



Surf City XVIII

Huntington Beach High School



United Nations Environment
Programme (UNEP)

Environmental Migrants
Overfishing &

Yazzie Suleiman
Laurel James
Jericho Callender



Welcome Letter

Dear Delegates,

On behalf of the Huntington Beach High School Model United Nations Program, we would like to welcome you to our Surf City XVIII advanced conference!

Our annual Surf City conference upholds the principles and intended purpose of the United Nations. Delegates can expect to partake in a professional, well-run debate that simulates the very issues that those at the United Nations discuss every day. Both novel and traditional ideas will be shared, challenged, and improved.

It is our hope that all delegates will receive the opportunity to enhance their research, public speaking, and communication skills as they explore the intricacies of global concerns through various perspectives, some of which may be very different from their own. We hope their experiences here give them new insight and values that they can apply outside of the realm of Model UN for the betterment of the world community.

Although we will be entertaining a new style of a virtual conference, we hope all delegates will experience a fruitful and enhancing debate. Please do not hesitate to approach our Secretariat or Staff Members with any questions or concerns that you may have throughout the day. We wish the best to all our participants and hope that they may share a fulfilling experience with us! Enjoy the conference.

Sincerely,

Summer Balentine
Secretary-General

Jenna Ali
Secretary-General

Kayla Hayashi
Secretary-General

Hailey Holcomb
Secretary-General



Meet the Dias

Chair 1

Hi! My name is Yazzie Suleiman, and I am thrilled to be one of your senior chairs for Surf City XVIII! I have been a part of the MUN program for the past four years, and my involvement has allowed me to develop my passion for international relations, meet some of my closest friends, and be exposed to the fascinating realities of the world. Model UN has inspired me to become more involved in the pressing issues present in society, and it has led me to become the President and Founder of Huntington's Operation Smile Club, an MUN Senior Teacher, and the Founder of my very own middle school MUN program. Aside from MUN and public speaking, dance is another passion of mine. I have been dancing at my home studio for fifteen years now, and through Huntington's APA program I was able to further my love for dance with the time I spent on Ballet Ensemble. I can not wait to meet you all and to see what awesome ideas you bring to the table!

Chair 2

Hi UNEP Delegates! My name is Laurel James and I am so excited to be one of your chairs for the Surf City XVIII Conference! I have been a member of our school's MUN program for the past four years. The skills, friendships, and experiences I have gained through MUN have led me to appreciate international affairs and pursue an interest in politics. I am so appreciative of the opportunities that MUN has presented me, such as traveling to New York City in March to compete at the National High School MUN Conference. I am currently a Senior Teacher at our school and mentor a class of 38 MUN freshmen. Outside of MUN, I am the Co-President of our school's Global Current Events Club and am a member of the National Honors Society (NHS). Additionally, I am the Captain of the HBHS Varsity Field Hockey team and play soccer on a club team. When I am not in school, I enjoy watching sunsets and eating sushi. I am looking forward to a constructive debate in committee and cannot wait to meet you all!

Chair 3

Hello Delegates! My name is Jericho Callender and I will be co-chairing Advanced UNEP at Surf City XVIII. This is my 3rd year in MUN and I have gathered many helpful life skills throughout the years with public speaking, quality research, and hard work. Outside of MUN, I am taking a Careers with Children course, which I hope to enter the career field of later in life. Living on the coast I have grown to love surfing for fun and enjoy many water sports, such as swimming, out rigging, and waterpolo. I am an athlete on the girls waterpolo team for Huntington Beach High School and play club waterpolo for Vanguard Aquatics. In my free time I enjoy drawing, playing board games, cooking, and watching *The Office*, which I have seen four times through. I am looking forward to the debate in committee. Best of luck and if you have any questions don't hesitate to contact the chairs!

**All Papers are due on January 2, 2020 by 11:59pm to
surfcitymun.unep@gmail.com**



TOPIC 1: ENVIRONMENTAL MIGRANTS

BACKGROUND

By the end of 2017, 68.5 million individuals were forcibly displaced: approximately 22.6 million of these displacements were the result of environmental circumstances.¹ Displaced individuals are typically categorized as either migrants or refugees. The United Nations Migration Agency (IOM) defines “migrant” as any person who is purposefully moving or has moved across a country or territory border away from their original place of residence.² The second classification of displaced persons, refugee, is defined by the 1951 Refugee Convention as any person who has been forced to flee their nation of origin due to conflict or persecution on the basis of religion, race, or minority status.³ Environmental migrants, a term that is often interchangeable with environmental refugees, are regarded as such due to their displacement as the result of the slow onset impact of environmental factors. Despite the impending crisis this group is facing throughout the world, they are often marginalized by the international community, as there is no globally recognized legislation that defines “environmental migrant.” Without legal status, environmental migrants are unable to be guaranteed certain rights that are delegated to traditional migrants, and nations are left helpless in providing proper aid.⁴

One of the primary causes in environmental displacement cases is climate change. Climate change, an alteration in climate patterns due to accelerating levels of greenhouse gases in Earth’s atmosphere, has resulted in the average global temperature increasing by 0.07 degrees Celsius per decade since 1880.⁵ This phenomenon has exacerbated the frequency and magnitude of extreme weather-related events, such as fires and droughts. Moreover, climate change has caused discrepancy in temperature and precipitation, impacting the security of crops, livestock, and livelihoods, and increasing competition for natural resources.⁶

Due to the escalating intensity of the climate crisis, an estimated 1.2 billion people will be displaced by 2050 as a direct causation of its effects.⁷ People who are most vulnerable to becoming migrants or refugees due to climate change reside in climate hotspots- regions where the combined severity of physical and ecological effects of climate change has impacted numerous disadvantaged individuals and poorer communities. A 2015 study concluded that there are three main types of climate hotspots: deltas in Africa and South Asia, semi-arid areas in Africa and South America, and snow or glacier-dependent river basins, such as the Himalayas.⁸ The World Bank estimated that by 2050, the three areas that will produce 143 migrants due to climate change are Latin America, Sub-saharan Africa, and Southeast Asia as a result of their large impoverished populations and regional instability.⁹ Wealthier, more developed countries, such as those in Western Europe and North America, will be far more resilient to climate change, but will not be immune to its repercussions.

Another factor that will drive mass displacement in the context of climate change is the world’s exponentially increasing population. Expanded masses will lead to larger migrant



flow into developed countries, as the demand for food, water, and space is unable to compete with the rapid depletion of these resources due to ecological threat. The reluctance of nations to cooperate in solving this issue will lead to civil unrest, rioting, and conflict over what resources are left.¹⁰

Another preliminary consequence of climate change occurs in rising sea levels and flooding, as warming water causes the volume of the oceans to expand.¹¹ Contemporary estimates suggest that 630 million people will be forced to leave their homes as victims of rising sea levels by 2100. The international community is already seeing this problem take place: for example, rising sea levels pose a dire threat to the 48% of Bangladesh's population that lives on the coast. Flooding will cause the country to lose over 19% of its land over the next 20 years, forcing the 16 million individuals who live on its shores to become environmental migrants.¹²

A major catalyst of the status of environmental migrants and refugees is natural disasters. Such disasters- floods, hurricanes, earthquakes, and wildfires- are intensified by weather patterns altered by natural disasters.¹³ These events often result in widespread destruction, obliterating buildings and contaminating food and water sources. For individuals without a strong social safety net, the only option in the face of natural disasters is to move while their community attempts to rebuild.

Natural disasters are a particular proponent of displacement in cities. 55% of the world's population currently live in urban areas, but this figure is expected to increase to 68% as individuals are forced to migrate to cities due to climate change. Not only does this leave larger numbers of people in one place vulnerable to the impact of natural disasters, but the combination of underdeveloped infrastructure, social services, and job opportunities will leave poorer communities especially susceptible to disaster-related destruction.¹⁴

The areas that are most exposed to the repercussions of natural disasters are Southern Asia, the coast of Africa, and island nations. These regions face an unprecedented amount of natural disasters, such as floods, tropical storms, and earthquakes, in comparison to the rest of the world.¹⁵ For instance, Cyclone Idai touched down on the coast of Mozambique in 2019. The worst storm in Mozambique's history, Cyclone Idai caused large-scale human migration and resource scarcity in the region. The UN High Commissioner for Refugees (UNHCR) announced that over 1.85 million individuals were in need of humanitarian aid after the incident and an initial figure of 146,000 people were displaced by the storm. In combination with subsequent flooding, Cyclone Idai desecrated over 100,000 homes, decimated 1 million acres of crops, and caused over \$1 billion in infrastructure damage.¹⁶

UNITED NATIONS INVOLVEMENT

The intersection of environmental factors and migration will require a cohesive global response that the current framework of international law is not equipped to address. Despite this reality, the United Nations has actively attempted to protect environmental migrants and refugees.



The UN held the Conference on Environment and Development in 1992. The outcome of this summit was the United Nations Framework Convention on Climate Change (UNFCCC), negotiated and signed by 154 States in order to stabilize the danger of climate change and anthropogenic interference. The UNFCCC has been revisited to establish three environmental stimulants that may cause forced displacement.¹⁷

In December of 2018, the United Nations General Assembly approved the Global Compact on Refugees after comprehensive evaluations with the UNHCR, organizations, corporations, and refugees. The document created a framework to coordinate an approach from the international community in protecting both refugees and their host countries. It was the first document to name climate change as a substantial contributor towards migration.¹⁸ Unfortunately, the shortcomings of the Global Compact outweigh its successes. The document is nonbinding and many world powers, such as the United States, Australia, and prominent European nations, have refused to sign it.¹⁹ The Global Compact was composed as the result of A/RES/71/280. Adopted by the General Assembly in April of 2017, this resolution aimed to form an interactive dialogue between nations and migrants and promoted the establishment of a framework to accomplish this goal.²⁰

Several of the 169 targets proposed by the Sustainable Development Goals (SDGs) are applicable to the plight of environmental migrants and refugees, yet the UN emphasized their commitment to these groups with SDG 13. This goal affirms the irreversible consequences of climate change and aims to integrate environmental strategies with the national policy of each Member State.²¹ One method SDG 13 presents is Early Adaptation Strategies (EAS) to provide preventative measures against climate change in particularly at-risk regions.²² By January of 2020, the SDGs aspire to commit over \$100 billion to establish sufficient living conditions for the 193 million individuals who are directly affected by climate fluctuations.²³

The UN Environment Programme (UNEP) has been directly involved in reducing environmental displacement and migration. They joined the Global Migration Group in 2016 to align the UN's efforts with migration solutions developed by the organization. Additionally, the UNEP has been working closely with the Platform on Disaster Development to reduce the struggles of those who have been forced to cross borders due to climate change-related natural disasters.²⁴

Multilateral efforts, such as the World Bank's 2010 World Development Report on Climate Change, have examined the challenges of climate change and its relation to human migration.²⁵ Initiatives in data collection, like the World Bank Report, have systematized humanitarian aid for environmental migrants and refugees. Furthermore, the UNHCR is reaffirming the value of humanitarian initiatives by working with over 900 partners, including many prominent NGOs, and entrusting them with about 90% of its annual expenditure to continue providing relief for displaced persons.²⁶

CASE STUDY: Coastal Regions and Rising Sea Levels

The Pacific Islands

As climate change continues to increase in severity, major consequences are accelerating the displacement of individuals at an unprecedented rate. To date, only a select



number of cases have featured climate change as the sole prompter of migration. The most distinct instances of this have occurred in the Pacific Islands, where rising sea levels threaten their survival. Located in isolated groups throughout the Pacific Ocean, the Pacific Islands are composed of three main cultures- Melanesia, Micronesia, and Polynesia. The region covers over 300,000 square miles and consists of a mixture of independent countries, dependent states, and associated states.²⁷ However, this entire area has been disproportionately targeted by the consequences of climate change. Atmospheric warming has caused an increase in ocean temperatures, leading to the expansion of water volume and rapid melting of ice sheets and glaciers.²⁸ This phenomenon has provoked the sea level in the Western Pacific Islands to rise at a rate of 12 milliliters per year, directly resulting in the submersion of eight islands. Two other islands are at risk of being overtaken by the encroaching ocean, sparking a widespread movement of migration to larger countries. In 2018, the Climate Vulnerable Forum Summit reported that 48 countries, mainly islands, would disappear from the face of the Earth by 2100 if the climate crisis continues to worsen.²⁹

For instance, the island nation of Kiribati in the central Pacific Ocean will be the first country to be consumed by rising sea levels. More than half of Kiribati's total population of 100,000 lives in South Tarawa, the nation's capital; however, many of these inhabitants have already begun to emigrate in the face of what they believe to be an unavoidable situation.³⁰ One such case of migration has gained international recognition as the first to explicitly link refugee status with climate change. The Tetitota family moved to New Zealand from Kiribati in 2007. Three years later, their visas expired, but the family remained in New Zealand; they did not have a livelihood to go back to on the submerging island of Kiribati. The family claimed that they were entitled to refugee status on the grounds of rising sea levels due to climate change, yet their request was denied. The Tetitota family continued to appeal their decision until their case reached the Supreme Court in 2015 and was eventually dismissed. There have since been over 2000 similar cases of inhabitants of Kiribati attempting to gain refugee status in New Zealand on the basis of environmental factors.³¹

Another clear example of rising sea levels in the Pacific Islands has occurred in the Federated States of Micronesia. Consisting of over 600 island nations spread across the western Pacific Ocean, Micronesia is quickly vanishing. In some islands, sea levels are rising between 10 and 12 millimeters each year, a rate that is nearly three times the global average of 3.1 millimeters per year.³² Moreover, reef islands, that are made up of sand and gravel, are particularly susceptible to erosion as sea levels continue to increase. As a result of these circumstances, entire islands have, drastically reduced in size or been rendered completely uninhabitable, and are expected to disappear by 2030. Although this occurrence has gained a lot of media attention, as islands are washed away by the tide, the vulnerable 2.3 million people who are spread across 11 countries in the region have received little to no international acknowledgement, leading to an exodus as people are continually displaced.³³

Northwest Africa

The drastic implications associated with climate change are not only intensifying for island nations surrounded by bodies of water. Throughout the past decade, the steady incline



of the global temperature has begun to impact varying coastal regions exceedingly. Northwest Africa, in particular, now faces the presence of uncontrollable sea levels, desertification, and drought, as a direct result of climate change alone.³⁴ The Northwest region is composed of Morocco, Libya, Tunisia, Algeria, Western Sahara, and Mauritania, which are bordered by the Meddeteranian and Red seas.³⁵ Nearly 23% of the area's population has been left without a means of obtaining income due to the significant toll climate change has had on their land; and, this statistic does not include the vast majority of individuals who are homeless, impoverished, and unemployed.

Nearly 60% of the people living in the continent of Africa depend on cattle, the land, and agriculture for survival. This interdependence has encountered major complications due to the increasing sea levels and drought, and there are now significantly fewer rainfalls and planting seasons have been disrupted. The presence of climate change in Africa has already led to increased seasonal migrations in which nearly 12.3% of the population endures annually. In past years, individuals have migrated from the central land in Africa to the countries making up the Northwest sector. However, the threat of rising sea levels is forcing these vulnerable individuals to travel even further beyond Africa and into Europe.³⁶ The complications associated with climate change are harsher for these central regions more than ever, as they are most heavily impacted by the issue. In fact, countries including Mali and Chad have been ranked as two of the top 100 countries most impacted by climate change, according to the Economist Intelligence Unit's Global Food Security Index (GFSI).³⁷

In addition to leading to an influx in migration of those living in central regions, climate change has also led fishermen and marine organizations working on the coast of Northwest Africa to experience erosion, the disappearance of species, and floods. These instances have major ramifications on fishing industries who are unable to obtain sufficient amounts of produce to generate high profits, and are often forced to flee towards Europe with nowhere else to go. Data has displayed that over the past 100 years, the sea levels in Northwest Africa have increased by about 17 centimeters; however, this number is expected to double, reaching 33 centimeters, within the next 80 years.³⁸ At this rate, climate change is expected to result in even more surpluses of environmental migrants coming from Northwest Africa, and with sea levels rising rapidly, the amount of environmental refugees has already skyrocketed.

The geographical path that a majority of the migrants traveling from central Africa to the coasts of the Northwest have to endure is strenuous, and unfortunately, many of these individuals succumb to disease, dehydration, and physical exhaustion on the way. Those who do survive generally meet the other 2 million migrants and refugees present in Libya where they face the threat of a lack of resources, vector-borne diseases, and contaminated food and water sources. Even so, environmental migrants who come this far encounter harsher circumstances as they travel across the Mediterranean Sea and are later rejected when they arrive at the shores of European countries, including Greece and Italy.³⁹ Environmental migrants across the globe are suffering at the hands of an issue that is quickly proliferating



and intensifying each day; as society proceeds to advance, these disadvantaged individuals experience hardships and inhumane conditions on a daily basis.

QUESTIONS

1. Can the definition of migrant be changed to include environmental migrants and what are the effects of this?
2. Should the rights applied to migrants and refugees by their original definition also be applicable to environmental refugees and migrants?
3. What is your country's position on migrants and refugees?
4. Can we establish direct causality between climate change and displacement?
5. How can the United Nations tailor aid to fit the specific needs of environmental refugees and migrants in host countries?
6. What efforts can be taken to reduce the manifestation of climate change in natural disasters and conflict?



TOPIC 2: OVERFISHING

BACKGROUND

Globally, an average of 3.2 billion individuals depend solely on fish to make up $\frac{1}{3}$ of their daily protein intake.⁴⁰ Of these individuals, each consumes approximately 20.2kg of fish each year in order to maintain their nourishing diets; this is a significant jump from the previous average reported in 1960 of 8.3kg consumed annually.⁴¹ In addition to providing nearly 30% of the population with their primary source of protein, fish is the most immensely traded food on the globe, and the fishing industry alone employs around 12% of the population.⁴² With such a heavy dependence on marine fisheries, overfishing —the process by which large amounts of fish are caught at such rapid rates that marine populations struggle to recover and repopulate adequately— has become the single most prominent threat to the seas.⁴³

The fishing industry also serves as a prominent source in which many coastal regions benefit from international trade's economic advantages and income. Each year, fishing generates around \$80 billion, an amount that has tripled in the last two decades alone.⁴⁴ Although the industry does serve to benefit many individuals, the adverse actions of countries such as China, Japan, Indonesia, South Korea, Chinese Taipei, and the United States, who dominate 93% of international high waters and wrongly direct expeditions into restricted ocean territories, have transformed the fishing industry into an unstable field that prioritizes generating high profits rather than order. In fact, in December of 2013, the “Pacific 6” were some of the primary countries placed on the Pew and Regional Fishery Management Organization’s (RFMO) “Shame List” for being the largest contributors to overfishing. Data displayed that these six countries alone were responsible for catching 80% of the annual intake of bigeye tuna.⁴⁵

Bottom trawling fishing, sometimes referred to as “dragging,” is the most destructive and the most common form of fishing responsible for significantly advancing the overexploitation of fish.⁴⁶ The method involves utilizing a large net equipt with heavyweights on all sides and dragging it across the ocean floor to capture sea life in the surrounding area. The system is used to catch shrimp, cod, and crab that live on the bottom of the ocean; however, the net sweeps up all organisms in its path, regardless of food eligibility. Unfortunately, after various animals and sea structures are tangled and caught in the nets, approximately 90% of the unwanted coral and organisms are thrown back into the water and left to die. Bottom trawling results in an immediate and damaging toll on marine ecosystems by leaving many oceanic creatures without shelter and food after destroying their natural habitats.⁴⁷

In attempts to reduce the dire implications of overfishing, many countries have aimed to instill regulations and limitations regarding fishing within their familiar waters. One of the most prominent examples is the Magnuson-Stevens Fishery Conservation and Management Act, the United States' principal law regarding fishery control in their federally authorized regions. The act was first passed in 1976, and most recently updated in 2018, outlining its



leading goals of reestablishing overfished ports, increasing the benefits of fishing to be long term rather than solely immediate, and guaranteeing a sufficient supply of seafood for the population in order to eliminate overfishing entirely.⁴⁸ While laws like this have had some success, many fail to have drastic impacts because unprotected fishing areas, limited resources and tracking tactics, and a lack of international fishing laws permit many fleets to act with little to no regulations. Furthermore, a dominant contributor to overfishing is illegal, unreported, and unregulated (IUU) fishing. Producing nearly \$36.5 billion annually, IUU fishing enhances the consequences of overfishing by allowing commercial industries and non-registered fishermen to undergo actions that violate standard regulations and threaten the well-being of marine ecosystems.⁴⁹ The use of sodium cyanide and explosives, which are often homemade, are commonly used by those practicing IUU fishing; in addition to killing targeted fish, these entities terminate all marine life within the given areas and can destroy coral reefs and underwater plant inhabitants, leaving ecosystems permanently stunted. This method, otherwise known as “blast fishing,” is extremely popular in Asia and has left 63% of their coral reefs demolished and in irreversible states.⁵⁰

Another key component responsible for accelerating the ramifications of overfishing revolves around subsidies —support, often financial, that is provided to fishing industries in attempts to reduce the prices of business. The presence of subsidies within the fishing industry has led to an overabundance of fishing vessels due to the desire of companies to earn high profits in the field. The overcapacity of fisheries present within seas not only increases competition among organizations to make the greatest catch, but it depletes marine habitats and threatens the livelihoods of fish populations that are unable to recuperate from such drastic measures. Today, the presence of fishing fleets present within oceans is nearly 250 times larger than the amount necessary to sustain a sufficient amount of fish for the population.⁵¹ This oversupply leads to excess fishing within already overfished regions, such as the Mediterranean Sea, and increases the likelihood of permanently damaging oceanic ecosystems.⁵² Although subsidies do still play a large role in many developed nations with large fishing industries, numerous organizations have begun to call attention to the issue. In 2004, the World Wildlife Fund for Nature (WWF) began collaboration with the World Trade Organization in attempts to monitor and eradicate damaging grants to fishing companies; their efforts have led to a 13.2% decline thus far, but these statistics are nowhere near high enough to stop drawing attention to the issue.⁵³

Fishing industries predominately target aquatic animals at the top of the food chain: Atlantic Halibut, Bluefin Tuna, and all species of sharks. According to the United Nations Food and Agriculture Organization (UNFAO), this directly results in 71% of large predatory fish populations having already decreased significantly or been completely eliminated.⁵⁴ In January of 2003, researchers determined that one of the largest fish species across the globe, the Chinese paddlefish, has become extinct as an immediate result of overfishing.⁵⁵ Commercial fishing, which has quadrupled over the past 44 years and is quickly expanding, is having a greater impact on the steady decline of dominant marine species. Today, the consequences of overfishing result in a loss of \$6 billion to \$37 billion in revenue each year—an amount anticipated to triple by the end of 2048. If overfishing continues to advance at this rapid rate, fishing industries will essentially be “fishing down” the food chain, as the only



species of marine life left will not be fish, but organisms as low on the chain as plankton and scallops.⁵⁶ While it will take decades for society to reach this drastic of a situation, overfishing and its consequences advance at an increasing rate of 9.5% each year; if this path is continued, individuals will lose one of their dominant means of obtaining protein, and ecosystems will be irreversibly damaged.⁵⁷

UNITED NATIONS INVOLVEMENT

The Food and Agriculture Organization branch of the United Nations first made a significant step towards addressing the implications of overfishing in 2009 when they initiated the Agreement on Port State Measures (PSMA) through the establishment of FAO Resolution 12/2009. The agreement's primary goal is to eliminate illegal, unreported, unregulated (IUU) fishing, and it was the first international document to address this contributor to overfishing.⁵⁸ Blocking vessels associated with IUU from ports serves as one of PSMA's objectives in order to ensure that fleets can not enter a dock that is not of their same home port and that all illegal fishing products are blocked. PSMA itself did not occur until June 5, 2016, and it has been an effective agreement that has led the UN to establish the International Day for the Fight Against Illegal, Unreported, and Unregulated Fishing, which takes place every year on June 5th.⁵⁹

On top of prioritizing IUU within the fishing industry, the UN has aimed to place emphasis on the impact overfishing has on marine habitats. In an attempt to stress the importance of oceanic ecosystems and their crucial role in generating profitable income and revenue, the United Nations Development Programme (UNDP) published "Green Economy in a Blue World" in 2012. The framework highlights the need for sustainable fisheries in order to start on the path to a more "green" environment. The work centers around the idea that securing "blue," or marine, industries will result in the success of "green," or coastal organizations, as the two sectors are interdependent upon one another.⁶⁰

Recognizing that nearly 35% of the global population relies on fish as a primary source of protein and a leading creator of revenue, the UN held the United Nations Law of the Seas Convention in 2014 to establish regulations regarding the maintenance of orderly and efficient oceanic practices. Members suggested that coastal checks and safety measures be carried out regularly to prevent and reduce illegal fishing and limit the depletion of marine life in all waters. The Convention led to the initiation of A/RES/69/245, which calls attention to the consequences of overfishing and harmful fishing practices and suggests that information involving prominent vessels, commercial industries, and unusual shipments be shared among international nations to draw more attention to the issue.⁶¹

With the threat of overfishing advancing at such rapid rates, the United Nations has incorporated the issue into its agenda to achieve Sustainable Development Goal (SDG) 14, "Life Below Water." By 2030, the United Nations aims to reduce the harmful position of subsidies within fisheries by at least 40%. This issue was scheduled to be addressed at the UN Ocean Conference in June 2020; however, due to the pandemic, representatives and researchers will now be meeting in 2021, and they will outline strategies to achieve their 2030 agenda as they confront overfishing with novel and innovative approaches.⁶²



CASE STUDY: Overfishing in the Mediterranean Sea

The Mediterranean Sea is the most overfished sea in the world, experiencing unsustainable levels of fishing. The body of water occupies the space between Southern Europe and North Africa, being almost completely landlocked. It is surrounded by the Mediterranean Basin and lies 1,062 miles away from the Black Sea, which has had historic periods of overfishing. Located near some of the world's largest tourist destinations, such as Italy, Spain, and Greece, the Mediterranean Sea undergoes a heavy amount of fishing. Beginning in the 1970s with the advancement of equipment and technology, fleets were able to fish more effectively, leading to overfishing. In a recent report done by the United Nations Food and Agriculture Organization, the Mediterranean Sea has the highest percentage of unsustainably harvested populations of fish. The most profitable species, such as the red mullet, anglerfish, and European hake, are being overfished at a rate of 10 times the advised guidelines.⁶³ According to The State of World Fisheries and Aquaculture, or “SOFIA”, Report in 2018, 62% of the Mediterranean Sea’s fish stocks are overfished and “at serious and real risk of being depleted.”⁶⁴

Overfishing in the Mediterranean Sea is shown to be a major threat to its ecosystem.⁶⁵ With fewer fish remaining in the sea, it is impacting the rate at which sea creatures mature and how they reproduce. In addition to patterns changing, the food web can experience imbalance, which can heavily impact other susceptible and endangered marine life, such as sea turtles, seals, whales and sharks.⁶⁶ Utilizing bottom longlines in the Mediterranean can catch seabirds along with fish, which is harming the ecosystem. As a result of the overfishing, sea birds may have competition for food resources. The Mediterranean has a vast biodiversity, which is being eroded by many types of fishing practices and pollution. The three main categories of Mediterranean fisheries are small scale fisheries, seining fisheries, and trawling.⁶⁷ In European Union regions, small scale fisheries play an important part, as they represent about 84% of the entire fishing fleet and 62 percent of the total workforce is employed by these fisheries.⁶⁸ Bottom trawling in the Mediterranean is another widespread issue, as heavy nets are dragged across the bottom of the seafloor. Hoovers are significantly impacted by trawling, which in turn negatively impacts small scale fisheries. Trawling is a wasteful practice, as it traps all life in its path. When juveniles are caught they often die in the nets and are unwanted, they are thrown back into the water and therefore cannot reproduce. Red mullet and hakes that are undersized often feed at the bottom of the sea, making up nearly 60% of Mediterranean trawlers’ bycatch. The most overfished species in the zone is Mediterranean hake, having an average mortality rate greatly exceeding sustainable levels. This opens the door for the potential risk of the Western Mediterranean stock to completely collapse. The fish population will decrease overtime, if the fish being captured is higher than the number of fish being born and given the opportunity to grow to adult age. This can be harmful to the entire species, in addition to putting those dependent on these fisheries out of jobs. Trawling, or pulling a net over seabeds, and illegally fishing in a fish breeding territory, has the potential to destroy fish stock in the future and is a serious threat to the ecosystem.

Contributing to overfishing is the illegal fishing activity taking place in one of the busiest seas on the planet. Many endangered species of rays and sharks are being illegally



caught and traded, along with many other species of fish.⁶⁹ International incentives, such as the Shark Specialist Group by the Species Survival Commission of the IUCN and the CITES Convention, have been put in place to target these specific groups.⁷⁰ The Shark Specialist Group (SSG) and IUCN Centre for Mediterranean Cooperation worked together in 2003 to boost the management and protection of chondrichthyan fishes in the Mediterranean.⁷¹ According to the Food and Agriculture Organization, Malta is the only Mediterranean country who has endorsed legislative action in protecting basking and white sharks. As Mediterranean waters are historically known to be poorly regulated, illicit fishing goes unnoticed, therefore unpunished. With this, through Oceana's Fishing Watch, they have been able to observe and recognize suspected infrimentans or illegal activity taking place.⁷² Essentially, with the Automatic Identification Systems (AIS), the signals by a satellite receiver can detect movements of ships, allowing Oceana to analyze if vessels are passing through the waters or fishing. In 2018, it was observed that 28,000 hours of fishing occurred within protected water of the Mediterranean Sea.⁷³ In the Strait of Sicily, 56 bottom trawling vessels were found to spend more than 14,000 hours in three fisheries restricted areas (FRA). Seeming as less than 1 percent of the Mediterranean Sea is protected by FRAs, illegal activities in these areas are detrimental to the ecosystem.

The European Union has set regulations on the Mediterranean fisheries, international rules have been established and fishing limitations have been placed.⁷⁴ Mediterranean fisheries are regulated by a fisheries management ecosystem strategy that completely incorporates environmental measures. Since January 2007, the Mediterranean Regulation, or Council Regulation (EC) No 1967/2006, has been in force. The regulation focuses on protecting juvenile fish, increasing marine protected areas, improving size and species selectivity, and establishing limitations for specific fishing gears. EU nations are obligated to design a detailed set of rules which include long term management plans for fisheries in their territory, under the Mediterranean Regulation. So far 35 national management plans have been set by European Union countries. Mediterranean fisheries in EU waters are governed mainly through input measures, however are also managed through closed areas, closed seasons, and limitations on gear construction, and output measures, such as TAC for swordfish and bluefin tuna. The General Fisheries Commission for the Mediterranean (GFCM) and the International Commission for the Conservation of Atlantic Tunas (ICCAT) also regulate Mediterranean fisheries in regards to highly migratory species. The GFCM listed a set of recommendations at its 40th annual session in Malta in June 2016. It includes a mid-term strategy towards sustainability, the Data Collection Reference Framework, emergency measures, and a minimum conservation size reference. Additionally, since January 2015 a landing obligation in the Mediterranean for small pelagic stocks has been in place.



QUESTIONS

1. Why has overfishing become a more omnipotent threat in the past decade alone?
2. How can we reduce the presence of commercial companies within the fishing industry without limiting our means of obtaining protein sources?
3. Should the “Pacific 6” face harsher consequences for being the primary nations responsible for a majority of marine depletion?
4. What should be done to ensure that predatory species at the top of the marine food chain do not become extinct as a direct result of overfishing?
5. Has your country been affected by the ramifications of overfishing? If so, what measures have been carried out to overcome these obstacles?
6. What actions can be carried out to reduce bottom trawling, or “dragging,” while fishing?



Endnotes

1. <https://www.unhcr.org/globaltrends2017/#:~:text=Globally%2C%20the%20forcibly%20displaced%20population,again%20at%20a%20record%20high.>
2. <https://www.un.org/en/sections/issues-depth/migration/#:~:text=The%20UN%20Migration%20Agency%20IOM,the%20causes%20for%20the%20movement>
3. <https://www.unhcr.org/en-us/1951-refugee-convention.html>
4. <https://environmentalmigration.iom.int/environmental-migration-1#:~:text=Environmental%20change%20and%20disasters%20have%20always%20been%20major%20drivers%20of%20migration.&text=No%20legal%20definition%20for%20persons,neither%20an%20internationally%20accepted%20one.>
5. <https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature#:~:text=Change%20over%20time&text=According%20to%20the%20NOAA%202019,more%20than%20twice%20as%20great.>
6. <https://www.ipcc.ch/report/ar5/syr/>
7. <https://www.theguardian.com/environment/2020/sep/09/climate-crisis-could-displace-12bn-people-by-2050-report-warns#:~:text=More%20than%201%20billion%20people,worlds%2C%20according%20to%20an%20analysis.>
8. <https://theconversation.com/climate-change-hotspots-why-they-matter-and-why-we-should-invest-in-them-68770>
9. <https://www.worldbank.org/en/news/press-release/2018/03/19/climate-change-could-force-over-140-million-to-migrate-within-countries-by-2050-world-bank-report>
10. <https://www.brookings.edu/research/the-climate-crisis-migration-and-refugees/>
11. <https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level#:~:text=Global%20warming%20is%20causing%20global,expanding%20as%20the%20water%20warms.&text=This%20shift%20of%20liquid%20water,largely%20due%20to%20groundwater%20pumping.>
12. <https://www.sciencemag.org/news/2018/03/sea-levels-rise-bangladeshi-islanders-must-decide-between-keeping-water-out-or-letting>
13. <https://www.rff.org/publications/reports/climateinsights2020-natural-disasters/>
14. <https://www.cnbc.com/2018/05/17/two-thirds-of-global-population-will-live-in-cities-by-2050-un-says.html>
15. <https://www.treehugger.com/the-riskiest-places-in-the-world-for-natural-disasters-4864015#:~:text=Just%20four%20countries%20%E2%80%94%20the%20Philippines,and%20landslides%2C%20among%20other%20calamities.>
16. <https://www.brookings.edu/research/the-climate-crisis-migration-and-refugees/>
17. <https://environmentalmigration.iom.int/human-mobility-unfccc#:~:text=The%20United%20Nations%20Framework%20Convention,the%202010%20Cancun%20Adaptation%20Framework.&text=The%20meeting's%20focus%20was%20loss,the%20context%20of%20climate%20change.>
18. <https://www.unhcr.org/en-us/the-global-compact-on-refugees.html>
19. <https://www.un.org/press/en/2018/dev3375.doc.htm>
20. https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_71_28_0.pdf
21. <https://www.un.org/sustainabledevelopment/climate-change/>
22. https://ec.europa.eu/clima/policies/adaptation_en
23. <https://sdg.data.gov/13-a-1/>
24. https://www.un.org/en/development/desa/population/migration/events/coordination/15/documents/papers/2_UNEP.pdf
25. <https://openknowledge.worldbank.org/handle/10986/4387>



26. <https://www.unhcr.org/en-us/partnerships.html#:~:text=Today%2C%20UNHCR%20works%20with%20more,populations%20of%20concern%20are%20met.>
27. <https://www.britannica.com/place/Pacific-Islands>
28. https://climate.nasa.gov/climate_resources/199/rising-tides-understanding-sea-level-rise/
29. <https://qrius.com/disappearing-island-nations-are-the-sinking-reality-of-climate-change/>
30. <https://www.loc.gov/law/help/climate-change-refugee/new-zealand.php>
31. <https://www.loc.gov/law/help/climate-change-refugee/new-zealand.php>
32. <https://www.newsweek.com/sea-level-rise-vanishing-islands-micronesia-history-706455>
33. <https://theconversation.com/islands-lost-to-the-waves-how-rising-seas-washed-away-part-of-micronesias-19th-century-history-82981#:~:text=In%20parts%20of%20Micronesia%2C%20sea.if%20it%20were%20to%20continue.>
34. <https://www.brookings.edu/research/the-climate-crisis-migration-and-refugees/>
35. https://www.cs.mcgill.ca/~rwest/wikispeedia/wpcd/wp/n/Northwest_Africa.htm
36. <https://www.pewresearch.org/global/2018/03/22/at-least-a-million-sub-saharan-africans-moved-to-europe-since-2010/>
37. <https://foodsecurityindex.eiu.com>
38. https://www.researchgate.net/publication/307210112_Sea-Level_Rise_and_Impacts_in_Africa_2000_to_2100
39. <https://www.nationalgeographic.com/culture/2019/06/african-migrants-in-europe-trade-one-hardship-for-another-feature/>
40. <https://www.reuters.com/article/us-global-fisheries-hunger/worlds-fish-consumption-unsustainable-u-n-warns-idUSKBN1JZ0YA>
41. <https://www.worldwildlife.org/industries/sustainable-seafood>
42. <https://www.pewtrusts.org/en/research-and-analysis/articles/2011/12/09/marine-fisheries-employment-260-million-jobs>
43. <https://www.worldwildlife.org/threats/overfishing>
44. <http://edition.cnn.com/2008/WORLD/asiapcf/03/24/eco.aboutfishing/>
45. <https://www.seafoodsource.com/news/environment-sustainability/pew-japan-china-us-more-overfishing-pacific-tuna>
46. <https://www.fisheries.noaa.gov/national/bycatch/fishing-gear-bottom-trawls>
47. <https://www.greenpeace.org/new-zealand/story/what-is-bottom-trawling-and-why-is-it-bad-for-the-environment/>
48. <https://www.fisheries.noaa.gov/topic/laws-policies>
49. <https://www.msc.org/what-we-are-doing/oceans-at-risk/overfishing-illegal-and-destructive-fishing>
50. <https://reefresilience.org/stressors/local-stressors/overfishing-and-destructive-fishing-threats/>
51. http://www.fao.org/newsroom/en/focus/2004/47127/article_47132en.html
52. <https://europe.oceana.org/en/press-center/press-releases/un-alert-mediterranean-worlds-most-overfished-sea>
53. <https://www.wwf.org.la/about/>
54. <https://www.treehugger.com/so-much-for-fish-chips-greenpeace-list-of-most-over-fished-species-4858646>
55. <https://www.ecowatch.com/extinct-species-fish-china-2644654974.html>
56. <https://sciencing.com/food-chain-fish-6644708.html>
57. <http://factsanddetails.com/world/cat53/sub340/item2196.html>
58. <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2018/04/the-port-state-measures-agreement-from-intention-to-implementation>
59. <https://nationaldaycalendar.com/international-day-for-the-fight-against-illegal-unreported-and-unregulated-fishing-june-5/>



60. https://www.undp.org/content/undp/en/home/librarypage/environment-energy/water_governance/ocean_and_coastal_areagovernance/a-green-economy-in-a-blue-world.html
61. <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N14/719/22/PDF/N1471922.pdf?OpenElement>
62. <https://www.un.org/sustainabledevelopment/oceans/>
63. <https://oceana.org/blog/overfishing-and-pollution-have-trashed-mediterranean#:~:text=The%20Mediterranean%20is%20the%20world%27s,most%20imperiled%20in%20the%20world>
64. <https://europe.oceana.org/en/press-center/press-releases/un-alert-mediterranean-worlds-most-overfished-sea#:~:text=The%20Mediterranean%20Sea%20is%20the,on%20fishing%20in%20the%20region>
65. <https://blog.nationalgeographic.org/2014/04/19/overfishing-remains-biggest-threat-to-mediterranean-study-confirms/>
66. <https://www.worldwildlife.org/threats/overfishing#:~:text=It%20can%20change%20the%20size,like%20sea%20turtles%20and%20corals>
67. https://www.researchgate.net/publication/259192540_Fisheries_in_the_Mediterranean#:~:text=The%20Mediterranean%20fisheries%20can%20be,pelagic%20and%20large%20pelagic%20resources
68. https://ec.europa.eu/fisheries/cfp/small-scale-fisheries_en
69. <http://www.fao.org/3/y5594e/y5594e00.htm>
70. <http://www.fao.org/3/y5594e/y5594e04.htm>
71. https://www.iucnssg.org/uploads/5/4/1/2/54120303/med_shark_rep_en.pdf
72. <https://europe.oceana.org/en/blog/mediterranean-illegal-fishing-our-backyard>
73. <https://www.seafoodsource.com/news/environment-sustainability/ngo-illegal-fishing-potentially-rife-in-the-mediterranean>
74. https://ec.europa.eu/fisheries/cfp/mediterranean/rules_en