guarantee worldwide regulated, sustainable, and human rights-compliant fishing practices.

Moreover, China's massive fishing fleet is charged with overfishing well outside of its own waters. According to research, Chinese fishing ships may have drained fish populations by invading the waterways of more than 90 nations. More focus is being placed on Chinese fishing vessels engaging in illegal, unreported, and unregulated (IUU) fishing in the Asia Pacific as a result of the growing geopolitical tension between the US and China. The Quad revealed a new marine strategy in May 2022 to reduce illicit Chinese fishing in the Indo-Pacific region. China's Ministry of Agriculture published its fourteenth Five-Year Plan (FYP) for Fishery Development (2021–2025) in January 2022. The plan's main takeaway is that China will keep pressing for substantially reorganizing its fishing industry. There have been four distinct stages in the growth of China's fishing industry since 1978, all of which were greatly impacted by policies implemented by the national government. China's traditional fishing areas saw a significant depletion of stocks due to overfishing, land reclamation, and industrial pollution during the second phase spanning from 1995 to 2010. In response, the national government reduced overfishing in the marine catch industry and prioritized the expansion of aquaculture. China started implementing a fishing licensing system and other measures in the mid-1990s in an effort to restrict the size of its fishing fleet. However, a fishing fuel subsidy in 2006 led to a boom in the building of fishing vessels. Chinese fishing activities have expanded internationally as a result of both the country's declining fishing stocks and the rise in the number of fishing vessels constructed.

United States

The United States' fisheries remained stable in 2021, with over 90% of stocks free from overfishing and 80% having populations large enough to be deemed non-overfished. The number of overfished stocks climbed slightly from 49 to 51, while the number of stocks on the overfishing list remained the same at 26. The COVID-19 pandemic's effects are probably to blame for the 10% decline in seafood landings in the United States in 2020. Additionally, data shows that per capita seafood consumption fell to 19 pounds in 2020, a tiny fall from the year before. Twenty percent of all fish stocks are overfished, which means that their capacity to sustain sustainable fishing is compromised because their population levels are too low. This includes well-known populations like New England's Atlantic cod, which are still having difficulty recovering from long-term, historical overfishing. The highest proportion of overfished stocks since 2012 is about 20 percent (as a percentage of stocks with known overfished status). It also fits with a three-year pattern in which more equities are overpriced.

Timeline of Events

<p>May 9, 1952</p>	<p>International Convention for the High Seas Fisheries of the North Pacific Ocean with a Protocol Relating Thereto is signed. The convention included the members of the United States of America, Canada, and Japan. The life history and distribution of marine life in the North Pacific and Bering Seas have been greatly improved by the INPFC, as well as concerns surrounding overfishing and wrongful activity in the regions.</p>
<p>1970</p>	<p>The Oslo Declaration on Ocean Space is established. The most important commitment of the Oslo Declaration is that countries in the Arctic will implement a measure that authorizes their vessels to conduct commercial fishing in [the high seas portion of the central Arctic Ocean] only pursuant to one or more regional or sub-regional fisheries management organizations or arrangements that are or may be established to manage such fishing in</p>

	accordance with recognized international standards.
December 10, 1982	Key fisheries that, due to their transboundary nature, require international cooperation for their conservation and management are governed by the United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of December 10, 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA). Its goal is to guarantee the sustainable use and long-term conservation of highly migratory and straddling fish populations by putting the pertinent Convention provisions into practice. The Agreement lays forth guidelines for the preservation and management of certain fish stocks and stipulates that the precautionary principle and the most up-to-date scientific data must serve as the foundation for this management.
2018	The High Level Panel for a Sustainable Ocean Economy is established. The project is led by 18 current global leaders, and seeks to accelerate the transition to a sustainable ocean economy, while eliminating issues such as overfishing in international waters.
December 30, 2023	The 28th United Nations Climate Change Conference began on December 30 in Dubai, and became a platform for discussion surrounding the issue of overfishing in international

	<p>waters.</p> <p>How overfishing would affect climate change and how the High Seas Treaty will affect the way current fisheries management is implemented in the High Seas was discussed.</p>
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UN Involvement

According to Conservation International, the High Seas Treaty implemented by the UN is the first global attempt to govern international waters, which make up around two-thirds of the world's oceans. Before this convention, the most recent attempt to expand control over ocean areas beyond 12 nautical miles from countries' coastlines was the 1982 UN Convention on the Law of the Sea. According to UN estimates, 50% of coral reefs have been lost and 90% of major fish populations have been reduced as of 2023. Fish population declines are largely caused by overfishing, which also upsets larger marine ecosystems and food chains. The treaty aims to encourage sustainable fishing, along with the sustainable use of the oceans.

Relevant UN Documents

Oceans and the law of the sea-Report of the 5th Committee: General Assembly (30 December 2020, A/75/L.39)

https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_235.pdf

Oceans and Seas: United Nations Environment Program (27 May 2016, 2/10)

<https://leap.unep.org/en/content/unea-resolution/oceans-and-seas>

Sustainable fisheries, including through the 1995 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, and related instruments: (29 November 2010, A/RES/65/38)

https://digitallibrary.un.org/nanna/record/694437/files/A_65_L.21-EN.pdf?withWatermark=0&withMetadata=0&version=1®isterDownload=1

Treaties and Events

https://www.un.org/oceancapacity/sites/www.un.org.oceancapacity/files/files/Projects/UNFSA/docs/unf_sa_text-eng.pdf

The United Nations Fish Stocks Agreement (UNFSA) is an international agreement that aims to regulate vital fisheries that require international cooperation for efficient conservation and management because they are transboundary in nature. It is 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 concerning the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. Its main goal is to ensure the long-term and sustainable use of highly migratory and straddling fish populations by the effective application of the pertinent Convention rules. The Agreement lays forth guidelines for the preservation and management of these fish stocks, with a focus on the precautionary principle and the use of the most up-to-date scientific data to support such management.

https://www.uu.nl/sites/default/files/rebo-nilos_molenaar_oslo_declaration_ay_2015_final.pdf

The Oslo Declaration on Ocean Space, ratified in 1970, emphasized the necessity for global collaboration in the administration of oceans and the utilization of their resources in order to eliminate the issue of overfishing. This declaration played a role in the subsequent evolution of UNCLOS.

<https://oceanpanel.org>

The Ocean Panel, or the High-Level Panel for a Sustainable Ocean Economy is a unique international endeavor that cultivates new frameworks to build a more sustainable ocean economy. Its goal is to accelerate the development of a sustainable ocean economy that combines equitable wealth, responsible production, and efficient preservation. A more resilient future for people and the planet is what the Ocean Panel seeks to facilitate through bridging the gap between the well-being of marine life and economic prosperity, working with diverse stakeholders, and utilizing the most recent knowledge. With the goal of managing all ocean areas under national authority in a sustainable manner, eighteen global leaders have joined under the organization since its founding in 2018.

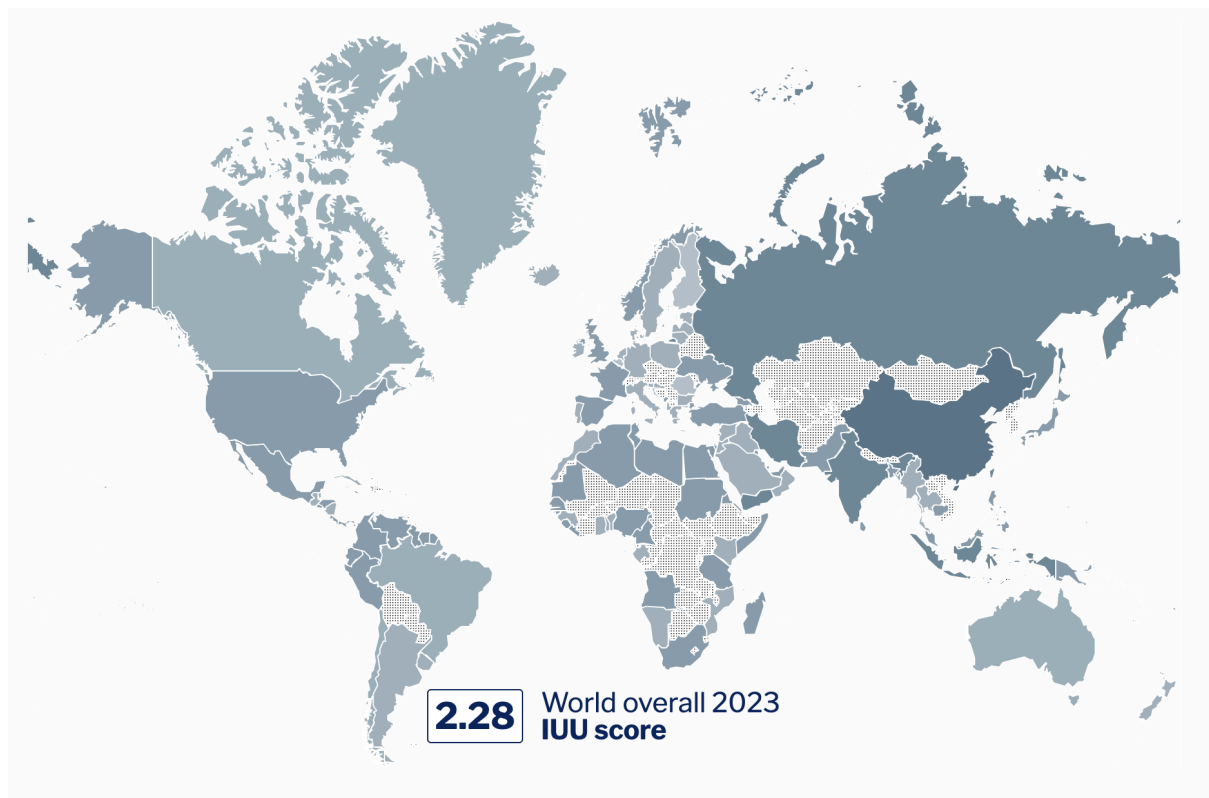
https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf

A thorough set of rules regulating law and order in the world's oceans and seas is established under the United Nations Convention on the Law of the Sea. It lays forth rules governing every action pertaining to the use of the waters and their resources. The conference emphasizes the significance of addressing concerns in ocean space cooperatively, acknowledging their linked nature. The agreement established the foundation for the further advancement of certain fields under the purview of the law of the sea.

Evaluation of Previous Attempts to Resolve the Issue

The United Nations Convention on the Law of the Sea (UNCLOS) aims to create a comprehensive legal framework that governs the world's oceans and seas, providing standards for any activity that involves these bodies of water and their resources. The text addresses new concerns and provides a framework for the continuing development of particular areas of maritime law by fusing conventional regulations with cutting-edge legal ideas. Since UNCLOS was adopted in 1982, an international framework has been emerging to handle fisheries management, with an increasing number of fisheries management instruments starting in the 1990s. This framework, which makes it easier to manage fisheries at the international, regional, and national levels, is made up of both legally enforceable agreements and voluntary measures. IUU fishing is explicitly addressed by a variety of standards and rules within this framework. These include market state measures, port state measures, flag state performance, coastal state duties, and combinations of all or some of these. Recently, agreements and formulations have been made that particularly target IUU fishing.

While the UNCLOS has established legal frameworks, illicit, unreported, and unregulated (IUU) fishing persists as a crucial issue, with certain vessels functioning beyond global norms.



IUU Fishing Risk Index, “World Overall 2023 IUU Score”, iuufishingindex.net, 2023, <https://iuufishingindex.net/>

The map above shows the IUU Fishing Risk Index. Since UNCLOS was ratified, an international framework has been developed to handle fisheries management. A measure of the risk that states will be exposed to and successfully combat IUU fishing is provided by the IUU Fishing Risk Index. For

every coastal state, the Index assigns an IUU fishing risk score ranging from 1 to 5, with 1 being the best and 5 representing the worst. Using the Index, nations may be compared, evaluated, and rated according to how vulnerable, common, and responsive they are to IUU fishing. The index shows that the world has a 2.28 overall IUU score, which indicates that more localized work should be done to eliminate the issue.

Possible Solutions

It has been demonstrated that regulations that promote sustainability and prohibit overfishing can assist repair marine environments by restoring fish and plant populations. Additionally, the profitability of fishermen may benefit from sustainable fishing. The goal of conventional fisheries management methods is to encourage anglers to catch as many fish as they can in the shortest amount of time. That being said, there are other approaches to managing fisheries outside the conventional one. Anglers are granted a certain portion of the catch in rights-based fishery management systems, but they also have to follow predetermined guidelines about the amount of fish they can take and the seasons in which they can fish. Under this arrangement, every fisherman has a vested interest in the fishery, which can be passed down to family members and grows over time as the business expands. These actions encourage more sustainable fishing methods and long-term planning. One of the most efficient ways to reduce overfishing is to declare specific seas protected and to strictly regulate, if not completely ban, fishing in such waters. This has been demonstrated by science. One easy method to stop overfishing and rebuild marine ecosystems is to increase the size and scope of these reserves. Partial safeguards may be easier to implement than persuading governments to commit to extensive fishing restrictions and to provide the resources required to enforce those limitations. The number of fishermen on the water may unintentionally rise as a result of subsidies given to the fishing sector. Certain subsidies are beneficial and can support artisanal fishermen during a difficult season. Reducing some of these incentives, however, might contribute to a decrease in the number of pointless fishing fleets. According to estimates, there are 2.5 times as many fishing fleets as are required to meet demand. It would also be feasible to simply reroute the subsidies in order to maintain these fishermen's jobs without carrying on with the risk of overfishing. Anglers have extensive training in handling aquatic equipment and navigating the water. Pay for assistance in gathering data on local fish populations and water quality could be provided by governments to professionals in the marine field.

Notes from the Chair

The issue of overfishing in international waters should not be addressed solely from its environmental perspective. When creating solution ideas, delegates must take into account the economic and social aspects of the issue as well. Overfishing will continue to increase and have disastrous effects if humanity does not respond. Moreover, delegates must be reminded that the environmental aspects of

the issue extend further than affecting marine life, as excessive removal of fish from the ocean disrupts the balance of the food chain, causing a breakdown in it and endangering many animals and crucial marine species. Solutions for these problems involve a multilateral approach, as well as productive research. Multiple United Nations organizations have emphasized the need for permanent solutions to said issues, it is recommended that these resources are examined thoroughly.

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